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S. HRG. 106–390

AGRICULTURE, RURAL DEVELOPMENT, AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 2000

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

UNITED STATES SENATE

ONE HUNDRED SIXTH CONGRESS

FIRST SESSION

ON

H.R. 1906/S. 1233

AN ACT MAKING APPROPRIATIONS FOR AGRICULTURE, RURAL DEVELOPMENT, FOOD AND DRUG ADMINISTRATION, AND RELATED AGENCIES PROGRAMS FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 2000, AND FOR OTHER PURPOSES

Centers for Disease Control and Prevention
Department of Agriculture
Food and Drug Administration
Nondepartmental witnesses

Printed for the use of the Committee on Appropriations

Available via the World Wide Web: http://www.access.gpo.gov/congress/senate

U.S. GOVERNMENT PRINTING OFFICE

54–203 cc WASHINGTON : 2000

For sale by the U.S. Government Printing Office
Superintendent of Documents, Congressional Sales Office, Washington, DC 20402
ISBN 0–16–060287–4

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AGRICULTURE, RURAL DEVELOPMENT, AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 2000

TUESDAY, FEBRUARY 9, 1999

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10 a.m., in room SD–138, Dirksen Senate Office Building, Hon. Thad Cochran (chairman) presiding.

Present: Senators Cochran, Bond, Burns, Kohl, Harkin, Dorgan, Feinstein, and Durbin.

DEPARTMENT OF AGRICULTURE

OFFICE OF THE SECRETARY

STATEMENT OF DAN GLICKMAN, SECRETARY

ACCOMPANIED BY:

RICHARD ROMINGER, DEPUTY SECRETARY
KEITH COLLINS, CHIEF ECONOMIST
STEPHEN B. DEWHURST, BUDGET OFFICER

OPENING REMARKS

Senator COCHRAN. The subcommittee will please come to order.

Today we begin the hearings on the fiscal year 2000 budget submitted by the President for agriculture, rural development, and related agencies.

We are very pleased this morning to have as our first witness the Secretary of Agriculture, Mr. Dan Glickman. We appreciate, Mr. Secretary, your being here with us today and having those who are accompanying you: Richard Rominger, Deputy Secretary of the Department of Agriculture; Keith Collins, the Department's Chief Economist; and Stephen Dewhurst, the Budget Officer of the Department.

This subcommittee has jurisdiction for all appropriations, programs, and activities of the Department of Agriculture, with the exception of the Forest Service which is funded by the Interior appropriations bill.

The President's fiscal year 2000 appropriations request, which is before the committee this morning, is $60.6 billion, a net increase of $5.8 billion from the fiscal year 1999 enacted level. This excludes the $5.9 billion in emergency spending for USDA programs provided by the fiscal year 1999 Omnibus Appropriations Act.

Over three-fourths of the total fiscal year 2000 budget request, a total of $47 billion, is for appropriations that are mandated by law. So, the President's total fiscal year 2000 discretionary appropriations request is $13.2 billion, an increase of $275 million from the fiscal year 1999 level.

The total request is actually understated if you extract savings from legislative proposals and questionable scoring tactics. The budget request relies, for example, on the adoption of new user fee legislation to generate an additional $532 million in collections for fiscal year 2000. These same user fee proposals, such as user fees to cover the costs of meat, poultry, and egg product inspections, have been rejected by previous Congresses, and I suspect that will be the case again.

While the appropriations request of the affected agencies does not reflect the savings from these fee proposals, the savings, nonetheless, are taken from our bottom line. They're used in the President's budget as offsets to comply with the Balanced Budget and Emergency Deficit Control Act caps on discretionary appropriations.

Furthermore, not only does the budget propose to redirect funds from ongoing programs and activities to fund program increases and new requirements, the appropriations request relies on additional savings from legislative proposals to shift programs to the mandatory side of the ledger, to save $200 million by funding fiscal year 2000 rural rental assistance requirements over 2 years, and to double count $180 million in savings used to offset fiscal year 1999 appropriations.

I believe it is fair to say that this subcommittee will not have the luxury of being able to count on the availability of this savings or approve many of the proposed shifts in funds from existing priorities of the Congress. The reality, Mr. Secretary, is that we will have to operate under more constrained spending limitations than those in this budget.

We have your statement that you have prepared, Mr. Secretary, and we will make it a part of the record in full. We encourage you to proceed to summarize it and make whatever additional comments you think would be helpful to the subcommittee, and then we will have an opportunity for questions from the subcommittee members.

But before hearing your comments, let me yield to the distinguished Senator from Wisconsin, the ranking minority member of this subcommittee, whom we welcome in this new capacity. He has been a member of the subcommittee and has been a very effective and helpful member in our deliberations. Senator Kohl.

STATEMENT OF SENATOR KOHL

Senator KOHL. Thank you, Senator Cochran. It is a great pleasure for me to join you this morning in welcoming Secretary Glickman, Secretary Rominger, and our other distinguished guests from the Department of Agriculture.

Mr. Chairman, let say that I look forward to working with you and all of the members of the subcommittee this year to develop the fiscal year 2000 appropriations bill for the Department of Agri-

culture, the Food and Drug Administration, and the other agencies under this subcommittee's jurisdiction.

It is also a pleasure to see you and we look forward to hearing your remarks, Mr. Secretary, regarding the USDA budget for the coming year. Programs administered by the Department of Agriculture touch all of our lives in many ways. In Wisconsin and across the Nation, farmers, school children, and consumers from every walk of life rely on your Department for a wide variety of services ranging from commodities produced on farms to the commodities served at the dinner table. Rural communities have come to rely on programs of USDA to meet housing, utility, and economic needs. The conservation programs at USDA serve to help us protect our soil, water, and wildlife resources not only to improve our own quality of life, but the quality of life of our children and our grandchildren.

U.S. agriculture today faces many challenges. Market prices continue their volatility and there is no guarantee that the dairy prices of today will be the dairy prices of tomorrow. I, in fact, remain very concerned that the problems facing dairy farmers rest beyond the markets and in part with USDA dairy programs themselves, such as regional dairy compacts.

One of these programs, the milk pricing laws, for example, has created an unfortunate cast of winners and losers, with family farmers having the most at stake. Federal milk marketing orders must demand equity and simplicity as necessary tools to eliminate the inherent inefficiencies and unfairness of arbitrary regional differences. Without reform, Wisconsin will lose half of our family dairy farmers over the next 5 to 10 years, which of course to me and I am sure to you is an unacceptable result of a totally failed policy.

The face of agriculture is changing as we witness the challenge of large corporate interests competing with the sustainability of small, independent, family-size operations. American consumers have grown accustom to available and affordable food items that previous generations could not even imagine. When Wisconsin pioneers sat down to eat their evening meal, they had no concept whatever of E. coli, Salmonella, and any other cause for foodborne illness. They took their chances, but today we rely on USDA to provide not only the most bountiful food supply in the world, but also the safest.

So, Mr. Secretary, we are glad to have you here today. We look forward to your remarks, and we have a few questions to ask after you make your remarks.

Thank you, Mr. Chairman.

Senator COCHRAN. Thank you, Senator.

Senator Bond.

STATEMENT OF SENATOR BOND

Senator BOND. Thank you, Mr. Chairman. I will be very brief.

I want to join you in welcoming Senator Kohl as the ranking member. I know he will be great in the leadership team.

But most of all, Mr. Chairman, I begin by commending you for your knowledge, your dedication, and your hard work on this committee. You really are the most effective chairman of any of the ap-

propriations subcommittees. I say that as an admission against interest. [Laughter.]

And your knowledgeable explanation of the budget shenanigans that we have to deal with in this committee and others is very important because we are not going to be making these savings or shifts. So, we have a tough job to do in this subcommittee.

As I mentioned to the Secretary, as I was coming in, there are some real crises. I have got some cattle producers back home who wonder if it is going to take Patton's 3rd Army to liberate Europe so Europeans can eat U.S. beef. The Europeans have not had a good steak in 10 years. [Laughter.]

Senator Baucus and I have finalized the letter to you, Mr. Secretary, and I think we have about 41 Senators on it, asking you that you begin now to be ready to retaliate if the May 13th deadline is not met. I know you have watched, as we have. They find lots of ways to diddle and dawdle and refuse to take the steps they need to, and I hope that you are ready on May 13th or May 14th to pull the trigger and move ahead.

Thank you, Mr. Chairman.

Senator COCHRAN. Thank you, Senator.

Senator Burns.

STATEMENT OF SENATOR BURNS

Senator BURNS. Thank you, Mr. Chairman. I will just submit a statement, and I want to hear from our witnesses today.

I think as you look at this budget and look at the appropriations as requested by the Secretary of Agriculture—and we want to welcome him this morning. I have got a whole litany of things here. I will get them to you. You will spend the rest of the day musing over them.

But I think in my opinion the discretionary funds that the chairman has talked about this morning—there is nothing wrong on the farm or ranch today excepting the price. I think that was noted in a hearing held in the Agriculture Committee. Out of that emanated what Senator Bond and Senator Baucus are trying to do.

But here is the challenge ahead of us. Auburn University Professor C. Robert Taylor noted that farmers are making 4.5 percent return on their equity in the 1990's, while retail food chains are raking in 18 percent; food manufacturers, 17.2 percent; even agricultural banks at 10.8 percent. The price consumers paid for food has risen 2.8 percent since 1984, while prices paid to farmers has declined 35.7 percent. Retailers' marketing costs have tumbled some 14.9 percent. And then you wonder why we have got a problem on the farm.

I do not know what we are going to spend our money for, but I think we should be looking at this problem right here. We keep talking about this great and wonderful exploding economy, and if you want to go through farm country and look at the auctions, they ain't going out of business because they want to. And this is the problem. This is the problem.

PREPARED STATEMENT

So, instead of doing all of this stuff that does not mean anything, we had better start concentrating and spending that money and

getting some people down there that are advocates for the producers so that we can increase that percentage of the consumer dollar getting back to the people who actually produce it. That is our challenge, and I think that is the direction in which we are going to have to proceed.

Thank you, Mr. Chairman.

[The statement follows:]

PREPARED STATEMENT OF SENATOR BURNS

Thank you, Mr. Chairman.

I would like to thank the Chairman for the prompt and timely manner in which he has called the first hearing on the fiscal year 2000 budget for Agriculture, Rural Development and Related Agencies. I think it is extremely important to get the ball rolling early this year so that we can have a timely and effective process for this Subcommittee. I would also like to acknowledge the presence of Senator Kohl as ranking member of the Subcommittee this year. I look forward to working with you both, as well as all the members of the Subcommittee this year for the benefit of the greatest agriculture producers in the world—the American farmer and rancher.

Well enough of the niceties, it is time to get down to the business at hand, a discussion of the budget proposal put forth by the Administration for the Department of Agriculture. I was hoping after what we all had to go through last year in this hearing room with Secretary Glickman, that this year we would have seen some improvement in the budget proposal put forth this year. But I guess I was expecting too much.

A year ago I questioned whether there was an advocate for the producer in the Department of Agriculture, and as I looked through the budget for the coming year I have found that I no longer need to ask, the answer is clear. NO, there is not an advocate in the Department for the producer. Questions and issues that clearly could have been addressed were left out in the cold. A solution which would have benefited the man and woman in the field was left unaddressed, as in the case of serious crop insurance reform.

Mr. Secretary in my mind that one issue is just the very tip of the iceberg which I am afraid is about to puncture the hull of the good ship USDA. The people in their tractors and on horseback in Montana no longer have faith in the Department to assist them in any way which will help them move their products in the market place, or in finding realistic and meaningful ways to increase the certainty of their future.

So many of the actions that this Administration and the people within your Department have taken in Montana have placed additional burdens on these hard working citizens. Although not related to this budget, just last week the Chief of the Forest Service went to Montana to remove over 400,000 acres of land from any future mineral exploration. Although I have not yet decided if mining in this area is the best thing to do at this time, I am sure that if you close it for 20 years, as the Chief has determined, we will not get in there at anytime to do anything which will assist the people of the state of Montana. Close it for 20 years and you close it forever, no matter what sound and scientific technology may be developed for the extraction of the minerals in this area.

Mr. Secretary, it started with timber, then oil and gas, now minerals. What is next Mr. Secretary? I can already see the attack on the recreationalists and those people that graze cattle on these lands. Although these are public lands and many special interest groups will argue that these natural resource providers have no rights to these lands, these same people must remember that people who make their living off the land are also citizens of this nation.

Let me get back to the topic at hand however, issues that are directly related to agriculture production. Last year this committee appropriated a set sum of funds to provide for the Department to settle certain lawsuits as a result of discrimination. I am in favor of assisting anybody who has been unjustly treated due to their race, religion or sex. However, it seems that we may have a problem resolving all these problems.

I want to commend the USDA, Office of Civil Rights, for their recent action to settle the discrimination suit brought by African-American farmers against the USDA. However, I firmly believe that much remains to be done. According to information posted on the Office of Civil Rights Internet site as of March 1998, Montana had at least 19 cases of discrimination pending with the USDA, placing Montana in the same category as highly populated states such as Florida and New York.

One young woman has a case that has been awaiting decision at various levels of appeal since 1995. She cannot make good management decisions or create viable farm plans until this situation is resolved. The stress of this wait has caused serious medical problems. In another case, a farm family has lost everything except their dignity. Now, they wait in a rented house to find out what their future will hold.

These people deserve better than this from an agency that was supposedly established to help American agricultural producers. I want to know when the people still in the process can expect prompt, responsive, and efficient handling of their complaints, not the foot- dragging, hurry-up-and-wait treatment they have received up to this point?

As I looked at the budget for the Department, at least two very striking areas arose in my mind. I can tell you that numerous other issues came up, but none quite as striking as the amount of dollars I see being expended in terms of research and in the area of the Foreign Agriculture Service.

In terms of research I cannot believe that we are content with what is being done today to assist our producers. It appears to me that we are doing a great deal to assist those people in the next couple of layers in getting the product safely to the consumer. These next couple of layers are the people that can afford to expend the dollars to assist their enterprises. But the producer who is out there working in the field cannot find the assistance from this Department to make them better producers.

Mr. Secretary, the biggest problem we have right now in the world of agriculture is getting a fair share of the consumer dollar back to the producer. Somewhere between the time the producer sells the product and the time it reaches the table, there is a serious disconnect. I've talked to the man and woman on the ground, the processor and all the way to the grocers. Now according to these people not one of them is making any money in the food production business. So can somebody tell me why I spend three times as much for a pound of Wheaties as the farmer gets paid for a sixty pound bushel of wheat. And why is it that a rancher out there is selling his steer for $65 a hundred and I pay over $5 a pound for good steak. Something is wrong here.

Mr. Secretary, I would like to provide you with some figures that came up during the recent hearing before the Senate Agriculture Committee. I quote Auburn professor C. Robert Taylor, who noted that farmers are only making a 4.5 percent return on equity in the 90's, retail food chains 18 percent, food processors 17.2 percent and even agriculture banks are getting 10.8 percent. Taylor also brought up the fact that the price consumers pay for food has risen 2.8 percent since 1984 while the prices paid to the farmer has fallen by 35.75 and retail marketing costs have tumbled 14.9 percent.

This is where we need to do the work, getting that dollar back to the producer. And it may fall on this committee to look at a resolution to this problem. I commit my support and my efforts to the Chairman and ranking member as well as to the producer in Montana and the nation to work on this issue with them in the coming year.

Part of it deals with the fact that our producers cannot count on the Department to assist them in securing the future. Research is the vision of the future, and according to this budget we have a limited vision of what the future is and where our food will come from. Mr. Secretary, you have heard this same speech from me for at least the past two years, and as long as you and your Department treat the best producers in the world in the manner that you do, you can count on hearing more and more of the same from me.

Last year I attempted to get some funds to look to the future and ran into a roadblock in getting the funds for a very important project. As we continue to see increases in the interaction between livestock and wildlife we will continue to see problems arising related to the diseases which wildlife may carry which could be detrimental to livestock. We already are experiencing just such a problem in Montana between the bison and domestic livestock. Yet I could not get the backing of the Administration to address the issue, but instead have to look at this competition between established research devoted to contained livestock. I have to be honest with you that if we don't address this problem at the root cause that we will need the research on contained livestock. I hope to work with members of this committee to see what we can do to address this potentially dangerous problem this coming year.

I cannot believe, that during this past year when we fought so hard in Congress to get the Administration to open their eyes to the plight of the producer in field, as they attempt to compete on world markets that you would endorse cutting the budget that will help us compete. The cuts are short sighted and do nothing to make

our producers feel that the government, the same government they pay taxes to, is helping them in any way.

I have a difficult time going back to Montana and telling my producers that this Administration will take care of them the next round of negotiations on the world trade market. They have heard that for too long. It appears that when our negotiators go the trading table they are more than willing to slide agriculture off the table as it is not a high ticket enough of an item. The balance of trade cannot reflect a closer balance when we trade food as compared to high ticket high technology. It just appears that cutting the deal is more important than what is contained in the deal. I know this is not all your doing, but Mr. Secretary by cutting the funds for the Foreign Agriculture Service does not send a signal that you are concerned. Additionally, you have a position of authority in this Administration and you can use your influence to make sure that the trade negotiators make agriculture an important share of our international trade.

There appears to be at least one program out there where there seems to be some success in dealing on foreign markets, that is the Foreign Market Development Cooperators Program, yet the Foreign AG Service with your okay, always seems to find a way to cut or at least reduce the funding for this program. It just doesn't make sense to me.

I have even heard rumors about the hill that the Department is in the process of developing language that would remove the statutory language in the '96 Farm bill for this program. I can't believe this since it is a program that is basically being successful in nature. I am a little proprietary in nature since this is language I had placed in the Farm bill four years ago.

I am concerned as well with the continuing fight that seems to be taking place on exporting our beef to the European Union. I have joined with a number of Senators in sending a letter to you asking that you be prepared to take whatever measures are necessary to protect American beef from the unrealistic demands placed on it by our so called trading partners. We need to begin to use the muscle we have as a trading partner on the world market and bring those countries which we count on for trade to the table to bargain and deal in good faith.

I also have a little problem back in Montana that I know you Mr. Secretary are familiar with in a very close sense. The bison continue to leave Yellowstone National Park, and Montana continues to protect its' investment in the livestock industry. As you are aware I have always been a strong proponent of the Animal, Plant Health Inspection Service (APHIS) and I continue to strongly support their efforts in terms of keeping America clean from biological agents from outside our borders, but in terms of the work and effort that they have put into the bison problem I am having my doubts, as is much of Montana. More times than not, it appears that they are no longer working with us but instead they seem to appear to have lost sense of their mission statement in terms of animal health.

I have taken more than enough time today to discuss my displeasure both in this Administration and the manner in which the Department is responding to the needs of producers. I am sure I will hear the standard answers that I have heard for the past nine years, but rest assured that I am not going to sit by and watch the producers in Montana and this country be taken advantage of any longer. Thank you again Mr. Chairman, I look forward to hearing from the Secretary, and more importantly working with you in the coming year for American agriculture.

Senator COCHRAN. Thank you, Senator Burns.

Senator Durbin.

STATEMENT OF SENATOR DURBIN

Senator DURBIN. Thank you, Mr. Chairman. It is a pleasure to be a member of this subcommittee. It was my honor to serve for 12 years in the House of Representatives as a member of this same subcommittee, going back to the days of Jamie Whitten, who was my teacher in the art of appropriations.

I also recognize the team at the table here. Though I have been gone for 2 years, they clearly are still at their posts and doing their job. Secretary Glickman, thank you for coming. Mr. Rominger, good to see you again. Mr. Collins, as always I am sure you will present us with some valuable economic information based on your re-

search. And the long-suffering Steve Dewhurst, who has been the Budget Officer for as long as I can remember, welcome. [Laughter.]

Through thick and thin and changes in Secretaries, you have been here, and I thank you for your contribution. I welcome you all and I thank you for the opportunity to be part of this hearing.

I have a number of issues of interest in the proposed budget. I see that you have made some substantial cutbacks in outlays, which undoubtedly will be visited on many different aspects of this budget. I am concerned about some of the decreases in the ARS construction account, particularly as it affects my home State of Illinois in Peoria, as well as in Champaign-Urbana. I will be submitting some questions on specific elements there.

I would like to, if I can, focus on one thing in particular, and I would hope, Mr. Secretary, that you would reflect on this as well. We are now near the close of the Clinton administration with 2 years left, and many will want to leave a legacy in this Department of the kind of foresight and vision that really will be an inspiration to future generations. The one issue that has been investigated and scrutinized at great length for a great period of time is the whole question of food safety.

If you look back to Government Affairs hearings in the 1970's, hearings that were attended by Senator Percy of Illinois and others, they talked about the fact that we could not rationalize the fact that so many different Federal agencies were in the food safety inspection business. Some estimate that today there are as many as 12 different Federal agencies in that business, 6 major agencies, some 35 different pieces of legislation.

I believe that we are captives of politics at the congressional level. We are captives of the businesses who are loathe to see change which they're uncertain of. We are captives of the unions who have the same fear. And frankly, we have to do something.

I have worked on legislation in the last session, and I would like to invite my colleagues to join me this year to try to come together with one unified, independent food safety inspection agency that is guided by science, rather than politics, that can restore any doubt in the mind of the American consumer that we are doing everything in our power.

Now, I know HACCP has brought us a long way, and I congratulate you for that. But let us take the next step. Let us bring this all under one roof. Let us not be afraid of a turf battle here and really dedicate ourselves in the next 2 years to address it.

I want to also say that I am sorry to see user fees in this budget again. Every year the budget folks put this in with the full knowledge that it will never take place. They count the money and then we have to try to rationalize making up the difference. It has just become a ritual, and unfortunately it is a painful one.

I know other Senators, including Senator Kohl, have addressed the problems in the pork industry. I hope that we can find a way to look at the point raised by Senator Burns earlier that the producers many times are the losers. It seems that the concentration of power in processing and marketing has really created some serious problems for those who are struggling to be good producers and ranchers across America.

Finally, a very parochial thing. Thank you, Mr. Secretary for coming to Chicago last year. When I mention this, most people are going to chuckle, but we have got a little problem that is turning into a big problem. Somehow or another a pest known as the Asian long-horned beetle has arrived in Chicago, and it is eating up our trees right and left. We are not quite sure where it came from, but it is a serious threat. And we are now chopping down trees in every direction. It will take years for us to replace them. Thank you to the Department of Agriculture for their interest in this, and I hope we can continue to work on that.

Mr. Chairman, thank you for allowing me to make an opening statement.

Senator COCHRAN. Thank you, Senator Durbin. Thank you.

Senator Feinstein, we welcome you to the committee and appreciate your attendance at this hearing. We have all made opening comments welcoming the Secretary, and I will recognize you now for that purpose.

STATEMENT OF SENATOR FEINSTEIN

Senator FEINSTEIN. Well, thank you very much, Mr. Chairman. I am delighted to be a member of this committee. I guess I am the freshman on the committee. But because California has by far the largest agricultural industry in the United States, it is a very important one to us, so I am delighted to be here.

I want, in particular, to thank Secretary Glickman for his response to the citrus freeze in California. The damage to that crop is to date more than $650 million, and that includes about $458 million to the orange crop and about $101 million to the lemon crop. I want to just thank you very much for declaring an emergency as promptly as you did in the six counties in which you did, and I want you to know that that is well respected in California.

The wipe-out, where it took place, is all but total and the real problem remaining is also one for the workers who do not have additional jobs, at least for the first 6 months of this year. So, any help that can be given with respect to food stamps and those kinds of things is very, very much appreciated.

I have asked the administration to help provide some temporary housing and unemployment assistance, as well as some individual and family grants to those who have lost their jobs. I would hope that in your remarks you might be able to respond to that and let us know—I think I put that in writing to you as well—what might be able to be done in that regard.

I want to quickly—I did not mean to interrupt you——

Secretary GLICKMAN. No. We were asking about food stamps.

Senator FEINSTEIN [continuing]. Mr. Secretary, I bring to your attention the growing concern about USDA inspections at the United States-Mexico border. I know you just recently held some hearings with respect to the importation of Argentinean crops into California and the very real concern about pest controls. I would have to say that the phytosanitary controls are really one of the major concerns about California agriculture. As you know, we went through a period of the med fly in California and we saw that sufficiently deter exports into other countries. That is now under control.

I feel very, very strongly that controls have to be in play. We are a huge exporting State now of agricultural produce. I mean, it is enormous, and if we are going to begin importing, we have all got to play by the same rules. What is sauce for the goose is sauce for the gander. And if we have these tight controls in our country, they also have to exist for crops coming into our country.

I have been told by California agriculture that there is a serious need for more USDA inspectors at the border to do the inspections and to safeguard California's ag industry from the exotic fruit fly pests. I am told that the number of inspectors at the Otay Mesa, San Ysidro, and Tecate ports of entry is about one-third of what is recommended by agency guidelines.

Recent infestations in San Diego, in Orange County, and Los Angeles have really heightened concerns about the need for additional resources at the border. Since last summer, a 70-square-mile area of San Diego County has been under quarantine because of a Mexican fruit fly infestation, and the impact of these quarantines are now being felt. Australia and Taiwan have banned export to their countries for the affected crops, not only for the quarantine area but also a 50-mile buffer zone around the area.

Now, I note that the administration's budget funds a $6 million increase in the ag quarantine inspection program, and I am very hopeful, Mr. Chairman and Mr. Secretary, that this can be addressed, and at the appropriate time, I would like to ask the distinguished Secretary for a response to this problem and see if some of that cannot go to quell what is a burgeoning problem in California.

Senator COCHRAN. Thank you, Senator Feinstein.

Mr. Secretary, we welcome you again and invite you to proceed.

STATEMENT OF DAN GLICKMAN

Secretary GLICKMAN. Thank you very much. It is an honor to be here with all of you who I have known well, and particularly my friend, Dick Durbin, with whom I served in the House for so many years. Thad, I thank you very much for having me here.

I again want to introduce Rich Rominger from California, our Deputy Secretary. He has been here many times. Keith Collins, our Chief Economist, and as Mr. Durbin pointed out, our venerable Budget Officer, Steve Dewhurst. We believe that we have the premier budget officer in the entire Government, and we are delighted that he is here.

I would like to summarize my statement and request that the entire statement be made part of the record.

There is an interesting dichotomy between the strongest general economy in a generation and the farm economy. You have heard it all, from low interest rates, low unemployment, highest home ownership, lowest inflation, highest job creation. I mean, it is extraordinary—since the Second World War. So, we see generally speaking things doing well in the general economy.

Then you look not only at the farm economy but to some extent, you look at the natural resource economy. It is not just production agriculture, but it is energy, it is minerals, it is the production type of things that go into building things and making things, and these areas are not so great.

It reminds me of a story. Senator Burns is not here, but it is a story about a man and his young son going up Constitution Avenue, and the father wants to buy his son a hotdog. So, he goes down the street and he sees the vendor, and the vendor is selling hotdogs and he says, get your hotdogs here: one end soybeans, the other end beef.

So, the boy says to the vendor, I have been to a lot of places, but I have never seen a hot dog that is one end soybeans and the other end beef. And the vendor says, well, these are tough times, and when you have tough times like this, it is hard to make both ends meat. [Laughter.]

The fact is that there are those tough times, although soybeans are not a bad thing, right, Mr. Durbin? [Laughter.]

FARM ECONOMY

The fact is that the farm economy is under stress. Exports are down about $9 billion from the 1996 peak to $50.5 billion forecast in 1999. All parts of the economy are affected by this. California, being the largest exporting State, is being hit by it, but so are many other States. The real problem, of course, is Asia, the Asian markets, and the strength of the dollar.

Net cash farm income is expected to be down from $59 billion in 1998 to $55.5 billion in 1999, and that is notwithstanding a lot of Federal assistance that this Congress generously provided. Many producers have faced both low prices and adverse weather, which is a double hit. I see Mr. Dorgan has just walked in and his State has probably been hit more than any other.

So, the outlook for the farm economy is not as promising as I would like to see.

FARM ASSISTANCE

At the same time, farm assistance that this Congress has provided has helped. As you recall, the Congress passed, with a presidential push, a $6 billion emergency assistance program in 1999, about half of that money in direct payments and the other half of that money in natural disaster assistance, a program that to some extent I think was started by our colleague from North Dakota in a far smaller amount that grew because of the fact the problem was so severe all over the country.

We have also increased loan deficiency payments. There are nearly $2 billion this year. These are the payments that were never supposed to trigger because the prices were never supposed to be low enough, and now we are seeing that they have triggered for most of the major commodities.

We have provided direct payment to pork producers, using an authority that we have not used in a very long time. It is not a lot of money. It is about as much money as we could find out of our section 32 account, and we targeted it to smaller producers.

FOOD AID INITIATIVE

The President's food aid initiative is over 5 million metric tons. I just came back from Russia where we signed an agreement with the Russians and they are going to be purchasing and/or being

given, under humanitarian assistance, large quantities of wheat and meat and other products.

The total farm assistance provided by the Government is estimated to be $18 billion in 1999. So, there is no question, Uncle Sam, through the good efforts of this Congress, did a tremendous amount to keep agriculture alive, and many, many farmers and ranchers would be not surviving without that assistance.

I will have to tell you that if prices remain at their low levels, the stresses will keep the workload heavy on our offices. We are already getting a lot of calls from Members of Congress about long lines at county offices. But the fact of the matter is that the emergency assistance, on top of the normal servicing requirement, has caused delays.

COUNTY OFFICE WORKLOAD

The number of these LDP's I mentioned, loan deficiency payments, rose from 0 in 1997 to nearly 400,000 in 1998 to about 1.3 million in 1999, and we do not know the number for the year 2000 but it is probably going to be a lot. These are individual visits to our county offices in many cases that have to take place in order for farmers to get this kind of assistance. It is an extraordinary change in the amount of work that is required in every one of these offices.

So, we are looking at our salaries and administrative expenses to see if there are better ways to handle this workload, but it is monumental. The 1996 farm bill created this program to put a floor on prices. It is working pretty well, but it requires an extensive amount of workload to keep up.

The 1996 farm bill has some shortcomings in dealing with low prices and disaster related events. We are not trying to revise course or micromanage farmers in this appropriations bill, but we have a role to help farmers weather tough times and adjust to adverse economics. In my judgment, the 1996 farm bill does not work very well when prices are low. That is the situation we are in right now.

FARM SAFETY NET

As the President said in his State of the Union address, we need to find a bipartisan way to improve the farm safety net by reforming crop insurance. Last year's emergency supplemental indicates that we need a long-term fix. That was a $6 billion program. These actions are undependable and are rather costly.

We made a $400 million down payment as a first step to improving risk management by reducing the cost of farmer premiums for crop insurance this year by about one-third, 30 percent. So, your farmers who are out there buying crop insurance this year will pay about 30 percent less for their premiums as part of the package that you passed last year. We took a bit of that money and put it in there as kind of a first step to encourage more people to actually buy crop insurance.

We also issued a white paper on principles and proposals for crop insurance reform. That has been sent to you. In order to deal with how to cover crops where there are repeated crop disasters, multiyear disasters, new crops, all sorts of different circumstances, we

are going to hold three regional forums this year on the issue of risk management. I would like to achieve bipartisan agreement with Congress on crop insurance reform this year.

We have been criticized for not putting a specific amount in the budget for crop insurance, but to be honest with you, until we have a reasonable bipartisan understanding of what we want to do with the program, I did not want to provide a specific estimate. It could cost anywhere between several hundred million dollars to several billion dollars a year. I think we need to figure out how we are going to fix the program before we put the amount in the budget. But I have said, with the way the congress and the administration worked together to put $6 billion in the budget last year, if we can reach agreement, I believe we can find the money to appropriate the necessary dollars.

FARM CREDIT

In the area of credit, farmers and ranchers also need access to adequate credit if they are to remain in business. This budget provides $3 billion in farm loans and guarantees, but with a subsidy cost of $52 million less than last year due to the lowest interest rates in over a generation.

Our farm credit programs are facing an increased demand this year, and we will shortly be running out of money for some of those credit programs. We are going to have to review that situation for a possible fiscal year 1999 supplemental request.

I would also say that one of our major accomplishments is that we are in the process of settling a major civil rights class action lawsuit against the Department of Agriculture, and we are pleased that Congress last year waived the statute of limitations for claims by black farmers. So, we were able to accomplish what I believe is one of the most profound things from the standpoint of justice that this Department has been able to accomplish for a very, very long time, and we thank you for your efforts there.

U.S. EXPORTS

I would now like to talk about exports. The events of the past year have demonstrated that strong export markets are a critical component of the farm safety net, but they have also demonstrated that exports alone are not the only safety net. We have had market disruptions in Asia, in Latin America, in Russia, and elsewhere.

We increased the programming of export credit guarantees to Asian markets, sales registrations were up 40 percent last year, and we are also taking strong efforts on the trade policy front. This includes exactly what you said, Senator Bond, to ensure that people comply with their WTO commitments based on sound science and based upon an international set of rules that everybody should be following, and also preparing for a new round of multilateral trade negotiations.

This budget provides a total program level of nearly $6.5 billion for USDA's international programs. This includes $4.5 billion for the heart of our programs, which is CCC export credit guarantee program. But we will use more than that if necessary to keep our sales going around the world.

But I repeat, even with all the export promotion efforts that we have done for many commodities, that is only part of the safety net, and that is why you do need some domestic program protection in the event that trade is not as positive as we would like.

MARKETING AND DOMESTIC PROGRAMS

In the area of marketing, domestic marketing programs are also important to the economic health of U.S. agriculture. There are continuing concerns about market concentration, and we are strengthening enforcement against anticompetitive practices, particularly in the livestock markets. We are examining the hog price decline and the Cargill-Continental merger. We have seen concentration in other aspects of the U.S. economy, health care, transportation, telecommunications, but agricultural concentration has been I think in many cases particularly difficult to cope with in rural America and small towns where you do not have a lot of competition naturally.

We have asked for budget increases in pest detection, disease prevention, and border inspections. Senator Feinstein, I would be glad to talk more about this particular area. I happen to believe that the highest priority of Government is protecting our own people from health and safety risks both from the standpoint of their own physical health and safety as well as economic health and safety.

We are working on an organic certification program. We have asked for additional monies for the program. Organic agriculture is growing rapidly, and we hope to have a rulemaking out this year to deal with that.

We have also asked for budget increases in the pesticide data program, which we desperately need as a result of the Food Quality Protection Act and other statutes.

In the area of rural development, rural Americans should have the same opportunities for economic growth that exist in urban areas, and that goes for housing, running water, electricity, telecommunications, and job opportunities. This committee deserves great praise for its help in ensuring that water systems and sewer systems are provided all over this great country of ours.

RURAL DEVELOPMENT

I recall, Senator Feinstein, that I visited the town of Orange Cove, California, which has one of the highest poverty rates of any community. USDA provided some assistance—and it is now one of our enterprise communities. This town never had the necessary resources. One of our prime functions is to make sure that towns like this get that assistance.

The rural development budget will support almost $11 billion in loans, loan guarantees, grants, and technical assistance—and that is $800 million more than last year. But, due to lower interest rates, the cost to taxpayers will be $400 million lower than last year. So, this is interesting. We are going to be able to budget $800 million more in the rural development programs at a cost to the Government of $400 million less. This is not a shell game. This is due largely to the fact that we have low, sustained interest rates, which under our budget process has made this benefit possible.

The budget will provide $1 billion in guaranteed and direct loans to help rural businesses, $4.3 billion in direct and guaranteed loans to bring single family housing to 50,000 rural Americans, and a 12 percent increase in funding for the President's Water 2000 initiative, to help about 1 million rural Americans have safe drinking water.

RESEARCH AND FOOD SAFETY

Research, obviously, undergirds the future of what we do in this Department. The budget provides an increase of nearly 10 percent for research from the comparable 1999 level. This is the first substantial inflation-adjusted increase for these programs, whether it is research on food safety, research for preserving our natural resources, or research to help farmers be more productive. I am sure that we will provide more specifics on our research programs but I would like to focus on food safety for a moment. Senator Durbin raised this issue.

The budget includes an additional $67 million, almost two-thirds of a Government-wide increase of $107 million for food safety activities aimed at reducing microbiological contamination of foods. The increases are directed to the President's Food Safety Initiative and inspection modernization activities of the Food Safety and Inspection Service.

This is the first year anniversary of HACCP implementation in large meat packing plants. Recent studies demonstrate there has been a significant reduction in the prevalence of Salmonella due to the implementation of HACCP—significant, in some cases as much as 50 percent. We are working now to bring the small plants in to HACCP and then, of course, the very small plants in to HACCP. There are different problems associated with each, but this budget I think will provide us help in dealing with that issue.

We are also working to meet the goals of the Food Quality Protection Act by addressing environmental and public health risks associated with the use of pesticides.

NUTRITION

In the area of nutrition, the budget reflects full funding for food stamps, child nutrition, and the WIC program. The budget restores food stamp eligibility to 15,000 elderly legal immigrants.

And I say again to Senator Feinstein that one of the problems we have, of course, in dealing with the issue of a lot of the folks who are out of work is that because of the rules against providing food stamps for undocumented workers or illegal immigrants, our hands to some degree are tied, although we are working with our colleagues in other agencies on this point.

Funds are also provided to improve the integrity of our food programs, evaluate effects of a universal free school breakfast pilot project and expand the WIC farmers' market program.

GLEANING AND FOOD RECOVERY

The budget includes a new $15.8 million gleaning and food recovery initiative. We throw away 95 billion pounds of food every year into garbage cans. It is not eaten. It is not used. Hotels, hospitals,

restaurants, you name it. It is thrown away. The Congress passed a law 2 years ago called the Bill Emerson Good Samaritan Act which says you can donate food without fear of legal liability. Communities all over the country are doing this. So, we include this new gleaning and food recovery initiative to provide community-based grants to help neighborhood organizations recover edible food and use it to help alleviate hunger.

I just have a couple more things to cover.

In the area of conservation, USDA's conservation mission has dramatically expanded as a result of the 1996 farm bill. That was the strongest conservation farm bill ever in my judgment, certainly since the 1930's.

The budget protects and strengthens the core conservation technical assistance and watershed work that NRCS carries out.

It supports implementation of the Administration's Clean Water Action Plan to protect rivers and streams.

CONSERVATION PROGRAMS

It increases funding for the EQIP program, the Environmental Quality Incentives Program, to $300 million.

The budget also funds the Lands Legacy initiative which will help USDA address the serious problem of prime farmland loss. The Farmland Protection Program would be reauthorized for this purpose.

Other conservation and land retirement programs, particularly the CRP, Conservation Reserve Program, Wetlands Reserve Program—and those are programs that I know Senator Cochran has had great interest in—are also continuing to have a positive impact on the environment.

The budget also supports the administration's global climate change initiative.

Finally, I want to talk just for a moment about customer service and program delivery.

CUSTOMERS SERVICE AND PROGRAM DELIVERY

Improving customer service and program delivery remain high priorities for what Abraham Lincoln called the "People's Department". We were set up to run in a decentralized way. We have offices all over this country. In some cases, we have done a great job. In some cases, I think for minority farmers and a lot of small farmers and there have been some other traditionally underserved farmers in our farm and rural development programs, we have not done such a good job over the years, and improving customer service for all farmers is a high priority for me and for the Department.

Streamlining and collocating the county-based agencies in one-stop USDA service centers is a prime focus. We are having some very good success here under the leadership of Deputy Secretary Rominger.

Administrative convergence is underway to consolidate administrative support functions for the county-based agencies and modernize program delivery.

A common computing environment is being implemented to improve our efficiencies across the agencies.

And we have tightened our belt to become more efficient in response to constrained or reduced funding. We at USDA have 22,000 fewer employees today than 1993. The fact is there has been significant downsizing in the Department of Agriculture, and we are doing that and we are struggling to keep up with the continued heavy workload, particularly as we relate to the responsibilities under the 1996 farm bill. We want to provide a high level of customer service and if we are not treating our people out there in the countryside very well, we are not doing our job.

So, it may be that funds will be needed to meet our workload and customer service requirements, particularly in farm program area, and that is something that we will address if we decide that a supplemental request is necessary in addition to some of the other things that we may have in mind.

PREPARED STATEMENT

So, our goal is to do the best job we can in delivering the programs that Congress has put in place under this committee's leadership. You have taken the lead to do that.

I thank you very much for allowing me to make this statement.

[The statement follows:]

PREPARED STATEMENT OF DAN GLICKMAN

Mr. Chairman, Members of the Committee, it is a privilege to appear before you to discuss the 2000 budget for the Department of Agriculture (USDA).

Even though the Federal Budget is now in surplus for the first time in 30 years, USDA's 2000 budget is still governed by the constraints put in place by the Balanced Budget Act of 1997. Thus, we are faced with another year of very tight funding. However, we have tried to provide the necessary resources that will enable USDA to achieve the basic goals and objectives of its strategic plan as well as focus on some key Presidential initiatives on food safety, nutrition and food assistance, global change, and conservation and the environment. And, as the President indicated in his State of the Union message, we must work with lawmakers of both parties to create a farm safety net that will include crop insurance reform and farm income assistance.

The Presidential initiatives that involve participation of USDA agencies, include:

A continuing Food Safety initiative for improving the Federal food inspection system from farm-to-table, through increased inspection, expanded research and consumer education, better surveillance of foodborne illness, and improved Federal, State, and local coordination.

A Lands Legacy initiative to develop a national program to protect great places and to provide the tools for localities, States, Indian tribes, and non-profit corporations and cooperatives to plan Smart Growth, open space preservation, and land use management. $268 million of the $1 billion governmentwide program would be provided to USDA.

A Global Change Research initiative aimed at investigating mitigation tactics to minimize the adverse effects of climate change on agricultural production, and inventory soil carbon levels, research how soils absorb carbon, and expand biomass research.

A Climate Change Technology initiative to develop technology for predicting and adapting agricultural production to global change impacts and to demonstrate and test various greenhouse gas mitigation strategies and monitoring mechanisms.

A Clean Water Action Plan to improve water quality on the Nation's forested lands and to address water quality issues, such as waste management and grazing practices on private lands. It also includes new research on hypoxia, pfiesteria, and related problems.

The budget also focuses resources on the following priority areas:

Providing adequate funding for Food Stamp, Child Nutrition, and WIC Programs, increased funding for program integrity initiatives, a new gleaning and food recovery initiative, a school breakfast research pilot, and restoration of food stamp benefits for elderly immigrants.

Meeting the urgent needs for water and housing in rural communities.

Supporting research to improve the productivity and competiveness of our farmers, to help solve environmental problems and to provide safe, nutritious food for all Americans.

Strengthening our risk management programs, providing small farm assistance, and modernizing farm program delivery.

Expanding domestic and overseas markets through aggressive promotion and a reduction in impediments and restrictions to trade.

Carrying out an aggressive civil rights policy to correct past weaknesses and fairly implement new program proposals.

The discipline imposed on the 2000 budget has forced us to make difficult decisions to restrain, reduce, and redirect resources to focus on the priority goals we established. We again propose user fees and contain and absorb certain costs. We are continuing to scrutinize our employment and business practices. As a part of the Department's continuing reorganization, we are implementing a field office streamlining plan which collocates the county-based agencies in one-stop USDA Service Centers and to consolidate administrative support functions in a new Support Services Bureau and modernize program delivery. We are implementing a common computing environment for these agencies to optimize the use of data and equipment and improve our efficiencies across the agencies. These efforts, combined with program reductions and reforms taken in prior years, have made a significant positive contribution to the current favorable Federal budget situation.

The President's budget proposes $55.1 billion in budget authority for 2000 for USDA compared to a current estimate of $67.5 billion for 1999. Budget authority for discretionary spending, which accounts for about 28 percent of USDA's total budget authority, declines from $15.8 billion in 1999 to $15.2 billion in 2000. The request before this Committee for discretionary budget authority is $13.2 billion.

The budget again proposes legislation that could affect the appropriation for the Department, including user fees for the Food Safety and Inspection Service; the Animal and Plant Health Inspection Service; and the Grain Inspection, Packers and Stockyards Administration. This proposed legislation will be sent to the authorizing committees, and the request before this Committee is not adjusted for the passage of this legislation. Upon enactment of fee authorizations, we would forward you our revised appropriation request. However, the appropriations request will include a proposed assessment on tobacco marketings similar to the expiring marketing assessment established by the Budget Reconciliation Act of 1993.

The budget also proposes legislative changes in some mandatory programs, e.g., restoring food stamp benefits to elderly legal immigrants, reauthorizing and funding a range of conservation programs, providing mandatory funding for the Foreign Market Development Cooperator Program, providing rural development grants and direct Treasury rate electric loans.

I also want to emphasize the importance that the President and I have placed on USDA civil rights issues; this priority is reflected in the budget. The President's budget provides the necessary funding to continue to carry out the recommendations of the Civil Rights Action Team (CRAT) as well as the recommendations of the National Commission on Small Farms which support our civil rights agenda.

FARM AND FOREIGN AGRICULTURAL SERVICES

The mission of the Farm and Foreign Agricultural Services area to secure the long-term vitality and global competitiveness of American agriculture, has surely been tested by the tough times farmers and ranchers are now facing. While planting flexibility provisions of the Federal Agriculture Improvement and Reform Act of 1996 (the 1996 Act), strong export and trade policy programs, and other program initiatives already underway have helped many crop and livestock producers, it is clear, as the President indicated, that the farm safety net still needs some reinforcement.

The Administration and Congress worked together last year to support farmers in areas hit hard by declining prices and successive years of reduced yields. This year we will continue our efforts to expand and improve programs which help producers manage risk, and we look forward to working with Congress to further reform the insurance programs for crop and livestock producers. We are also working hard to expand opportunities for small farmers and others who traditionally have been under served in our farm programs. The class action settlement with African American farmers I announced last month closes a painful chapter in USDA's history but does not complete our civil rights initiative. We still have more to do to ensure all of our customers and our employees are treated with dignity and respect.

The weakening farm economy has challenged our efforts to improve customer service while improving efficiency in the Farm Service Agency (FSA) and the other

county-based conservation and rural development agencies. While additional funding provided in the Agriculture, Rural Development, Food and Drug Administration and Related Agencies Appropriations Act, 1999 (the 1999 Act) allowed FSA to maintain current staffing levels, the increasing demand for Commodity Credit Corporation (CCC) Marketing assistance loan programs and disaster assistance has dramatically increased workload and placed new burdens on county staff. The higher workload, particularly for the marketing assistance programs, is projected to continue at least through 2000. The need to find new ways of doing business in the service centers is underscored by findings of the independent study of county-based agencies conducted by Pricewaterhouse Coopers. The recently completed study recommends further steps to improve the efficiency of program delivery and field office operations of the county-based agencies. It also supports on-going efforts by the Department to streamline offices, establish a common computing environment, converge administrative services. We are currently evaluating the results of this study to determine how best to take it into account in our on-going efforts.

Farm Service Agency FSA Federal and county staffing since 1993 has declined by about 6,000 staff years, from over 22,500 staff years at the end of 1993 to about 16,400 staff years at the end of 1998. Additional funds appropriated for 1999 in the 1999 Act have allowed the agency to avoid reductions-in-force this year and to hire additional temporary staff. The proposed program level in 2000 for salaries and expenses of $1 billion is estimated to support a ceiling of 5,745 Federal staff years, and 10,048 non-Federal county staff years, assuming legislation is enacted allowing for CCC to cover a portion of FSA's computer operations and maintenance costs for the farm programs.

Farm Loan Programs Traditionally, USDA's role in the farm credit market has been to be the "lender of last resort." Currently, the Department supplies only about 5 to 6 percent of the credit used by farmers the rest is supplied by private lenders, including the federally-chartered Farm Credit System. However, the Department's role is important because it provides opportunities for farmers who experience financial difficulty to stay in business, and fills credit gaps, particularly for socially disadvantaged and beginning farmers.

Because the programs operate at the margin of the credit market, they are vulnerable to changes in market conditions and sometimes it is very difficult to predict changes in demand for program assistance. Right now, there is a great deal of uncertainty as to the impact recent declines in farm prices and income may have on repayments of past debts and the willingness of private lenders to make new loans. Even small changes in these factors can have a proportionally larger impact on the number of applicants seeking program assistance and the amount of their requests. USDA is keeping a very careful eye on the situation as it develops, not only for year 2000, but also for meeting the more immediate needs in 1999.

The 2000 budget request reflects a fairly optimistic projection one that envisions a reasonably good supply of farm credit provided by private lenders. The Administration believes that this is a good starting point. But, I will not hesitate to request additional funding if conditions deteriorate and there is evidence that additional program assistance is needed.

Specifically, the budget request includes about $3 billion in farm loans and guarantees slightly more than the $2.8 billion available for 1999. Because interest rates continue to decline, thereby reducing the subsidy costs, the higher program level for 2000 can be supported with far less budget authority than was necessary in 1999 ($77.3 million compared to $121.1 million).

For farm operating loans, the 2000 budget includes $1.7 billion in unsubsidized guarantees, $500 million in direct loans, and $97 million in subsidized guarantees. This mix reflects a shift to more unsubsidized guarantees. Favorable interest rates should help more farmers qualify for such credit and USDA's recent publication of a final rule for streamlining the guaranteed loan program and establishing a preferred lender program should encourage private lender participation.

For farm ownership loans, the 2000 budget includes $128 million in direct loans, compared to $86 million available for 1999, and $431 million for unsubsidized guarantees, which is about the same as 1999.

In addition, the 2000 budget includes $100 million in loans for the boll weevil eradication program and $53 million in emergency loans. The Administration plans to review gaps in the emergency loan program which deny credit to farmers and agriculture-related businesses that is otherwise available to non-farmers through the Small Business Administration (SBA). It intends to propose legislation to eliminate such gaps.

The 2000 budget also includes $4 million in grants for the State mediation program, double the amount available in 1999. This program provides a valuable serv-

ice in resolving disputes over the administration of the farm credit and other USDA programs.

Commodity Credit Corporation Changes over the last decade in commodity, disaster, and conservation programs have dramatically changed the level, mix, and variability of CCC outlays. CCC outlays are projected to increase from $10 billion in 1998, to $18 billion in 1999, and then to decline again to about $12 billion in 2000. The increase in spending between 1998 and 1999 is accounted for by higher marketing assistance loan program outlays, expenditures related to the President's International Food Aid initiative, and by emergency spending authorized for disaster assistance programs authorized by the 1999 Act. The disaster assistance provision expenditures authorized in the 1999 Act total nearly $5.9 billion, including $3.1 billion for market loss payments, $2.4 billion to compensate producers for crop losses, and $0.2 million for livestock feed assistance. In 2000, commodity program outlays account for about three-fourths of the total CCC outlays, with production flexibility contract payments and loan deficiency payments accounting for nearly all of the commodity program outlays.

Conservation program outlays account for most of the remaining CCC expenditures in 2000. The 1996 Act authorized direct CCC funding for the Conservation Reserve Program (CRP) administered by FSA and several new conservation programs administered by the Natural Resources Conservation Service (NRCS).

CRP provides landowners annual payments and half the cost of establishing a conserving cover in exchange for retiring environmentally sensitive land from production for 10 to 15 years. The 1996 Act authorized the program through 2002 and set maximum enrollment in the program at 36.4 million acres. About 30.3 million acres were enrolled in the program at the end of 1998. The 2000 budget assumes nearly 6 million acres will be accepted in the 18th signup, conducted in October through early December 1998. In addition, the continuous, non-competitive 17th signup has been underway to enroll land in filter strips, riparian buffers, and similar special conservation practices.

Other conservation programs funded by CCC but administered by NRCS include the Wetlands Reserve Program (WRP), the Environmental Quality Incentives Program (EQIP), the Wildlife Habitat Incentives Program (WHIP), and the Farmland Protection Program (FPP). WRP offers landowners the opportunity to receive payments for restoring and protecting wetlands on their properties. For 2000, approximately 200,000 acres are proposed for enrollment resulting in a cumulative WRP acreage enrollment of 975,000 acres, the maximum enrollment level mandated by law. This program is a cornerstone supporting the Clean Water Action Plan. EQIP gives producers incentives to implement long-term comprehensive farm plans and the budget proposes to increase the annual program level from $174 million in 1999 to $300 million beginning in 2000. WHIP provides cost-share assistance to landowners to implement management practices improving wildlife habitat and FPP provides for the purchase of easements limiting nonagricultural uses on prime and unique farmland. Under proposed legislation, WHIP and FPP would be funded annually through CCC at $10 million and $27.5 million, respectively, beginning in 2000. FPP is also slated to receive $50 million in discretionary funding from the Vice President's new Lands Legacy initiative.

Finally, provisions of the Commodity Credit Corporation Charter Act (the CCC Charter Act) limit CCC expenditures for computer equipment and cap, at the 1995 expenditure level, total allotments and transfers to State and Federal agencies under Section 11 of the Act for administrative support services. These provisions impose significant restrictions on the availability of CCC funds for transfers and reimbursable agreements used to fund conservation technical assistance and other support services for the conservation, commodity, and export programs.

By 2000 the amount available under the computer cap will be nearly exhausted preventing needed investment in our streamlining and Service Center initiatives and prohibiting the Department from investing in much-needed technology for business process reengineering efforts. USDA needs these investments to improve service to our customers and reduce program delivery costs.

The budget for 2000 includes a legislative proposal to raise the limit on CCC expenditures for computer equipment by a total of $105 million for the period 2000 through 2002. The increase in the multi-year cap will cover a portion of FSA's computer operations and maintenance costs for the farm programs, and will be offset by an equivalent reduction in authorized spending for the Export Enhancement Program (EEP). Additional reductions in EEP will be proposed to offset increased spending for EQIP and to offset proposed CCC funding for the Foreign Market Development Cooperator Program and for a "quality samples" proposal to boost the promotion of U.S. exports.

Risk Management Agency The need for supplemental funding in the 1999 Act for production losses and price declines in the farm economy certainly provides a chilling example of shortfalls in the program. Nonetheless, the facts are that since the 1994 reform of the crop insurance program, producers have had the opportunity to obtain protection against production losses free of cost, except for a processing fee, for catastrophic losses and at a subsidized rate for higher levels of coverage. Over 60 percent of insurable acres has been covered. There could be a substantial increase in participation in this crop year due to an additional 30 percent subsidy of premium rates that is being provided as part of the 1999 supplemental funding.

A key element in the success of the crop insurance program is the partnership with the private insurance industry, which not only delivers the program but shares in the risk. This partnership has resulted in innovative changes such as the development of revenue insurance. There are 17 private insurance companies of various sizes participating in the program. They provide delivery, mostly through their own sales agents who work on a commission basis. Loss adjustment is usually done by independent contractors. Companies are reimbursed at a rate of 24.5 percent of premium, which is the maximum fixed by law. They also may receive underwriting gains for favorable loss experience.

Within USDA, the program is administered by the Risk Management Agency (RMA) and is carried out through the Federal Crop Insurance Corporation which has a Board of Directors composed of both Government and private sector members.

Legislation enacted last year authorized the shift of delivery expenses paid to private companies from discretionary to mandatory spending, which also includes premium subsidy and other program costs. The 2000 budget requests an appropriation of "such sums as necessary" for the program's mandatory spending. Such an appropriation is similar to previous years' appropriations, and provides the assurance of full funding for increases in sales volume and potential losses.

For discretionary spending, which includes salaries and expenses for RMA staff, the budget requests $71 million an increase of $7 million over 1999. This increase would allow RMA to strengthen its efforts in research and development, to extend its risk management education program, and to enhance its civil rights activities and to provide public outreach.

The Administration intends to continue working on improving the crop insurance program. It believes that there is widespread support for the program because producers appreciate the assurance of risk protection the program provides rather than the uncertainty of ad hoc disaster assistance. Further, it believes that such protection offered on an actuarially sound basis, with producers sharing in the cost, is consistent with production efficiency. The Administration will do everything possible to encourage program participation, to correct any inequities in the structure of premium rates, yield guarantees, or other program provisions, to make the program user-friendly for companies and producers alike, and to facilitate new product development and other program innovations. As a strong first step in improving and energizing the program, last year's emergency supplemental has allowed us to make a $400 million down payment this year in helping farmers meet their crop insurance needs. These funds will be used to reduce 1999 insurance premiums by 30 percent.

The Administration stands ready to work with the Congress on improving the safety net for farmers. We have already announced the Administration's principles and preliminary proposals for strengthening the farm safety net by reforming the crop insurance program and we plan to hold 3 regional forums around the country to receive input from farmers and other interested parties. A white paper on the subject can be viewed at the USDA website on the internet. Through the forums and discussions with Congress, the Administration intends to build upon our proposals to forge a bipartisan agreement on crop insurance reform.

International Trade and Export Programs Developments in overseas markets during the past year have certainly demonstrated that the health of the American farm economy is inextricably linked to the global economy. As markets in Asia, Latin America, Russia, and elsewhere experienced financial turmoil and their imports of food and agricultural commodities were cut back, the effects of those developments were felt throughout rural America.

Strong export markets are an important component of the agricultural safety net, and we are committed to helping our farmers and ranchers broaden their access to overseas markets and maximize export sales. Faced with the challenges posed by last year's disruptions in global markets, we have responded aggressively by utilizing our export program authorities to ensure the continued flow of U.S. agricultural exports. We have expanded substantially the level of CCC export credit guarantees made available to markets in Asia, which otherwise would have been unable to obtain financing for their food and agricultural imports. As a result, sales reg-

istrations under the guarantee programs exceeded $4 billion in 1998, an increase of 40 percent above the previous year.

In July, President Clinton announced his Food Aid Initiative under which the United States is providing as much as 5 million metric tons of wheat and wheat products to assist needy countries. Moreover, we have developed a package of food assistance for Russia, which will provide over 3 million metric tons of commodities, once fully implemented.

We also have continued our efforts to open and expand markets through a wide range of trade policy activities. For example, last February the United States and Taiwan signed a market access agreement which provides for Taiwan to lift its import bans and allow access for U.S. pork, poultry, and variety meats. Upon Taiwan's accession to the World Trade Organization, Taiwan will cut tariffs and open tariff-rate quotas on numerous agricultural products.

We continue to prepare for the new round of multilateral trade negotiations which is set to begin later this year and presents an opportunity to further strengthen disciplines on agricultural trading practices. We are pursuing market opening agreements on a regional basis as well, including negotiations for the Free Trade Area of the Americas and within the Asia Pacific Economic Cooperation forum. And, we continue to respond to the growing challenges posed by technical barriers to trade, such as sanitary and phytosanitary barriers that are not scientifically based.

In order to ensure we are able to continue these activities and our export promotion objectives can be achieved, our budget proposals provide an overall program level of nearly $6.5 billion for USDA's international programs in 2000. For the CCC export credit guarantee programs, the largest of our export activities, the budget includes program levels of $4.7 billion for 1999 and $4.5 billion for 2000. These levels continue the higher level of guarantee programming which was established last year in response to developments in Asia. However, the actual level of guarantees to be issued will not be limited by the budget estimates, but instead will be determined by market conditions and program demand.

The Department carries out a number of market promotion programs which play a crucial role in efforts to develop and expand overseas markets. The Market Access Program (MAP) has been particularly instrumental in helping small and new-to-market companies build new markets overseas. To further those efforts, all MAP assistance for brand promotions is now reserved for small businesses and cooperatives. For 2000, the budget provides funding for MAP at the maximum authorized level of $90 million, which is unchanged from 1999.

The Foreign Market Development Cooperator Program, a mainstay of USDA export promotion efforts since 1954, provides cost-share assistance to nonprofit commodity and agricultural trade associations to support market development activities designed to remove long-term impediments to increased U.S. trade. Beginning in 2000, the budget proposes that the Cooperator Program be funded by CCC rather than the FAS appropriation. However, funding for the program will remain at its current level of $27.5 million per year. This proposal is consistent with the CCC Charter Act which authorizes the Corporation's funds to be used for market development activities. By providing a permanent authorization for CCC funding, the proposed change will provide greater stability for future program activities and will thereby enhance long-term planning by program participants.

The budget also includes funding to implement a new market promotion activity, the Quality Samples Program. Under this initiative, samples of U.S. agricultural products will be provided to foreign importers in order to promote a better understanding and appreciation of their high quality. The program will be carried out under existing authorities through commodity organizations and agricultural trade associations, similar to the Cooperator Program, and on a pilot basis will be funded by CCC at an annual program level of $2.5 million.

The budget provides funding to continue both of the Department's export subsidy programs the Dairy Export Incentive Program (DEIP) and the Export Enhancement Program (EEP). In the case of DEIP, the budget assumes a program level which continues programming near the current level. For EEP, a program level of $494 million is proposed for 2000, which is below the authorized level of $579 million. Proposed legislation to limit EEP programming will be submitted in order to provide PAYGO savings which are needed to help offset the costs of other initiatives in the budget which will increase mandatory spending for agricultural programs. Although EEP will be limited to the $494 million level, the program will remain in place and the awarding of bonuses can be resumed whenever market conditions warrant. The Administration will also propose to permit unobligated balances of EEP funds to be transferred to other foreign food assistance programs, such as Public Law 480, toward the end of each year.

For Public Law 480 foreign food assistance activities, the budget provides an overall program level of $987 million. This is projected to provide approximately 3.2 million metric tons of commodity assistance to recipient countries. In 2000, this tonnage level is expected to be supplemented by additional food assistance to be provided under the Food for Progress Program and section 416(b) of the Agricultural Act of 1949.

For the Foreign Agricultural Service (FAS), the budget provides appropriated funding of $115 million. This is $25 million below the 1999 enacted level due to the proposal to fund the Cooperator Program through CCC rather than the FAS appropriation. The budget provides funding for several new initiatives for FAS, including the opening of a new Agricultural Trade Office in the southern Africa region and implementation of a Reverse Buying Missions Program. The latter will bring buying missions of foreign importers, retailers, and trade officials to the United States to orient them on the quality and diversity of U.S. agricultural products. The program will be focused on markets in which the United States is generally competitive and has a clear potential for expanding commercial sales.

RURAL DEVELOPMENT

USDA's rural development programs provide decent, safe and sanitary housing as well as amenities such as safe drinking water, waste disposal, electrical and telephone service. They also provide jobs both for the construction of projects and employment within those projects, and for improved employment opportunities that result from the strengthening of rural economies. Rural America remains diverse. There are prosperous rural communities centers of local economic activity, communities that are attractive for recreation or retirement, and some that have been remarkably successful in bringing in high technology and other modern day businesses. However, there also are numerous areas with severe poverty and economic depression places that have lost their economic base of farming, forestry, mining or other traditional enterprises. These communities have high rates of poverty, limited opportunities, and lack even basic necessities. USDA's rural development programs help alleviate these inequities, so that the people who live in rural communities may have the same opportunity to share in the benefits of the Nation's prosperity.

The 2000 budget includes almost $11 billion in loan, grant and other assistance for rural development. This represents an increase of almost $800 million over the amount available for 1999. The higher program level can be supported at about the same cost to the Government roughly $2.2 billion in budget authority, including $200 million in budget authority that is being forward financed into 2001 due primarily to a reduction in subsidy costs for direct loans, which reflects the overall decline in interest rates.

USDA's rural development programs support a number of long-standing initiatives of the Administration including the President's Homeownership Initiative, Water 2000 and the Empowerment Zones and Enterprise Communities (EZ/EC) Initiative. In 2000, Rural Development would also contribute to the Smart Growth Partnership by helping to administer a $50 million loan program which is included in the budget for the Forest Service.

Over $3 billion in loans and grants ($670 million in budget authority) would be budgeted under the Rural Community Advancement Program (RCAP) which allows flexibility to transfer funds among programs to meet State and local priorities. These priorities must be based on strategic plans to help guide the development process. RCAP was authorized in the 1996 Act, but recent appropriations acts have restricted its full implementation although the 1999 Appropriations Act provided more flexibility than in prior years. The 2000 budget would allow RCAP to be fully implemented.

The Administration will propose legislation to provide $15 million, annually, in grants to the rural communities that were selected in the second round of the EZ/EC initiative. The 2000 budget also provides for the targeting of about $200 million in loans and grants under USDA's rural development programs to the EZ/EC initiative. In addition, a number of the EZ communities receive certain tax benefits. The EZ/EC initiative has encouraged communities to develop strategic plans to meet their goals and objectives. It has created jobs and economic growth, and has served as a model for non-EZ/EC communities to meet the challenge of planning for their future.

USDA's rural development programs are administered through State and local offices, all located within USDA Service Centers. The 2000 budget includes just under $542 million for Rural Development salaries and expenses. This funding level is approximately $27 million over 1999 and is expected to be sufficient to maintain staffing at current levels.

Rural Utilities Service The programs administered by the Rural Utilities Service (RUS) provide financing for electric, telephone, and water and waste disposal services. These programs have a long history of significant contributions to rural America literally lighting up rural households, allowing those households to communicate with the rest of the world, and bringing running water for indoor plumbing. While almost all of rural America now have these basic necessities, the challenges in recent years has been to maintain and upgrade the facilities that provide service, to ensure that rural America does not fall behind in the fast-paced world of high-tech communications, and to address the increasing risks of unsafe or poor quality water.

The 2000 budget would support over $1.6 billion in electric and telephone loans, which is about $75 million less than 1999. The Administration will submit legislation to authorize direct electric loans at a Treasury rate of interest. Under the proposed legislation, $400 million in such loans would be shifted from FFB directly to RUS.

The 2000 budget also reflects additional direct loan activity under the Distance Learning and Telemedicine program. This program was initially designed to provide only grants. However, there has been an overwhelming request for assistance due to the awareness of rural communities that the high-tech world of communications offers their best chance to receive enhanced learning and medical services and connect to the information-based economy. In order to serve more of these communities, the program was expanded in 1996 to include loan as well as grant assistance. RUS expects to see substantial progress in loan activity. In anticipation, the 2000 budget provides for an increase in the loan program to $200 million in loans. It also provides for an increase in grants from $12 million available in 1999 to $20 million in 2000.

The 2000 budget includes $503 million in grants and $975 million in loans For the water and waste disposal program together representing an increase of $156 million over the amount available for 1999. The program will continue to be targeted, under the Water 2000 initiative, to communities with the most serious needs for assistance which means that they lack service, are at risk of health due to unclean water or unsanitary conditions, cannot afford to pay the full cost of service due to high incidence of poverty.

Rural communities benefit not only directly in terms of the services their residents receive from the facilities financed by water and waste disposal loans and grants, but also, in terms of the jobs and overall economic growth that can result from those services being provided to commercial users. The secondary impact can, in fact, turn rural communities around giving them the means to attract industry to diversify their economies.

Rural Housing Service USDA rural housing programs have played a key role in providing affordable homeownership and rental opportunities in rural America since the 1960's. The programs serve very low to moderate income families who cannot obtain conventional credit and cannot otherwise afford decent, safe and sanitary housing. Interest and rental payment assistance reduces the cost of such housing to the families' ability to pay, based on income and other factors. The overall decline in interest rates has made it possible to operate the direct homeownership program at relatively modest cost for 2000, less than 10 percent per dollar of loans. The 2000 budget would support $1.1 billion in direct (single-family) homeownership loans compared to $965 million in 1999.

In addition, the 2000 budget would support $3.2 billion in guarantees $200 million more than in 1999. The loan guarantee program has operated for only a few years and has proven to be helpful in filling gaps in the commercial credit market where lenders are reluctant to make loans on their own. The program offers no interest payment assistance, so borrowers must be able to pay commercial rates of interest. However, the subsidy cost of the guaranteed program is only about 1 percent per dollar of loan guaranteed. The combined total of $4.3 billion in homeownership loans and guarantees is expected to serve over 50,000 rural families.

The 2000 budget provides for $100 million in direct loans and $200 million in guarantees for rental housing, $100 million of which would be contingent on legislation to eliminate the statutory requirement that 20 percent of the units in projects with guarantees receive interest payment assistance. The guaranteed program for rental housing is relatively new and uses other sources of funds and financial incentives, such as tax credits. Experience has shown, that the program can be operated without interest payment assistance and still serve low income families due to the combination of other incentives.

In the direct rental housing program, RHS currently has a portfolio of about 18,000 projects with approximately 245,000 units receiving rental assistance payments. In year 2000, it is anticipated that about 41,800 of these units will require renewal at a cost of $603 million. Some additional units in existing projects will be

provided for servicing purposes and a small number of units are expected to be provided in new projects, including those for farm labor housing. In total, the 2000 budget includes $640 million for rental assistance payments, of which $440 million would be available beginning in 2000. The remaining $200 million would be available beginning in 2001. The budgeting of 2000 program needs over 2 years will not affect the flow of funds to project sponsors or impact occupants in such projects.

RHS also administers several housing programs that serve specific needs, including farm labor housing, self-help housing for families who trade their sweat equity for a chance to own their own home, and very-low income repair loans and grants. The 2000 budget provides for the continuation of these programs at sightly higher levels than available for 1999.

In addition, RHS administers a program of direct and guaranteed loans and a limited amount of grants for essential community facilities. In recent years, the priority has been to serve children and the elderly through child care centers and health facilities; however, a wide range of projects have received this assistance, to reflect the diversity of State and local priorities. The 2000 budget would support $250 million in direct loans $80 million more than available in 1999. Guaranteed loans would remain at the same level as in 1999 $210 million. In addition, the 2000 budget includes $15 million for grants, $5 million of which would be used for early warning systems for hazardous weather conditions.

Rural Business-Cooperative Service Many rural communities need a more diversified economic base one that will provide good-paying jobs and withstand the fast-paced challenges of a high-tech global marketplace. The Administration has undertaken initiatives such as EZ/EC which requires communities to develop strategic plans in the process of competing for designation. Implementing these plans, requires significant financial resources. The primary source of capital must be the private sector and there are many ways to encourage private lenders to be more responsive to unmet needs, such as through tax credits and other incentives. Programs that offer guarantees and, in some cases, direct loans also contribute to the supply of credit. Within USDA, these programs are administered by the Rural Business-Cooperative Service (RBS).

RBS' largest program is the business & industry loan guarantee program which has operated at a level of about $1 billion for the last few years, and would be continued at that level in the 2000 budget. This level of funding is expected to produce almost 38,000 jobs in rural America. In recent years, the program has had very few losses and the cost to the Government has been minimal.

The 2000 budget continues the direct business & industry loan program at a $50 million level. This program is particularly helpful in filling gaps in the credit market, particularly in areas that are underserved by private lenders. In addition, the 2000 budget provides for $52 million for the intermediary relending program $19 million more than 1999. This program allows intermediaries to develop their lending capacity. Currently, each dollar loaned to an intermediary circulates about 3 times over its lifetime. Further, the experience intermediaries gain in loan making improves their prospects for gaining access to other sources of funding.

The rural business enterprise grant program would be funded at $36 million about the same as available for 1999. In addition, there would be $5 million for the new partnership technical assistance grant program. This program provides communities with assistance for strategic planning and would help them better coordinate and leverage Federal, State, and private funding.

The 2000 budget also provides $5 million for rural cooperative development grants ($3 million more than available in 1999), $2 million for the appropriate technology transfer program, $700,000 more than the 1999 level, $2 million for cooperative research agreements (the same as in 1999), and $10 million for the Alternative Agricultural Research and Commercialization Corporation (compared to only $4 million available for 1999).

As noted earlier, the Administration will be proposing legislation to provide mandatory funding of $15 million each year for the second round of rural EZ/EC's that were announced recently. In 2000, RBS will also administer a new $50 million loan program in support of the Smart Growth under the Lands Legacy initiative. Funding for this program is included under the Forest Service budget and would be administered by RBS under the authorities used to establish the intermediary relending program.

FOOD, NUTRITION AND CONSUMER SERVICES

America has the most affordable, safest food supply in the world, thanks to its hard-working farmers and producers. However, with nearly 36 million Americans living in poverty, millions of Americans still need nutrition assistance. USDA's nu-

trition assistance programs are part of the national safety net. Proper nutrition and sufficient food is as essential to the successful transition from Welfare to work as child care and health insurance. The importance of nutrition support does not diminish as families leave welfare. A family working full-time throughout the year at the minimum wage can lift themselves out of poverty, but only with the assistance of food stamps. The budget requests an appropriate level of funding for this effort for Food Stamps, Child Nutrition, and the WIC program, the Nation's primary means for carrying out food assistance policy. Over two-thirds of the $36.5 billion requested will help low-income children, school age or under, receive the nutrition they need.

The Food Stamp Program is budgeted at $22.5 billion in 2000, which includes a $1.0 billion contingency fund to cover unforeseen needs, and is predicated on a participation estimate of some 20.1 million people. While this level is higher than 1999 estimated participation of 19.7 million, this is just cautious budgeting. The economy is expected to remain strong. In fact, food stamp participation is down over 9 million from its peak of 28 million participants in March of 1994. This trend began before welfare reform was enacted and intensified as welfare reform began to work. With the strong economy, unemployment is at the lowest peacetime level since 1957. Increases in child support payments from absent parents achieved via Administration initiatives are also helping low-income households reduce dependency on food stamps. The Department will watch fluctuations in participation levels carefully to ensure that food stamp eligibles are not denied access to the program if they or their children still require nutrition assistance.

The budget includes several legislative proposals and initiatives for the Food Stamp Program. While Americans are committed to a society where work and responsibility are rewarded, current law does not permit many immigrants who have been legal residents of the United States since before welfare reform, to receive food stamps even after reaching age 65. The Department proposes to level the playing field with legislation that would allow such humanitarian assistance to these hard-working, long-time legal resident immigrants who fall on hard times when they are over age 65.

The budget also includes a small amount of funding for nutrition education and technical assistance. This will make sure program eligibles understand how to get nutrition assistance and what assistance is available if they want it; and it will help educate them on how to achieve a better diet. Finally, in addition to the continuing effort to modernize benefit delivery via nationwide use of Electronic Benefit Transfer, USDA is developing a plan to reduce error. A $6 million increase is requested as part of the plan to crack down on retailer and participant abuses, as well as reduce program errors causing overpayments.

For the Child Nutrition Programs, including the National School Lunch, Breakfast, Child and Adult Care Food, Summer Food Service, and Special Milk Programs, the current law budget request is $9.6 billion, about $0.4 billion more than the 1999 level. The request assumes continued full funding for all of these programs, support for Team Nutrition and $2 million is requested for Nutrition Education and Training. The National School Lunch Program touches almost all school children during the year and can help them achieve a better diet, especially with this effort in nutrition education. USDA is also developing an integrity plan to assess and address error in the school lunch program for which another $2 million is requested. We will increase USDA's visibility at the State and local level to ensure program integrity. Finally, the William F. Goodling Child Nutrition Reauthorization Act of 1998, Public Law 105–336, (the Goodling Act) authorized demonstration projects in 6 school districts that would allow the Department to evaluate the effect of providing breakfasts free to all elementary school children regardless of income. The budget includes $3 million to pay for the meal costs, and $10 million for a 3-year evaluation of the effects on participation, academic achievement, attendance, tardiness, and dietary intake.

For WIC, the budget request calls for an increase of $181 million, bringing the total to $4.1 billion for 2000. This level of funding will support a monthly average of 7.5 million participants over the year. The program is widely credited with reducing anemia and improving other key indicators of early childhood health. Over 46 percent of the infants born in America are WIC participants. USDA is working to implement the changes in the Goodling Act, many of which would increase program integrity. The Department is also working with the States to improve program integrity and efficiency, to make sure the program makes as much difference as it can for needy program recipients. Further, as part of our Commodity Assistance Program request, the Department seeks $20 million for the WIC farmers' market program, a $5 million increase. This program brings WIC recipients together with

small, local farm producers and encourages the consumption of fruits and vegetables, a priority in nutrition promotion.

The budget proposes an increase of $10 million for the Emergency Food Assistance Program (TEFAP). The Commodity Supplemental Food Program is funded to maintain the current program levels, although it is anticipated that caseload will continue to shift toward greater elderly participation. The Nutrition Program for the Elderly is increased by $10 million, to $150 million to increase subsidized meals provided to persons aged 60 or older at low-income elderly centers and through "meals on wheels" programs.

Finally, the Department will also increase its efforts to promote the new Dietary Guidelines to be issued in 2000 to help all Americans achieve a better diet via the Center for Nutrition Policy and Promotion. An important principle of nutrition education is that all Americans can benefit, whether they participate in nutritious assistance programs or not. Our concern is greatest for those in need, but nutrition education helps everyone.

FOOD SAFETY

As the safety of the food supply has become more important to the success of American agriculture and the health of consumers, the Department has stepped up its efforts to provide the leadership and expertise necessary to address the complex domestic and international food safety issues facing us today.

On July 25, 1996, a milestone was reached in our strategy for making significant gains in improving the safety of America's food supply. On this date, the final rule for Pathogen Reduction and Hazard Analysis and Critical Control Point (HACCP) Systems for meat and poultry products was published. This rule modernizes a 90-year-old inspection system and lays out the Administration's commitment to improve food safety and reduce the incidence of foodborne illness by 25 percent by the year 2000 as stated in the Department's strategic plan.

Two more milestones were reached: in January 1998 when approximately 300 large plants entered the program, accounting for 75 percent of the volume of meat and poultry production in the United States; and in January 1999 when over 2,800 small plants accounting for another 15 percent of meat and poultry production implemented HACCP. Implementation in large plants has been smooth thanks to the efforts of both industry and Government. Large plants had approximately a 92 percent compliance rate during the first 9 months of implementation. Where a few problems did occur, enforcement actions were implemented and establishments responded by modifying and strengthening their HACCP plans. As of January 25, 1999, small establishments, defined as having between 10 and 500 employees, were required to meet the HACCP requirements. All other establishments must implement HACCP requirements on January 25, 2000.

Recent results demonstrate that 90 percent of large HACCP establishments, for which there were adequate data, met the Government's Salmonella performance standards. Those establishments that did not meet the standards were required to take immediate corrective action. Data also indicate that there was a significant reduction in the prevalence of Salmonella due to the implementation of HACCP. The performance standards for Salmonella represent the first time USDA has set microbial standards for raw products on such a broad scale and is the first step towards a greater reliance on performance standards for specific pathogens.

These data, while preliminary, indicate that the Administration's science-based inspection system has already had a significant effect on the safety of food American families eat by reducing the prevalence of Salmonella. Salmonella is a potentially deadly bacteria that in the past had sickened as many as 3.8 million Americans a year and cost billions of dollars in lost productivity and medical costs annually.

The positive results from the implementation of HACCP underscores the important role Government plays in promoting public health, but the final rule is only part of our overall strategy to improve the safety of our meat and poultry supply. On January 25, 1997, the President announced the National Food Safety initiative. The initiative includes seven components for improving the Federal food inspection system from farm-to-table. Key components include expansion of the Federal food safety surveillance system, improved coordination between Federal, State, and local health authorities; improved risk assessment capabilities; increased inspection; expanded research, consumer education, and strategic planning. The initiative reflects a high level of coordination among agencies within USDA, the Department of Health and Human Services, and the Environmental Protection Agency (EPA). For 2000, the plan is to build on these investments, which Congress has generously supported in both 1998 and 1999.

For 2000, the budget proposes an appropriated level under current law of $653 million, a net increase of $36 million over the 1999 current estimate. The budget includes an increase for pay costs to meet our statutory obligation to provide inspection services and a programmatic increase to implement our farm-to-table food safety strategy. The 2000 budget includes increases to help the FSIS inspection workforce make the transition to a new HACCP environment, including conversion of 388 current inspection personnel and hiring of 250 new personnel as Consumer Safety Officers. In these new positions, these employees will be responsible for conducting scientific testing and inspections through the farm-to-table continuum. Some of these personnel will be redeployed to cover critical inspection vacancies in nearly 3,000 very small establishments. These redeployments and upgrades will increase the professional qualifications of the inspection workforce and cover a broader segment of the farm-to-table continuum. In support of the President's Food Safety initiative, the budget for FSIS includes increases to address food safety risks from farm-to-table, including: emergency response coordination with the States in investigating foodborne illness outbreaks; validation of the ability of State laboratories to meet HACCP pathogen testing requirements; and pathogen testing in Federal laboratories of State- inspected product.

The 2000 budget request includes again this year a legislative proposal which would provide authority to recover the full cost of providing Federal meat, poultry, and egg products inspection. We estimate that this proposal would generate approximately $504 million in new revenues in 2000 and $606 million thereafter. The proposal would require $149 million in appropriated funding to convert the program to user fees and to maintain State inspection programs. States administering their own inspection programs would continue to be reimbursed by the Federal Government for up to 50 percent of the cost of administering their programs and the special assistance beginning in 1999.

NATURAL RESOURCES AND ENVIRONMENT

Public awareness and concern for the Nation's natural resources has continued to grow as we gain a better understanding of soil and related resource problems and how best to address them. The importance of maintaining a healthy environment and a strong natural resource base becomes even more vital when considering the present economic state of rural America and the uncertainties that will be facing agriculture in the next century. The need to stem the decline of our important prime farmlands and address the problem of urban sprawl will require a greater Federal investment in "Smart Growth" programs. Understanding and demonstrating new methods of mitigating the adverse effects of global climate change on agriculture is another area to which the Federal Government should devote more resources. In addition, the plight of small, limited resource farmers has become more widely known as we begin to appreciate the vital role they play in American agriculture and the environmental and economic challenges that they face.

The Administration has also targeted water pollution as a serious threat to the environment and has demonstrated its commitment to addressing this problem with the publication of the President's Clean Water Action Plan in February 1998. This important document comes 25 years after passage of the Clean Water Act and outlines key Federal actions that will attempt to address the pollution problems of the next generation. USDA is called on to play a significant role in helping to implement this plan.

These initiatives have put more pressure on the Department's unique conservation partnership and has led to an increased demand for financial and technical services that we provide to farmers and communities. The budget request for 2000 recognizes this and proposes an appropriated funding level of $866 million for NRCS. This includes $585 million for conservation technical assistance, the program that constitutes the backbone of the Department's partnership with conservation districts and farmers, as well as the primary tool by which the Department addresses many of the Administration's environmental priorities.

The technical assistance proposal will assist in implementation of the Administration's Clean Water Action Plan and provides $20 million, including an $8 million increase, for technical assistance to owners and operators of animal feeding operations (AFO) to help them develop and implement waste management plans. Financial assistance that AFO operators might need to implement the plans will come from a $126 million increase requested for EQIP which is funded through CCC. NRCS will direct $20 million to competitive partnership grants to enable locally-based organizations, such as conservation districts or watershed councils, to provide coordination of locally-initiated conservation efforts in problem identification and

goal setting. Finally, an additional $3 million is provided for monitoring work to help target resources and document baseline conditions and performance.

In support of the Administration's Global Climate Change initiative, the budget includes an increase of $12 million to develop accurate baseline soil carbon data and to determine the impacts of Federal programs on soil carbon stocks at the national, regional and field levels. In addition, NRCS will devote $3 million to fund demonstration and pilot projects to test various carbon sequestration and greenhouse gas mitigation strategies and monitoring mechanisms.

Another Administration priority is the need to protect productive farmland and preserve open space. The President's Lands Legacy initiative will seek to accomplish this through a $50 million increase in discretionary spending for NRCS' Farmland Protection Program (FPP). Since funding authority for this program was fully expended in 1998, the NRCS budget also proposes new CCC legislative funding authority of $27.5 million. These two sources of funding for FPP will help meet the high demand for this program and ensure that solutions to problems of urban sprawl and loss of prime farmland are achieved.

Rural America is now facing serious economic hardships as a result of the declining farm economy. Nevertheless, farmers must still meet numerous environmental challenges and this places the greatest burden on the smaller operators. To address this, the budget includes $5 million to more fully implement the Debt for Nature program which will provide technical and financial assistance to financially strapped USDA borrowers who also have lands that require conservation treatment. At a time when many of these small operators are facing foreclosure, this program will offer some financial relief while at the same time implementing state-of-the-art conservation stewardship practices.

Funds will again be limited in the watershed planning and construction area where allocations will be made only to those projects that demonstrate cost effectiveness and clear environmental need. We will also work closely with our partners to get a better understanding of the overall condition of the more than 10,000 project dams that have been installed with USDA funding over the past 50 years. Many of these older projects are now approaching the end of their projected life span and concerns about public safety are being raised. NRCS will devote $1 million to providing educational assistance to communities on the need to inspect and possibly repair older dams.

Finally, the Department's 2000 budget will continue to support the 315 authorized Resource Conservation and Development areas. This ongoing program will continue to improve State and local leadership capabilities in planning, developing and carrying out resource conservation programs.

RESEARCH, EDUCATION, AND ECONOMICS

The 2000 budget represents the Administration's first comprehensive set of recommendations for investments in agricultural research and related technology since the Agricultural Research, Extension, and Education Reform Act was enacted in June 1998. The Research Reform Act called for a major infusion of funding in research and technology in areas that will enable American agriculture adapt to changing conditions in the global economy and in the domestic production environment. The 2000 budget proposes total funding for the four REE agencies of $2.1 billion, an increase of over 10 percent from the comparable 1999 level and the first substantial increase for these programs since 1992. Advances in research and technology are the keys to many of the most challenging problems we face in agriculture today and provide the basis for solutions to tomorrow's problems. The proposals put the Department in the ranks of the Federal Government's leading science agencies.

The REE budget proposal reflects the priorities outlined in the Research Reform Act. Mandatory spending of $120 million in 2000, and $600 million over the next 5 years is provided for the Initiative for Future Agriculture and Food Systems under Section 401 of the Research Reform Act, for competitive research, education, and extension grants to address critical and emerging agricultural issues. Grants of up to 5 years will be awarded to address priority research topics targeting enhanced agricultural productivity, food safety and human nutrition, and natural resource management. Mandatory funding is also available under the Fund for Rural America, where approximately one-half of the $60 million total is to be provided for a wide range of research and education activities in 2000.

The 2000 budget of $881 million for the Agricultural Research Service (ARS) includes a $51 million net increase for ARS research programs above the comparable 1999 enacted level. Within that total, the agency will fund increases of $76 million in support of major Presidential Initiatives and other high priority research projects. In addition, $10 million is provided to partially offset increased pay costs. Of the

total increase, $35 million will be funded through savings achieved from the termination of lower priority projects at select locations.

The discretionary budget request for CSREES of $948 million is up by $24 million or 2.6 percent, with a shift within this total to programs where funds are distributed competitively to address the most critical needs of the agricultural community. The 2000 budget proposes an increase of $81 million for the National Research Initiative (NRI), a 68 percent increase over the 1999 appropriated level. NRI supports both fundamental and mission-linked research through a competitive, peer-reviewed process that is open to all of the Nation's top scientists, including those at land-grant institutions. The proposed increase will target a wide range of environmental, economic, human health, and nutrition concerns through additional investments in breakthrough research that aims to address the most pressing concerns faced by the agricultural community.

The 2000 budget for the Economic Research Service (ERS) and the National Agricultural Statistics Service (NASS), in total, $140 million, up $6 million from comparable 1999 levels. Increases are proposed to support important departmental initiatives while reductions reflect the cyclical funding needs for the Census of Agriculture and the proposal to fund food program studies through the Food and Nutrition Service.

The budget includes $120 million, an increase of about $25 million, for REE research and education in support of the President's Food Safety Initiative. Of the total, about $7.3 million is provided to ARS for pre-harvest food safety research to study animal pathogen resistance to antibiotics, reduce pathogen infestation in animal waste, and examine the risks associated with the transmission of zoonotic pathogens from animals to humans. The ARS budget includes an increase of $4.4 million for post-harvest research to enhance detection and measurement of microbial pathogens during handling, distribution, and storage of fresh fruits and vegetables to determine the sources of contamination and risks of disease transmission. An increase of $3 million provided in the Cooperative State Research, Education, and Extension Service (CSREES) budget for competitive grants for integrated research and extension, food safety activities grants will complement the ARS research efforts. The extension programs carried out by CSREES will provide the necessary training to small retail establishments in helping them to implement HACCP. Additionally, about $21 million of the total of $200 million proposed National Research Initiative (NRI) competitive grants will go for food safety related projects. An increase of about $0.5 million is provided to support activities carried out by ERS in collaboration with other Federal and USDA agencies to assess the costs of foodborne illness and the economic implications of different options to improve food safety. An increase of $2.5 million is included in the NASS budget for a baseline survey of good agricultural practices of fruit and vegetable growers.

The ARS budget also contains an increase of $8 million for research to reduce the incidence of emerging diseases and exotic pests that threaten the safety and competitiveness of the U.S. food supply at home and abroad. Of the total, about half will be used for developing diagnostic tests, vaccines, and other preventive measures to control emerging and infectious diseases afflicting animals. The remaining amount is provided for research on emerging and exotic plant diseases, insects, and weeds that negatively impact crop quality and yield.

An increase of $3 million is provided in the ARS budget for genetic research aimed at enhancing U.S. agricultural competitiveness by improving the quality of plant and animal food products. The increase is provided to enhance crop production through research on genetic vulnerability of plants to pests and diseases and to improve the quality and safety of animal products through more accurate information on genes responsible for animal diseases and parasites.

The ARS budget also includes a $20.3 million increase in support of the President's Human Nutrition initiative. The overall goal of the initiative is to promote health and reduce health care costs by identifying the relationship between diet and health and to improve the scientific basis for more effective food assistance programs.

An increase of $3.0 million will support the development and application of new technology and management practices to replace the traditional pest controls that are at risk of being restricted or prohibited due to the Food Quality Protection Act of 1996 (FQPA). Of the total, about half of the amount is provided for technical and administrative support to the Office of Pest Management and Policy which is responsible for coordinating all pest control activities in the Department and collaborating with EPA on all pesticide-related issues. Additional funding is also provided in the CSREES budget in support of FQPA, including $10 million in new funds for long- term development and implementation of innovative pest management systems for major acreage crops, fruits, and vegetables, and $3 million in new funds

for the development of alternative pest controls for fruit and vegetable crops to replace the pesticides at risk of not meeting the new regulatory requirements. The budget includes a proposal for a new $5 million program of integrated research and extension grants for development of practical management alternatives and technologies for commodities affected by the methyl bromide phase-out. Additional funding is also provided for a number of programs aimed at preserving the Nation's natural resource base. An increase of $11 million is provided in the ARS budget for research and development of viable management strategies to achieve sustainable ecosystems. Specific efforts will include reducing nutrient build-up and transport to control hypoxia and harmful algae blooms, developing an Integrated Pest Management system for invasive weeds such as melaluca, leafy spurge, and yellow star thistle, and developing integrated strategies and technologies for conservation and restoration of ecosystems.

An increase of $15 million is provided for ARS global change research activities, with particular emphasis on utilizing management and conservation strategies to store carbon in soil, mitigating the impacts of climate change on agriculture and food availability, and developing new technology for predicting effects of global change on management and conservation of natural resources. The ERS budget is increased by $1 million for global climate change work, including identifying the economic implications of various alternatives for reducing greenhouse gases. Funds are also proposed to support USDA participation in the U.S. Global Change Research Program National Assessment activities in which several agencies collaborate to provide better understanding of potential climate changes for the Nation and to examine options for adaptations to these changes. An additional $2 million is provided for ARS research to develop measures to control particulate matter in compliance with EPA's new ambient air quality standards mandated by the Clean Air Act.

An increase of $2 million is proposed in the ARS budget so that the National Agricultural Library can enhance the availability and delivery of information to rural areas through the Internet. Additional support is provided to land-grant universities to establish "Centers of Excellence" on subjects of critical importance to the agricultural community, including food safety, pest management, water quality, and agricultural productivity.

The budget also includes $45 million for facility construction and modernization projects at 7 ARS locations, a reduction of $12 million from 1999. Of the total amount, $13 million is provided to support the first phase of a new addition to the Beltsville Human Nutrition Research Center and other small projects at the Beltsville Agricultural Research Center. Additional funding is also provided for modernization projects at ARS regional research centers, including $6 million for the Southern Regional Research Center at New Orleans, Louisiana; $4 million for the Eastern Regional Research Center at Philadelphia, Pennsylvania; $3 million for the Western Regional Research Center at Albany, California; and $2 million for the National Center for Agricultural Utilization Research, at Peoria, Illinois. Additional funding totalling $8 million is also provided for continued modernization of the Plum Island Animal Disease Center in New York and $9 million for construction of a relocation facility for the Western Human Nutrition Research Center in Davis, California.

Increases are also proposed in the CSREES budget for two innovative efforts to empower communities to reduce hunger and improve nutrition at the grass roots level. One of my highest priorities as Secretary is fostering partnerships between the public, private, and non-profit sectors to improve community food security, help individuals move towards self-sufficiency, and increase the amount of excess, wholesome food that is distributed to hungry Americans rather than discarded. Such coordinated efforts are particularly important at a time when nonprofit feeding organizations throughout the Nation are reporting an increased demand for food, particularly among working poor families. For these reasons, $776,000 is proposed to increase technical assistance to local anti-hunger and nutrition activities. In addition, as part of that initiative, $15 million is requested to increase the amount of excess food distributed by nonprofit feeding organizations by awarding grants to expand community infrastructures for food recovery and gleaning activities. The goal is to increase food recovery by 33 percent or 500 million pounds, which would provide approximately 500,000 low-income individuals with 3 pounds of nutritious food a day. An increase of $2 million above the 1999 level is also proposed to support nutrition education programs aimed at assisting individuals below poverty levels in improving basic nutrition and resource management practices.

An increase $4 million is proposed in the CSREES budget for competitive research, extension, and education grants to support the Small Farms initiative. The main goal of the Initiative is to enhance agricultural production on small farms by

developing and facilitating networks between small farmers and trained professionals in the public and private sectors.

Stable funding is provided for CSREES' higher education programs to continue ongoing efforts to support graduate and undergraduate education aimed at improving instructional capabilities in food and agricultural sciences. Funding is also held constant for the 1890 Capacity Building Grants Program which supports partnerships between the 1890's Historically Black Colleges and Universities and USDA agencies to improve research and instruction programs at these schools. The budget also continues to support the recommendations proposed by CRAT. Proposed increases include an additional $4 million for 1890 facilities projects for building renovation and construction, an increase of $3 million to support 30 additional extension agents on Indian reservations in 19 States, and an increase of $1.4 million to expand extension capacity at the 30 Native American land-grant institutions.

In addition to the food safety and global climate change increases noted previously, the ERS budget includes increases to support economic analysis on other priority issues. The budget includes additional funds to enhance commodity market analysis, particularly through alliances with the land-grant university system, and electronic dissemination of this and other ERS analysis to producers, processors, and others that use the information. An increase is also included to assess the varying information needs of different types of farming operations, how well USDA and private information services meet the needs of small farmers, and what modification of the Department's current information programs are needed to better serve small farmers. Finally, an increase is provided to support research on electric utility deregulation in order to assess the potential impacts of deregulation on the competitiveness of rural businesses, communities, and households.

The National Agricultural Statistics Service (NASS) is also an important source of information that is relied upon by a wide range of participants in the agricultural economy. The changes brought about by the 1996 Farm Bill make reliable and timely information about production, supply and prices even more critical to participants in agricultural markets. The budget request for NASS reflects a net decrease of $3 million, which includes a $9 million reduction due to the cyclical funding needs of the Census of Agriculture. The budget includes increases for a number of priority NASS efforts.

An increase is included to establish a permanent office in Puerto Rico in collaboration with the Puerto Rico Department of Agriculture to enhance collection of agricultural-related data. Funding is requested to conduct the decennial Agriculture Economics Land Ownership Survey which provides comprehensive data that are used to assess changes in farm structure, farm financial health, land ownership patterns, and landlord contributions to agricultural production. An increase is included for increased data collection to assist in the setting of safe pesticide use standards and in defining good agricultural practices to promote food safety. Lastly, an increase is requested to expand coverage of the program to measure chemical usage on cropland information vital to understanding stresses on cropland and environmental changes.

MARKETING AND REGULATORY PROGRAMS

The Marketing and Regulatory Programs facilitate domestic and international marketing of U.S. agricultural products by: (1) reducing international trade barriers and assuring that all sanitary and phytosanitary requirements are based on sound science; (2) protecting domestic producers from animal and plant pests and diseases; (3) monitoring markets to assure fair trading practices; (4) promoting competition and efficient marketing; (5) reducing the effects of destructive wildlife; and (6) assuring the well-being of research, exhibition, and pet animals. Consumers, as well as farmers, ranchers, handlers, processors, and other marketers in the agricultural sector, benefit from these activities.

The budget includes an increase of $13 million for the Agricultural Marketing Service (AMS) for a number of important activities. It would be used to: (1) expand market news reporting; (2) finalize the National Organic Program; (3) enhance the rapid response capability of the Pesticide Data Program (PDP) necessary to support the Department's responsibilities to meet EPA's data requirements for agricultural pesticide residues under FQPA; and (4) expand the operating program for microbiological testing of fruits and vegetables to support the President's Food Safety initiative.

For the Animal and Plant Health Inspection Service (APHIS), the budget proposes a number of significant changes in priorities, but only a $10 million overall increase in appropriations for the salaries and expenses account. Program successes in brucellosis eradication will allow a redirection to higher priority activities such as im-

proved animal and plant health monitoring to reduce the likelihood of dangerous and costly infestations. APHIS anticipates that all 50 States will reach brucellosis Class "Free" Status by the end of 1999. The budget proposes increased cost sharing from beneficiaries of Wildlife Services activities, particularly in States which support less than half of the program costs. Also, savings in the APHIS budget for boll weevil eradication can be achieved because FSA has established a successful loan program to assist producer-operated foundations to eradicate this menace to our agriculture. These reductions enable budget priorities to increase in the following areas: (1) detection and exclusion of pests and diseases including fruit flies, emerging plant pests, invasive alien species and Agricultural Quarantine Inspection at the borders where upwards of 85 million passengers potentially carry banned agricultural products into the United States; (2) more timely and accurate surveillance information on animal health; (3) emergency preparedness against acts of bioterrorism; and (4) important data gathering and risk analysis used in negotiations concerning sanitary and phytosanitary trade barriers and restrictions on genetically engineered products entering world markets. In addition, legislation will be proposed to increase license fees on the entities regulated under the Animal Welfare Act to recover the field level costs of administering the Act and to increase biotechnology permit fees to recover the cost of providing such services.

The budget requests no net increase for the Grain Inspection, Packers and Stockyards Administration. The one-time appropriation of $2.5 million in 1999 to restructure the Packers and Stockyards (P&S) activities is being used to strengthen P&S programs' ability to investigate anti-competitive practices and provide greater flexibility and efficiency in enforcing the trade practice and payment protection provisions of the Act. In 2000, a similar amount of funds would be used to: (1) hire additional staff to monitor and analyze packer competitive practices and the implications of structural changes in the meat packing industry; (2) expand poultry compliance resources; (3) install electronic filing equipment to reduce financial reporting costs for stockyard owners and packing house operators, (4) develop new cost-saving methods of grain inspection, (5) develop specific tests for grain varieties, and (6) develop automation techniques for mycotoxin testing. Legislation for new license fees from livestock marketing firms will be proposed to recover the cost of administering the Packers and Stockyards Act and to increase fees for grain inspection to recover the cost of developing grain standards.

DEPARTMENTAL MANAGEMENT ACTIVITIES

Although few support activities have high visibility, they are, nevertheless, vital to USDA's success in providing effective customer service and efficient program delivery. The 2000 budget proposes a number of increases for USDA's central offices and management functions to strengthen Departmentwide management oversight, leadership, coordination, and administrative support in keeping with the Department's Strategic Plan Management Initiatives to: ensure that all customers and employees are treated fairly and equitably, with dignity and respect; improve customer service by streamlining and restructuring the county offices; create a unified system of information technology management; and improve financial management and reporting.

The request reflects a number of priority funding increases to continue activities to improve civil rights enforcement throughout USDA. In recent years the Congress has increased funding specifically for civil rights activities within Departmental Administration. I appreciate this support and these activities will continue. The 2000 budget includes an increase of $3.9 million to build on these improvements. I want to be sure that we have the necessary resources to meet our Strategic Goal of ensuring that all employees and customers are treated fairly and equitably with dignity and respect. The funds will support additional staffing in the Office of Outreach to strengthen and expand leadership and coordination capabilities and expand outreach to minority and limited resource farmers; additional staffing for the Office of Civil Rights to handle increased workload in discrimination complaints and enhance complaints tracking to provide increased accountability; and additional staffing for the Office of Small and Disadvantaged Business Utilization to support an ongoing project to create new jobs in rural America.

The budget also includes an increase of $7 million for the Department's Socially Disadvantaged Farmers Outreach Program. The program, authorized by Section 2501 of the Food, Agriculture, Conservation, and Trade Act of 1990, is designed to assist socially and disadvantaged farmers and ranchers in participating in USDA programs and be successful in their operations by providing outreach and technical assistance. The proposed increase will enable support of approximately 35 projects that will serve more than 10,000 small producers with the goal of turning them into

solvent enterprises and stemming the continual reduction of the number of minority farmers and ranchers.

The challenge of providing improved customer service with improved efficiency as resource constraints are tightened remains a major focus of the Department's county-based agencies including FSA, the RD mission area, and NRCS. An initial administrative convergence plan has been developed to create the Support Services Bureau (SSB) which combines the administrative structures of these agencies into one unit to deliver better services to local customers and employees, provide a new consistency in administrative policy and operations, make better use of limited resources, and help preserve limited budget resources for program delivery. Thus, the budget includes funding for the new consolidated organization, SSB, to provide administrative services, including information technology activities, to these agencies. The salaries and expenses of the new bureau will be financed through direct appropriations and transfers from the serviced agencies.

The new SSB will support the Department's ongoing Service Center Implementation initiative. In 2000, a total program level of $90 million is proposed to continue Service Center Implementation activities, including further development and implementation of the common computing environment (CCE). One of the keys to success of improved customer service, while streamlining the field structure, is the replacement of the aging business and technology systems of the field service agencies. A collective re-engineering of business processes for administrative services and program delivery is underway, along with testing information technology alternatives. Common information shared by the partner agencies will reduce the redundant requests made of program participants, as well as customer office visits and paperwork burden, and ease workload for internal staff. CCE will enable the county-based agencies to: optimize the data, equipment, and staff sharing opportunities at the USDA service centers; overcome the extreme limitations of the current legacy information systems; and enhance customer service.

The Office of the Chief Information Officer (OCIO) provides policy guidance, leadership, and coordination in USDA's information management and technology investment activities. The proposed increase for 2000 includes $2.4 million to enhance USDA's infrastructure security and OCIO's emergency response capabilities; continue oversight of the Department's Service Center Implementation initiative; and continue implementation of critical Clinger-Cohen activities including further development of the Department's Information Technology Capital Planning and Investment Control program, the USDA Information Architecture, and workforce planning activities to ensure USDA maintains a highly qualified IT workforce.

Supplemental funding of $37.8 million was provided to OCIO in 1999 to support an aggressive program of remediation activities to address Year 2000 computer and embedded chip problems in the Department. I appreciate this support provided by the Congress and we are diligently working to ensure uninterrupted delivery of USDA programs and services in 2000.

The Office of the Chief Financial Officer provides overall direction and leadership in the development of modern financial management structures and systems in the Department. The budget proposes an increase of $2 million to restore the Department's financial credibility and accountability including successful implementation of legislative mandates such as the Government Performance and Results Act, debt collection and cost accounting. Increases in the Department's Working Capital Fund will enhance implementation of our new USDA-wide financial accounting system.

The Office of the General Counsel (OGC) provides critical legal support and advice to the Department and its agencies. An increase of $3.5 million is proposed to strengthen OGC's ability to provide timely response to requests for legal assistance, especially in the areas of trade practices, natural resources, and general law. Funds area also included to provide information technology improvements to enhance the efficiency of the office.

The Department's Office of Communications (OC) plays a critical role in disseminating information about USDA's programs to the general public. The request includes an increase of $1.2 million to enable OC to utilize new technology to reach audiences in a more timely and effective manner, and to lead Department-wide communications outreach efforts to reach underserved populations.

The request includes additional funds to continue the ongoing implementation of the USDA Strategic Space Plan for the Washington Metropolitan area. This plan has been tailored to meet the needs of USDA based on the projected staff levels at the Washington Headquarters and to provide a safe, efficient workplace for our employees. Occupancy of the Beltsville facility is scheduled to be completed during 1999. The work required in the renovation of the South Building includes fire protection systems, abatement of hazardous materials such as asbestos; replacement of old, inefficient heating, ventilation and air conditioning systems; upgrade of elec-

trical and plumbing systems; improved accommodations for disabled persons; and accommodation of modern telecommunications systems. The construction contract for Phase 1 of the modernization was awarded in July 1998. The design for Phase 2 is substantially complete and the 2000 request includes funds for the construction of Phase 2.

The Department's Hazardous Waste Management program provides leadership and funding for compliance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act, the Resources Conservation and Recovery Act, the Oil Pollution Act and the Pollution Prevention Act for facilities and lands under USDA's jurisdiction. An increase of $7 million is requested to minimally comply with necessary investigative and cleanup activities to protect human health and the environment and support increased efforts to identify and bill other responsible parties in the cleanup of hazardous waste sites.

OFFICE OF INSPECTOR GENERAL

The Office of Inspector General (OIG) conducts and supervises audits and investigations relating to programs and operations of the Department, reviews and makes recommendations on existing and proposed legislation and regulations, and recommends policies and activities to promote economy and efficiency and to prevent and detect fraud and mismanagement in USDA operations. The budget includes an increase of $3.1 million to maintain these activities and enhance the information technology capabilities of OIG.

That concludes my statement, I am looking forward to working with the Committee on the 2000 budget so that together we can meet the needs of our clients.

Senator COCHRAN. Mr. Secretary, we appreciate this overview of the budget submitted for the Department of Agriculture, and we will endeavor to work closely with you and the Department to help solve these problems in agriculture and make sure that we put the money where the problems are and help ensure that the programs are administered efficiently and effectively.

CROP INSURANCE REFORM

In that connection, I noticed that you mentioned some farm bill shortcomings and specifically addressed the problem of crop insurance reform as something that needs to be undertaken. It is troubling, therefore, to observe that there is no money in this budget request for crop insurance reform. A white paper is not going to be enough in my judgment to solve the problem. We all know a good bit about the problem, but we need to have some more definitive work and proposals from the administration to consider in the Congress and specifically a budget request that will provide funds to help fund a crop insurance reform effort. What is your reaction to my comment on that?

Secretary GLICKMAN. Well, Senator, I think it is a fair question. I would say this, that this is a multi-billion dollar problem. We talked about whether we should put a placeholder in the budget and then find enormous offsets other places in the budget to pay for it, perhaps significantly reducing existing farm program payments or other parts of the USDA budget. And we decided, no, because we are really talking about a replacement for the disaster programs that we have every year.

In the late summer/early fall, this Congress responded with first $4 billion. The President vetoed the bill, and Congress responded with $6 billion of emergency payments, disaster payments that were not heretofore budgeted because they were, in fact, true emergencies.

While the crop insurance issue is not a classic emergency from the standpoint of the budgeting requirements, we have taken the

position that, in effect, it is very much like that. So, we want to work with Congress to see if we can come up with a substantive legislative proposal that would effectively more truly replace the ad hoc disaster assistance proposals, and if we do that, I am confident that we will come up with the offsets that will pay for it.

SUPPLEMENTAL APPROPRIATIONS

Senator COCHRAN. I noticed also that you mentioned the possibility of a supplemental for programs, specifically loan programs where there are not enough monies available now to meet loan application requests that are coming in for farm operating loans or ownership loans, guaranteed and direct loans. There is not included in this budget request any supplemental requirements for fiscal year 1999 even though, as you state, the need is obvious, and I think you said shortly some of these programs will be running out of money.

How much is needed for these farm operating and guaranteed loan programs, and are there other needs for which will be submitted in a supplemental request? If so, when will it be submitted, and how much will it request?

Secretary GLICKMAN. I am going to ask Mr. Dewhurst to respond specifically, but I would say this, that we will run out of funding for emergency loans fairly soon.

The funding for farm loans did increase from $2 billion in fiscal year 1998 to $2.8 billion in 1999 to $3 billion in 2000. Demand is outrunning our funding.

Funding for guaranteed operating and ownership loans will be exhausted in the next few weeks. What is happening is a lot of producers and a lot of banks are turning to us to help refinance existing debt as prices fall. We are either the lender of last resort or our guaranteed program has become extremely popular with banks who might not heretofore have wanted to use us in some of these loans.

But perhaps Steve may want to comment more specifically on that.

Mr. DEWHURST. Well, as the Secretary said, we are looking at the needs for supplemental appropriations with the hope that we will be sending something forward in the executive branch in the next few days. There are essentially four program areas we are looking at. One is the one that Senator Cochran brought up, which is farm credit. It is clear to us that with respect to emergency loans, as well as with respect to guaranteed operating and ownership credit, there are shortages in all of those areas. The current estimate of need could be as much as $1 billion in loan authority, which translates into roughly $100 million in budget authority to finance them.

But I want to emphasize that one of our problems is these numbers keep changing and we are trying to get the best numbers we can to make sure we cover the problem.

We are also looking at the emergency conservation program. As you know, that program runs through the Farm Service Agency and provides farmers with some cost-share money to put land back in productive condition following natural disasters. We are working with a tentative estimate of about $30 million in that area. At the moment the largest single need that we see is in Puerto Rico due

to Hurricane George. There is an $8 million requirement in that territory alone because of hurricane damage.

We are also looking at the emergency watershed program. The Natural Resources Conservation Service works with local jurisdictions to clear channels and restore streams after natural disasters. They have given us an initial estimate of roughly $100 million, but we are still looking at that.

Finally, there's rural development. We have some housing needs due to natural disasters again in Puerto Rico, as well as a number of other States where storms have damaged USDA financed rural housing, and there may be a need for us to provide some additional loans and grants to help restore that housing. That is a fairly small area. We think it might amount to $6 million in loans and grants.

So, those are four areas we are looking at. We do hope to have something forward the next few days, but we are trying to get the best numbers that we can.

Senator COCHRAN. Thank you.

Senator Kohl.

LONG-TERM DAIRY PRICES

Senator KOHL. Thank you, Senator Cochran.

Mr. Secretary, dairy farmers in my State of Wisconsin and across much of the Nation have recently benefitted from good prices. However, we are very concerned about projections for dairy prices in the coming months. I would like you or perhaps Mr. Collins to provide your views on the near and long-term prices dairy farmers may expect to receive.

Secretary GLICKMAN. Well, if they were going up, I would do it, but I am going to have Mr. Collins respond. [Laughter.]

Mr. COLLINS. Thank you, Mr. Secretary.

Secretary GLICKMAN. I think last year I did do it.

Senator KOHL. They were going up.

Mr. COLLINS. Mr. Kohl, as you did comment, we have had an unusual situation over the last couple of months. The basic formula price in December was $17.34 per 100 pounds of milk which was an all-time record high. I do not think many people expected that to continue; at least not many economists expected that to continue.

In 1998, we had some serious weather problems that affected milk production around the country, California in particular, having wet weather in the spring and then drought during the summer. We only had a very small increase in milk production at a time when cheese demand was strong and milk fat demand was strong.

Over the last 3 months of 1998, though, things have started to change. Milk production was up 2 percent. That is the first sustained increase we have had in milk production since 1995. As a result of that, we are now seeing more cheese production, and we have seen cheese prices drop rather dramatically. They were record high, $1.90 a pound in December. They fell all the way to $1.25 the third week in January, and they went up a little bit last Friday to about $1.32.

But as we look out, we are probably going to see a basic formula price, when we announce it on March 5th, dropping to the range

of between $12 and $13 per 100 pounds, down from the $17.34 record in December, and I think we announced about $16.28 last week for the January basic formula price.

Just to finish this, for the year as a whole, we would see the basic formula price average about $12.75 per hundredweight in 1999 which would be down from about $14.20 in 1998. But it would be better than what we had in 1997 when it was only $12.05, and producers will face lower feed costs than they did in 1997. So, we should have a year about between the last 2 years of 1997 and 1998.

Senator KOHL. All right. So, we are expecting a serious decline in prices this year relative to last year.

Mr. COLLINS. Yes, sir.

EMERGENCY FUNDING

Senator KOHL. Last fall, Mr. Secretary, Congress provided, as you know and stated, nearly $6 billion in emergency funds to bolster farm prices. Included in that amount was $200 million to help dairy farmers. In fact, Mr. Secretary, I have written you a letter, as you know, on this matter.

Since Congress has already acted and an economic disaster for dairy farmers is expected in the near term, can you assure dairy farmers in Wisconsin and other States that that money will be available and will be used to offset the effects of the crisis that we expect?

Secretary GLICKMAN. Yes. This $200 million fund needs to be out there sometime mid to late spring. We have not yet finalized the formula for doing it, but the appropriations bill requires us to spend $200 million and I am advised that it has got to be spent this fiscal year. So, that means the money must and will be spent.

The other thing I would tell you is that without knowing exactly what we are going to do on dairy, we did do the $50 million hog program which was kind of a special program. On that one, we targeted it to basically smaller and mid-size producers. While we have not finalized the dairy program yet, it would be my hope that there would be some targeting in this area as well.

MARKET CONCENTRATION

Senator KOHL. All right. Mr. Secretary, you have noted in your remarks your commitment to the small farmer and ongoing efforts at USDA to help ensure that highly concentrated market power in the hands of a few will not serve to the detriment of the American farmer or the American consumer. Mr. Secretary, if concentration within the U.S. agriculture sector continues to grow, what do you see as the long-term consequences of this concentration?

Secretary GLICKMAN. That is a question that I am very worried about. It is the question that I get when I am out in the country more than any other question. It has to do with the structure of agriculture, particularly in the livestock sector, particularly in poultry and hogs, but there is also a lot of concern about ownership on the slaughter side, the beef side of the picture.

Now, we have, to use the colloquial expression, beefed up our enforcement and our staffing functions of the Grain Inspection and Packers and Stockyards Administration. It is in our budget to pro-

vide more resources to do both studies and to take on cases. These cases, antitrust cases, are very complicated and they are intensely litigious.

One of the first things that I did when I came on board is we sued IBP, the largest meat packing company in the world, for preferential pricing practices. We got a result which was partially positive, partially negative, but it is something that we need to do more of, which is to challenge unfair practices where they exist. We have our own statute, the Packers and Stockyards Act, which was adopted as basically an unfair practices statute.

We also created a National Commission on Small Farms. It has made several recommendations that we have implemented.

I would also point out that in recent weeks the White House has put together a team of us and the Department of Justice to examine larger consolidation issues involving agriculture. Senator Harkin and others have been asking that we do that as well.

But there is some additional money for enforcement of our Packers and Stockyards Act.

CONSERVATION FARM OPTION

Senator KOHL. Mr. Secretary, Wisconsin is a State rich in natural resources. In fact, by reasonable accounts, modern day conservation was born in Wisconsin.

Today, however, we face serious challenges to water quality and soil degradation from many sources, including agriculture. I note the budget request calls for increases in many important conservation programs, but at the expense of some others. For example, we note that the Conservation Farm Option program is not funded at all, even though farmers in Wisconsin have been asking for this program since passage of the 1996 farm bill.

Can you explain why you chose new conservation programs over ones not yet funded, such as the Conservation Farm Option?

Secretary GLICKMAN. I believe, if I am not mistaken, Congress cut the funding for this program last year. So, quite frankly, the administration made its priorities based on a lot of factors, including that. But we think the Conservation Farm Option is an important program and we certainly would not resist Congress putting money into it.

Senator KOHL. Thank you.

Thank you, Mr. Chairman.

Senator COCHRAN. Thank you, Senator Kohl.

Senator Bond.

Senator BOND. Thank you very much, Mr. Chairman.

Mr. Secretary, I am glad to hear you are going to be focusing on the concentration issues because those are of great concern to us.

I appreciate also your strong support for research which is the future.

I would share the chairman's concern about the failure to come forth with a plan, any plan, on crop insurance and begin to make a realistic budget set-aside for that. To be quite harsh, Pro Farmer I read says, basically USDA has punted on crop insurance reform. They have laid the entire matter at the feet of Congress. I do not want to be harsh, but there is that view.

SUPPLEMENTAL REQUEST

I would point out one other thing that we are concerned about. When you talk about the supplemental requests, I hope that you will also be providing us with your suggested offsets. The President has said we are going to save Social Security by devoting the surplus to it, and certainly we would not expect to have supplemental requests that are not funded.

With respect to the program you addressed, disaster assistance, Congress did provide $2.4 billion to compensate for crop losses and it was signed 100 days ago. There are some who do not think the $2.4 billion is enough. But we still do not have a signup and farmers are asking when they can have the assistance in hand.

What is the target for getting that ready?

Secretary GLICKMAN. The signup did actually start I think last week, February 1.

Senator BOND. We do not have the information. Our offices do not have it. I mean, that is what we are hearing from back home. They do not have that.

Secretary GLICKMAN. Well, we will make sure that the Missouri State office has all the information by this afternoon.

But the signup started. Again, this is different than the first part of the $6 billion program of assistance where we just could send checks based upon previous farm programs. In this case, farmers have to come in to the county offices and do the appropriate amount of paperwork and provide proof of loss. We are trying to minimize paperwork as much as possible. We just added some California relief based upon the freeze as well, and then you have to allocate the total dollars based upon the total amount of applications. But we need to get that relief out this spring, late winter or early spring certainly.

Senator BOND. Well, we appreciate your doing that, and I would put in a good word for the USDA organization in our State. They are doing a good job.

COTTON LOAN DEFICIENCY PAYMENTS

On a parochial matter, I need to call to your attention to the fact that there are over 1,000 appeals awaiting decisions in response to a USDA mistake inadvertently in implementing the cotton loan deficiency payments down in the Boothill in southeast Missouri. Apparently the local FSA did not get word from Washington, and we need FSA to allow form CCC–709 to be amended. You have been hearing from a lot of people about that. It is one of those technical difficulties. If you can get that solved, you will be a hero in the Boothill and we all will. We appreciate your looking at that.

FOOD QUALITY PROTECTION ACT

One final challenge for you that I offer up to you for any comments you have. On the off chance that you have some influence over Administrator Browner at the EPA, since Congress does not seem to have any, I would ask if you are able and willing to speak the language of science and agriculture in EPA regarding the implementation of the Food Quality Protection Act. Is USDA participating? Are you making the science and the agricultural knowledge

that you have available in a meaningful way in the discussions at EPA with respect to FQPA?

Secretary GLICKMAN. The answer is yes. And Senator, I am going to ask Deputy Secretary Rominger to comment on this, but let me just make a couple of points.

One is that the Deputy Secretary and I met with Carol Browner last week for almost 2 hours to discuss the practical implementation of the Food Quality Protection Act. This is a concern out in the countryside: Is USDA engaged as we deal with pesticides and organophosphates and other things that either have to be removed or usage changed or modified? I am extremely comfortable with our relationship with the EPA and Carol Browner. In the countryside sometimes when I say that, people kind of say, well, we are hearing other things, but it is not true.

The other thing. This is a statute that is extremely complicated. It is a statute—at least in the initial implementation—which is basically a child-based statute. That is, the things to be removed from the marketplace are those things that affect children as they consume foods like apple juice and other kinds of things.

So, it does require a great deal of good, sound, objective science, and we have the best scientists in the world at our Agricultural Research Service and they will be used. I can promise you that.

Senator BOND. Well, Mr. Secretary, we are delighted to hear that assurance, but as you know, I am from Missouri and so the only thing we have got to say is, show us and we will look forward to seeing——

Secretary GLICKMAN. Perhaps the Deputy Secretary may want to respond.

Senator BOND. OK.

Secretary GLICKMAN. He has been more involved in it too.

Mr. ROMINGER. We are involved with EPA. We have been involved and we will continue to be involved. I co chaired the advisory committee that we set up. I co chaired it with the Deputy Administrator of EPA. And that was a 50-person advisory committee and agriculture is well represented on that committee. We had several meetings last year. We will be scheduling another meeting soon.

Our scientists are involved in this reassessment and EPA will soon be coming out with the first of what we call the refined assessments. They put out some preliminary risk assessments. That did not include our information, but they are now using our information and will be coming out with some refined assessments. We believe those assessments will look much better from an agricultural viewpoint, although I think we all recognize there are going to be some uses of some of these materials where we are going to have to look at ways to mitigate some of the exposures that are out there.

Senator BOND. Well, I thank you. We just expect that sound science be used. We will be counting on you and we will be watching.

Thank you, Mr. Chairman.

Senator COCHRAN. Thank you, Senator Bond.

Senator BOND. Thank you, Mr. Secretary.

Senator COCHRAN. Senator Harkin.

Senator HARKIN. Thank you, Mr. Chairman. I apologize for being a little late.

SUPPLEMENTAL APPROPRIATIONS

Mr. Secretary, I understand you made some statement earlier about a supplemental. Could you just cover that for me briefly? I hate to have you go over it.

Secretary GLICKMAN. Well, we have not yet made a formal request to OMB for supplementals. So, I want to make it clear.

But what I did say was in the area of farm loans we are close to running out of emergency loan money. We also have needs in guaranteed loans and some of our direct loans. It could be as high as $1 billion worth of loans, which has a budget exposure of about $100 million. We do not have the absolute final numbers yet. Steve says it will be about a week or so. But that would be one of the things we would need to have.

The reason for that is that the utilization of our loan programs keeps going up because, as you know, we are the lender of last resort. More and more banks come to us because they want our guarantee. Prices have not been so hot. The collateral has not been as good, and so people have been coming to us in greater numbers.

Then Steve mentioned a few other things such as emergency conservation, emergency watershed, and rural development. Most of that is related to disasters in Puerto Rico and some other natural disasters.

I would mention one other thing. The fact of the matter is—and I said this before—that when we passed the 1996 farm bill, we did not expect prices to tumble—well, some did not expect prices to tumble quite as aggressively. Nobody would ever want that to happen. That triggered the loan deficiency payment.

Senator HARKIN. That is right.

Secretary GLICKMAN. And we anticipated initially virtually no applications for LDP's. We will have 1.3 million applications for LDP's. Mind you, that is farmer X going into the local office and saying, I need this program and I need this assistance. Some are saying that that could increase if soybean prices fall and other kinds of things happen. So, in many parts of this country, we are faced with a situation now where there are lines of farmers seeking assistance. There is a waiting period. People are not getting their program payments as fast as they would like. And this is not just only in the FSA. It is also in the NRCS because of the increased workload required under the 1996 farm bill as well.

Now, I do not know if that is going to be part of a supplemental or not, but I did want to tell you that—and a lot of these problems have been created in the last 2, 3 months. They have really become much worse.

Everybody hopes prices will move back up. It is hard to plan a budget anticipating declines. Nobody wants to see that, but we have got to serve people because as problematic as some of the provisions of the 1996 farm bill are, this LDP provision does protect people against catastrophic reductions in market prices, and we have got to be out there providing those payments.

Senator HARKIN. I appreciate that, Mr. Secretary. Again, I urge you to do that with all dispatch. I am hearing more and more from

out in Iowa that the farmers' balance sheets, when they go into the local bank, just do not add up because of these depressed prices and the forecasts. So, I think you are going to have a big demand for this coming up. So, I just hope that you would send a supplemental request up here as soon as possible, knowing that it takes us a while to get things done here too. But I would think February, March—man, we have got to hurry and get that done. But I appreciate your focusing on that and I just hope that does come up here.

PSEUDORABIES PROGRAM

Let me again compliment you, Mr. Secretary, on responding as vigorously as you have been to the problems in the pork industry. First of all, I again commend you for what you have done on the pseudorabies program. That is three bangs for the buck there. Not only do you get rid of some hogs—it helps market prices—but you help more States to become pseudorabies free. That saves farmers a lot of out-of-pocket money. And third, it enhances our exports especially to Canada where I know you have also done some great work in getting the Canadians to back off of their quarantine. I believe that has already happened, if I am not mistaken.

Again, I compliment you for that, to get that done, which you have done also with Argentina in getting more exports to Argentina. Both the Canadian and the Argentine issue you have handled very well, and we really appreciate it very much.

MARKET CONCENTRATION

On the issue beyond that of concentration and stuff, I think our authorizing committee is really going to have to really take a look at this and see what we want to do about this whole issue of concentration. Again, it comes back to the price reporting. If you are going to have a market that operates, it seems to me it has got to be transparent. I have always said for a free market to operate, you have got to have a lot of players and it has got to be transparent. Otherwise, you do not have a free market. So, what do we have now in agriculture? A few players and no transparency. How can that be a free market?

So, I am hopeful that we can do something to provide for price reporting. Now, we had that in the bills last year and it did not make it. I am hopeful that we can get something done on it soon. Some people say, well, it may not do that much. Well, I am not so certain. It may do quite a bit. I mean, anything. If it adds up to just a few pennies a pound, that is not bad. Everything helps to get that price of pork up and give the farmers a little bit better shake.

I just saw the article in the Wall Street Journal the other day that said that IBP's profits for the fourth quarter quadrupled. I am preaching to the choir, but I mean, you know how that rubs farmers. Their profits quadrupled and here farmers in December in Iowa got the lowest prices for their pork than they got even in the depression. If you factor in inflation, they got lower prices for their pork than what my father used to tell me about 4 cent hogs, nickel hogs. That is true.

We figured this out, Mr. Chairman. We had 8 cent hogs in December. Well, in the depression, the lowest was 4 cent hogs. But

if you factor back for inflation, take that 8 cents back, in 1933 prices, it would have been two-thirds of a penny a pound. That is just mind-boggling when you think about it.

All the things you are doing, I am just saying, Mr. Secretary, are good and it is moving us in the right direction. If we can get the price reporting and get your help on this concentration issue to move that ahead also.

On the cash assistance, now you did do something that you have not done for a long time, and that is give direct cash assistance to pork farmers. That is good. To the small ones, they needed that. But I know the pot is not an endless pot there. I assume we cannot expect any more. I do not know. Can you speak to that? I do not know how much more we could expect on that.

Secretary GLICKMAN. Certainly it would not be prudent to expect any more out of that particular pot of money. This is section 32, a statute that was passed in the depression. Most of that, of course, is what we use to buy product that is in surplus supply for our commodity distribution programs, such as the National School Lunch Program.

The language in one of the parts of that legislation says that I can basically go out in the marketplace and buy surplus commodities or can use the authority of the program to make payments to farmers. I think the section indicates that one of the things I can do is reestablish farmers' purchasing power by making payments in connection with the normal production of any agricultural commodity for domestic consumption. Determinations by the Secretary as to what constitutes diversion and what constitutes normal channels of trade and commerce and what constitutes normal production for domestic consumption shall be final. A different era. [Laughter.]

But section 32 is primarily used to purchase commodities. So, we used about $50 million worth of it for direct payments to farmers. We have been criticized in some sectors for not coming up with enough money, but quite frankly, we have got to reserve most of that for the purchases for our programs, our nutrition programs.

Senator HARKIN. Sure, sure.

SBA RURAL ASSISTANCE

Last, Mr. Secretary, I remember back in the 1970's—I may be off a little bit. Have your people research this. SBA got involved with helping farmers with USDA. I do not exactly know how that arrangement was set up. Some of your historians or something could tell you that. I will get my staff looking at it too. But SBA came in in the 1970's and helped farmers out, and it was some kind of a joint effort between SBA and USDA.

Now, what I am thinking about here and what I am getting at is that not only farmers are hurting, but we have got a lot of retail stores in our small communities and stuff that are facing the same kind of balance sheet problem as farmers. And it is not just implement dealers. It is a lot of other ancillary type of businesses that relate to the rural sector. Now, they are going to their banks and their banks are saying, gee, you are not looking too good here.

So, while it may take a while for us—I hope not. We hope that prices come up very rapidly, but we have to be realists about this

and understand it may take some time. Is there any kind of arrangement that can be made with SBA—and I do sit on the Small Business Committee. Senator Bond heads that committee—to see if there may not be some role for SBA to play not so much for farmers but with these retail businesses in these small communities and for USDA to work with them on it.

I just throw that out there. I do not know.

Secretary GLICKMAN. Well, I think it is a good suggestion. James Lee Witt, head of FEMA, who has done a tremendous job of dealing with disasters, tells me that SBA has much more authority, lending authority in the case of disasters, in terms of who they can lend to than we do. For example, we cannot make a business loan as much as they can. They cannot lend to farmers. There is a regulatory kind of hold there. He has repeatedly said it is something that may need to be fixed legislatively.

I would have to say that we did announce, actually earlier this week, a new rule making it easy for banks to become preferred lenders from the standpoint of participating in our guarantee programs. They would not have to go through a lot of the paperwork. It was alleged—and it was a fair allegation—that we put banks through much greater hoops than SBA did in terms of qualifying for accelerated assistance, and we did make some changes there this week.

Senator HARKIN. I appreciate that.

I just think, Mr. Chairman, Mr. Secretary, if there is some way that we—I am going to have a look at that. I think it was 1977 or 1978 or somewhere in that range. It had to be because that is about when I got here and I remember that. The 1977 drought my staff tells me. So, we ought to see if there is some model there that we can use. That is all I suggest to you.

But, again, thank you for all the help you have been to our pork farmers. I appreciate it.

Secretary GLICKMAN. We will research that as well.

Senator HARKIN. Thank you, Mr. Chairman.

Senator COCHRAN. Thank you, Senator.

RURAL DEVELOPMENT

Mr. Secretary, one area that you mentioned in your remarks and that I have a great interest in as well because of our State's dependence upon rural communities and infrastructure in small towns, and the problems that go along with trying to sustain that infrastructure, is the availability of money for water and sewer systems. That is very important in our State and throughout the country.

I am curious to know whether we are taking into account in the administration of these programs the deterioration of some of the systems that have been in place for a number of years now. In our State, we are seeing maintenance problems develop, the need to replace parts of systems that are just flat worn out. Are we doing anything in the administration of these programs to try to deal with those problems and help rural communities refinance or modernize these systems? We still have some areas where they do not have systems, and I am not suggesting that we ignore those, but

this maintenance problem and the deterioration of existing systems is getting severe in a number of areas in our State.

Secretary GLICKMAN. The short answer is yes. The repair and modernization of old systems is one of the priorities. But I will have to tell you I am going to go back and talk to our Under Secretary Jill Long Thompson to see about the specific targeting in this area. Once you get a system that is 20 or 25 years old, built with our money, it may need a heavy dose of repair, and if we have this extra money this year because of, as I said, the interest rate phenomenon, it may be appropriate for us to examine some sort of a major repair initiative. I would like to talk to her about it. She may have something in mind there.

FOREIGN MARKET DEVELOPMENT COOPERATOR PROGRAM

Senator COCHRAN. One area in your statement you did not talk about was the change in the funding of some of the marketing programs overseas. The Cooperator program for example, instead of funding it through the Foreign Agriculture Service, you are proposing legislation to shift that to the Commodity Credit Corporation. The budget proposes some other changes of that kind.

Are we at a point now where the decision is being made that exporters and the private sector can do this on their own, or is the Department of Agriculture just slowly backing out of its partnership with farmers and exporters to try to increase market share abroad and make sure our export programs are being treated fairly in foreign markets?

Senator Bond talked about the beef problem in the European Community.

It seems to me that rather than doing less in this area, we need to look for ways to do a better job and a more aggressive job expanding markets and increasing market opportunities overseas.

Secretary GLICKMAN. Well, again, I think it is a fair question, and the answer is no. It is not an intention to do less. The fact is that it is a dog-eat-dog, competitive world out there, particularly when prices are so weak.

I would like Mr. Dewhurst to respond specifically to your question on the funding of this program.

Mr. DEWHURST. Well, as you have said, the discretionary budget in the Department is under great pressure, and one of the proposals made in this budget is to take the FAS Cooperator program which has been funded on the discretionary side of the budget and ask the Congress to pass some legislation which would have the effect not of cutting the program, but of simply moving the funding for it to the mandatory side of the budget, funded out of the Commodity Credit Corporation from year to year.

The logic for that is simply that the Cooperator program is part of our overall export portfolio and the vast majority of that portfolio is already financed out of the Commodity Credit Corporation. So, it seemed a logical step to move the Cooperator program over there and the truth is it would just relieve some pressure on the discretionary budget.

COCHRAN FELLOWSHIP PROGRAM

Senator COCHRAN. There is one program that you usually mention but you did not this year, and I wonder if there is any problem. Did you fund the Cochran fellowship program in this budget request? [Laughter.]

Secretary GLICKMAN. I certainly hope so. [Laughter.]

Mr. DEWHURST. It is unanimous we did.

Secretary GLICKMAN. Yes.

Senator COCHRAN. I think Mr. Dewhurst said it is unanimous you all hope you did. [Laughter.]

Secretary GLICKMAN. As a matter of fact, I have to tell you that I have met personally several Cochran fellows. I am going to go back to South Africa next week. The Vice President has a joint meeting with Mr. Mbeki. It is one of the places where we have used the program most aggressively. The budget numbers are actually up slightly, or am I wrong?

Mr. DEWHURST. The Budget is about the same. We have $3.5 million requested in appropriations for that program which is the same level as fiscal year 1999. We also add some Commodity Credit Corporation funding to that program and some funding we get from AID over in the State Department, so that the total program is $6.3 million in the 2000 budget.

Senator COCHRAN. That is good.

Tell me about your South African experience.

Secretary GLICKMAN. Well, there was a young man who came over to this country to learn about viticulture and went back to South Africa and now operates I think a successful vineyard. That is just one example of how this program created an entrepreneur in South Africa, and I am sure it is replicated in other places.

Senator COCHRAN. With close business ties to the United States now.

Secretary GLICKMAN. That is correct.

Senator COCHRAN. Well, I think that is the purpose, to try to help develop closer relationships between people who are getting involved in agriculture and agribusiness operations, developing ties with them, letting them know how our system works, free enterprise, the market-oriented economic system. Hopefully this means closer cooperation and friendlier relations throughout the world, particularly in developing and emerging democracies.

Eastern Europe is another example of an area where the program has been very popular, and we have had a large number of people come from Poland and other countries to the United States, spend a few weeks or several months, or for whatever period the program allows these individual applicants to participate. And then they take with them these experiences, and it has a catalytic effect in their home communities. That is what we have learned in the past.

We appreciate your support.

Mr. Rominger.

Mr. ROMINGER. I just wanted to add that it is a very popular program. The Minister of Agriculture from Romania was just here this week, and that was one of the things that he asked about, whether they could participate in the program because they have heard

about it and would like to participate as they try to move more to a market oriented economy.

Senator COCHRAN. That is good to hear.

ADDITIONAL COMMITTEE QUESTIONS

Well, thank you very much for your attendance and your cooperation with the committee and the presentation that you made so we can more fully understand this budget request.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED BY SENATOR COCHRAN

USDA INFORMATION MANAGEMENT SYSTEMS/SUPPORT SERVICES BUREAU

Mr. Secretary, your prepared statement indicates that the statutory cap on Commodity Credit Corporation (CCC) expenditures for computer equipment will be nearly exhausted by 2000 "preventing needed investments in the Department's streamlining and Service Center initiatives and prohibiting the Department from investing in much needed technology for business process re-engineering efforts".

The budget requests an appropriation of $74 million for computer investments of the proposed new support Services Bureau, that the remaining $16 million in CCC expenditures under the existing cap be transferred to the Bureau, and that legislation be passed to raise the limit on CCC expenditures for computer equipment by a total of $105 million for the next three fiscal years.

Question. Would the $16 million in available CCC funds be greater had the Department not proposed to reduce these funds in order to pay for the cost of waiving the statute of limitations for certain discrimination cases filed against the Department?

Answer. The 1996 Farm Bill set a cap of $275 million for CCC-funded ADP obligations for fiscal years 1997 through 2002. Subsequently, the Agricultural Research, Extension, and the Education Reform Act of 1998 reduced the CCC ADP cap to $193 million. The fiscal year 1999 Appropriations Act again reduced the CCC ADP cap to $188 million. If the cap had not been reduced from $193 million to $188 million, instead of $16 million remaining under the cap at the end of 1999, there would be $21 million remaining under the cap at the end of 1999.

Question. If so, how much money from the CCC would be used?

Answer. All of the $21 million remaining under the cap would be used in fiscal year 2000 for CCC ADP expenditures.

Question. Mr. Secretary, does this not violate your commitment to me that any funds used from the CCC computer account to pay for the waiver of the statute of limitations would not have to be made up in future year appropriations?

Answer. The funds remaining under the CCC cap on ADP expenditures would be insufficient under either the current or prior cap. Legislation lifting the cap would be needed in either case. We are proposing to fully offset the increase of $105 million in the current cap by an equivalent reduction in the level of funding authorized for the Export Enhancement Program in fiscal years 2000 to 2002.

Question. Please tell us about the importance of your administrative convergence initiative and the fiscal year 2000 $74 million appropriations request for a new Support Services Bureau.

Answer. Since 1993, the county-based agencies (Farm Service Agency, Natural Resources Conservation Service and the Rural Development mission area) have been implementing streamlining plans to cut red tape and collocate field offices, with the goal of providing "one-stop service" for customers. The next phase of this streamlining involves converging the administrative organizations of these agencies. An initial administrative convergence plan has been developed to create the Support Services Bureau (SSB). This plan combines the administrative structures of these agencies into one unit to deliver better services to local customers and employees, provide a new consistency in administrative policy and operations, make better use of limited resources, and help preserve limited budget resources for program delivery. The SSB will provide human resources, civil rights, financial management, information technology and administrative services. The salaries and expenses of the new bureau will be financed through direct appropriations and transfers from the serviced agencies. The Secretary has named an acting Director of the SSB to de-

velop implementation plans so that the new consolidated organization will be operational by October 1, 1999.

The $74 million appropriations request provides funding for the Service Center Modernization Initiative (SCMI). The SCMI supports the on-going change management, customer service, business process reengineering, and enabling technology projects. For the past several years, this effort has been funded by individual appropriations to the partner agencies. However, fiscal year 2000 agency budgets do not include funding for this initiative. This account will replace those individual funding sources and provide for improved management and accountability as this initiative moves forward with major activities to reengineer business processes, acquire a common computing environment, and create "one-stop service" for customers.

FOREIGN MARKET DEVELOPMENT COOPERATOR PROGRAM

Question. In past years, this Administration proposed that the Foreign Agricultural Service directly fund certain costs supported by the Commodity Credit Corporation (CCC), proposing that the Foreign Market Development Cooperator Program be reduced to offset these and other increased appropriations requirements. Now, the President's fiscal year 2000 budget proposes that the Cooperator Program be funded by the CCC rather than the FAS appropriation to provide stability for future program activities. Why is there a reversal in position, both as to which costs should be borne by the CCC and the level of funding for the Cooperator Program?

Answer. It is correct that several recent President's budgets proposed that funding for certain FAS activities be shifted from CCC to the FAS annual appropriation. These proposals were primarily related to funding for the operating costs of the CCC Computer Facility, which supports FAS' data processing activities, as well as for other FAS information resources management (IRM) costs. These proposals were based on the view that it is more appropriate to support these types of expenditures through discretionary funding, in this case the FAS appropriation, rather than through mandatory funding such as CCC.

At the same time, it is entirely appropriate to fund market development activities, including those carried out through the Foreign Market Development Cooperator Program, through CCC. In fact, the Market Access Program, which also helps to build foreign markets, is already funded through CCC. In addition, the CCC Charter Act specifically authorizes the use of CCC funds for market development activities, such as those supported by the Cooperator Program. A permanent authorization for CCC funding of the Cooperator Program, would provide stability to the program and enhance long-term planning as noted in the question.

It should be pointed out proposals in past years' budgets to reduce funding for the Cooperator Program were prompted in part by large carryover funding balances in the program and were a means of reducing those balances. Also, there was a concern that perhaps the program had become static and less effective. As a result of changes adopted by FAS in recent years, including implementation of a competitive application process, it is fair to say that those concerns have now abated to a considerable extent. Consequently, the 2000 budget continues funding for the program at this year's level.

YEAR 2000 (Y2K)

Question. I note that the Department of Agriculture continues to be listed as a Tier Two agency ("making progress, but with concerns") in OMB's most recent quarterly Y2K report to the Committee. The concerns cited continue to be: (1) the need to increase the pace of work to meet government-wide goals; and (2) the need to work out many "data exchanges" issues.

What is being done by the Department to address these concerns?

Answer. USDA currently projects near total compliance for mission critical systems by the March 31, 1999 government-wide implementation deadline. We are now tracking 353 mission critical systems, of which 76 percent are compliant. Of the 263 mission-critical systems being repaired, 257 (98 percent) are now renovated, 241 (92 percent) are now validated and 219 (83 percent) are now compliant. There are 44 mission-critical systems scheduled for repair which have not completed the entire repair process. Of these, 22 have completed testing and are on schedule for implementation, six are in renovation and 16 are in validation. All are expected to be implemented by March 31, 1999. There are 35 systems remaining to be replaced. Of these, 20 are in final testing. Fifteen are in development. All but six are expected to be implemented by March 31, 1999.

For data exchanges, USDA has inventoried its data exchanges and has identified exchanges with federal, state, local government, private sector, and foreign federal and private partners. Departmental agencies are actively engaged in dialog with

their partners to ensure compliance. Overall, USDA is responsible for 467 data exchange files representing 1,480 exchange partners. 98 percent of the 467 USDA data exchanges identified have been renovated; 96 percent of the 1,480 partners have been contacted, 80 percent have written agreements on date format and 22 percent of partners have successfully tested exchanges.

Of the 331 federal exchanges, the National Finance Center (NFC) is responsible for 262, representing 682 partners, primarily payroll and finance offices. USDA tracks these exchanges individually because of their importance to payroll, personnel and the Thrift Savings Plan. USDA agencies are continuing to work with their partners to test exchanges, including end-to-end testing.

USDA agencies are also working with their private sector partners to ensure compliance. Certifications and contingency plans are being received from some companies. Follow-up is being done with those companies who have not reported. Some company reports indicate a deep level of commitment to successful processing in 2000. In addition, contingency plans indicates companies have a clear plan for maintaining business continuity through the date change

Question. How would you characterize the status of the Department's activities to achieve Year 2000 compliance?

Answer. USDA has given strong management attention to Year 2000 compliance and is working to ensure the uninterrupted delivery of Department programs and services. Mission critical systems are well on their way to compliance, as noted above. Significant attention is being given as well to non-mission critical systems, embedded technologies, facilities, and telecommunications. We will continue to do testing and we are devising business continuity and contingency plans.

Question. The Fiscal Year 1999 Omnibus Appropriations Act provides contingent emergency funding for Year 2000 computer conversion activities. USDA has already received two allocations totaling $37.8 million of the emergency funds reserved for non-defense activities.

Has the Department completed a full assessment of its Y2K requirements? What additional funding do you estimate to be required?

Answer. Assessment of Y2K requirements are continuing. While mission critical systems have been identified and virtually all will be compliant by March 31, 1999, assessment of embedded systems and telecommunication systems are ongoing. Additional funding is likely to be required for system remediation, testing, independent verification and validation, technical assistance and business continuity planning

Question. Has OMB allocated the full amount requested by the Department to date? If not, what did USDA request over and above the allocations provided? Why were these requests not met?

Answer. The majority of USDA requests were supported by OMB. In some isolated instances there was a determination that the request went beyond basic Y2K requirements and should be addressed through base level appropriations.

Question. Do you anticipate to request additional emergency funding allocations to cover the full amounts estimated to be required?

Answer. As USDA identifies new requirements, supplemental funds will be requested.

Question. Does the President's fiscal year 2000 budget request any additional funding for the Department's Y2K compliance activities? How much is requested, by agency?

Answer. Agencies have identified $10,186,000 for Y2K compliance activities for fiscal year 2000. I will provide a breakdown of these costs by agency.

[The information follows:]

USDA Year 2000 Fiscal Year 1999–2000 Costs

[Dollars in thousands]

Agency	*Total Fiscal Year 2000 Costs*
Foreign Agricultural Service	$70
Farm Service Agency—KC	2,130
Farm Service Agency—HQ	
Risk Management Agency	
Farm and Foreign Agricultural Services	2,200
Food and Nutrition Service	
Food, Nutrition and Consumer Services	
Food Safety and Inspection Service	85
Food Safety	85
Agricultural Marketing Service	30
Animal and Plant Health Inspection Service	2,196

Agency	*Total Fiscal Year 2000 Costs*
Grain Inspection, Packers and Stockyards Administration	
Marketing and Regulatory Programs	2,226
Forest Service	200
Natural Resources Conservation Service	110
Natural Resources and Environment	310
Agricultural Research Service	205
Cooperative State Research, Education and Extension Service	280
Economic Research Service	60
National Agricultural Statistics Service	100
Research, Education and Economics	645
Rural Development	
Offices	
Departmental Administration	500
National Appeals Division	
Office of the Chief Financial Officer—NFC	1,000
Office of the Chief Information Officer	2,920
Office of Communications	300
Office of the Chief Economist	
Office of the Inspector General	
Office of Budget and Program Analysis	
Office of the General Counsel	
Subtotal	4,720
TOTALS	10,186

Question. To what extent, if any will the Department require additional funding in future years to replace base information technology resources diverted from non-Y2K mission critical elements?

Answer. The Department has deferred IT investments to the maximum extent possible. The Department has worked to leverage investments required by Y2K to support modernization objectives. Necessarily, however, some projects have had to be deferred as Y2K efforts took priority. Base level resources will be rededicated to continuing these efforts after we have satisfied the Year 2000 requirements.

Question. What is being done to make sure that state-operated systems essential to the uninterrupted deliver of Federal programs, such as Food Stamps, are Year 2000 compliant?

Answer. Food and nutrition programs are vital to the availability of food for millions of Americans, and a priority for USDA. The Food and Nutrition Service (FNS) is tracking and reporting Year 2000 progress from its 50 state partners, Guam, Virgin Islands, Puerto Rico and the District of Columbia for the Food Stamp Program (FSP) and the Supplemental Program for Women, Infants, and Children (WIC).

The role of the states in the delivery of Food Stamp, WIC and Child Nutrition Program is to administer the programs, determine eligibility and provide benefits and necessary service to the public.

The Special Nutrition Program Directors in the FNS Regional office have contacted State agencies which administer School Lunch Program and other Child Nutrition Programs to determine the status of their preparations for the Y2K conversion and their plans for additional compliance activity and for back-up systems to cover possible Y2K related systems failures. FNS is coordinating with the Department of Education on developing a Y2K status report for state education systems which include school food service. FNS has concentrated information outreach to state agencies and local cooperators through professional conferences and newsletters.

States must certify to FNS that they are Year 2000 compliant in three areas: software, hardware, and telecommunications. States reporting that they will not be compliant by March 31, 1999 must certify in writing that they have a working contingency plan in place which will assure the delivery of benefits to FSP and/or WIC recipients.

FNS will be closely monitoring those states reporting Year 2000 compliance after March 31, 1999. FNS will offer technical assistance to states requiring help and will follow up with on-site reviews for those states reporting that they will not be compliant until after March 31, 1999.

ASSISTANCE TO HOG PRODUCERS

In early January of this year, $50 million in direct cash payments under the Section 32 Program were extended to small hog producers to help them weather the current economic crisis. The statutory authority used to make these payments I understand has been used on only four other occasions in the past. It authorizes the Secretary to "reestablish farmers' purchasing power by making payments in connection with the normal production of any agricultural commodity for domestic consumption".

Question. Will you also exercise this authority to provide assistance to producers of other commodities in similar circumstances?

Answer. In the event of future economic crises, we will consider all the options available to us for assisting producers, including the authority use of section 32 to reestablish farmers' purchasing power.

Question. What assistance have you extended to hog producers to date and how has this additional assistance been funded?

Answer. We have been very busy the past few months addressing the pork industry's very critical situation. On January 8, Vice President Gore announced that the Department of Agriculture will provide $50 million in direct cash payments to small, family hog farmers. This is the first time in nearly four decades that USDA has made such payments. Since February 1998, the Agricultural Marketing Service (AMS) has purchased more than 123.9 million pounds of pork worth $116.5 million to provide nutritious food for Federal food assistance programs. AMS has improved its live hog market reports for 1999, and at meetings with major hog slaughterers and processors, I have encouraged greater voluntary cooperation with AMS market news reports. The Animal and Plant Health Inspection Service accelerated its voluntary pseudorabies eradication program, helping to remove up to 1.7 million hogs from the market.

An emergency transfer of $80 million will pay farmers fair market value for lost hogs, as well as cover the cost of destruction, disposal, and transportation costs. The president had established an interagency working group to look at concentration issues at different stages of production. The work is led by the White House National Economic Council and USDA, and it includes representatives from the Federal Trade Commission and the Department of Justice. We want to be sure that, at a minimum, we have a baseline of information to examine the effects of the changes that are going on in the industry and an analytical basis for comparing what is going on in the hog industry to that of other industries. And, the Administration successfully opened two new markets for U.S. hogs and pork in late 1998. Canada eliminated the quarantine and testing requirement for U.S. hogs originating in 33 States free of the disease and Argentina began allowing entry of U.S. pork with certain controls. The Argentine market is expected to be worth between $5 to $10 million annually. In addition, as you know, USDA announced the a 50,000 tons of pork will be included in the food aid package for Russia.

Question. Will additional assistance to these producers be provided?

Answer. Currently we do not know. However, we will continue to monitor the situation closely, and there are several Bills pending that provide for additional assistance to hog producers.

Question. Mr. Secretary, the USDA has announced that 1.9 million head of hogs will be rendered/slaughtered because of the accelerated pseudorabies eradication program. This will require may hog processing plants to work overtime including weekends. Has the Department issued the Food Safety Inspection Service a waiver for overtime pay for Federal inspectors beyond the first shift of overtime? If not, why?

Answer. FSIS has not issued a waiver for the collection of inspector overtime beyond the first shift. FSIS would be unable to absorb the cost of performing the additional inspection services being requested.

TOBACCO ASSESSMENT

Question. Mr. Secretary, your prepared statement indicates that the "appropriations request will include a proposed assessment on tobacco marketings similar to the expiring marketing assessment established in the Budget Reconciliation Act of 1993." We do not find this proposal in the President's budget. Has this proposal been submitted to the Congress? Please explain. Also explain why this will be an appropriations proposal and not a legislative or tax proposal.

Answer. I understand that the President's Budget documents mention that a tobacco assessment will be proposed, but the actual language for the proposal was omitted from the appropriations language submitted with the budget. The Office of Management and Budget (OMB) plans on sending proposed provisions for this as-

sessment in a budget amendment or alternatively in the form of proposed legislation supporting the proposal in the budget. The proposal would provide for collection of $60 million in marketing assessments on price supported tobacco and similar imported tobacco in fiscal year 2000. The portion of the assessment placed on producers would be held at levels near those of the expiring marketing assessment while purchasers and importers would be required to pay a higher rate.

The intent of the proposal is to place this assessment in the appropriations language or provide some alternative mechanism to permit the collection to offset discretionary spending for the budget scorekeeping purposes. We recognize that an approach using only appropriations language restricts the assessment collections to the fiscal year which does not correspond precisely with the marketing year for flue-cured tobacco.

CREDIT PROGRAMS

Question. Primarily due to low interest rates, the subsidy cost of appropriations required to support agriculture, and rural development and housing programs are projected to be less in fiscal year 2000. This has enabled the Administration to propose program level increases for farm credit and rural development and rural housing programs at the same or less cost than in fiscal year 1999. For example, the budget proposes a $3 billion loan level for farm assistance, $183 million more than the loan level supported by the fiscal year 1999 appropriations, but at a lower subsidy appropriation ($77 million versus $121 million).

If farm and rural credit programs were held at fiscal year 1999 program levels, what savings in subsidy costs requirements for these programs would result from fiscal year 1999 to fiscal year 2000?

Answer. If the farm credit programs were held at the fiscal year 1999 program level, the subsidy cost for the program would increase $22 million in fiscal year 2000. Subsidy rates have dropped for most of the loan programs or in a few cases risen by less than one percent. However, due to the combination of the mix of loan levels for the various programs in fiscal year 1999 versus fiscal year 2000, and the differences in the subsidy rates for the various programs which range from less than one percent to over 15 percent, the net effect of funding the fiscal year 1999 loan levels at the fiscal year 2000 subsidy rates would be an increased subsidy cost in fiscal year 2000.

On the other hand, the cost of funding the Rural Development loan programs at the fiscal year 1999 program level using the fiscal year 2000 subsidy rates would be $124 million less than the current fiscal year 1999 subsidy costs for these programs. It should be noted that overall for the Rural Development mission area, the proposed fiscal year 2000 program level is about $800 million higher than the fiscal year 1999 level ($10.2 billion versus $10.9 billion), at a cost of $181 million less than in fiscal year 1999 ($2.2 billion versus $2 billion.)

Question. How much of this savings is allocated to program level increases for USDA credit programs in the President's budget and how much is used to offset other proposed discretionary program increases?

Answer. There is no direct connection between the savings in the credit programs and increases in other discretionary programs. The President's budget was developed to be consistent with certain spending ceilings, and all programs had to compete for funds. However, the process did not pit specific programs one against one. Rather, savings or increases in any one program affected the amount that was available for all other programs. Further, decisions on program levels were based to the extent possible on demonstrated need rather any allocation of funds that remained available. It is noteworthy to add that USDA's credit programs in most part are budgeted at or above their 1999 level, which suggests strong support for these programs in light of some very tight budget constraints.

SPECIAL SUPPLEMENTAL NUTRITION PROGRAM FOR WOMEN, INFANTS, AND CHILDREN (WIC)

Question. The President proposes an increase in funding for the WIC program for fiscal year 2000 to cover food and administrative cost increases, as well as participation increases. What is the basis of each of these assumptions?

Answer. FNS inflates the food cost estimate using the inflation rate of the Thrifty Food Plan index (from the Food Stamp Program) which is projected by OMB. FNS adjusts the Nutrition and Administrative Services by OMB projections of the State and Local Consumption, Expenditures and Investment Price index projections provided by OMB. As for participation, we believe that an average of 7.5 million participants will be assisted in 2000. Although participation is around 7.4 million right

now, over the past year or so the program has already achieved 7.5 million participants in some months.

ASSUMPTIONS SUPPORTING THE WIC REQUEST

Question. The President's fiscal year 2000 budget proposes to increase the WIC appropriation from $3.924 billion for fiscal year 1999 to $4.105 billion for fiscal year 2000. The President's budget indicates that the out-year requirements for the WIC program will remain at the $4.105 billion level for each of fiscal years 2001 to 2004. What assumptions are these out-year projections based on, with respect to program participation levels and food package and administrative costs?

Answer. The WIC budget projections for 2001 to 2004 do not reflect specific detailed assumptions regarding participation levels and per-person food costs. Rather, the out-year estimates are merely a straight-line of the fiscal year 2000 request.

DOD WIC PROGRAM FOR OVERSEAS PERSONNEL

Question. I understand the Secretary of Defense has the discretionary authority to carry out a program to provide special supplemental food benefits to members of the armed forces on duty at stations outside the United States and to eligible civilians serving with, employed by or accompanying the armed forces outside of the U.S.

Has the Department of Defense (DOD) discussed the delivery of WIC benefits to its personnel stationed overseas?

Answer. Yes, as you may know, DOD's authority to run a WIC-type program may be found at 10 U.S.C. 1060a.

COST OF WIC FOR OVERSEAS DOD PERSONNEL

Question. What additional funding would be required to deliver WIC benefits to DOD and civilian personnel stationed overseas? What number of persons do you estimate would be eligible for these benefits?

Answer. I am told that DOD has estimated that for fiscal year 2000 the post exchange system would deliver WIC commodities for an average of about $29 per recipient per month. This compares favorably with the stateside cost estimated to be about $33 in 2000. Overall, they believe participation could be somewhere in the 32,000 range, so it is reasonable to anticipate a food cost of around $11 million a year. In general, the non-food costs of running a WIC type program for DOD overseas—nutrition education, referrals for medical care, and client and store management—are largely already included in existing, funded activities. Let me look into this and provide some additional detail later.

DOD faces uncertainties in predicting likely participation overseas, just as USDA does for the WIC program stateside. As for participation of military family members overseas, DOD has estimated that based on pay levels and family configurations for persons posted overseas, there are as many as 31,173 income eligible infants and children under the age of 5 in households of military personnel posted overseas. Assuming that nutritional risk is the same as for the regular Stateside WIC program, i.e., about 81 percent of income eligibles would have nutritional risk, the outside maximum participation could be 31,782. Actual participation could be lower, DOD reports, because this figure does not take into account spousal incomes; it includes some family members who are not, in fact, living overseas; and it assumes 100 percent participation.

DOD WIC DELIVERY SYSTEM OVERSEAS

Question. Is there a delivery system in place for the provision of these benefits?

Answer. As we understand it, the delivery system is essentially in place. Since medical services are provided, DOD apparently believes that it already can determine which women, infants and children are at nutritional risk; they provide some nutritional guidance; and they provide medical services. Food packages would be prescribed and then provided through the DOD post exchange system. Adding food packages to DOD's existing activity would drive home the nutritional messages and help assure good nutritional outcomes, just like it does for the regular WIC program. DOD says that this will help focus the military medical and family support services more directly on helping these needy families, and the post exchanges would make sure the right foods were available, substitutions were not allowed, etc.

RESPONSIBILITY FOR WIC BENEFITS FOR DOD OVERSEAS

Question. Who would be responsible for the cost of delivering these benefits—USDA or DOD?

Answer. Current statute would appear to permit use of funds from DOD or USDA. USDA could fund the food portion of the DOD WIC program if USDA appropriations language explicitly provides such authority. Nutrition services and administration costs are the responsibility of DOD.

DIFFERENCE IN NATURAL VERSUS REFINED SUGAR

Question. Are you aware of any new scientific evidence that indicates that all forms of sugar are metabolized by the human body in the same way, that is, the human body cannot distinguish the difference between the sugar contained in fruit and sugar found in other forms, such as refined crystals of honey?

Answer. I am told that the Dietary Guidelines Review Committee is going to take a look at the recommendations made for sugar that will appear in the Dietary Guidelines 2000. I am not aware that there is new information in the area, but will be interested to see any recommendations that come from the Review Committee.

As far as how sugar is metabolized, it is my understanding that the cells use principally glucose, so that almost all the sugars must be digested down to glucose before it is absorbed by the cells and then metabolized. So, I think it is generally correct to say that the body cannot distinguish the source of glucose when it is metabolized. Let me follow-up with a little more technical information on this.

As far as digestion goes, I don't know that it would be correct to say that each type of sugar is digested in exactly the same way. In any case, nutritionists generally prefer that people acquire sugars from a variety of fruits, vegetables and grains—foods with no added sugars—because such foods provide other important vitamins and minerals.

Almost all the sugars must be converted to glucose before they are used by the cells for energy, i.e., metabolized. The products of digestion of sugars, "natural" or "added," as well as carbohydrates, are approximately 80 percent glucose, and 20 percent fructose and galactose. The fructose and galactose are absorbed into the blood stream and then converted into glucose by the liver, so that more than 95 percent of sugars are present in the blood as glucose. Consequently, it appears reasonable that the body cannot distinguish the source of glucose or fructose when it is metabolized and used to produce energy.

SUGAR IN THE WIC PACKAGE

Question. What is the total allowable sugar content of the WIC food package?

Answer. USDA does not set limits on the total amount of sugar allowed in a WIC food package. Federal WIC regulations do limit the total amount of sugar permitted in WIC adult breakfast cereals to no more than 6 grams of total sugars per dry ounce of cereal, including both naturally occurring and added sugars.

Sugar occurs naturally in many foods, including WIC foods such as milk and fruit juices. Sugar is added to many foods, including WIC foods such as adult breakfast cereal and peanut butter. With seven different WIC food packages and choices within them, calculating the total sugar content of the packages would be complicated and a little speculative. However, USDA's Center for Nutrition Policy and Promotion (CNPP) recently completed a comprehensive review of how well the WIC packages meet the needs of the WIC target population. A final report is expected to be available soon, which I will be glad to share with Members of Congress. The report provides some ideas on sugar, so I will ask for some additional information on the topic.

There are seven WIC food packages, each designed to supplement the nutritional needs of different categories and ages of participants. The types and amounts of foods vary among the food packages and choice of foods in the packages may also be exercised at the State and clinic levels, and of course, by the client when she redeems the WIC vouchers in the store.

While the sample sizes in existing data sources used for the WIC package study were not ideal, they were adequate to estimate that WIC foods provide about 1 teaspoon of added sugar to the diets of women and children a day. One teaspoon is about 4 grams of sugar. Total daily added sugar intake from all foods for WIC children and women ranged from about 12 to 23 teaspoons per day, with older children and women toward the high end of the range. Each target subgroup consumed more added sugar than recommended in their total diet. However, total calorie consumption did not appear to be a problem in this review.

WIC foods include: iron-fortified infant formula, special infant formulas and certain medical foods, iron-fortified dry infant cereal, infant juice high in vitamin C, 100 percent fruit and/or vegetable adult juice high in vitamin C, hot or cold adult breakfast cereals high in iron and low in sugar, milk, cheese, eggs or dried egg mix, peanut butter, dry beans or peas, canned tuna, and carrots. Further, fresh fruits

and vegetables are available through the WIC farmers' market program, where it is available.

CIVIL RIGHTS SETTLEMENT

Question. It is my understanding that settlement payments under the class action discrimination lawsuit against USDA will be paid from the settlement fund for members of the class who choose option A. For those who chose option B, any damages they are awarded will be paid by USDA. I also understand that USDA may incur other costs of the settlement.

Please provide an estimate of the total costs to the Department for the settlement. Break down the costs by agency, the fiscal year the cost will be incurred, a description of the cost, and whether the President's budget accommodates these costs and, if not, how the costs will be paid.

Answer. All settlements under the Consent Decree, both tracks A and B, are to be paid from the Judgement Fund described in 31 USC Sec 1304. The Farm Service Agency (FSA) administers all of the programs covered by the class action suit so FSA will incur most of the administrative costs. The costs will be incurred during fiscal year 1999 and fiscal year 2000, and it is anticipated that they will be taken from budget allocations. At this time we do not know the number of farmers who will choose to participate in the Consent Decree nor can we determine the number of farmers who will choose to opt out of the Consent Decree and engage in negotiated settlements. Given the above it is difficult to estimate what the cost will be. We will provide an estimate of the costs to the Subcommittee once more information is available.

CIVIL RIGHTS OFFICE ADDITIONAL RESOURCES

Question. The fiscal year 2000 budget requests additional resources for the Office of Civil Rights to handle the increased workload in discrimination complaints. Would you please give us a status report on this—the reduction you have made over the past two years in the backlog of discrimination complaints, the additional workload resulting from the waiver in the fiscal year 1999 Appropriations Act of the statute of limitations for certain complaints filed, and the level of new complaints filed with the Office.

Answer. There were 1,088 program discrimination complaints in the backlog. All of those cases have been resolved with the exception of 10 cases where complainants did not accept a resolution offer, eight cases that are being resolved through further investigation, and the class member cases. Of the 497 new cases filed since November 1, 1997, 285 have been resolved and 212 remain active.

There were 2,142 cases in the employment backlog. Of those, over 1,500 have been resolved. Of the 1,234 new employment cases filed, 236 have been closed and 998 remain active.

As a result of the waiver of the Statute of Limitations the Office of Civil Rights currently has 194 eligible cases under review. It is anticipated that several hundred additional cases will be submitted for Statutes of Limitation processing.

DEVELOPING TECHNOLOGIES FOR USE IN AGRICULTURE

Question. Mr. Secretary, I understand that you and the Administrator of the National Aeronautics and Space Administration (NASA) signed a Memorandum of Understanding indicating your intention to cooperate in developing technologies for use in agriculture. It is my further understanding that NASA has designated the Stennis Space Center in Mississippi as the lead site for agriculture application research in remote sensing. Can you tell me of any progress that has been made in implementing this Memorandum of Understanding?

Answer. The U.S. Department of Agriculture (USDA) and NASA signed a Memorandum of Understanding in 1998 to enhance agriculture applications research in remote sensing. The Agricultural Research Service (ARS) has promoted joint efforts between the Stennis Space Center and the Remote Sensing and Modeling Laboratory in Beltsville, Maryland, in cooperation with Purdue University at West Lafayette, Indiana. Through a grant from the Stennis Space Center, we are developing more advanced remote sensing technologies for agricultural applications. The Remote Sensing and Modeling Laboratory has also developed a Small Business Innovation Research (SBIR) grant with 3DI, a small company based in Maryland, to evaluate remote sensing applications in the Mid-Atlantic States; a prominent NASA scientist has also been stationed with this laboratory to assess the capabilities of remote sensing to detect drought and crop water stress conditions. In addition, six ARS locations (Phoenix, Arizona; Shafter, California; Ames, Iowa; Beltsville, Maryland; Lincoln, Nebraska; and Lubbock, Texas) have a cooperative project with Re-

sources 21, a private company, in which remotely-sensed crop growth and production data has been successfully collected from five sites throughout the United States in 1998. USDA continues to coordinate and develop new opportunities to interact with NASA, the United States Geological Survey (USGS), and the National Oceanic and Atmospheric Administration (NOAA) with the goal of reducing the cost and increasing the performance of future Landsat-type satellites which could provide remote sensing data that can be used to improve the management and protection of agricultural lands.

Question. I understand that Dr. Miley Gonzalez, Under Secretary for Research, Education, and Economics, has had some input and conversations with NASA personnel and with representatives of some commodity organizations about research and application programs in remote sensing technologies for crop production. Could you please provide for the record a summary of the current plan to move forward with NASA in a joint effort?

Answer. Dr. Gonzalez hosted a meeting on January 27, 1999, that included representatives from the National Cotton Council; American Soybean Association; Integrated Technology Development; NASA's Stennis and Goddard Space Centers; the Cooperative State Research, Education, and Extension Service (CSREES); and ARS. The focus of the meeting was to develop an integrated strategy for transferring the benefits of remote sensing techniques to food and fiber producers. Dr. Gonzalez agreed that USDA—Research, Education, and Economics (REE) is willing to provide leadership to a remote sensing initiative in partnership with other interested parties to determine the critical needs and priorities for successfully commercializing remote sensing. A major workshop will be held during the summer of 1999 to launch the initiative on the applications of remote sensing to agriculture. A planning committee will be identified with representatives from NASA, CSREES, ARS, and private industry.

GLOBAL CHANGE RESEARCH AND INITIATIVES

Question. Please explain the importance of the President's Global Change Research and Climate Change Technology initiatives for U.S. agriculture.

Answer. The USGCRP was created as a Presidential Initiative in 1989 and formalized in 1990 by the Global Change Research Act of 1990. The Global Change Research Program provides a well-founded scientific understanding of the Earth system to ensure the availability of future resources essential for human well-being, including water, food, fiber, ecosystems, and human health. The U.S. Global Change Research Program (USGCRP) provides the foundation for improving predictions of seasonal to-interannual climate fluctuations (which can bring excessively wet and dry periods) and prediction of long-term climate change. The USGCRP also sponsors research to understand the vulnerabilities to changes in important environmental factors, including changes in climate, ultraviolet (UV) radiation, and land cover. Scientific knowledge is essential for informed decision making and to ensure the social and economic health of future generations.

USDA has been a part of the USGCRP since its inception, with the research focus on understanding terrestrial systems and the effects of global change (including water balance, atmospheric deposition, vegetative quality, and UV-B radiation) on food, fiber, and forestry production in agricultural, forest, and range ecosystems and examines how agricultural and forestry activities can contribute to a reduction in greenhouse gases. USDA research provides policy-makers and agricultural producers with useful, scientific data and information.

Although listed under a global change banner, this research is integral to USDA's critical mission—ensuring an adequate and affordable supply of food and fiber while protecting the resource base for future generations. For example:

—*Interactions between terrestrial ecosystems and the atmosphere*.—Understanding the controls on gaseous exchanges between plants and the atmosphere will improve our ability to manage production because it is these very exchanges that determine net crop yield.

—*Methane generation and nitrous oxide release*.—An improved understanding of processes controlling the uptake and release of these radioatively active trace gasses is also of benefit in other sectors of the agricultural enterprise as it will help to resolve multiple agricultural management problems resulting from climate change.

—*Soil properties*.—Although much emphasis is being placed on the potential for forest, range and agricultural soils to serve as carbon sinks, this very characteristic of soils has always been a critical consideration in agriculture. Losses in soil carbon are related to losses in soil fertility, reduced efficacy of added fer-

tilizers, reduced moisture holding capacity, reduced capacities for pathogen management, and increased soil losses due to erosion.

—*The relationship of climate with production*.—The relationship between weather, climate and production losses from forest and range fires, insects, and plant pathogens has long been documented. The improved understanding of climate variability that results from global change research will enhance our ability to both predict weather events at the local and regional scales and to develop response strategies that will balance agricultural demands with those of other sectors.

—*Contributions of agricultural sources of methyl bromide to stratospheric ozone depletion (and possible alternatives and substitutes for this fumigant)*.—We already know that methyl bromide causes damage to the earth's ozone layer. Our research in this arena is necessary to diversify our options for environmentally-friendly pathogen control.

In fiscal year 2000, USDA is requesting a $34.1 million increase in it global change research programs. Of this increase, $23.7 million is focused on increasing our carbon cycle research program. As part of an interagency effort, USDA will collaborate with other Federal agencies to conduct research to better understand how agricultural practices affect the net carbon balance and develop methods which will assist farmers, ranchers, and forest landowners to increase carbon sequestration. Special emphasis will be given to measurement of the effects of management and conservation practices on carbon storage in cropland and grazing lands.

Climate Change Technology Initiative.—In the fiscal year 2000 budget, the President is proposing a 34 percent increase for R&D in energy efficiency technology and renewable energy; A new Clean Air Partnerships Fund to boost state and local efforts to reduce greenhouse gases and air pollution; a five year-year package of tax incentives to spur clean energy technologies; substantial new funding to focus on ways farmers and forests can reduce and offset greenhouse gas emissions. USDA's CCTI programs focus on carbon sequestration and biomass demonstration projects, and on developing new technology for predicting and adapting to global climate impacts.

Carbon Sequestration ($3.0 million, NRCS; $3.0 million, FS).—NRCS will carry out pilot projects for delivery of carbon enhancing conservation systems. Pilot projects will be conducted on croplands, grazing lands, and animal feeding operations, using existing financial and technical assistance programs. FS will: develop and demonstrate the following: pathways for optimizing biomass standing stock for carbon sinks: low impact harvest options and soil management techniques that conserve carbon and increase water production capacity; and management options for improving direct sequestration of carbon in forest soils.

Biomass (FS, $3.0 million; ARS, $3.0 million).—FS will develop and demonstrate management practices for short-rotation woody crop production systems that provide near zero net carbon release and are sustainable across a range of geobiological systems. FS will identify barriers, economic benefits, and management regimes for farmers to grow tress for energy and carbon sequestration. ARS will develop databases for determining the potential of selected pastures and rangeland renovation practices, growth of biomass crops such as switchgrass, and conventional forage production systems for storing soil organic carbon.

Technology for Predicting and Adapting to Global Climate Impacts ($4.0 million, ARS).—ARS will focus on the development of new knowledge and modeling technology designed to help agriculture adjust to a changing climate. ARS will develop models at basin and ecosystem scales and using remotely-sensed data will be developed. Climatic and weather phenomenon (such as El Nino) simulation models will also be developed to determine the effects of climate change on insects, crops, water resources, rangelands, etc. Field experiments will be established to generate response functions for range, pasture and crops to changes in carbon dioxide, temperature, and water availability related to climate change impacts.

U.S. AGRICULTURAL EXPORTS

Question. What actions have been taken by this Administration over the past year to help U.S. farmers and ranchers by maximizing export sales and expanding their access to overseas markets?

Answer. In response to weakened foreign demand, we have taken a number of important steps over the last year to bolster exports and maintain access to key foreign markets. In response to the Asian financial crisis, we increased substantially the level of export credit guarantees made available by CCC. Sales registrations under the programs during fiscal year 1998 were 40 percent higher than the year

before. We anticipate this expanded level of programming will continue in both 1999 and 2000.

We are implementing the President's Food Aid Initiative, under which 5 million metric tons of wheat and wheat products are being made available for donation overseas. Also, we have developed and are carrying out a major package of food assistance for Russia in order to assist that country and maintain access for our products. Russia is an important market for U.S. grains, poultry, pork, and beef, and we want assist it regain its status as a commercial purchaser.

Over the long term, the best means of ensuring expanded access to overseas markets for our farmers and ranchers is through the negotiation of improved market access and a reduction in trade barriers. Therefore, we have worked vigorously to open and expand markets through a wide range of trade policy activities. Last February, the United States and Taiwan signed a market access agreement which provides for Taiwan to lift its import bans and allow access for U.S. pork, poultry, and variety meats. Upon Taiwan's accession to the World Trade Organization, it will cut tariffs and open tariff-rate quotas on numberous agricultural products.

We also have begun preparation for the new round of multilateral trade negotiations which is set to begin later this year. These negotiations present an important opportunity to strengthen disciplines on agricultural trading practices and gain improved access to world markets for our products. We have pursued trade liberalization on a regional basis as well. These activities include negotiations for the Free Trade of the Americas and within the Asia Pacific Economic Cooperation forum.

ECONOMIC CONCENTRATION

Question. Mr. Secretary, in your oral remarks you commented on issues related to profits of certain meat packers relative to the price received for live cattle. What are the Department's estimates of the fixed costs that packers have (such as labor, equipment, and overhead) and their proportional share of overall operating costs, including the price of cattle purchased?

Answer. Recent research by the Economic Research Service analyzed Census of Manufacturers data on 1992 cattle-only slaughter plant costs in four broad categories. It found livestock and meat purchases accounted for 86 percent of total costs; labor and all other materials between 5 and 6 percent each, and capital about 3 percent.

PUBLIC LAW 480 PROGRAM FUNDING

Question. The President's fiscal year 2000 budget proposes to reduce funding for the Public Law 480 Titles I and II programs, and to eliminate funding for the Title III program. The fiscal year 2000 request is estimated to support 3.2 million metric tons of commodity assistance to recipient countries, versus 3.6 million in fiscal year 1998 and 5.4 million in fiscal year 1999. The fiscal year 1999 level includes 1.8 million metric tons of assistance for Russia funded by the transfer of CCC funds to Public Law 480 Title I.

The justification for elimination of Title III funding is that funds from the Titles I and II programs can be transferred if required. In addition, the USDA budget summary indicates that it is proposing to transfer unused Export Enhancement Program (EEP) funds to foreign food assistance programs, such as Public Law 480, toward the end of the year.

Why is the Administration proposing to reduce Public Law 480 for fiscal year 2000 and to use mandatory funds to "back-fill" the program if necessary?

Answer. It should be noted that the reduction in Public Law 480 programming proposed for 2000 is exaggerated because of the Title I assistance being programmed to Russia this year. If the assistance to Russia, which results from some extraordinary circumstances, is excluded from this year's Public Law 480 program level, the reduction is considerably less. Nevertheless, as noted, the President's budget does include a reduction in funding for Public Law 480 for 2000. This is due to the very constrained targets that have been established for discretionary spending government-wide in conjunction with efforts to balance the Federal budget. A higher program level for Public Law 480 might have been preferred, but it was not possible given the spending targets that must be complied with.

The proposal to authorize the use of unobligated Export Enhancement Program (EEP) funds for certain food aid activities is designed to provide greater flexibility to program managers so they may respond to changing program needs and world events during the course of the year. Clearly, there is a tremendous need for foreign food assistance at the present time.

At the same time, funding authorized for EEP has barely been used in recent years. It seems prudent, therefore, to authorize alternative uses for that funding,

particularly when discretionary funding is so tight. Farm groups in recent years have called on the Department to use EEP funding for other purposes if it is not being fully used for EEP bonus awards; this proposal responds to their concerns.

The funding proposed for Public Law 480 programs in the budget does not specifically assume that unobligated EEP funds will be used to support Public Law 480 programming in 2000. Nevertheless, for the reasons just cited, it would be extremely useful if the authority do so when circumstances warrant were provided by Congress.

Question. The authorizing statute has always permitted the transfer of funds between titles of the Public Law 480 program. Why is the Administration now proposing to eliminate specific funding for Title III grants and to fund these grants by the transfer of funds from Titles I and II of the program?

Answer. No additional funding was requested for Title III activities because of tight budget constraints and a higher priority placed on funding other U.S. foreign assistance activities, particularly the development assistance activities administered by the Agency for International Development. As noted in the question, program managers could consider a transfer of funds from either Title I or Title II should a particular country's food aid needs be appropriate for Title III. However, such a decision would only be made during the course of the fiscal year, and the budget does not assume that it will or will not occur.

FORESTRY INCENTIVES PROGRAM

Question. I understand that OMB has proposed that the additional $10 million in emergency appropriations for the Forestry Incentives Program appropriated in the 1999 Appropriations Act should all be given to one state, Florida. Others states have indicated a need for these funds. Is this true or will these funds be available to address the needs of other states?

Answer. It was determined that assistance should be provided to other States as well as Florida based on an agreement between the Department and OMB. $9 million in Forestry Incentives Program (FIP) funds were allocated to 17 States to address reforestation needs caused by wildfires and other natural disasters in 1998. Florida's $3 million State allocation was the largest. A $1 million reserve is being retained for future assistance, primarily for tree planting needs in Florida.

Question. When does the Department plan to distribute these funds?

Answer. The Department distributed these funds to the States on February 16, 1999.

LOWER MISSISSIPPI DELTA REGION

Question. In fiscal year 1999 the Committee included a general provision in the bill providing the Secretary of Agriculture the authority to transfer up to $26,000,000 of the total discretionary spending appropriated by the act for programs and activities for the benefit of the Lower Mississippi Delta region.

What monies are currently being used for programs and activities of benefit to the Delta region?

Answer. The counties in the Lower Mississippi Delta Region have received significant funding from a variety of Rural Development programs in prior years, including $100 million in fiscal year 1996, $134 million in fiscal year 1997 and $164 million in fiscal year 1998, and this does not include the housing programs. The counties in the Delta Region are one of the targeting priorities for Rural Development funding and because of the widespread poverty throughout the region these counties do very well in competing for funds.

We do not plan to use the authority because of the other critical needs that need to be addressed with the funding appropriated for those uses.

Question. Has the Department worked with other Federal Departments and agencies to bring government-wide attention to the special needs of this region as the Committee encouraged in the fiscal year 1999 Conference Report? Has the Department consulted with local organizations, such as the Lower Mississippi Delta Development Center, Inc.?

Answer. the Office of Community Development (OCD) within Rural Development provides technical assistance to a group called the Southern EZ/EC Forum. The Forum originally consisted of the rural and urban Empowerment Zones and Enterprise Communities in Arkansas, Mississippi, and Louisiana. OCD encouraged the Forum in 1997 to expand to cover the EZ/ECs in the states of Illinois, Kentucky, Missouri, and Tennessee. The expanded Forum joined with the Lower Mississippi Delta Development Center to form a regional initiative to revitalize the 219 counties that were the subject of the Lower Mississippi Delta Development Commission Report issued in 1990. These organization have been joined by the Enterprise Corpora-

tion of the Delta, and the Foundation for the Mid-South to form the Delta Initiative Partnership. This partnership agreement was signed in April, 1998 in the presence of the Vice President, Secretary Glickman, and Secretary Slater.

In July 1998, OCD cooperating with the Department of Transportation in organizing a conference in Memphis, Tennessee to organize a Federal interagency working group to focus resources on the 7 states and 219 counties that were the subject of the original Delta Commission. Signatories to that Memorandum of Understanding are Secretary Slater, Under Secretary Jill Long Thompson and representatives form the Department of Housing and Urban Development, Department of the Interior, Department of Health and Human Services, Department of Commerce, Department of Labor, Department of Education, the Small Business Administration, and the Environmental Protection Agency.

In addition, the Department has worked closely with the Mississippi Department of Economic and Community Development, HUD, Fannie Mae, the Fannie Mae Foundation, Bank of America, LISC, Mississippi Home Corporation (Housing Finance Authority), Children's Defense Fund, non-profit organizations, the Housing Assistance Council, and a number of others to provide financial and technical to the Lower Mississippi.

Question. Mississippi's State Director for Rural Development has contacted my office about two projects that he plans to recommend to the agency to be funded from the $26 million available for transfer. (The Children's Defense Fund has presented a grant to Meyersville for the renovation of a church which serves as City Hall and to provide teen health services for children. Meyersville has no capacity to provide matching grant monies. The Mississippi Department of Education along with Fannie Mae and Rural Housing plan to provide housing for teachers in West Tallahatchie county.)

How do you predict the Department will handle these recommendations given this authority to transfer money for the funding of projects in the Lower Mississippi Delta area?

Answer. The Department does not plan to use this transfer authority. With limited resources it is unfortunately not possible to fund many eligible projects. Rural Development staff is working with the appropriate people in Mississippi to identify possible alternative resources which might be tapped for these projects.

WORKLOAD STUDY

Question. USDA contracted with PricewaterhouseCoopers to conduct a study of the farm and rural program delivery system of the Farm Service Agency, the Natural Resources Conservation Service, and Rural development. This study was scheduled to be completed on September 18, 1998.

What findings were reported on the three agencies studied?

Answer. The study provided findings on a wide range of topics concerning the organization, operation, workload, clientele demands and purposes of the county based agencies. While the detailed findings are too voluminous to adequately summarize, highlights include the following. The study concludes there are some imbalances between program authorities or legislative mandates, funding limitations, and agency business strategies which constrain the agencies' ability to deliver programs and meet customer demands. The study also found that recent changes in legislation and reduced funding and staffing have led to some structural problems impeding efficient and effective service delivery. It noted that USDA cannot effectively respond to trend changes in customer demand when constrained to locating offices according to political boundaries.

The study noted opportunities to improve efficiency by minimizing "back-office" activities. The findings were supportive of the administrative convergence initiatives. Likewise, the study concluded that the Department's Service Center Initiatives will succeed in achieving some efficiencies. However, the report concludes that further efficiencies from administrative convergence and service center initiatives could be gained by removing the current "smoke stack" structure in the county based agency delivery system. Another finding was that there is a critical need for information technology improvements. FSA county offices were found to probably be somewhat more disadvantaged than NRCS and RD although IT capabilities varied. Few substantive findings were reported about agency workload, although FSA was cited as the only county based agency with a formal work measurement system at the time of the study. The report recommended development of workload measurement system for all the county based agencies. (And NRCS is putting a system in place this year.)

The Department is still reviewing the study findings and recommendations and while not all of the recommendations appear feasible or well founded, the Com-

mittee should be aware that important elements of the fiscal year 2000 budget are consistent with the contractor's findings. These include the proposed Support Services Bureau to implement administrative convergence for these agencies and the proposal to increase the limitation on CCC spending for ADP which was one of the imbalances cited by the study which has contributed to inadequate resources for IT.

Question. How will the Department use these findings? Are these findings incorporated in the President's fiscal year 2000 budget request? If not, why?

Answer. As stated earlier, the Department is still reviewing the study findings and recommendations and while not all of the recommendations appear feasible or well founded, the Committee should be aware that important elements of the fiscal year 2000 budget are consistent with the contractor's findings. These include the proposed Support Services Bureau to implement administrative convergence for these agencies and the proposal to increase the limitation on CCC spending for ADP which was one of the imbalances cited by the study which has contributed to inadequate resources for IT.

NRCS' STRATEGIC PLANNING

Question. NRCS briefed my staff on its progress with the development and implementation of the agency's strategic planning process. What is the status of the other [county-based] agencies' progress in implementing the strategic planning process?

Answer. NRCS has made significant progress in use of the internet in charting performance goals, indicators, workload, and accomplishments. FSA and RD are similarly using the internet effectively to broaden public access to program information and application materials. The county-based agencies are all actively exploring further opportunities to improve services while reducing costs through streamlining, restructuring, and modernizing technology. RD management initiatives, for example, focus on quality customer service in support of the USDA initiative to improve customer service by streamlining and restructuring county offices, while the FSA performance plan notes progress in collocating offices, developing a common communications and computing platform, and converging administrative structures of the county-based agencies at the county, state, and headquarters levels. USDA is completing an overview of the annual performance plan and will shortly be submitting the agency plans and overview to Congress.

Question. Will the workload study contracted with PricewaterhouseCoopers affect this process? If yes, how?

Answer. The study provides direction for reforming the existing FSA workload measurement system and supports efforts in the other agencies to establish or upgrade existing measurement systems. The study also recommends development of a common workload measurement system for the service centers. We are incorporating recommendations of the study where appropriate in order to improve the usefulness of the workload measurement system in allocating staff, restructuring offices, and in other management determinations. Beyond workload issues, while we have no current plans to merge the field operations of the agencies, as recommended in the study, the study clearly supports the management initiatives included in the strategic plans of the agencies to capture efficiencies through administrative convergence, streamlining, and modernization.

WORKLOAD STUDY

Question. Please make a copy of the PricewaterhouseCoopers study available to the Committee.

Answer. The completed study consists of several volumes. We will provide a copy to the Committee.

FARM SERVICE AGENCY OFFICE STAFFING

Question. Mr. Secretary, your prepared statement indicates that the Farm Service Agency (FSA) has been downsizing its staff since 1993. Staffing has declined by about 6,000 staff to about 16,400 staff years at the end of 1998. The proposed program level for salaries and expenses in fiscal year 2000 is an estimated $1 billion to support a ceiling of a total of 15,793 federal and non-federal county staff years. You say there will be no reductions in force in fiscal year 1999. Why the decline in staff years, from 16,400 in 1998 to 15,793 in 2000 given the increased funding requested (+$80 million) in fiscal year 2000.

Answer. First, the increase in funding requested is $40.5 million from the 1999 enacted level, not $80 million. Although the fiscal year 2000 budget request is an $80.0 million increase from the fiscal year 1999 President's Budget request, it is a $40.5 million increase from the enacted fiscal year 1999 appropriation. This is worth noting because the $40.0 million enacted as part of the emergency provisions of the

1999 Appropriations Act is being used to support essentially the same level of staffing in fiscal year 1999 as the 16,400 staff years you cite for fiscal year 1998. Next, most of the $40.5 million increase being requested for fiscal year 2000 is for pay and related costs of existing personnel. FSA has several sources of funds other than new appropriations to support staffing levels, including funds carried forward from the prior year under authority of a general provision in the annual appropriation act. The total available funds for non-Federal county office activities in fiscal year 2000 includes no funds carried forward from the prior year, whereas in fiscal year 1999, FSA has $32.1 million in fiscal year 1998 carryover balances to finance fiscal year 1999 staffing costs. Therefore, there is a reduction of $32.1 million in total available funds for staffing in fiscal year 2000, which means that the net increase in funding is actually only $8.4 million. Given the pay cost needs previously cited, this requires a staffing reduction.

Question. How many offices have been closed because staffing reductions left only 1 to 2 employees in the office in 1998?

Answer. There were 34 offices closed in 1998 which had 2 employees or less.

Question. How many will be closed in 1999?

Answer. There are no office closings currently scheduled for fiscal year 1999, but if the economics of maintaining certain small offices is disadvantageous to efficient program delivery, then some closings likely will be done, which is a normal occurrence.

Question. Where are these offices located by county and state?

Answer. Once the Agency further analyzes the impact of workload estimates and identifies the criteria for determining the most efficient use of office staffing and considers the impact of prospective administrative and program efficiencies on county office operations, FSA will be in a better position to identify specific locations of any closures. Congressional delegations will be advised before any closures are effected.

Question. Does the Department intend to inform Congress of any additional staff reductions?

Answer. Yes, FSA will inform Congress of any additional staff reductions. However, FSA needs every available employee in order to operate under its current heavy workload. Any significant staff reductions will be done only as a consequence of funding constraints.

Question. Why have we not been informed of the prior staffing reductions in 1998 and those planned in 1999?

Answer. Both the fiscal year 1998 and fiscal year 1999 President's Budget submissions included clear references to staffing reductions. In the fiscal year 1998 Explanatory Notes, FSA's fiscal year 1998 Budget included estimates for relatively large numbers of buyouts and RIF's to occur in fiscal year 1998 in order to inform Congress of staffing reductions planned for that year. These references are found on pages 18–65 and 18–66. Use of unanticipated carryover balances in fiscal year 1998 mitigated the actual number of separations that were ultimately necessary. The original plan to RIF 855 county personnel and 255 federal personnel in fiscal year 1999 was also indicated in the fiscal year 1999 Explanatory Notes on pages 18–48 and 18-50. As you know, the $40 million enacted under the emergency provisions of the 1999 Appropriations Act allowed FSA to avoid those budgeted staffing reductions.

FSA OFFICE STAFFING

Question. The Congress appropriated an additional $40 million for FSA for salaries and expenses to maintain staffing levels to meet increased workload demands expected from the emergency farm aid provided for fiscal year 1999. In the prepared statement, you indicate that this appropriation allowed the agency to avoid reductions-in-force this year and to hire temporary staff. Is the $40 million sufficient to deliver payments to farmers in a timely manner?

Answer. The emergency funding of $40 million included in the 1999 appropriations act has allowed FSA to maintain approximately the same staffing level in 1999 as in 1998, with some increase in temporary staffing early in the fiscal year, which could not be sustained with available funding. However, it did not provide for significant additional staff to handle the large workload increases associated with the new emergency disaster assistance programs or other market-driven workload. The additional programs have strained FSA delivery in many States. This has compounded backlogs associated with the increased activity in loan deficiency payments, marketing loan assistance, other assistance activities stemming from low prices, and disaster assistance.

Question. Were you able to increase FSA Federal and non-Federal county permanent staff? If so, by what number of full-time equivalents?

Answer. No, we have not been able to increase FSA permanent staffing because of budget levels and five years of downsizing. However, the agriculture economic crisis beginning in 1998 accounted for a significant short-term increase in temporary non-Federal county office employees towards the end of fiscal year 1998 and into the first quarter of fiscal year 1999. Federal employees have remained at essentially constant levels throughout this same period. [Actual employment follows:].

FSA NON-FEDERAL COUNT STAFFING

Items	Fiscal Years (as of 09/30/98)	
	1998	1999
Permanent Employees	9,522	9,425
Temporary Employees	2,522	4,111
Total Employees	12,670	13,536

FSA FEDERAL STAFFING

Items	Fiscal Years (as of 09/30/98)	
	1998	1999
Permanent Employees	5,633	5,635
Temporary Employees	335	328
Total Employees	5,968	5,963

Question. I have heard that employee reductions of "right-sizing" occurred even though the additional monies were appropriated. It was the Committee's understanding that this would prevent additional staff reductions beyond those expected. Did reductions occur, and if so, what were they?

Answer. FSA began a right-sizing initiative in October of 1998 that references relative imbalances of employees to the workload needs in individual states. Between October, 1998 to December, 1998, the Agency reduced 94 county employees through the process of lowering FTE ceilings in overstaffed locations, attrition, and the implementation of additional shared-managed field offices. This selective process reflects prudent management and allows the hiring of employees at understaffed locations within available funding.

Question. The President's fiscal year 2000 budget request proposes a program level of $1 billion, estimated to support a ceiling of 5,745 Federal staff years and 10,048 non-Federal county staff years. This proposal is contingent on the passage of legislation which would allow for the Commodity Credit Corporation (CCC) to cover a portion of the Farm Service Agency's computer operations and maintenance costs for the farm programs. Since the passage of this language does not fall under this Committee's jurisdiction, the salaries and expenses account may possibly have a shortfall if this proposal is not authorized. What shortfall in funding for FSA salaries and expenses will occur if this legislation is not authorized?

Answer. That has not been determined because the size of any shortfall would depend entirely on what the Agency decides it could forego in essential ADP systems and equipment maintenance costs and for automated program delivery application costs that service producers. Without the requested CCC ADP cap increase, FSA would have no baseline funding for its basic ADP operations for farm programs because these have historically been funded by the CCC for CCC programs administered through FSA. The existing cap will be exhausted by the beginning of fiscal year 2000. Therefore, assuming $35 million would be available annually by increasing the cap for a 3-year period, the shortfall could range from a highly unrealistic zero-where no maintenance contracts are renewed on ADP equipment for example—to $35 million, where the agency would decide that it basically cannot operate without minimum essential ADP support costs and would reduce personnel in order to fund these costs.

Question. What additional Federal and non-Federal county staff year reductions will result from this shortfall?

Answer: I would refer you to my previous answer.

FSA STAFFING PLAN

Question. Why hasn't the Department revised its FSA staffing plans that were initially based on the 1994 reorganization plan since installation of the information technology system has not yet occurred?

Answer. Despite our inability to get oversight and Congressional approval of the equipment needed for the Common Computing Environment (CCE), which would allow us to more closely align personnel to the 1994 plan, we have to do the best we can for the time being with the resources we are given. Until the mid-part of fiscal year 1998, when the economic crisis in agriculture began to drive FSA workload upward, FSA had managed to basically balance workload with staffing due to the lower workload requirements of the 1996 Farm Bill, despite the lack of a CCE. This is no longer the case, unless commodity prices improve dramatically. The need for a CCE for the county based agencies remains a top USDA priority.

CCC COMPUTER CAP INCREASE

Question. The CCC computer cap increase is contingent on savings gained from a reduction in the authorized level for the Export Enhancement Program (EEP). This savings is not likely to be scored by CBO. Do you have an alternative PAYGO offset?

Answer. We do not have a specific alternative offset identified at this time, however, if necessary we will work with the Congress to attempt to identify potential offsets.

FSA INCREASED WORKLOAD

Question. In the past year what sort of increase in workload have you seen at the Federal and non-Federal staff level?

Answer. With low grain prices and several years of disaster conditions, county office workload has increased in the areas of loan deficiency applications, marketing assistance loans and the implementation of about $6 billion in new disaster assistance program legislation. Also, the depressed economic conditions in the agricultural sector of the economy are forcing many farmers who normally obtain commercial credit to seek direct operating and other loan assistance, thereby increasing the workload of the federal farm loan program staff that is already stretched too thin, especially in performing loan servicing functions.

Question. What portion of this workload increase results from the administration of disaster payments and loan deficiency payments?

Answer. Compared to the fiscal year 1999 workload estimates included in the Administration's fiscal year 2000 budget, FSA is projecting a need for an additional 562 FTE's to assist with loan deficiency payments, 946 FTE's to assist with the disaster activity, and 32 FTE's for additional workload associated with the non-insured assistance program.

Question. Is there enough staff to handle this workload?

Answer. Clearly, there is not. FSA faces the probability of program delivery failure during fiscal year 1999 without additional resources. Present county office employees, already dealing with heavy workload demands, are under extreme stress trying to keep current and attempting to minimize delays in accepting producer applications and finalizing payments.

WATERSHED PROJECTS

Question. Under the Public Law 534 and Public Law 566 programs, the federal government provides local sponsors with 100 percent cost share for the construction of flood control projects. The sponsors are responsible for acquiring the necessary land rights and for operating and maintaining structures based on a signed agreement. In many states the sponsors across the country have carried out their responsibilities with funds obtained through local taxes. However, some areas have not been able to do this, like Mississippi. USDA has proposed in the fiscal year 2000 budget request that $1 million be used for educational assistance to notify watershed sponsors about the need to inspect and rehabilitate the aging dams built during the past 50 years. Please explain how this educational assistance will be implemented.

Answer. The issue of the aging watershed infrastructure is a growing concern because of potential safety and health risks to the public. Between the 1940's and 1960's local sponsors, with assistance from USDA, constructed over 10,000 flood control dams that were designed to last 50 years. In the next 10 years (2000–2010) over

1,300 of these dams will exceed their design life and require major renovation or breaching. In addition, many of these dams and others of newer design are in a higher risk category due to downstream development and will also require major work.

In order to make the public and sponsors aware of these issues, USDA will utilize appropriated funds from the Watershed Operations account to conduct multi-state seminars, develop educational materials, produce videos and printed materials and send letters to sponsors informing them of their responsibilities as owners of dams built under the Small Watershed Program. We would utilize conservation partners such as state dam officials and private contractors for the majority of these efforts.

Question. Is this the only option considered in the fiscal year 2000 budget request to working with these communities to address this problem nationwide?

Answer. Yes, the sponsors of dams built under the Small Watershed Program are responsible and liable for operation and maintenance, as well as compliance with all state and federal laws involving dam safety and environmental permits. As a condition of federal funding, the sponsors entered into a contract with the agency to operate and maintain the structures. Since USDA presently has no statutory authority to provide financial assistance for rehabilitation, the fiscal year 2000 budget proposes to provide educational assistance.

Question. Does the Administration have a proposal so that sponsors can obtain funding to improve the conditions of these structures?

Answer. No. However, USDA is exploring ideas on how to assist in addressing the problem within current authorities.

Question. I understand that the Department's position has been that should federal funds be provided to those states that did not maintain their structures, inequities would exist with sponsors in communities in states who fulfilled their responsibilities by providing local funding for maintenance.

Has the Department assessed the number of projects that have not been maintained? If yes, please list the states where projects exist, the number of projects per state, and cost associated with the maintenance of these projects.

Answer. The issue of the aging watershed infrastructure is primarily related to dams exceeding their design life, but operation and maintenance of all structures is a part of the issue. The Department has not completed a detailed study of the condition of each of the more than 10,000 dams built under the Small Watershed Program since the dams are not owned, operated nor maintained by the Department. The cost to do such a study would be considerable, perhaps as much as $10-$12 million.

However, it is my understanding that USDA/NRCS is currently conducting an assessment of rehabilitation needs of dams built under the Small Watershed Program in a number of states. This assessment, which is only a compilation of known rehabilitation needs, will hopefully provide stakeholders with some valuable information on how to proceed in the future. I will provide additional information on this assessment for the record.

[The information follows:]

RAPID ASSESSMENT OF KNOWN DAM REHABILITATION NEEDS

[Includes only dams built under Public Law 534, Public Law 566, Pilot Projects, and Resource Conservation and Development authorities of USDA]

State [1]	Number of Dams Needing Immediate Rehabilitation	Estimated Cost [2] (millions)
Alabama	71	$24
Arkansas	77	21
Colorado	49	28
Georgia	334	92
Illinois	36	11
Indiana	41	18
Iowa	284	20
Kansas	97	20
Kentucky	101	20
Mississippi	608	34
Missouri	244	21
Nebraska	294	4

RAPID ASSESSMENT OF KNOWN DAM REHABILITATION NEEDS—Continued

[Includes only dams built under Public Law 534, Public Law 566, Pilot Projects, and Resource Conservation and Development authorities of USDA]

State [1]	Number of Dams Needing Immediate Rehabilitation	Estimated Cost [2] (millions)
New Mexico	17	23
New York	53	2
Ohio	46	7
Oklahoma	190	53
Pennsylvania	7	1
Tennessee	43	13
Texas	283	84
Virginia	16	10
West Virginia	34	53
Wisconsin	42	3
Total for these states only	2,967	562

[1] These 22 states have 10,188 of project dams
[2] Does not include Operations and Maintenance costs.

RURAL DEVELOPMENT

Question. For the guaranteed multifamily housing program, the budget proposes to eliminate the statutory requirement that 20 percent of the loans guaranteed must receive interest assistance. This legislative change would allow for the program's expansion to $200 million, which is $125 million over 1999.

Should this statutory requirement not be adopted, what additional funding will be required to hold the program level at the fiscal year 1999 level for fiscal year 2000 and how many rental units would be built at this funding level?

Answer. Assuming that the proposed legislative change is not enacted, in fiscal year 2000, $359,000 in budget authority will be required to maintain the Section 538 rural rental housing guaranteed loan program at its fiscal year 1999 program level of $74,839,000. This amount of budget authority represents a decrease of $1,961,000 from the 1999 level of $2,320,000. A program level of $74,839,000 will build approximately 2,010 new apartment units in fiscal year 2000.

Question. The fiscal year 2000 budget request proposes a total of $640 million for rental assistance, of which $440 million will be available in 2000 and $200 million will be available in 2001. This sounds like some sort of budget gimmick, Mr. Secretary.

A. Why has the Department proposed to fund this program over two years when it has not done so in past years?

Answer. The Administration's proposal reflects full funding of the rental assistance needs for fiscal year 2000. As you note, the budget authority for this funding is spread out over two years, specifically $440 million for fiscal year 2000 and $200 million for fiscal year 2001. The way payments are made under the program—in five year contracts—allows this form of budgeting. This is a reflection of the true cost of the program, which is expressed in the Administration's baseline estimates.

B. Will this proposal affect the delivery of this assistance? If not, why?

Answer. Rental assistance payments are made under five-year contracts, and budgeting these payments over two years will not affect the flow of rent reductions for the tenants who occupy RHS Section 515 and Farm Labor Housing complexes.

Question. The fiscal year 2000 budget also proposed legislation authorizing $400 million in direct Treasury rate electric loans. This proposal would possibly replace the need for increased funding for the highly subsidized direct 5 percent and municipal rate loans.

A. What demand is there for direct Treasury-rate electric loans?

Answer. RUS began fiscal year 1999 with a backlog of loan applications from electric distribution borrowers totaling $1.2 billion. Based on past experience, we anticipate receiving approximately $800 million additional applications during fiscal year 1999. The fiscal year 1999 appropriations provides $700 million in funding for distribution borrowers. This means RUS will begin fiscal year 2000 with a backlog of approximately $1.3 billion in loan applications for distribution borrowers. We believe

there will be a large demand for Treasury rate loans to augment, not replace, the municipal rate and hardship rate loans in order to meet the capital requirements of the electric distribution borrowers. There will be a continuing need for hardship loans in the future.

B. If this legislative proposal is not adopted, what is the anticipated program level need for direct and municipal rate loans for fiscal year 2000?

Answer. The fiscal year 2000 Budget includes $50 million for direct 5 percent interest rate loans, $250 million for municipal rate loans, $300 million for guaranteed loans and $400 million for treasury rate loans for a total of $1.0 billion.

EARLY WARNING SYSTEM

Question. Please explain the fiscal year 2000 Budget request for $5 million to fund the early warning system community facility grants that would allow rural areas to reduce the loss of life resulting from inadequate warnings of hazardous weather.

Answer. The request for $5 million is to finance the installation of radio towers, where necessary, and transmitters connected to the NOAA National Weather System radio service which would trigger warnings of approaching hazardous weather. Many rural areas are without early warning of rapidly approaching weather systems such as the storms that hit Mississippi, Tennessee and other areas in January of this year. It has been demonstrated that if sufficient warning had been available in sites devastated by tornados in the past several years, hundreds of lives can be saved and an equal number of injuries avoided. We estimate the total cost of providing coverage to 95 percent of the rural areas in need to be about $50 million.

CONSERVATION INITIATIVES

Question. The fiscal year 2000 budget request includes a $15 million increase in the Conservation Operations account of the Natural Resources Conservation Service. This funding will help support the USDA share of the Administration's global climate change initiatives. An increase of $3 million will be used to fund demonstration and pilot projects to test various carbon sequestration and greenhouse gas mitigation strategies and monitoring mechanisms.

How is this different from the research projects on the greenhouse effect that have been ongoing for years now?

Answer. The $15 million budget request is a substantial increase which will allow the agency to begin to develop a soil carbon database that represents actual local soil carbon levels under the various management and conservation systems that farmers and ranchers apply across the nation. This effort will establish the foundation for models and inventories that can track actual changes in soil carbon stocks, and anticipate changes that might result from potential conservation policies. NRCS' ongoing research projects on the greenhouse effect, funded at $1.5 million in earlier years and at $1.2 million in fiscal year 1998 and fiscal year 1999, focused on the impacts of climate on the soil environment.

Question. How will these projects, if funded, help our nation's farmers in the conservation area?

Answer. The proposed pilots will test and demonstrate not only carbon planning and monitoring methodologies under development, but they will also test and assess an array of policy and programmatic delivery options to help structure future policies and programs to more efficiently enhance carbon sequestration. This, in turn, will increase rainfall infiltration and water-holding capacity, and improve soil fertility, microbial activity and soil structure. These factors improve water quality, reduce erosion, reduce the amount of fertilizer inputs required to produce a crop and increase resistance to drought.

DIGITAL EARTH

Question. The Administration's fiscal year 2000 request also proposes an increase of $5 million as a part of the Administration's "digital earth" vision to enable access and standardization of geospatial data supporting Federal, State and local governmental programs. What is this initiative? Why is an increase proposed and how will these funds be used?

Answer. This initiative is designed to make geospatial data accessible to governments, businesses, academia, and citizens for use with innovative tools such as a geographic information system (GIS) to address everyday and long-term community issues. Geospatial information is key to helping communities analyze complex economic, social and environmental concerns in making more informed decisions and adopting strategies to support issues such as land-use planning, water quality, emergency response planning, environmental management and urban sprawl.

NRCS would use the $5 million to develop cooperative agreements and grants with state and county governments to develop geospatial data. The agreements would have two primary purposes. The first would be to develop geospatial data layers such as hydrography, roads, watersheds, county boundaries, township boundaries, land parcels, and public land surveys at a resolution acceptable for use at the local level. The second purpose is to assist the state or county in establishing an internet web-server in compliance with FGDC Clearinghouse standards. These public access web-servers can provide geospatial data to the USDA county-based offices and to the public as part of the overall National Spatial Data Infrastructure.

DEBT FOR NATURE

Question. The fiscal year 2000 budget request includes a $5 million legislative proposal to help implement the "Debt for Nature" program. This program will provide technical and financial assistance to USDA borrowers with serious cash flow problems who also have lands that require conservation treatment. Will you please explain how the Department will implement this new program?

Answer. The Debt for Nature program is not a new program but it has never been fully carried out. The $5 million is being requested to provide financial and technical assistance to financially stressed participants to help them establish conservation and wildlife measures that may be required in their conservation plan. The program will be implemented jointly between FSA and NRCS with NRCS being responsible for technical decisions related to the program and FSA being responsible for administrative policy and loan-servicing. The agencies will work together to establish policies, procedures and direction regarding planning, implementation and training.

Question. Another new program is proposed in the fiscal year 2000 budget request—a $50 million discretionary Farmland Protection Program. This supplements the mandatory program which ran out of money last year. The Administration also requests funding authority of $27.5 million for 2000 for the mandatory program.

At a time when discretionary money is scarce, why is the Administration proposing to supplement the existing Farmland Protection Program with discretionary money? Why not an additional $50 million increase in mandatory funds?

Answer. In response to the nationwide surge of public interest in preserving landscapes and communities, the Administration is proposing the Lands Legacy initiative which would be funded from the Land and Water Conservation Fund. As part of the Lands Legacy initiative, $50 million in discretionary funds are proposed for the Farmland Protection Program. Additional mandatory funds for the Farmland Protection Program would require an offset from the other mandatory programs funded by the CCC account.

Question. In your statement, you say the program is slated to receive $50 million in discretionary funding from the Vice President's new Lands Legacy Initiative. What does this mean?

Answer. One billion dollars are proposed in the Vice President's Lands Legacy initiative to strengthen the federal government's role as a partner with state and local efforts to build livable communities. Most of the programs in this initiative focus on urban revitalization and sustainable development. The Farmland Protection Program is one of the components and would address urban sprawl issues affecting strategic agricultural land. It also is a valuable tool to enhance other sustainable development priorities of communities.

Question. Does this request include technical assistance as well as financial assistance?

Answer. Yes. Included in the $50 million Farmland Protection component of the Lands Legacy initiative is $2 million (4 percent) for technical assistance.

FOOD QUALITY PROTECTION ACT

The Environmental Protection Agency (EPA) is currently writing regulations to implement the Food Quality Protection Act (FQPA). It is very important that this law is implemented in such a way that it does not negatively affect our nation's farmers.

Last year, Vice President Gore issued a directive that EPA and USDA work together to implement FQPA. In fact, report language was included in the fiscal year 1999 conference report concurring with the Vice President's memorandum and directing USDA to keep us abreast of its activities with EPA. USDA has determined chemical field data over the years for farmers and this Committee has provided the needed resources to collect that data on chemical use.

Question. When do you plan to give us a report on your activities with EPA to implement FQPA?

Answer. The report is now being completed by the Department and will be provided to you in March. The report will describe our on-going activities and additional activities planned for fiscal year 2000.

Question. Does EPA use the data that USDA has collected when determining how farmers use crop protection products?

Answer. The data are critically important to EPA and are used by EPA in assessing possible pesticide risks. The data are equally important for planning workable risk mitigation measures. When cancellation of a chemical or certain uses of a chemical is the only viable approach to reducing risk to acceptable levels, USDA data and our land grant partners will be of central importance in the process of developing transition strategies.

Question. What role has the Department played in the implementation process of this law? How closely have you worked with EPA?

Answer. EPA Administrator Browner and I met on February 5, 1999, to discuss several aspect of FQPA implementation including the need for science-based data. We agreed that it was critical for all risk assessments and regulatory decisions to make full use of sound science and the best possible data. USDA data concerning pesticide use patterns and residue levels along with food consumption constitute critical information.

Question. Are you aware that EPA plans to release "Interim/Preliminary" Re-registration Eligibility Documents (REDs) to the public on the internet using default assumptions?

Answer. One of the first actions of the Tolerance Reassessment Advisory Committee (TRAC) was to agree to a pilot effort to make the EPA risk assessment process more transparent and to involve more stakeholders. Until now, only the chemical registrants had the opportunity to review draft risk assessments and influence the decision-making process at the early stages of review. Growers and others believed that their interests were not adequately represented at certain critical decision points. Early examination of the assessments will allow for early identification of the needed revisions and substitution of actual data to replace default assumptions.

Question. If I understand this correctly, EPA has not finalized the nine-science policies currently being developed by the Tolerance Reassessment Advisory Committee (TRAC) that will be used to implement FQPA. It concerns me that EPA plans to release these REDs prior to the finalization of these policies since it could eventually impact the outcome of the regulations. Did EPA consult with the Department before this decision was made to release this preliminary information prior to the finalization of the science policies?

Answer. As outlined above, the decision was made as part of the TRAC process. As you know, Deputy Secretary Rominger co-chairs that Advisory Committee with the EPA Deputy Administrator. It should be noted that the preliminary risk assessments are publicly available under the Freedom of Information Act. Because not all stakeholders in the review process routinely sought copies under FOIA, TRAC participants that it was reasonable to make access more convenient for all.

Question. Why is the preliminary information being publicly released? Wouldn't it be more prudent to wait until the science policies are completed.

Answer. Because many of the science policies will not be finalized for some months, the process of refining the risk assessments will include a sensitivity analysis to determine the impact of alternative policy choices on the assessments. These will be shared with the public and should assist all interested parties in establishing final policies.

The Vice president in his April 8, 1998 directive to EPA and USDA concerning implementation of FQPA set forth the following principles:

(1) Regulatory decisions should be based on the best science and data that are available.

(2) EPA should continue to seek peer review and public review of its methods and approaches for analyzing potential risk under the new law.

(3) In translating sound science into regulatory approaches, EPA and USDA should ensure that the decisions and positions of the two agencies are transparent to affected constituencies.

(4) Approaches must be clearly and fully communicated in a manner that facilitates informed review by all affected constituencies.

Question. The TRAC process has two more scheduled meeting. The development of the most sound science and data have not been finalized, and EPA has historically allowed the registrants of chemicals to review draft REDs prior to them being released to the public. However, this is not the case. Based on this information, doesn't the release of the REDs go against the principles set forth by the Vice presi-

dent in the April 8, 1998, directive to EPA and USDA concerning implementation of FQPA?

Answer. Release of the preliminary risk assessments, with the careful understanding that the assessments are preliminary and draft conclusions are theoretical, answers the Vice President's directive for transparency in the risk assessment process.

Question. How do you propose we proceed in stopping this premature release of the REDs to the public?

Answer. EPA and USDA have stressed that preliminary risk assessments do not represent final conclusions and often are based on outermost assumptions. These caveats need to be stressed in future releases of preliminary risk assessments.

HONEY

Question. Section 1122 of the fiscal year 1999 Agriculture Appropriations Act provides for the reinstatement of marketing loans for honey producers. Congress approved this program because honey producers, like those of many other commodities, faced disastrously low prices. Yet, the Department has delayed implementing this program for months, well beyond the harvest time. These delays have rendered this loan program virtually useless. When Chairman Skeen and I learned of the Department's misperception of our intent in implementing the program, we wrote you to clarify this issue, hopefully ending the delays. However, not only have we not received a reply to our letter, the regulations implementing this program remain unpublished. What is the status of these regulations?

Answer. We anticipate the final rules implementing the honey program will be published within several weeks, and that eligible producers will be able to obtain honey recourse loans by requesting loans through a period ending 60 calendar days after publication of the regulation in the Federal Register.

Question. How does the Department justify the delays in implementing this program which was mandated by Congress, while assisting producers of other commodities more expeditiously and without specific mandates to do so?

Answer. Many decisions needed to be made in regard to the Honey program which required additional research and legislative interpretation. For instance, the Appropriation's Act required that the program be operated on a no-net-basis, and that repayment of the loans would include interest and administrative costs. The research required to define a no-net-cost loan which included administrative costs delayed the implementation of the program. Additionally, loan rates, regulations, and operating procedures for field offices also had to be developed to adequately administer the program.

DISASTER/MARKET LOSS ASSISTANCE

Question. The disaster program enacted in the Omnibus Appropriations Act provides the Department with tremendous flexibility to design a disaster program which was fair to all commodities in all parts of the country. While I appreciate the magnitude of your responsibility, I also understand that this was suppose to be an emergency program. Do you consider the six months that it will take between passage of these funds and when producers will likely receive their checks as an acceptable time to deliver "emergency" funds?

Answer. The fiscal year 1999 omnibus appropriations bill created seven new programs for the Department of Agriculture (USDA) to administer, and of those, the most complex is the crop loss disaster assistance program (CLDAP)—the $2 billion earmarked for assisting farmers who have suffered crop losses over multiple years before 1998 or who had losses only in 1998. It is far more complex than past natural disaster assistance programs. Consequently, and due to the heavy demand from farmers, USDA is taking longer than we anticipated to implement it fully. Nonetheless, I want to assure you that getting these payments out as expeditiously and as fairly as possible is a top personal priority for me.

Question. It is my understanding that as of last week, county offices did not have the necessary forms for producers to apply for these disaster funds. Further, it is my understanding that many county offices may not have the necessary computer software to process these applications today. How does the Department justify this?

Answer. Applications have been available in the county office and on the internet since the first week of signup and manual forms were available to calculate 1998 single year payments for noninsurable and uninsured crops. However, information was not available for each producer to enable the county offices to calculate an estimated 1998 single year payment for insured crops without asking the producers for production information. A significant amount of time has been devoted to providing county offices with producer loss information from RMA and FSA's national data

base to reduce the burden on producers of having to provide the information for the disaster programs and to determine eligibility for multi-year payments. Millions of RMA and FSA records are being downloaded to county offices. We believe that the start up time was essential to provide better service to the producers.

Question. Milk prices to farmers are expected to decline about 30 percent over the next several months. When will you announce the plan for disbursing the $200 million in dairy market loss assistance funds?

Answer. The fiscal year 1999 appropriations act requires that the assistance be made "as soon as practicable", but does not specify what form the assistance should take, nor how the funds should be distributed. The law does stipulate however, that the payments shall not affect any regulatory decision on milk marketing order reform. A full range of possibilities for efficient use of the funding is under consideration. The expected record decline in the February basic formula price and the resultant record decline in farmers' milk checks in April has accelerated the Department's development of the program. The program may be announced in March.

Question. In fiscal year 1999 Agriculture Appropriations Act, there was emergency feed assistance funding. According to reports from farmers, the deadline date has been extended twice already this year. When can farmers expect to receive this assistance?

Answer. On November 12, 1998, USDA announced the Livestock Assistance Program (LAP) and began taking applications on November 23, 1998. To accommodate the extremely high demand for LAP, USDA extended the sign up for this program and now plans to close enrollment on March 25, 1999. USDA will issue payments shortly thereafter. We estimate that the $200 million Congress appropriated for livestock assistance will be heavily over-subscribed and USDA, consequentially, will be able to pay only a portion of the total request.

Question. It is my understanding that producers who apply for USDA disaster loans have had their loan proceeds reduced by the amount of crop insurance indemnity payments they have received. Is this true?

Answer. Yes. The amount of a Farm Service Agency (FSA) emergency loan received by a family farmer is reduced by the amount of crop insurance payments that have been received.

Question. How does this help producers who need these loan proceeds to finance their operation?

Answer. A family farmer who receives crop insurance indemnity payments and a FSA emergency loan has been totally compensated for their loss by the combination of a loan and direct payments. Additional financing needs can be met with either a loan guarantee or a direct loan from the FSA.

COMMODITY PRICES

Question. Mr. Secretary, one of the factors which led Congress to pass the agriculture assistance package last year was the state of commodity prices for almost every crop. Current estimates do not appear to be much better for 1999. The President's budget makes no specific recommendations on how to improve the current crop insurance system to give farmers price risk protection. Further, any change in the law enacted by Congress will not likely be able to help farmers for the 1999 crop. What changes do you specifically propose to improve crop insurance?

Answer. On February 1, 1999, the Department released a white paper entitled "Strengthening the Farm Safety Net: The Administration's Principles and Preliminary Proposals for Reforming Crop Insurance." A copy of this paper is submitted for the record. The Administration proposes a dialogue with the Congress with regard to strengthening crop insurance in several key areas. Briefly, these are:

—Speed new, more flexible risk management tools to market by providing incentives to commercial insurers to develop insurance policies that meet the needs of producers.
—Make the level of protection under the catastrophic insurance coverage and the Non-insured Assistance Program (NAP) more meaningful in terms of replacing farm income in disaster years.
—Increase the incentives for producers to purchase higher levels of insurance protection.
—Cover multi-year disasters so that the cumulative effects of several disasters within a short number of years are mitigated.
—Extend insurance protection to livestock.
—Improve the NAP program by making the determinations more flexible than is possible with the current area trigger.
—Provide better information and services to farmers and ranchers so that they will better understand and manage the risks that confront them.

Question. How can the rating inequities that disadvantage southern farmers be eliminated?

Answer. Premium rates are calculated by the Federal Crop Insurance Corporation (FCIC) from the experience it has accrued in a county. High premium rates result from high losses paid in the past. For many reasons, losses have been claimed by producers in the South more frequently and at much greater levels of crop loss than has been observed in other sections of the country. While some may view the resultant high premium rates as an inequity, insurance principles dictate that the premium rate be commensurate with the level of expected losses.

Many in the South allege that the insurance experience on which the present rates are based is not representative of the "good" farmer—that it is based on producers who deliberately made false reports of losses. FCIC did eliminate losses attributed to persons identified under its former Non-standard Classification System from the experience used to calculate premium rates for the remaining producers. However, losses still remain higher than is typical for other areas and crops.

USDA is willing to work with the Congress to find a solution to this persistent problem. If farmers are aware of individuals who are inflating losses, we would appreciate such information. Insurance fraud will not be tolerated, as it costs all producers.

Question. The Budget makes no recommendations for offsets to pay for any changes to crop insurance statutes. I understand that several billion dollars will be necessary. How does the Department propose to pay for these improvements?

Answer. In its white paper "Strengthening the Farm Safety Net," the Administration states its intentions to seek a consensus among producers, the Congress, and other stakeholders as to the nature of the changes needed. Once that consensus is built, agreement will be needed on the difficult task of finding the best way to finance those improvements. We plan to work with Congress in a responsible manner regarding this issue.

Question. What other action outside of crop insurance does the Department propose to improve commodity prices?

Answer. While crop insurance is the centerpiece of the Administration's effort to improve the safety net for farmers, the Department is looking at a broad range of other ideas, including allowing farmers to extend the due dates on market assistance loans and paying for on-farm storage facilities. There are a number of additional proposals, most requiring Congressional action, some of which may have been debated in the not too distant past which may be worth a reexamination such as modification of the caps on marketing loan rates. And, perhaps, there is interest in recent proposals by members of Congress to develop additional short to intermediate term land retirement programs which could be tailored to address multiple objectives including crop disease contract and investments benefits which would be removing crop acreage from production. Many of these efforts would involve significant costs.

Strong export markets are another important component of the agricultural safety net and are critical for the support they lend to domestic commodity prices. In response to weakened foreign demand, we have taken a number of important steps over the last year to bolster exports and maintain access to key foreign markets. In response to the Asian financial crisis, we increased substantially the level of export credit guarantees made available by CCC, and sales registrations under the program during fiscal year 1998 were 40 percent higher than the year before. We anticipate this expanded level of programming will continue in both 1999 and 2000.

We are implementing the President's Food Aid Initiative, under which 5 million metric tons of wheat and wheat products are being made available for donation overseas. Also, we have developed and are carrying out a major package of food assistance for Russia in order to assist that country and maintain access for our products. Russia is an important market for U.S. grains, poultry, pork, and beef, and we want to assist it in regaining its status as a commercial purchaser.

Over the long term, the best means of ensuring expanded access to overseas markets for our farmers and ranchers is through the negotiation of improved market access and a reduction in trade barriers. Therefore, we are working vigorously to open and expand markets through a wide range of trade policy activities. Most note worthy of these is our preparation for the new round of multilateral trade negotiations which is set to begin later this year. These negotiations present an important opportunity to strengthen disciplines on agricultural trading practices and gain improved access to world markets for our products.

DAIRY

Question. In January 1998, the Department published its proposed rule for the Federal Milk Marketing Order system. Sixty-one members of the Senate and 238 members of the House of Representatives have written you to oppose your endorsement of the so-called option I-B and supporting the implementation of option I-A.

Congress thoroughly debated the elimination of class-I differentials during consideration of the 1996 farm bill and rejected their elimination. In addition, Congress mandated the release of the final proposal for early this year in order to ensure Congress has the opportunity to review the proposal while it is in session.

Question. How do you justify the adoption of option I-B when the Department's own analysis showed that option I-B would reduce farmer income?

Answer. In January 1998, USDA issued a proposed rule that consolidated the current 31 Federal milk orders into 11 orders, set forth two options for replacing the Class I price structure, and proposed replacing the BFP. USDA indicated a preference for the Class I price surface identified at option I-B when the proposed rule was published because as stated in the proposed rule "It is expected that the additional market orientation offered by option I-B will promote market efficiencies and lead to better allocation of resources over time." Since option I-B lowered farm income relative to the current Class I price structure, USDA also proposed several transition alternatives that would have phased in the option I-B price surface over several years, lessening the effects of adopting option I-B on farm milk prices and farm income.

Question. Do you still support option I-B, given the Congressional support that has been expressed for option I-A?

Answer. All the comments are being considered in arriving at the final decision.

Question. What is the timetable for publication of the final proposal?

Answer. The final decision on Federal order consolidation and reform, which will be released on or before April 4th, will be based on the comments received on the proposed rule.

DETAILEES

Question. Provide a list, by USDA agency, of each employee detail or assignment (by employing agency, title, and position) in each of fiscal years 1998 and 1999 to date for a period of up to 30 days, and identify the agency to which that detail or assignment was made and the purpose of the detail assignment. Provide this same information for employee details/assignments made for a period of more than 30 days, and indicate the dollar amount of reimbursement made to the employing agency for each detail/assignment.

Answer: We will provide that information for the record.

[The information follows:]

DETAILED FOR MORE THAN 30 DAYS—FISCAL YEAR 1998

Position/agency	Detailed to	Date/length	Purpose	Reimbursed
William Digdo (GIPSA)	APHIS	15 days	APHIS Medfly	$3,837
Michael Haley (GIPSA)	APHIS	15 days	APHIS Medfly	$3,934
James Ledoux (GIPSA)	APHIS	20 days	APHIS Medfly	$2,993
Bradley O'Neal (GIPSA)	APHIS	15 days	APHIS Medfly	$3,118
Robert Simpson (GIPSA)	APHIS	2 days	APHIS Medfly	$411
Dan White (GIPSA)	APHIS	2 days	APHIS Medfly	$441
Sylvia Magbanua (NASS)	Office of Civil Rights	28 days	Civil Rights training program	
N. Blair (FS)	Office of the Secretary	10/6/97 to11/6/97	Civil Rights Action Team	
G. Renteria (FS)	Office of the Secretary	11/3/97 to 11/20/97	Civil Rights Action Team	
M. Warren (FS)	Natural Resources and Environment	10/01/97 to 10/24/97	Support	
Special Assistant to Adm. (FSA)	White House	10/01/97 to 9/30/98	Personnel liaison for all White House personnel of Cabinet agencies and Boards and Commissions within assigned portfolio.	$73,638 Est. Reimb. limited by 3 U.S.C. 112)
Computer Specialist (FSA)	OSEC/Modernizatio n of Admin. Processes Program MAPP).	01/19/98 to 5/09/98	To provide Agency expertise to MAPP project managers	$20,519 Est.
Management Analyst (FSA)	U.S. Environmental Protection Agency	10/01/97 to 11/22/97	Assisted in the Information Resources Management Policy area involving contract resources.	$15,409
Confidential Assistant to Administrator (FSA).	Rural Development, Office of Community Development.	10/01/97 to 9/30/98	To assist the Empowerment Zone initiative in helping the program/communities achieve economic and sustainable development.	$88,500 Est.
Confidential Assistant to Administrator (FSA).	Office of Communications, Photography Division.	10/01/97 to 9/30/98	Provide Agency expertise to the Photography Division	$52,000 Est.
Director, Performance Engineering and Analysis Group (FSA).	NASA, Ames Research Center	02/01/98 to 5/23/98	Provides assistance on the planning, technical guidance, and direction of the Independent Verification and Validation (IV&V) facility operations..	$33,000 Est.
Robert Cummings (FAS)	Office of the U.S. Trade Representative	2 years 6/97—6/99	Work on agricultural trade issues	Non-reimbursable
Nancy Hirchhorn (FAS)	The World Bank	1 year 7/97—7/98	Articulate USDA interests on project activities	Non-reimbursable
Stephen Huete (FAS)	Inter-American Development Bank	1 year 8/97—8/98	Articulate USDA interests on project activities	Non-reimbursable
David Schoonover (FAS)	Office of the U.S. Trade Representative	2 years 6/97—6/99	Work on agricultural trade issues	Non-reimbursable
Ragiv Rastogi (RUS)	Foreign Agricultural Service	39 months		$252,549
Thomas Bennett (RHS)	Natural Resources Conservation Service	1 yr. to date Temporary Promotion.	Test Laboratory Peoplesoft)	
LaJaycee Brown (RHS)	White House	180 days	Communications-Schedule C	
Marylan Chapman (RHS)	Under Secretary's Office	120 days	Women in Agriculture Initiative	
Cheryl Cook (RHS)	Office of the Secretary, Assistant Secretary for Administration.	45 days	Administrative Convergence-Schedule C	

DETAILED FOR MORE THAN 30 DAYS—FISCAL YEAR 1998—Continued

Position/agency	Detailed to	Date/length	Purpose	Reimbursed
Carolyn Cooksie (RHS)	Farm Service Agency	2 years	Minority Farming	
Stan Gray(RHS)	Office of the Secretary, Chief Information Officer.	3 months to date	Business Process Reengineering	
Debbie Matz (RHS)	Farm Service Agency	2 years	Loan Resolution Task Force—Political Appointee	$110,000
Debbie Matz (RHS)	Office of the Secretary, Assistant Secretary for Administration.	5 months	Deputy Asst. Secy for Administration-Political Appointee	$96,411
Mary McNeil (RHS)	Office of Congressional Relations-Intergovernmental Affairs.	2 years to date	Communications-Schedule C	$120,089
Angela Morrall (RHS)	Office of the Secretary, Assistant Secretary for Administration.	40 days	Civil Rights Implementation Team (CRIT)	
Charles Wehrwein (RHS)	Housing & Urban Development	90 days	Housing Initiative	$25,000
Karen Murray (RBS)	Extension Service	9 months to date	Partnering	$52,000
Carolyn Parker (RBS)	Office of the Secretary, Assistant Secretary for Administration Office of Outreach.	2 months to date	Civil Rights Outreach	$73,733
Carolyn Parker (RBS)	Deputy Administrator, Office of Assistant Secretary.	9 months	Civil Rights Implementation Team	
Vivian Peters (RBS)	Foreign Agricultural Service	120 days to date	Scheduler-Schedule C	$50,997
Samantha Speight (RBS)	White House	180 days	Scheduler	
K. Basu (FSIS)	Food & Ag Council	2/98—2/99	Civil Rights Assistance	Agreement developed
P. Cohen (FSIS)	DOJ/Criminal Division	12/97—6/98	Assistance in the development of strategic plans for projects.	None determining if detail benefits FSIS)
M. Eldakdoky (FSIS)	FAS	3/96—5/31/98	Food technology support	Detail benefits FSIS
J. Gettleman (FSIS)	DA: Appeals & Grievances Staff	1/98—4/7/98	Senior Staff Assistance	None—just received SF-52— determining if detail benefits FSIS
F. Gwozdz (FSIS)	ARS	1/97—5/98	Staff Assistance	Detail benefits FSIS
C. Romeo (FSIS)	Office of Under Secretary for Food Safety	10/97—3/98	Unclassified Duties	Detail benefits FSIS
L. Wright (FSIS)	Departmental Administration	3/97—12/97	To work on a CRIT	Detail benefits FSIS
Stephen Balson (FNS)	USDA/OCFO	10/01/96 to 9/30/98	FISVIS	$118,362
Lawrence Blim (FNS)	USDA/OCFO	10/1/96 to 9/30/98	FISVIS/Accounting Standards Manual	$105,593
Renee Brown (FNS)	Under Secretary/FNCS	10/6/97 to 1/13/98	Secretarial Support	$5,732
Kathleen Crampton (FNS)	USDA/OCFO	10/1/96 to 9/30/98	FISVIS	$91,752
Daniel Dager (FNS)	Under Secretary/FNCS	10/1/96 to 3/24/98	Budget & Legislative Support	$33,582
Bruce Klein (FNS)	US Congress/Joint Econ Committee	10/20/97 to 2/20/98	Analytical Support	$30,152
Jane Manley (FNS)	Under Secretary/FNCS	10/6/97 to 12/20/97	Secretarial Support	$8,537

Sharon Phillips (FNS)	USDA/FSIS	4/21/97 to 1/17/98	Secretarial Support	$16,711
Ismael Tercero (FNS)	DHHS	10/1/96 to 10/13/97	Tribal Health Programs	$1,542
Velma Brooks (NRCS)	FISVIS	10/1/97 to 9/30/98	To provide clerical assistance	$38,703
Rebekah Davis (NRCS)	FAS	1/20/98 to 5/20/98	To provide research and writing support	$7,000
Pam Folson (NRCS)	USDA/DAMS	6/29/97 to 9/3/98	Provides support to the Office of the Senior Policy Advisor for Service Implementation and to serve on Team I of the Admin. Convergence.	$37,417
Lois Loser (NRCS)	USDA/NSD	9/29/97 to 6/20/98	Provides technical support and is Acting Branch Chief	$68,032
Robert Reaves (NRCS)	USDA/Administrati ve Management Service.	6/22/97 to 3/1/98	Provides leadership and direction to staff, assign work, set goals, participates in Departmentwide and Government-wide multi-organization project.	$43,427
John Sutton (NRCS)	FAS/ICD/DRD	8/21/97 to 8/31/99	Detailed to acting Branch Chief NTE 2 years	$95,529
Joan Conway (ARS)	FAO	9/97— Present	Special Management Intern Program	—
Robert Harmon (ARS)	FSIS	7/96— Present	Training and to provide support to Microcomputer Support Section.	$25,613
Stephen Heller (ARS)	NIST	10/97— Present	To exchange high level expertise and knowledge related to leading edge technology.	$59,228
Al Kemezys (ARS)	MAPPS	8/96—12/97	Provide support for MAPPS	$75,222
Adrienne Labega (ARS)	Metro Area Reemployment Center	8/97— Present	Nonreimbursable—medical accommodation	
Carl Momberger (ARS)	MAPPS	11/96— Present	Provide technical expertise on MAPPS	$96,033
Anne Riordan (ARS)	USDA, Procurement Policy Division	11/97— Present	Provide support to Phase II of USDA Procurement Modernization Project.	—
Charlotte Sorrentino (ARS)	Office of the Secretary	7/97— Present	Provide administrative support	Reimbursement being requested
James Spurling (ARS)	Under Secretary for Research, Education, and Economics.	8/97— Present	Mission Support	—
Mitch Geasler (CSREES)	Under Secretary for Research, Education, and Economics.	10/97— Present, half time.	Mission Support	
Mary Humphreys (CSREES)	Under Secretary for Research, Education, and Economics.	10/97—9/98	Secretarial support, Secretary, Research, Education, and Economics.	Reimbursement requested
Dafina Williams (CSREES)	Under Secretary for Research, Education, and Economics.	11/97—11/98	Secretarial support, Under Secretary, Research, Education, and Economics.	Reimbursement requested
Audrae Erickson (ERS)	USTR Office of Agricultural Affairs (White House).	3 months	Agricultural Trade	
Paul Flaim (ERS)	President's Council on Sustainable Development (White House).	8 months	White House Committee on Sustainable Development	
Christian Foster (ERS)	FAS	9 months	To work as an agribusiness policy analyst with USAID/Global Bureau.	$111,490
Keith Fuglie (ERS)	Council of Economic Advisers White House).	9 months	Senior Economist for Agriculture and Natural Resources	

DETAILED FOR MORE THAN 30 DAYS—FISCAL YEAR 1998—Continued

Position/agency	Detailed to	Date/length	Purpose	Reimbursed
Carl Mabbs-Zeno (ERS)	USDA/FAS/ICD	1 month	To work under the Environment and Natural resources project.	$10,650
Sara Mazie (ERS)	USDA/REE/OSEC	10/1/96—Present	Mission Support/Budget Coordination	
Toni Bradly (NASS)	Office of Civil Rights	120 days	Civil Rights enforcement support	
Jorge Garcia-Pratts (NASS)	CSREES	261 days	USDA Liaison to the University of Puerto Rico	$95,000
Craig Kirby (AMS)	Assistant SecretaryMRP	9/22/97 to present	Provide support to the Asst. Secy	
Mark Kreaggor (AMS)	MAP, then PACC	10/1/97 to	Assist MAP and PACC with Time & Attendance BPR Project	$8,000
Kevin Clarke (APHIS)	OCIO	10/1/97 to Present	USDA Enterprise Network design team	
Evelyn Davis (APHIS)	OCIO	11/1/97 to 9/30/98	Assist with USDA Program	$69,909
Walter Moczydlowsky (APHIS)	OCIO	10/1/97 to Present	USDA Enterprise Network design team	
Karen Murray (APHIS)	OCFO	10/1/97 to 9/30/98	Assist with USDA financial systems development	$77,382
Patricia Peer (APHIS)	Assistant Secretary-MRP	12/21/97 to Present	Provide support to the Assistant Secretary	
Frank Sanders (APHIS)	OCFO	10/1/97 to 9/30/98	Assist with USDA financial systems development	$61,999
Joe Taylor (APHIS)	OPPM	2/97 to 9/98	VISA card implementation	
Mary Carmouche (GIPSA)	APHIS	73 days	APHIS Medfly	$7,340
Michael Caughlin (GIPSA)	FAS	10/1/97—7/1/98	Agribusiness Advisor	$97,500
John Cox (GIPSA)	APHIS	115 days	APHIS Medfly	$6,183
Roy Johnson (GIPSA)	APHIS	147 days	APHIS Medfly	still on detail
William Napoleon (GIPSA)	APHIS	73 days	APHIS Medfly	$13,642
Wanda Pitiman (GIPSA)	APHIS	73 days	APHIS Medfly	$7,976
Steve Reams (GIPSA)	APHIS	147 days	APHIS Medfly	still on detail
Mark Reimer (GIPSA)	APHIS	73 days	APHIS Medfly	$8,686
George Wright (GIPSA)	APHIS	37 days	APHIS Medfly	$2,425
Marci Hilt OC)	DA	5 months	Civil Rights Action Team (CRAT)	$38,995
Barnedia Talley (OCFO)	ASA	3 months	Civil Rights Implementation Team	$9,000
Frances Trout (OCFO)	OSEC	Being Negotiated	Travel Assistance	
Jeff Knishkowy (OGC)	Office of Acting Assistant Secretary for Administration.	1/13/97 to 1/31/98	Provide assistance to the Civil Rights Action Team to include implementation of recommendations.	
John Lom (OGC)	U.S. Trade Representative Office	10/20/97 to 3/19/98	To better serve USDA in dealing with international trade disputes and related matters.	
Lauretta Miles (OIG)	USDA/Office of the Secretary	1/18/98 to 6/20/98	To provide six month detail assignment to perform clerical duties.	$17,000
Robert Franco (DA)	OPM	2/17/97 to NTE 2 yrs.	Develop SES Recruitment Strategies	$116,495
J. Phelps (DA)	OCFO	12 months	Financial Info. Systems Vision project FISVIS)	$48,000
C. Bailey (FS)	Office of the Secretary	10/1/97 to 1/2/98	Civil Rights Action Team	
A. Brown (FS)	Office of the Chief Financial Officer	10/1/97 to 9/30/98	FS Liaison	$71,000

J. Comanor (FS)	Natural Resources Conservation Service	10/1/97 to present	Support	$70,000
J. Dudley (FS)	Office of Operations	10/1/97 to 3/27/98	FS Liaison	$47,116
M. Fletcher (FS)	Office of the Secretary	10/12/97 to 1/2/98	Civil Rights Action Team	
C. Franz (FS)	Modernization of Administrative Processes.	10/1/97 to 1/2/98	Civil Rights Action Team	$88,000 est.
J. Gavin (FS)	Office of the Chief Information Office	10/1/97 to 3/31/98	Support	$31,000
M. Hamilton (FS)	Office of the Secretary	10/1/97 to 11/30/97	Civil Rights Action Team	
T. Harwood (FS)	Hazardous Waste Management	10/1/97 to present	FS Liaison	$123,300
J. King (FS)	Office of the Chief Financial Officer	10/1/97 to present	FS Liaison	$88,000
Z. Okrak (FS)	Office of the Chief Financial Officer	10/1/97 to present	FS Liaison	$74,000
B. Preston (FS)	Natural Resources and Environment	10/1/97 to Present	FS Liaison	C.
Pytel (FS)	Assistant Secretary (ADM)	10/1/97 to 1/3/98	Acting Deputy Assistant Secretary for Administration	$38,212
V. Ross (FS)	Office of the Secretary	10/1/97 to 12/31/97	Civil Rights Action Team	
G. Sundstrom (FS)	Hazardous Waste Management	10/1/97 to present	FS Liaison	$85,860
B. Velde (FS)	Hazardous Waste Management	10/1/97 to present	FS Liaison	$96,484
K. Waldvogel (FS)	Hazardous Waste Management	10/1/97 to present	FS Liaison	$83,656
S. Yaddof (FS)	Cooperative State Research, Educ. And Ext. Srvc..	10/1/97 to 1/31/98	Support	$25,000
J. Zeller (FS)	Office of the Secretary	10/1/97 to 11/7/97	Civil Rights Action Team	Detailed for More than 30 Days
Special Assistant to Administrator (FSA)	White House	10/01/96 to 09/30/97	Personnel liaison for all White House personnel of Cabinet agencies and Boards and Commissions within assigned portfolio..	$71,071 (Reimb. limited by 3 U.S.C.112)
Supervisory Computer Specialist (FSA)	OSEC/Modernizati on of Administrative Processes Program MAPP).	10/01/96 to 9/30/97	To provide Agency expertise to MAPP project managers	$85,042
Supervisory Systems Accountant (FSA)	Alternative Agricultural Research and Commercialization Corporation (AARC).	03/09/97 to 5/03/97	To develop the format for the AARC financial statements for fiscal year 1997 and provide guidance on accounting principles as they ralate to government corporations.	$17,816
Confidential Assistant to Adm. (FSA)	Rural Development Office of Community Development.	04/11/97 to 9/30/97	To assist the Empowerment Zone initiative in helping the program/ communities achieve economic and sustainable development.	$31,025
Computer Specialist (FSA)	OSEC/Modernization of Administrative Processes Program MAPP).	01/19/97 to 9/30/97	To provide Agency expertise to MAPP project managers	$45,748
Management Analyst (FSA)	Office of the Chief Information Officer	02/24/97 to 8/18/97	To assist in the development and implementation of USDA's Information Systems Technical Architecture and Information Technology Capital Planning, and Investment Control projects.	$45,270
Robert Cummings (FAS)	Office of the U.S. Trade Representative	6/97—6/99	Work on agricultural trade issues	Non-reimbursable
Nancy Hirschhorn (FAS)	The World Bank	7/97—7/98	Articulate USDA interests on project activities	Non-reimbursable
Stephen Huete (FAS)	Inter-American Development Bank	8/978/98	Articulate USDA interests on project activities	Non-reimbursable

DETAILED FOR MORE THAN 30 DAYS—FISCAL YEAR 1998—Continued

Position/agency	Detailed to	Date/length	Purpose	Reimbursed
David Schoonover (FAS)	Office of the U.S. Trade Representative	6/976/99	Work on agricultural trade issues	Non-reimbursable
Ragiv Rastogi RUS)	FAS	39 months		$252,549
David Adams (RHS)	Office of the Secretary, Assistant Secretary for Administration.	60 days	Civil Rights Implementation Team (CRIT)	
Victor Agresti (RHS)	Department of Justice	90 days	In advance of his permanent reassignment	$20,000
Joyce Allen (RHS)	Office of the Secretary, Assistant Secretary for Administration.	60 days	Civil Rights Implementation Team (CRIT)	
Steve Anaya (RHS)	Office of the Secretary, Assistant Secretary for Administration.	90 days	Civil Rights Action Team CRAT)	
Tracey Anderson (RHS)	Office of the Secretary, Assistant Secretary for Administration.	60 days	Civil Rights Implementation Team (CRIT)	
Mark Brad Benson (RHS)	Center for Rural Pa.	3–1/2 years	Partnering Intergovt Pers ActIPA)	
Terry Bishop (RHS)	Office of the Secretary, Assistant Secretary for Administration.	60 days	Civil Rights Implementation Team (CRIT)	
Edith Brown (RHS)	Office of the Secretary, Assistant Secretary for Administration.	60 days	Civil Rights Implementation Team (CRIT)	
Rhonda Brown (RHS)	Office of the Secretary, Assistant Secretary for Administration.	5 weeks	Civil Rights Implementation Team (CRIT)	
Helen Cordero (RHS)	Office of the Secretary, Assistant Secretary for Administration.	60 days	Civil Rights Implementation Team (CRIT)	
Angela Corley (RHS)	Office of the Secretary, Assistant Secretary for Administration.	120 days	Civil Rights Implementation Team (CRIT)	
Mary Fox (RHS)	Office of the Secretary, Assistant Secretary for Administration.	60 days	Civil Rights Implementation Team (CRIT)	
Leonard Hardy, Jr. (RHS)	Office of the Secretary, Assistant Secretary for Administration.	90 days	Civil Rights Action Team CRAT)	
Carlton Lewis (RHS)	Office of the Secretary, Assistant Secretary for Administration.	90 days	Civil Rights Implementation Team (CRIT)	
Jacquiline Micheli (RHS)	Office of the Secretary, Assistant Secretary for Administration.	60 days	Civil Rights Implementation Team (CRIT)	
Mary Parker (RHS)	Office of the Secretary, Assistant Secretary for Administration.	60 days	Civil Rights Implementation Team (CRIT)	
S. Leanne Powell (RHS)	White House	180 days	Women's Issues Program-Schedule C	
John Soles (RHS)	Rural Center, NC	4 years	Partnering Intergovt Pers ActIPA)	
Joseph Taggert (RHS)	Office of Congressional Relations-Intergovernmental Affairs.	11 months	Communications-Schedule C	

Quinton Wilform (RHS)	Office of the Secretary, Assistant Secretary for Administration.	150 days	Civil Rights Implementation Team (CRIT)	
James Coyle (RBS)	USDA National Service	7 months	America Reads and Gleaning	
Amy Donoghue (RBS)	Extension Service	120 days	Partnering	$11,000
Stephen Balsan (FNS)	USDA/OCFO	10/1/96 to 9/30/98	FISVIS	$108,424
Jordan Benderly (FNS)	DOJ	10/1/96 to 1/3/97	Financial Crime Enforcement	
Lawrence Blim (FNS)	USDA/OCFO	10/1/96 to 9/30/98	FISVIS/Accounti ng Standards Manual	$77,420
Gail Brown (FNS)	Under Secretary FNCS	10/1/96 to 10/5/97	Deputy Under Secretary Administrative Support	$3,754
Donna Buntrock (FNS)	Under Secretary FNCS	10/1/96 to 2/24/97	Administrative Suppport	
Kathleen Crampton (FNS)	USDA/OCFO	10/1/96 to 9/30/98	FISVIS	$83,316
Daniel Dager (FNS)	Under Secretary FNCS	10/1/96 to 3/24/98	Budget & Legislative Support	$29,120
Dorothy Ford (FNS)	Under Secretary FNCS	10/1/96 to 9/21/97	Legislative Support	
Donna Hines (FNS)	USDA/Office of Comm	10/1/96 to 9/30/97	Americorp Program Activities	
Kelly Jackson (FNS)	Under Secretary FNCS	10/1/96 to 8/9/97	Secretarial Support	$16,698
Sharon Phillips (FNS)	USDA/FSIS	4/21/97 to 1/17/98	Secretarial Support	$21,667
Ismael Tercero (FNS)	DHHS	10/1/96 to 10/13/97	Tribal Health Programs	$40,111
C. Baker (FSIS)	DA: Policy Analysis & Coordination Center.	2/978/97	Honor Awards Ceremony	Agreement developed
D. Barnes (FSIS)	Office of the Secretary	11/954/97	Clerical Support	Unsure if agreement developed Resigned
M. Eldadoky (FSIS)	FAS	3/965/31/98	Food technology support	Detail benefits FSIS
F. Gwozdz (FSIS)	ARS	1/975/98	Staff Assistance	Detail benefits FSIS
A. Kirk (FSIS)	DA: Policy Analysis & Coordination Center.	2/968/97	Clerical Support	Detail benefits FSIS-Resigned
M. Penner (FSIS)	NRCS	12/962/97	Office of Civil Rights Work Group	Detail benefits FSIS
T. Powell (FSIS)	OP	5/12/979/30/97	Clerical Support	Agreement developed
Dawn Frobish (ARS)	USDA-OIRM	8/961/97	Provide fiscal and accounting support	$42,185
Robert Harmon (ARS)	FSIS	7/96—Present	Training and to provide support to Microcomputer Support Section.	$25,613
Eliot Herman (ARS)	National Science Foundation	10/965/97	Cell Biology & Molecular Biology Program Manager to gain skills in competitive grant process.	$64,560
Al Kemezys (ARS)	MAPPS	8/9612/97	Provide support for MAPPS	$75,222
Adrienne Labega (ARS)	Metro Area Reemployment Center	3/97—7/97	Nonreimbursable—medical accommodation	
Carl Momberger (ARS)	MAPPS	11/9610/98	Provide technical expertise on MAPPS	$96,033
Michelle Snowden (ARS)	Purchase Card Implementation Team	4/963/97	Response to an EEO settlement agreement	$62,369
Charlotte Sorrention (ARS)	Office of the Secretary	7/97—Present	Provide administrative support	Reimbursement being requested
James Spurling (ARS)	Under Secretary for Research, Education, and Economics.	8/97—Present	Mission Support	
Linda Wilson (ARS)	MAPPS	Fiscal year 1997	Provide support for MAPPS	

DETAILED FOR MORE THAN 30 DAYS—FISCAL YEAR 1998—Continued

Position/agency	Detailed to	Date/length	Purpose	Reimbursed
Tammara Wright (ARS)	USDAOffice of the Secretary, Civil Rights Task Force.	Fiscal year 1997	Civil Rights Task Force	$21,938
Josephine King (CSREES)	Office of the Secretary	10/969/97	Secretarial Assistance	fiscal year 1997 $38,352 fiscal year 1998 $2,694
John Dunmore (ERS)	FAS	9/962/97	Technical Assistance Turkey	$39,860
Lowell Dyson (ERS)	ARS/NAL	2/97—8/97	File Automation	
Ann Effland (ERS)	USDA Civil Rights Task Force	12/962/97	Civil Rights Task Force	
Audrae Erickson (ERS)	USTR Office of Agricultural Affairs (White House).	3 months	Agricultural Trade	
Paul Flaim (ERS)	President's Council on Sustainable Development (White House).	4 months	White House Committee on Sustainable Development	
Keith Fuglie (ERS)	Council of Economic Advisors White House).	3 months	Senior Economist for Agriculture and Natural Resources	
George Gardner (ERS)	USDA/FAS/ICD	1 year	To work under the Africa RSSA projet	$84,575
Carl Mabbs-Zeno (ERS)	USDA/FAS/ICD	1 year	To work under the African RSSA Project	$119,921
Sara Mazie (ERS)	USDA/REE/OSEC	10/1/96 Present	Mission Support/Budget Coordination	
Sharon Sheffield (ERS)	USDA/FAS	5 months	To provide research and analysis of trade and agricultural policy developments in the countries of the NiS/Baltic region, pertaining to their accession to the WTO.	$40,375
Teri Wray (ERS)	USDA/PACC/MAP	6 months	To serve as Customer Service Liaison, Executive Order on Customer Standards for MAP.	$26,347
Sylvia Magbanua (NASS)	Office of Civil Rights	137 days	Civil Rights training program	
Linda Becker (APHIS)	FSIS	4/97—7/97	Assist with Merit Promotion	$11,409
Phuong Callaway (APHIS)	BAD	7/29/97 to 10/29/97	Learning Assignment	$11,000
Joyce Key (APHIS)	ASA-CRAT	4/14/97–6/6/97	Complaints Backlog	
Craig Lambert (APHIS)	ASA-CRAT	4/1/97 to 7/31/97	Complaints Backlog	
Kevin McGrath (APHIS)	ASA-CRAT	4/14/97 to 5/30/97	Complaints Backlog	
Doris McLaughlin (APHIS)	ASA-CRAT	7/1/97 to 8/31/97	Complaints Backlog	
Linda Moore(APHIS)	ASA-CRAT	6/97—7/97	Environmental Justice/Native American Programs	
Ed Psaltis (APHIS)	ASA-CRAT	4/7/97—8/1/97	Complaints Backlog	
Mary Royster (APHIS)	OHRM	9/1/97 to 10/10/97	Assist with USDA Ethics Program	
Christopher Sikes (APHIS)	ASA-CRAT	4/7/978/1/97	Complaints Backlog	
Joe Taylor (APHIS)	OPPM	2/97 to 9/98	VISA card implementation	
Rosemary Witcoff (APHIS)	ASA-CRAT	9/1/97 to 10/10/97	Complaints Backlog	
Clerance Abrom (GIPSA)	APHIS	92 days	APHIS Medfly	$5,796
Mary Carmouche (GIPSA)	APHIS	95 days	APHIS Medfly	$9,423

Michael Caughlin (GIPSA)	FAS	10/1/96 to 9/30/97	Agribusiness Advisor	$127,000
Stuart Conser(GIPSA)	APHIS	90 days	APHIS Medfly	$9,385
John Cox (GIPSA)	APHIS	115 days	APHIS Medfly	$6,183
William Digdo (GIPSA)	APHIS	86 days	APHIS Medfly	$20,621
Robert Fuller (GIPSA)	APHIS	70 days	APHIS Medfly	$7,438
Michael Haley (GIPSA)	APHIS	116 days	APHIS Medfly	$28,518
Ray Hollis (GIPSA)	APHIS	47 days	APHIS Medfly	$8,820
David Johnson (GIPSA)	APHIS	45 days	APHIS Medfly	$7,817
Roy Johnson (GIPSA)	APHIS	99 days	APHIS Medfly	still on detail
Jeff LaHaie (GIPSA)	APHIS	109 days	APHIS Medfly	$14,117
James Ledoux (GIPSA)	APHIS	103 days	APHIS Medfly	$14,679
Phillip Meachem (GIPSA)	APHIS	63 days	APHIS Medfly	$7,739
William Napoleon (GIPSA)	APHIS	95 days	APHIS Medfly	$17,513
Bradley O'Neal (GIPSA)	APHIS	99 days	APHIS Medfly	$19,294
Wanda Pitiman (GIPSA)	APHIS	88 days	APHIS Medfly	$9,485
Steve Reams (GIPSA)	APHIS	116 days	APHIS Medfly	still on detail
Mark Reimer (GIPSA)	APHIS	88 days	APHIS Medfly	$10,329
Linda Remondet (GIPSA)	APHIS	63 days	APHIS Medfly	$7,537
Larry Rice (GIPSA)	APHIS	91 days	APHIS Medfly	$14,835
Rayfield Riley (GIPSA)	APHIS	63 days	APHIS Medfly	$13,329
Robert Simpson (GIPSA)	APHIS	116 days	APHIS Medfly	$15,908
Howard Suter (GIPSA)	APHIS	92 days	APHIS Medfly	$10,722
Gregory Tomas (GIPSA)	APHIS	54 days	APHIS Medfly	$14,096
Vince Volpe (GIPSA)	APHIS	84 days	APHIS Medfly	$15,747
Dan White (GIPSA)	APHIS	116 days	APHIS Medfly	$17,041
James Winters (GIPSA)	APHIS	84 days	APHIS Medfly	$12,764
George Wright (GIPSA)	APHIS	103 days	APHIS Medfly	$6,574
Marci Hilt (OC)	DA	7 months	Civil Rights Action Team (CRAT)	$50,337
Albert Jaeger (OC)	DA	7 months	G–7 Conference	$66,058
Dale Alling (OCIO)	RHS	180 days	Program Analysis	$30,000
Franklin Johnson (OCIO)	MAP	1 year	TOBI Project	
Chris Arrington (OCFO)	ASA	6 months	Modernization of Admin. Processes project	$19,000
Gary Barber (OCFO)	ASA	6 months	Civil Rights Action Team	
Martha Joseph (OGC)	NRCS	10/1/96 to 3/31/97	Assist with Wetlands Reserve Program	$23,362
Jeff Knishkowy (OGC)	Office of Acting Associate, Assistant Secretary for Administration.	1/13/97 to 1/31/98	Provide assistance to the Civil Rights Action Team to include implementation of recommendations.	
Vincent Vukelich (OGC)	GSA,OGPA	5/5/97 to 9/4/97	Assisting in developing governmentwide guidance regarding implementation of policies in statutes, Executive Orders and regs.	$22,184

DETAILED FOR MORE THAN 30 DAYS—FISCAL YEAR 1998—Continued

Position/agency	Detailed to	Date/length	Purpose	Reimbursed
Joyce Fleishman (OIG)	Department of Transportation Office of the Inspector General.	10/1/96—4/11/97	To serve as Principal Deputy Inspector General for Department of Transportation.	$79,864
Robert Franco (DA)	OPM	2/17/97 to NTE 2 yrs.	Develop SES Recruitment Strategies	$116,495
J. Phelps (DA)	OCFO	4 months	Financial Info. Systems Vision project (FISVIS)	$20,600
Pam Folson (NRCS)	USDA/DAMS	6/29/97—9/3/98	Provides support to the Office of the Senior Policy Advisor for Service Implementation and to serve on Team I of the Admin. Convergence.	$37,417
Lois Loser (NRCS)	USDA/NSD	9/29/97 6/20/98	Provides technical support and is Acting Branch Chief	$68,032
Robert Reaves (NRCS)	USDA/Department Administrative Management Service.	6/22/97 3/1/98	Provide leadership and direction to staff, assign work, set goals, participates in Departmentwide and Government-wide multi-organization project.	$43,427
John Sutton (NRCS)	FAS/ICD/DRD	8/21/97 8/31/99	Detailed to Acting Chief NTE 2 years	$95,529
C. Bailey (FS)	Office of the Secretary	3/27/97 to 9/30/97	Civil Rights Action team	
C. Brannon (FS)	Office of the Secretary	4/1/97 to 6/30/97	Civil Rights Action Team	
A. Brown (FS)	Office of the Chief Financial Officer	10/1/96 to 9/30/97	FS Liaison	$69,000
J. Dudley (FS)	Modernization of Administrative Processes.	10/1/96 to 9/30/97	FS Liaison	$95,266
M. Fletcher (FS)	Office of the Secretary	4/1/97 to 6/6/97	Civil Rights Action Team	
C. Franz (FS)	Modernization of Administrative Processes.	10/1/96 to 9/30/97	FS Liaison	$86,000 est.
J. Frey (FS)	Office of the Secretary	7/1/97 to 8/8/97	Civil Rights Action Team	
D. Gentry (FS)	Office of the Secretary	8/4/97 to 9/30/97	Civil Rights Action Team	
L. Goldman (FS)	Office of the Secretary	4/1/97 to 6/30/97	Civil Rights Action Team	
R. Grand (FS)	Natural Resources and Environment	3/16/97 to 8/8/97	FS Laison	
S. Hague (FS)	Natural Resources and Environment	2/2/97 to 9/30/97	FS Laison	
M. Hamilton (FS)	Office of the Secretary	7/1/97 to 9/30/97	Civil Rights Action Team	
T. Harwood (FS)	Hazardous Waste Management	1/5/97 to 9/30/97	FS Liaison	$81,734
F. Johnson (FS)	Office of Information Resource Management.	10/1/96 to 11/24/96	Computer Specialist	
J. King (FS)	Office of the Chief Financial Officer	10/1/96 to 9/30/97	FS Liaison	$86,000
S. McCourt (FS)	Natural Resources and Environment	10/1/96 to 3/14/97	Communications Liaison	
B. McDonald (FS)	Office of the Secretary	6/1/97 to 8/31/97	Civil Rights Action Team	
S. Medlyn (FS)	Publice Affairs Specialist	10/1/96 to 12/7/96	Office of Communication	
J. Morris (FS)	Office of the Secretary	4/1/97 to 7/19/97	Civil Rights Action Team	
Z. Okrak (FS)	Office of the Chief Financial Officer	10/1/96 to 9/30/97	FS Liaison	$72,000
B. Preston (FS)	Natural Resources and Environment	10/1/96 to 9/30/96	FS Liaison	

C Pytel (FS)	Assistant Secretary (ADM)	3/16/97 to 9/30/97	Acting Deputy Assistant, Secretary for Administration	$70,563
G. Renteria (FS)	Office of the Secretary	6/2/97 to 8/1/97	Civil Rights Action Team	
V. Ross (FS)	Office of the Secretary	3/27/97 to 9/30/97	Civil Rights Action Team	
S. Segovia (FS)	Office of the Secretary	7/1/97 to 9/30/97	Civil Rights Action Team	
G. Sundstrom (FS)	Hazardous Waste Management	10/1/96 to 9/30/97	FS Liaison	$83,544
T. Sherwood (FS)	Office of the Chief Financial Officer	10/1/96 to 9/30/97	FS Liaison	$56,000
F. Shon (FS)	Office of the Secretary	3/27/97 to 6/27/97	Civil Rights Action Team	
P. St. Peter (FS)	Office of the Secretary	7/1/97 to 11/21/97	Civil Rights Action Team	
D. Stennis (FS)	Office of the Secretary	4/1/97 to 7/19/97	Civil Rights Action Team	
L. Turner (FS)	Natural Resources and Environment	10/1/96 to 7/17/97	Support	$15,000
B. Velde (FS)	Hazardous Waste Management	9/30/97	FS Liaison	$93,909
K. Waldvogel (FS)	Hazardous Waste Management	10/1/96 to 9/30/97	FS Liaison	$79,239
M. Warren (FS)	Natural Resources and Environment	10/1/96 to 11/8/96	Support	$4,127
S. Yaddof (FS)	Coop. State Research, Educ. and Ext. Srvc..	5/1/97 to 9/30/97	Support	$31,000
J. Zeller (FS)	Office of the Secretary	7/7/97 to 8/23/97	Civil RightsAction Team	
Reginald Pasteur (AMS)	ASA-CRAT	3/974/97	Complaints Backlog	
Charles Rush (AMS)	FAS	6/30/97 to 7/29/97	Career Enhancement opportunity	
Judy Hawkins (GIPSA)	APHIS	29 days	APHIS Medfly	$2,929
Kenny Layne (GIPSA)	APHIS	28 days	APHIS Medfly	$2,827
Lynn Luster (GIPSA)	APHIS	28 days	APHIS Medfly	$3,078
Robert Starr (GIPSA)	APHIS	30 days	APHIS Medfly	$4,263
Lauretta Miles (OIG)	USDA/Office of Small and Disadvantaged Business Utilization.	10/14/97 11/14/97	To provide 30-day detail assignment to perform clerical and administrative duties.	
Ghulan Sambal (RHS)	Office of the Secretary, Assistant Secretary for Administration.	30 days	Civil Rights Implementation Team (CRIT)	
Cherry Smith (RHS)	Office of the Secretary, Assistant Secretary for Administration.	21 days	Civil Rights Implementation Team (CRIT)	
Vermell Wheeler (RHS)	Office of the Secretary, Assistant Secretary for Administration.	30 days	Civil Rights Implementation Team (CRIT)	
Jada Johnson (FNS)	OSEC	1/21/97—2/21/97	Secretarial Support	
G. Crawley (FS)	Office of the Secretary	6/1/97 to 6/30/97	Civil Rights Action Team	
J. Comanor (FS)	Natural Resources Conservation Services	9/1/97 to 9/30/97	Support	
G. Dyer (FS)	Office of the Secretary	6/1/97 to 6/3/97	Civil Rights Action Team	
S. Dykes (FS)	Office of the Secretary	4/28/97 to 5/25/97	Civil Rights Action Team	
G. Edmondson (FS)	Assistant Secretary, ADM	10/1/96 to 12/26/96	Support	
J. Gavin (FS)	Office of the Chief Information Office	9/29/97 to 9/30/97	Support	
N. Hall (FS)	Office of the Secretary	3/24/97 to 4/18/97	Civil Rights Action Team	
S. Hooper (FS)	Office of the Secretary	3/27/97 to 3/31/97	Civil Rights Action Team	
L. Lewandowski (FS)	Policy Analysis and Coordination Center	10/1/96 to 10/31/96	Purchase Card Automation Project	

DETAILED FOR MORE THAN 30 DAYS—FISCAL YEAR 1998—Continued

Position/agency	Detailed to	Date/length	Purpose	Reimbursed
L. Lewandowski (FS)	Policy Analysis and Coordination Center	3/3/97 to 3/31/97	Purchase Card Automation Project	
L. Peressini (FS)	Office of the Secretary	6/1/97 to 6/30/97	Civil Rights Action Team	
C. Reynolds (FS)	Office of the Secretary	5/1/97 to 5/30/97	Civil Rights Action Team	
S. Risbrudt (FS)	Office of the Secretary	10/1/96 to 10/18/96	Support	
J. Synder (FS)	Natural Resources and Environment	10/1/96 to 10/31/96	Support	
J. Synder (FS)	Office of the Deputy Secretary	11/1/96 to 11/12/96	Support	
M. Warren (FS)	Natural Resources and Environment	9/29/97 to 9/30/97	Support	
J. Worley (FS)	Office of Civil Rights	10/1/96 to 10/31/96	Support	
J. Zeller (FS)	Office of the Secretary	9/15/97 to 9/30/97	Civil Rights Action Team	

Question. Provide a list of advisory committees, panels, commissions and task forces funded in each of fiscal years 1998, 1999 (planned) and 2000 (planned), by agency, and the amount of funds allocated for each.

Answer. I am providing a table that lists planned activities funded in fiscal year 1998 and fiscal year 1999, and proposed activities as well as assumed funding for fiscal year 2000.

Question. Please provide a list of the advisory committees, panels, commissions and task forces proposed to be funded for fiscal year 2000, by agency, and the amount of funds assumed for each.

Answer: Information on the fiscal year 2000 costs of these committees was provided in response to question 61.

[The information follows:]

USDA ADVISORY COMMITTEES

Committee Title	Fiscal Year 1998	Fiscal Year 1999	Fiscal Year 2000
FOOD, NUTRITION AND CONSUMER SERVICES			
National Advisory Council on Maternal, Infant and Fetal Nutrition	$30,000	$50,000	$50,000
FOOD SAFETY			
National Advisory Committee on Meat and Poultry Inspection.	49,318	60,000	64,000
National Advisory Committee on Microbiological Criteria for Foods	36,000	75,000	40,000
Total, Food Safety	85,318	135,000	104,000
RESEARCH, EDUCATION AND ECONOMICS			
Forestry Research Advisory Council	21,862	25,100	26,100
National Agricultural Research, Extension, Education, and Economics Advisory Board	252,430	[1]	[1]
Strategic Planning Task Force on Research Facilities	148,367	64,050	.....
USDA/Hispanic Association of Colleges and Universities	11,750	18,900	19,500
USDA/American Indian Higher Education Consortium	.....	57,800	59,000
Subtotal, CSREES	434,409	165,850	104,600
National Genetic Resources Advisory Council.	14,950	16,000	16,500
Dietary Guidelines Advisory Committee.	10,206	123,600	123,600
Subtotal, ARS	25,156	139,600	140,100
Census Advisory Committee on Agriculture Statistics	34,647	25,000	26,000
Total, REE	494,212	330,450	270,700
MARKETING AND REGULATORY PROGRAMS			
Advisory Committee on Foreign Animal and Poultry Diseases	17,457	21,000	18,900
General Conference Committee of the National Poultry Improvement Plan	.....	11,300	9,930
National Wildlife Services Advisory Committee (formerly the National Animal Damage Control Advisory Committee)	17,490	118,100	18,100
Subtotal, APHIS	34,947	50,400	46,930
National Organic Standards Board	27,781	50,000	50,000

USDA ADVISORY COMMITTEES—Continued

Committee Title	Fiscal Year 1998	Fiscal Year 1999	Fiscal Year 2000
Federal Grain Inspection Advisory Committee	25,113	30,000	31,000
Total, MRP	87,841	130,400	127,930
FARM AND FOREIGN AGRICULTURAL SERVICES			
Agricultural Policy Advisory Committee for Trade	14,120	14,120	14,120
Ag. Tech. Adv. Comm. For Trade in:			
—Animal & Animal Products	14,110	14,110	14,110
—Fruits and Vegetables	14,110	14,110	14,110
—Grains, Feed, and Oilseeds	14,110	14,110	14,110
Sweetners and Sweetner Products	14,110	14,110	14,110
Tobacco, Cotton, and Peanuts	14,110	14,110	14,110
Emerging Markets Advisory Committee	14,000	14,000	32,700
Edward R. Madigan Agricultural Export Excellence Award Board		14,110	15,000
Subtotal, FAS	98,670	112,780	132,370
National Drought Policy Commission		443,000	157,000
Advisory Committee on Beginning Farmers and Ranchers		26,640	28,000
National Drought Policy Commission		443,000	157,000
Advisory Committee on Risk Management		60,000	60,000
Subtotal, RMA		503,000	217,000
Total, FFAS	98,670	642,420	377,370
NATURAL RESOURCES AND ENVIRONMENT			
Task Force on Agricultural Air Quality Research	42,000	50,000	50,000
National Commission on Small Farms	58,400	36,000	25,000
USDA/1890 Task Force	4,000	15,000	15,000
Total, NRE	104,400	101,000	90,000
OFFICE OF THE CHIEF ECONOMIST			
Commission on 21st Century Production Agriculture	17,205	275,000	275,000
DEPARTMENTAL ADMINISTRATION			
Secretary's Small Business Advisory Committee		30,000	25,000
Subtotal, Advisory Committees.	917,646	1,694,270	1,320,000
Contingencies/Reserve	82,354	105,730	480,000
TOTAL, ADVISORY COMMITTEES	1,000,000	1,800,000	1,800,000

[1] The Agriculture Research, Extension, and Education Act of 1998, Public Law 105–185, exempts this committee from the USDA Advisory Committee limitation.

USDA ADVISORY COMMITTEES FUNDED FROM FOREST SERVICE

Committee Title	Fiscal Year 1998	Fiscal Year 1999	Fiscal Year 2000
Blue Mountains	$11,750	$11,750	([1])
Allegheny National Forest:			
—Northern	250	250	([1])

USDA ADVISORY COMMITTEES FUNDED FROM FOREST SERVICE—Continued

Committee Title	Fiscal Year 1998	Fiscal Year 1999	Fiscal Year 2000
Southern	250	250	(1)
California Spotted Owl Federal Advisory Board	27,333		(1)
Committee of Scientists	297,757	14,400	(1)
Committee of State Foresters	13,550		(1)
Intergovernmental Advisory Committee to the Regional Interagency Executive Committee	158,265	158,265	(1)
Lake Tahoe Basin Advisory Committee.		20,000	(1)
National Urban and Community Advisory Committee.	197,691	131,000	(1)
Provincial Interagency Executive Committee Advisory Committee.	713,299	749,825	(1)
Wildcat River Advisory Committees:.			
Brule River Study Committee			(1)
Carp River Study Committee			(1)
Little Mainstee River Study Committee			(1)
Ontonagon River Study Committee			(1)
Paint River Study Committee			(1)
Preque Isle River Study Committee			(1)
Tahquamenon River Study Committee			(1)
Sturgeon River (Ottawa National Forest) Study Committee			(1)
Sturgeon River (Hiawatha National Forest) Study Committee			(1)
Whitefish River Study Committee			(1)
White River Study Committee			(1)
TOTAL FOREST SERVICE	1,420,145	1,085,740	(1)

[1] Data not currently available. USDA ADVISORY COMMITTEES FUNDED FROM USER FEES

USDA ADVISORY COMMITTEES FUNDED FROM USER FEES

Committee Title	Fiscal Year 1998	Fiscal Year 1999	Fiscal Year 2000
Advisory Committee on Universal Cotton Standards	$34,500	$11,000	$11,000
Burley Tobacco Advisory Committee	30,543	41,712	41,712
Flue-Cured Tobacco Advisory Committee	27,583	36,453	36,453
National Advisory Committee for Tobacco Inspection Services	37,531	46,341	46,341
Plant Variety Protection Advisory Board.		14,800	14,800
TOTAL, USER FEES.	130,157	150,306	150,306

QUESTIONS SUBMITTED BY SENATOR GORTON

DISASTER ASSISTANCE

Question. Last year, Congress provided nearly $6 billion in agriculture relief in the form of payments to farmers due to disaster and poor foreign market conditions. What, in the President's budget, assures us that another disaster package won't have to be established again this year?

Answer. Last year's assistance package is helping to maintain farm income and limiting financial hardship for many producers. At least in the short term, prices are too low for farmers to make a decent living without additional government support beyond what is provided for in the Farm Bill. Unfortunately, exports and prices will probably remain at low levels in 1999, causing increased farm financial stress, and family farmers may need additional financial support. More money will be needed in 1999 to provide direct and guaranteed loans. Funds are nearly exhausted for

some key credit programs, and we will be submitting a request for supplemental funds soon.

With regard to the budget for fiscal year 2000, our request was formulated in the context of continued constraints on Federal spending under the Balanced Budget Act of 1997, and thus reflects some difficult choices. We recognize recovery will occur at a very gradual pace over the next several years, and we are committed to making the utmost use of available authorities and program resources to help producers through these tough times. And we are committed to working to strengthen the farm safety net to help farmers prosper in good times and bad without the need for repeated *ad hoc assistance.*

Question. What in this budget provides what you've referenced as a 'safety net' for farmers?

Answer. While improvements to the crop insurance program are key to strengthening the safety net, the budget provides for a broad range of programs which help farmers manage risk. We are requesting significant levels of funding for commodity, credit, insurance, and export programs. Each of these programs, as well as many programs in the other mission areas of the Department, contributes significantly to the safety net for farmers and ranchers.

EXPORTS

Question. Farmers in the State of Washington rely heavily on export for survival, and in the past year, most national farm organizations have made it quite clear that in order to increase the prices paid for U.S. commodities, additional markets and more avenues for exports need to be available. Why then, has the Administration cut export programs?

Answer. During the past year, USDA has responded vigorously and creatively to developments in world financial and commodity markets. As a result, the level of programming for many of our export activities has increased substantially. For example, in response to the financial crisis in Asia, USDA expanded the level of CCC export credit guarantees made available. As a result, sales registrations under the guarantee programs were 40 percent higher during 1998 compared to the previous year. The expanded level of guarantee programming is expected to continue in both 1999 and 2000.

This fiscal year, USDA has greatly expanded the level of foreign food assistance programming, and the overall level of U.S. foreign food assistance will total as much as 10 million metric tons this year. This increase results from the President's Food Aid Initiative under which 5 million metric tons of wheat and wheat products will be made available to needy countries. It also reflects a major package of food assistance for Russia which will total more than 3.1 million metric tons, including 1.5 million metric tons of wheat to be made available under the President's Food Aid Initiative.

These actions demonstrate that the Department is responding to changing conditions in overseas markets and is applying resources as needed to maintain access to those markets. Although the budget shows a reduction in the overall program level for USDA international activities in 2000, this is primarily due to the sizeable increase in food aid programming during 1999. For 2000, the budget assumes food aid programming will return to a more traditional level. On the other hand, the 2000 budget provides a total program level of $6.5 billion for USDA international activities; this is considerably higher than the actual level for 1998 of $5.7 billion. Thus, the program level for 2000 is approximately $800 million above the level of just last year.

Question. What are USDA's plans for increasing foreign markets for U.S. commodities?

Answer. USDA is committed to moving forward with greater reform in world agricultural trading practices in the next round of world trade talks which is set to begin later this year. Our goals for the upcoming WTO negotiations include: elimination of export subsidies; substantially cutting, and where possible eliminating, tariffs on farm products; tightening rules on domestic subsidies; reforming state trading enterprises, and tightening rules on technical barriers that unjustifiably restrict trade. In addition, we will continue to work to resolve the contentious bilateral trade issues that hinder our exports, such as the EU ban on U.S. beef, restrictive Canadian import policies for livestock and wheat, and unfair Chinese restrictions on U.S. wheat.

In addition to the export credit guarantee and foreign food assistance activities mentioned above, USDA continues to carry out other important export promotion and market development programs, including the Foreign Market Development Cooperator Program and the Market Access Program. For 2000, the budget proposes

the implementation of two new market development activities. The first is a program of Reverse Trade Missions which will bring buying missions of foreign importers, retailers, and trade officials to the United States to orient them on the quality and diversity of U.S. agricultural products. The second is a new Quality Samples Program under which samples of U.S. agricultural products will be provided to foreign importers to promote a better understanding and appreciation of their high quality.

REGIONAL RESEARCH PROGRAMS

Question. For the past three years, all regional research programs have been eliminated in the President's budget. Explanations in the past have noted that these programs are zeroed out in order to focus on 'national research programs of significance'. What research programs are considered 'national research programs of significance'?

Answer. The Fiscal Year 2000 Budget Request for the Cooperative State Research, Education, and Extension Service (CSREES) reflects the Administration's commitment to improving the science base for agriculture through the competitive grants programs of the National Research Initiative and targets high priority activities such as small farms, water quality, food safety, sustainable agriculture, global change, and improved pest control programs. In keeping with the Administration's goal to focus on these high priority research programs, projects earmarked for specific institutions were proposed for elimination. Alternate funding from formula programs, State and local governments, and private sources could be use to support aspects of this program deemed to be of a high priority at State and/or local levels.

FOOD SAFETY

Question. I understand that the Food Safety and Inspection Service has announced a plan to test moving their food inspectors out of the Federal slaughter and processing plants and moving them into retail such as into grocery stores. Grocery stores are already under inspection by FDA and the State and local public health departments. This doesn't seem very efficient or productive given that other areas are in greater need of food safety inspection. For example, I understand that there is a greater need for inspection at ports of entry instead of in grocery stores. Does the budget for USDA reflect FSIS' desire to implement such a program in grocery stores, or does USDA intend on focusing on the problems surrounding some imported foods?

Answer. The 2000 budget for the Food Safety and Inspection Service (FSIS) includes an increase of $10.8 million to help the FSIS inspection workforce make the transition to a new Hazard and Analysis and Critical Control Point (HACCP) environment, including the conversion of 638 positions to Consumer Safety Officers. In these new positions, inspection personnel will be responsible for conducting scientific testing and inspections throughout the farm-to-table continuum. FSIS intends to redistribute its resources in ways that permit FSIS to more efficiently and effectively verify that the industry meets its responsibility to produce safe and wholesome products. Some personnel will be redeployed to cover critical inspection vacancies in very small establishments. If it appears that inspection sources should be increased at import re-inspection locations, FSIS managers will assign personnel as needed.

FOOD QUALITY PROTECTION ACT

Question. A consistent concern relayed to me by the agriculture community in Washington state is the implementation of the Food Quality Protection Act and USDA's involvement with EPA. How has USDA been working in conjunction with EPA and what are the Department's predictions regarding implementation and the potential loss of tools necessary for production?

Answer. We have established a close working relationship with EPA. One of the most important procedures that we have established with EPA involves the development of Transition Strategies. When final risk assessments indicate that a chemical or a use of a chemical must be canceled to meet the stringent new FPA standards, USDA will take the lead in the development of the Transition strategies. These strategies will be developed in partnership with EPA and with broad stakeholder involvement. We are doing our best to meet our regulatory obligations under FQPA while making sure that we have the pest control tools necessary for production.

QUESTIONS SUBMITTED BY SENATOR BURNS

E. COLI TESTING

Question. FSIS has been testing ground beef for E. coli 0157:H since 1996. Out of 26,088 samples, they have found only 25 positive. How much is it costing USDA to look for something they only find 0.09 percent of the time, or less than once in every one-thousand samples tested? None of these samples were connected to an outbreak or illness-so what is the value of this testing?

Answer. The Food Safety and Inspection Service (FSIS) spends approximately $10.4 million per year on testing meat and poultry products for 9 potentially deadly pathogens, including E. coli O157:H7, Salmonella, Campylobacter, and Listeria. The testing program for E. coli O157:H7 began after the tragic outbreak of foodborne illness associated with this pathogen in the State of Washington. USDA estimates that over 10,000 illnesses per year result from consuming foods contaminated with E. coli O157:H7. As the Washington outbreak demonstrated, the most susceptible to this pathogen include children, the elderly, and the immune compromised. Testing programs like that for E. coli O157:H7 assists us in controlling deadly pathogens by identifying contaminated product in time to remove it from the market before it can cause foodborne illness.

Question. Most of these 26,000+ samples were collected from grocery stores. How can testing at grocery stores for E. coli 0157:H7 or any pathogen contribute to the protection of the public's health if the consumer has already eaten the food by the time you get test results back?

Answer. The testing program is targeted to detect contamination problems at the retail level, because many retail stores further process ground beef after receiving it from a federally inspected facility. Detection and removal of pathogen-contaminated foods at any point of distribution will serve to protect the public from foodborne illness. In addition to removing contaminated product from the market, knowledge of food contamination problems promotes corrective actions on the part of producers, and serves to prevent future foodborne health hazards.

Question. Shouldn't the testing be done before the food reaches the stores?

Answer. Currently, the FSIS collects approximately 60 percent of the samples from retail stores and approximately 40 percent of the directly from processing plants. Further, FSIS conducts a variety of monitoring programs for several foodborne pathogens in ready-to-eat products, and all of these monitoring samples are collected at the processing plant level prior to distribution at the retail level.

Question. FSIS has announced a plan to test moving food inspectors out of the Federal slaughter and processing plants and moving them into retail such as into grocery stores. Grocery stores are already under inspection by FDA and the State and local public health departments. This doesn't seem efficient or productive given the other areas are in greater need of food safety inspection. For example, Senator Collins and the Government Accounting Office have identified a real need for increased inspection of imported foods at the ports of entry. Why not put these inspectors there is a need rather than where you will just be duplicating effort?

Answer. Traditionally, FSIS has assigned the great majority of its resources to inspection activities within slaughter and processing plants. Consistent with the modernization and farm-to-table initiatives, FSIS intends to redistribute its resources in ways that permit FSIS to more efficiently and effectively verify that the industry meets its responsibility to produce safe and wholesome products. If it appears that inspection resources should be increased at import re-inspection locations, FSIS managers will assign personnel as needed.

Question. Do you have any data to show that grocery stores need more inspection that imported foods?

Answer. FSIS is developing a plan for redeploying some inspectors currently assigned within establishments to monitor, sample, and verify the safety and wholesomeness of meat and poultry in the storage, transportation, and retail sale stages of the food production chain. FSIS has held a number of public meetings to gain input from the public on the plan and proposed inspection models. Once the plan is pilot tested and evaluated, FSIS will share the results with the public. The Agency will not make any changes to inspection procedures until it has adequate data, public input and has completed a thorough rulemaking process. If it appears that inspection sources should be redeployed differently, FSIS managers will assign personnel as appropriate.

Question. Recently there have been several errors made by FSIS in relation to its testing program and recalls. For example, there was a recall that may have actually been a mistake since the laboratory in Florida could not "find" the E. coli 0157:H7 after they said it was in the meat: in another case, FSIS issued a press release list-

ing the wrong products, telling consumers to return products that were not even contaminated to their grocery stores. Most recently, FSIS issued a "policy clarification" that literally backfired—it had the opposite effect of making industry abandon E. coli testing programs that were designed to protect the consumer. What are your plans for addressing these problems?

Answer. We are working closely with the industry to ensure that the implementation of the E. coli O157:H7 testing program is accurate and effective in improving the safety of the products we regulate.

YELLOWSTONE BISON

Question. APHIS has continued to promote a "low-risk definition" was regards to bison from Yellowstone National Park which migrate into Montana. The definition has not been agreed upon by the State of Montana due to APHIS's lack of willingness to get the U.S. Animal Health Association's (USAHA) concurrence on the definition or to agree to financially compensate producers if restrictions are placed on the movement of Montana livestock as a result. How does USDA plan to address the issue of "low-risk definition"?

Answer. In a collaborative effort between the National Park Service and APHIS, the low-risk bison definition was developed in the interest of minimizing lethal control of bison while obtaining the optimum safe balance between maintaining a viable bison herd in the Park and protecting Montana cattle from the threat of brucellosis. Since the original definition was proposed, additional data has been collected from the Yellowstone bison which provides new information about the risk of brucellosis in bison. In light of this data, we plan to meet with representatives of the National Park Service and the Montana Department of Livestock to determine whether the definition of low-risk needs amending. If the definition is amended, the revised definition will then be presented to USAHA for consideration. APHIS remains committed to working cooperatively with the State of Montana and other cooperative agencies towards a resolution of the brucellosis problem in Yellowstone National Park.

BRUCELLOSIS

Question. Does APHIS still support the goal of eradicating brucellosis nationally and what role do the State veterinarian play in this goal?

Answer. APHIS has a firm continued commitment to eradicating brucellosis caused by *Brucella abortus* in the United States. In 1997, an Emergency Action Plan (EAP) for brucellosis was initiated. According to the EAP, all activities involving brucellosis surveillance and management of new cases are conducted as an emergency action. Personnel and fiscal resources are made available where needed to achieve the goal of eradication. The EAP is still in place, and APHIS continues to actively pursue elimination of the disease.

The Brucellosis Eradication Program in the United States has been a State-Federal cooperative program, and State Veterinarians have worked with APHIS to eradicate brucellosis in their states. State veterinarians have the responsibility of protecting the health of livestock in their state, and they may take whatever additional steps they feel are necessary, beyond those set as minimum standards in the Brucellosis Uniform Methods and Rules, to ensure the health of livestock in their state.

Question. We understand Federal officials are considering the relocation of disease-exposed bison from Yellowstone National Park to the State of South Dakota or the Congressional delegation of South Dakota about this proposal?

Answer. APHIS is not aware of any plans to relocate disease-exposed bison from Yellowstone National Park to South Dakota. In addition, APHIS would be opposed to any such action, unless the bison had completed a quarantine and testing protocol as outlined for the Bison Quarantine Facility in the Brucellosis Uniform Methods and Rules, and the above named officials had been notified and approved of the legal movement of these animals.

WILDLIFE TRANSMISSION OF DISEASE

Question. How does the USDA look to address the issue of wildlife transmission of diseases to domestic livestock?

Answer. APHIS is working cooperatively with State and Federal wildlife agencies to investigate, study, and evaluate disease conditions in wildlife; to conduct risk analyses to determine the risk to domestic species and other wildlife populations; and to conduct pathological studies in wildlife populations. Recent examples of wildlife disease conditions in which APHIS has been involved include tuberculosis in white-tailed deer in Michigan; brucellosis in feral swine and the bison of Yellow-

stone National Park; chronic wasting disease in elk; and VVND in cormorants. State wildlife agencies have expressed an interest in APHIS providing assistance in disease management issues (including disease surveillance and diagnostic support) involving wildlife and advice in handling wildlife infected with zoonotic diseases.

Question. Are there currently any discussions between the Department of the Interior and USDA to address this issue in the coming years, due to the increased amount of land that the Federal Government is managing in addition to the increased numbers of wildlife having interaction with domestic livestock in these areas?

Answer. Discussions are ongoing with the Department of Interior (DOI) to address wildlife issues. APHIS, the Agricultural Research Service (ARS), and DOI are working collaboratively to determine and prioritize research needs in the area of wildlife disease management. APHIS also works with the DOI's Natural Park Service in the management of brucellosis-affected and exposed bison in Yellowstone National Park and DOI's Bureau of Land Management (BLM) in the management and capture of wild horse on BLM land. APHIS provides veterinary advice for the BLM program in which wild horses are captured from 10 states and provided for adoption. APHIS will continue to work with DOI on collaborative efforts regarding the disease management of wildlife.

CANADIAN COMPLIANCE WITH LIVESTOCK TESTING

Question. A number of international trade disparities exist, among them unfair testing requirements on livestock for diseases like brucellosis, anaplasmosis, bluetongue, vesicular stomatitis and tuberculosis between the U.S. and Canada. What does USDA plan to do about Canadian compliance on livestock testing?

Answer. We appreciate the opportunity to clarify this issue. Differences in animal health status between the United States and Canada do exist and offer legitimate reasons for requiring testing and/or certifications. Canada is free of 4 of the diseases including brucellosis, anaplasmosis, bluetongue, and tuberculosis, while the United States is not free of these diseases. Canada's import requirements for these diseases are in accord with the international standards, which is the OIE International Animal Health Code. There are no requirements for vesicular stomatitis testing for livestock exports to Canada.

The United States continues to work with Canada to eliminate as many animal health requirements as possible. In December 1998, the two countries reached an agreement that addressed several animal health issues. In this agreement, Canada confirmed that 26 states are eligible for consideration under the restricted feeder cattle requirements. Information on participation in this program was sent to all the states. Another significant point in the agreement was Canada's commitment to amend their animal health regulations to allow for recognition of regions or zones. This will allow for recognition of States that are free of certain diseases such as tuberculosis or bluetongue. Canada will need to revise their regulations to do this. Canada has committed to completing the regulatory process within 2 years.

EU BAN ON U.S. BEEF EXPORTS

Question. Another major livestock concern is the non-scientific trade barriers the EU has employeed to ban U.S. beef and their non-compliance with the WTO. What role will the USDA take in encouraging the EU to comply with WTO rules. Additionally, if they will not comply what will the USDA do to make certain the EU takes the United States seriously as a trading partner?

Answer. The United States has strongly indicated to the EU that we expect the EU to comply with the WTO rulings on the Hormones case by the May 13 deadline. We have emphasized to the EU the importance of this issue to our beef industry as well as to the integrity of the WTO SPS Agreement. The European Commission has adopted a "Communication on Options Regarding the WTO Decision on the EU Hormone Ban". We view this paper as a positive move on the part of the Commission, and were encouraged to see that one of the options put forward was the removal of the ban coupled with a suitable labeling scheme. To that end, Ambassador Barshefsky and Secretary Glickman proposed a beef labeling system to the EU as a way of resolving this issue. We will work with the EU on resolving this issue, and will be prepared to take the necessary action if an acceptable resolution is not reached.

EXPORT RESTRICTIONS

Question. Restrictions on the export of agricultural commodities should be eliminated except in extreme cases of war or multi-national security. Non-tariff trade barriers and those that are not scientifically based must be removed in order for

the U.S. to compete in the world market. What will USDA do to ensure the U.S. remains a viable trading partner?

Answer. The Administration has made clear that commercial exports of food and other human necessities should be excluded from future unilateral sanctions as a matter of general principle and is in support of legislation to accomplish that goal. With regard to lifting current sanctions, the Administration is considering a recent request for export of agricultural commodities to Iran. Commercial and foreign policy considerations are being assessed as the decision-making process moves forward. Recently, the Administration took a modest first step to lift sanctions on the sale of "foodstuffs" to private entities in Cuba. USDA will continue to work within the Administration to support the lifting of unilateral sanctions on food where this step is appropriate.

USDA, working with the Office of the U.S. Trade Representative (USTR), the Department of State and other U.S. governmental agencies, actively monitors our trading partners' technical standards to assure that they comply with international agreements. Technical issues, such as sanitary and phytosanitary (SPS) standards, are discussed in bilateral and multilateral fora and are generally resolved at either the technical or political level depending on the issue.

The Department's SPS Technical Working Group meets every week to document new issues and to receive updates on outstanding barriers that either threaten or are currently impeding U.S. agricultural exports. Most of the issues addressed by the group are highly technical and require follow-up by subject experts from various regulatory agencies. For example, the TWG was actively involved in resolving Egypt's proposed mandatory pre-shipment testing and certification program for apples that would have slowed U.S. apple exports to this small, but growing market. In contrast, high profile and time-sensitive technical issues that can have a significant impact on trade, such as Mexico's proposed rule on avian influenza, are normally dealt with outside of the TWG and are elevated to higher levels within the Department.

STATE TRADING ENTERPRISES

Question. U.S. producers are concerned that the Canadian Wheat Board (CWB) is unfairly subsidizing its farmers and thus presenting them with an unfair advantage in the world market. State Trading Enterprises undercut competitors without concern for profit or loss and thus produces inefficiencies, distorts trade and diminishes prices for all producers. What will USDA do to eliminate State Trading Enterprises?

Answer. We are considering several approaches for dealing with exporting STEs in the next round of WTO agriculture negotiations, including increasing the transparency of STE operations and expanding competition by seeking the removal of statutory monopoly export authority and statutory monopsony purchasing authority. Additionally, as countries agree to open their markets to imports, importing State Trading Enterprises have also come under increased scrutiny. While the importing STEs in many cases are among our best customers, the ability of importing countries to use control over their STEs to restrict imports is a serious issue that must also be addressed through the WTO.

CANADIAN PESTICIDE ADVANTAGES

Question. Sanitary and Phytosanitary Standards have long been a point of contention between the United States and Canada. While Canadian producers are allowed to use certain chemicals on their commodities and market them in the United States, U.S. producers are not allowed to even purchase those same chemicals. What action does USDA plan to take to ensure American producers have the same advantages as Canadian producers?

Answer. In the December 4, 1998 Record of Understanding between the United States and Canada, both sides agreed to meaningful commitments to help level the playing field on chemical use. Details on the Action Plan for Pesticide Trade Issues will be submitted for the record.

In addition, USDA has coordinated with FDA and EPA to respond to claims by U.S. producers regarding Canadian wheat entering the United States with prohibited chemical residues. As a result, FDA and EPA have researched the registration and monitoring status of 22 chemicals of concern. FDA has agreed to collect 30 samples of Canadian wheat entering the United States and evaluate them for residues of all chemicals it has the ability to test for. The data, which should be available in 2–3 months, will indicate whether additional monitoring of Canadian wheat is warranted.

[The information follows:]

U.S. Canada Record of Understanding Action Plan for Pesticide Trade Issues

The U.S. Environmental Protection Agency (EPA) and the Canadian Pesticide Management Regulatory Agency (PMRA) will work with growers and registrants in both countries to accelerate bilateral harmonization using the five year North American Initiative developed by the NAFTA Technical Working Group on Pesticides as the framework. As a result of these efforts, there will be great potential for faster and simultaneous access to a wider range of pest control products for both major and minor crops in both countries. However, the success of this initiative hinges on the full and active participation of growers and registrants in both countries.

EPA and PMRA will continue to cooperate with respect to U.S. implementation of the Food Quality Protection Act.

EPA and PMRA are committed to work together to develop a harmonized policy for movement of treated seeds by December 1999.

EPA and PMRA will investigate mechanisms to improve links with state/provincial/territorial officials as a way of providing improved information sharing and a heads up mechanism for potential pesticide/trade issues.

Canadian canola growers have requested Canadian registrants to agree voluntarily to remove canola/rapeseed claims from labels of registered canola seed treatments containing lindane by December 31, 1999. All commercial stocks containing lindane for use on canola and lindane treated canola seed would not be used after July 1, 2001. This is contingent on registrants requesting voluntary removal. EPA, PMRA, growers and registrants will continue to work together to facilitate access to replacement products.

For those specific canola registration reviews undertaken by the EPA on an accelerated basis, EPA and the PMRA will share work on evaluation of pesticide products to the furthest extent possible.

EPA and PMRA will request U.S. and Canadian canola associations to prioritize pesticide registration needs from a list of pesticides now available in either country which are pending approval in the other country. The associations, in consultation with pesticide registrants, would also be asked to identify alternatives to pesticides such as organophosphates (OPs) or others with risk concerns. The resulting list will then be a basis for a longer term strategy to assure adequate, reduced risk pest control tools for canola growers and will fit with current NAFTA efforts to promote a coordinated approach to Integrated Pest Management for canola.

For dry beans (pulses), lentils, and flax (crops grown in rotation with canola), EPA and PMRA will request that growers, in consultation with pesticide registrants in the United States and Canada, identify and prioritize pest control tools and needs for purposes of identifying grower priorities for the agencies. EPA and PMRA will jointly explore efforts to share work on evaluation of pesticide products.

On May 6, The U.S. Department of Agriculture (USDA) and Agriculture and Agri-Food Canada, in conjunction with EPA and PMRA, will convene a high level meeting with Chief Executive Officers of North American pesticide companies to encourage companies to take advantage of the pesticide joint review process and to encourage industry's role in harmonization goals.

USDA and Agriculture and Agri-Food Canada will jointly conduct a study of pesticide price differentials within the United States and Canada to be completed within 6 months.

COUNTRY-OF-ORIGIN LABELING

Question. The USDA stamp on foreign products is a detriment to the producers because foreign countries get the benefit of the grade stamp, without having to pay for it. America's producers need the protection of country of origin labeling to assure that the USDA label really means just that—produced in the U.S. It is a detriment to the consumer because they deserve to know that they are buying American and that they are buying absolutely the safest food supply in the world, which is grown by American farmers and ranchers. What does USDA plan to do about other countries reaping the benefits of the USDA label?

Answer. As directed by the Omnibus Consolidated and Emergency Supplemental Appropriations Act for Fiscal Year 1999, we are conducting a study on the potential effects of mandatory country of origin labeling on imported beef and lamb muscle cuts. As part of this study we will review the regulations and policies governing USDA grading of imported meat. The report will be submitted to Congress in April, as directed.

GRAIN COMPANY MERGERS

Question. Mergers such as the Cargill/Continental proposition are a major threat to producers as they have a great potential to create reduced competition and anti-

trust. Cargill is currently the world's second largest grain company. Their acquisition of Continental makes them an even larger power. Grain producers are already faced with an extremely depressed market and do not need another problem to deal with—fewer marketing avenues and reduced competition. What action does USDA plan to take on agricultural consolidation?

Answer. USDA shares your concern about the potential for mergers and concentration to reduce competition in agricultural markets. I have written to Attorney General Janet Reno strongly urging the Department of Justice to review carefully Cargill Incorporated's plan to acquire continental Grain Company's grain trading business. They need to determine whether the acquisition will notably increase concentration in agricultural and allied industries, causing potential adverse economic effects on farmers, ranchers, and consumers.

PACKER CONCENTRATION

Question. For major packers control 79 percent of the meat packing industry in the United States. The vast majority of livestock producers sell their feeder calves to feeder markets, which are highly concentrated. What action will USDA take on the packer monopoly?

Answer. USDA has stepped up enforcement activities under the Packers and Stockyards Act by the Grain Inspection, Packers and Stockyards Administration. GIPSA will continue to investigate issues of major competitive significance in the livestock, meat packing, and poultry industries. Where anti-competitive practices are found in violation of the P&S Act, GIPSA will pursue appropriate remedies aggressively.

MANDATORY PRICE REPORTING

Question. Price reporting would increase market transparency as well as present producers an accurate view of the market situation each day. It is of utmost importance to have this data accessible to producers so that they may take advantage of the best possible market opportunities available at the most opportune time. What action will USDA take to ensure producers have mandatory price reporting data available?

Answer. In the near future, the Administration will be submitting legislation to the Congress to provide the Secretary of Agriculture the discretionary authority to require the reporting of pricing data for livestock transactions.

PREDATOR CONTROL

Question. $175,000 for predator control under APHIS was cut from Montana Wildlife Services. Montanans are dependent on this funding to operate aircraft for world depredation. If funding is not restored Montana's livestock producers will lose well in excess of the $175,000 that was taken due to predator loss. How does USDA plan to compensate producers for predator loss as a result of this funding cut?

Answer. The budget does not specifically identify where the reductions will need to be taken if APHIS is not successful in increasing the cost sharing for its many efforts in Wildlife Services.

FORT KEOGH RESEARCH STATION

Question. $1 million was cut from the Fort Keogh Research Station in Miles City. This experiment station caries out extremely valuable research on sustainable environment, an area close to this administration's heart. Range research, which comprises most of the studies carried out at this station, promotes a sustainable environment more than any other research method. Research dollars are of utmost importance to educate producers and provide them with new ideas and avenues to market their products. In a depressed market they must find new marketing alternatives. Research and education dollars are a necessity to ensure they receive up-to-date and pertinent information. How does USDA plan to give farmers the necessary advantage to market their products with cuts like these?

Answer. Large amounts of public and private research and cooperation have made US agriculture the marvel of the world. We intend to continue that effective research partnership by investing public research dollars in critical areas, such as sustainable environment where there is a significant public interest and where private industry is unlikely to take the risk. The Administration advocates a broad range of funding mechanisms in support of university-based agricultural research, education, and extension. These mechanisms, including formula programs, competitive grants, special grants and projects, and other programs—such as Smith-Lever 3(d)—

are interdependent and jointly contribute to the success of our knowledge-based system of agriculture.

FARM BILL CHANGES

Question. You have said that one of the changes you would like to see in the current farm bill is a mechanism to help farmers build storage facilities. We believe we should be selling grain and reducing our stocks. What is the rational for this strategy?

Answer. If producers do not have access to adequate storage, they are more likely to sell when prices are low during the harvest period. Access to transportation is also an issue. Marketing opportunities are limited for many farmers due to rail abandonment, so access to additional storage would provide these producers with some additional tools to manage risk.

Question. How can constructing additional storage help producers?

Answer. Much of the storage built during the 1970's is nearing the end of its useful life and may need to be replaced. As storage facilities wear out, farmers will be more likely to market when prices are low during the harvest season or be forced to pay commercial storage rates. If crops are large, and the marketing system cannot move all the grain at once, grain supplies may back up onto the farm and leave producers with no alternative but to store grain on the ground. On-farm storage could help to avoid such problems. Federal assistance in financing storage facilities would also help farmers obtain credit at favorable terms, which can be difficult through commercial sources.

Looking ahead, as customers become increasingly sophisticated in their demands for grain with specific traits and characteristics, identity preservation is rapidly becoming key for suppliers. Increasing storage opportunities, in particular on the farm, will be an integral part of the grain marketing infrastructure that will be developed to market identity preserved grain.

Question. You are also advocating an extension of loans. Won't allowing producers a longer period of time to settle loans tend to build stocks that will continue to depress prices?

Answer. We advocate providing limited discretion to extend commodity loans when there is a breakdown in the marketing system, for example, in the event of a rail strike.

FOOD QUALITY PROTECTION ACT

Question. Implementation of the Food Quality Protection Act (FQPA) has made farmers very nervous about the consequences of pesticide reduction regulations. We urge USDA to work closely with the EPA to take into account the effects this act has on farmers ability to produce a quality product which is competitive on the world market. Will USDA take the lead on this issue and weigh the potential harm the FQPA may cause American farmers and ranchers?

Answer. EPA and USDA have agreed upon processes to ensure USDA involvement in risk assessment, risk mitigation, and other aspects of FQPA implementation. Along with our cooperators at the Land Grant Universities, USDA will take the lead in the development of transition strategies when they are required to reduce risk to acceptable levels. Transition Strategies will be developed in consultation with grower organizations.

ANIMAL FEEDING OPERATIONS

Question. Proposed new rules for Animal Feeding Operations (AFO's) are as detrimental to livestock production as the FQPA is to crop production. Will you assist us in Congress in undoing the EPA's blatant rewriting of the Clean Water Act, ensuring that the result of the Unified National Strategy for AFO rulemaking is fair and maintains our productive capacity at its current level?

Answer. The Unified National Strategy for AFO's is not a rule or a regulation. Any proposed changes to legislation or regulations will have to have to go through the full rulemaking process. One of the guiding principles of the Strategy is to "ensure that measures to protect the environment and public health complement the long-term sustainability of livestock production in the US".

GUARANTEED FARM OWNERSHIP LOANS

Question. Will USDA include in your current and future budgets sufficient money to replenish drained funds for guaranteed ownership loans to farmers and ranchers under the Interest Assistance Program?

Answer. For fiscal year 1999, approximately $425 million was available for the guaranteed farm ownership loan program. FSA estimates that funding for this program will be depleted by mid-March, except for a small amount of funds set-aside for beginning farmer and socially-disadvantaged targets. As a result of low commodity prices, many farmers and ranchers are facing cash flow problems this year, dramatically increasing demand for USDA's farm lending programs. In addition, demand for the guaranteed farm ownership loans, in particular, has increased due to: 1) a large carry-over of applications from last year, and 2) a change made by last year's agriculture appropriations bill which increased the loan limit on farm loans to $700,000 (previously there were separate limits of $300,000 for farm operating loans and $400,000 for farm ownership loans.

The Administration recognizes the serious need for additional funding for this and the other farm loan programs, and we are currently considering a proposal for a supplemental funding request. Additional funding proposed specifically for the guaranteed farm ownership loan program would be about $350 million. We will work closely with Congress to ensure that farmers and ranchers have access to the credit they need to see them through to better times.

CIVIL RIGHTS CASE BACKLOG

Question. Much remains to be done in the area of Civil Rights. According to information posted on the Office of Civil Rights Internet site as of March 1998, Montana had at least 19 cases of discrimination pending with the USDA, placing Montana in the same category as highly populated states such as Florida and New York. These people deserve better than this from an agency that was supposedly established to help American agricultural producers. I want to know when the people still in the process can expect prompt, responsive, and efficient handling of their complaints, not the foot-dragging, hurry-up-and-wait treatment they have received up to this point?

Answer. We are committed to getting existing complaints resolved and to resolving all new complaints in a timely manner. We have issued new Departmental regulations that delineate complaint processing procedures that will get most program discrimination complaints resolved within 180 day. We are adding 30 staff to help us achieve that goal.

FUNDING FOR CROP INSURANCE REFORM

Question. President Clinton vowed to make crop insurance a top priority in the new Congress. However, absolutely no mention of crop insurance or funding of crop insurance is mentioned in the fiscal year 2000 budget. With a risk management plan bankers are more likely to finance producers if they have both their crop and their price covered with a reliable insurance program. Where is the funding to reform crop insurance and how does USDA plan to address this issue.

Answer. The fiscal year 2000 budget provides for an appropriation to the Federal Crop Insurance Corporation Fund of "such sums as may be necessary" for the continuation of the crop insurance program. This appropriation request is based on current law which is the usually manner in which such requests are made. A substantial amount of supporting information has been provided to the Congress to justify continued funding for the program. The improvements the President has vowed to make in the program will require legislation. A "white paper" detailing the Administration's proposals for improving the program was released along with the budget. The Administration has also announced that wants to obtain additional input from the public and to work with Congress on these proposals and other program improvements. There is a wide range of potential costs and various ways for funding the program, including the use mandatory spending. Once agreements are reached on the improvements that need to be made, the funding for these improvements can be worked out. This approach has been used before in developing farm legislation and it has worked well.

As for your comment regarding the importance of risk management protection for both price and production, we agree whole-heartedly, and would note that, over the last few years, new revenue insurance products have been developed and have attracted an increasing portion of the business covered by the crop insurance program. Even under current law, is anticipated this trend will continue. Further, the fiscal year 2000 budget would provide additional funding for risk management education efforts to ensure that producers are informed of the broad range of tools available, such as futures trading and contractual arrangements, to help them manage risk.

QUESTIONS SUBMITTED BY SENATOR KOHL

FARM SAFETY NET/EMERGENCY ASSISTANCE EMERGENCY APPROPRIATIONS

Question. Please provide an overview, to the extent possible by state and commodity, of the levels of emergency assistance provided to producers as a result of the $5.9 billion made available in the Omnibus Appropriations Act of fiscal year 1999.

Answer. The emergency financial assistance to farmers and ranchers who have incurred losses associated with crops due to disasters is composed of several types of payments. The table below identifies each disaster program and it's associated program level.

Summary of USDA Disaster Program Funding In 1999 Budget Agreement and Other Disaster Programs

[In millions of dollars]

Items	*Budget Authority/ Program Level*
Commodity Credit Corporation:	
Market Loss Crop Payments	2,857.0
Market Loss Dairy Payments	200.0
1998 Crop Losses (1) [2]	1,500.0
Multi-year Crop Losses (1) [2]	875.0
(Includes Wheat Scab)	(30.0)
Livestock Feed Assistance	200.0
Salmon, Honey, Mohair	78.0
Food for Progress	25.0
NAP Raisin Provisions	3.0
Dairy Production Assistance	3.0
Cotton Warehouse	5.0
Subtotal, Budget Agreement	5,746.0
Other Disaster Programs Implemented:	
Disaster Reserve Flood Compensation [2]	42.0
American Indian Livestock Feed [3]	8.5
Livestock Indemnity [4]	4.0
Dairy Production Assistance [4]	6.8
Small Hogs Operation Payments [5]	50.0
Total	5,857.3

[1] Up to $400 million reserved for crop insurance buy-up on 1999 crops.
[2] The program will be partially funded under Section 1102 of the 1999 Appropriations Act which authorized the allocation of an additional $30 million to the DRFCP.
[3] Of the total program level of $12.5 million, $8.5 million is anticipated to occur in fiscal year 1999.
[4] Provided for by the 1998 Emergency Supplemental Appropriations Act.
[5] Program is funded by Section 32 funds, but delegated to FSA to administer.

Just over $2.8 billion in Marketing Loss Assistance Payments have been made as of February 12, 1999. These payments include feed grain, wheat, upland cotton, and rice programs. The attached table identifies the States that have received payments.

TIMING AND EFFECT OF ASSISTANCE

Question. Please include any timetables available to indicate when producers may expect to receive assistance plus and analysis of the degree to which the assistance made available by the aforementioned Act will remedy shortfalls in farm income due to either production or market losses in 1999.

Answer.

Within 10 working days of the omnibus bill's enactment, USDA began making income loss assistance payments. By November 21, 1998, USDA had paid 1.4 million farmers more than $2.8 billion.

On November 12, 1998, USDA announced the Livestock Assistance Program (LAP) and began taking applications on November 23, 1998. To accommodate the extremely high demand for LAP, USDA extended the sign up for this program and now plans to close enrollment on March 25, 1999. USDA will issue payments shortly thereafter. We estimate that the $200 million Congress appropriated for livestock assistance will be heavily over-subscribed and USDA, consequentially, will be able to pay only a portion of the total request.

On March 15, 1999, the sales closing date for the 1999 crop insurance program, USDA will have disbursed the $400 million dedicated to lowering crop insurance premiums—the Administration's down payment on its commitment to strengthening the farm safety net by reforming and improving crop insurance.

USDA has implemented the honey and mohair loan programs included in the bill.

In the near future I will announce USDA's plans for the $200 million dairy assistance program.

USDA now expects to make CLDAP payments in June, following a six month sign up program, the same length of time USDA ran the sign up for the 1988 disaster assistance program, the last time USDA had to implement a major, new crop loss assistance program. While USDA was able to use the 1988 program as a template for subsequent programs, we could not do so for this year's program.

The additional resources sought by the Administration and approved by Congress have been instrumental in keeping thousands of farmers and ranchers in business during tough times. USDA is at your disposal to provide any additional information about implementation of these programs.

STATE OF THE FARM ECONOMY

Question. Please provide any information available about the state of health of the farm economy at present and the extent to which producers may not be able to continue viable farming or ranching operations this coming year even with the assistance provided in the fiscal year 1999 Act.

Answer. The farm economic outlook for 1999 is not favorable. In 1998, the farm economy took a sharp downturn when bad weather devastated many production regions from California to Florida, while grain and oilseed prices nosedived as a result of large global supplies, the deepening Asian financial crisis, and weak export demand. Livestock prices also dropped due to large supplies, and hog prices went into a free fall late in the year. Unfortunately, exports and commodity prices likely will be even lower in 1999, causing increased farm financial stress, particularly in grain and oilseed producing areas, such as the Corn Belt States, that up to now have weathered the economic downturn.

U.S. farm exports, for example, are expected to drop to $49 billion in fiscal year 1999—down $4.6 billion from fiscal year 1998 and nearly $11 billion from the peak in 1996. Net farm income is expected to drop to $44.6 billion for 1999, a 7-percent decline from 1998 and a 16-percent drop from 1996. Net income just for key field crops (wheat, corn, soybeans, upland cotton and rice) will be 17 percent below the average for the past 5 crop years for the 1998 crops, and for the 1999 crops, net income is projected to be 27 percent below the previous 5-year average.

USDA's revised baseline projections for the next 10 years indicate that economic recovery will occur at a very gradual pace.

The nearly $6 billion in government assistance enacted last year is helping to maintain farm income and ease financial hardship for many producers. Direct government payments to producers reached nearly $13 billion in calendar year 1998 and will probably total at least $11 billion in 1999. Also, lower interest rates and fuel costs have helped reduce production costs, offsetting some of the decline in cash receipts for many producers.

However, aggregate measures of the health of the farm economy mask a marked erosion in market income in many regions and commodity sectors, and all signs now point to greater farm financial stress in 1999. Net cash income is currently projected to decline $3–4 billion. Land values began declining in a number of Midwestern States during the last half of 1998, after years of steady increases. The drop in income, coupled with declining asset values for many producers, means many will have difficulty obtaining credit, and those who do will use it for variable cash expenses, not investment, and will find themselves squeezed trying to repay debt out of current income. For the many producers who struggled with cash flow in 1998 because of adverse weather and low prices, problems likely will worsen in 1999.

As a result of increased financial stress in farm country, demand for USDA farm loans in fiscal year 1999 has been extremely strong. Many farm families who have been financing their business operations through their own resources or with a minimum of commercial bank debt are now seeking farm loan assistance. Commercial lenders are utilizing Farm Service Agency loan guarantees to restructure the short-term indebtedness of their customers into more favorable long-term rates so that they can continue to provide financing. FSA is using all servicing authorities, including rescheduling and reamortizing, deferring installments, and debt writedowns to assist FSA borrowers.

However, funds are exhausted or will soon be exhausted for key credit programs: all emergency loan funds and non-targeted direct farm ownership loan funds have

been obligated already; non-targeted interest-assisted guaranteed loans and direct farm ownership loans will be exhausted in March; funding for direct farm operating loans will last into April, and guaranteed operating loan funding will be gone by August. Credit is no substitute for income, but adequate credit is essential to maintaining any farm operation.

For many farmers and ranchers the key to weathering the farm crisis is duration: how long the period of low commodity prices will last. According to a 1998 Iowa State University study of 1200 Iowa farmers, those in basically strong or stable financial condition can withstand a year of low prices, but if these conditions were to continue for several years, one-third of the farmers in the study would face restructuring or liquidation.

There are many uncertainties that could affect market demand and prices, and, hence, farmers' well-being over the next 1 to 2 years. Weather is always key; so is the world economy for a farm sector as export-dependent as American agriculture.

DAIRY POLICY REFORM

Question. Would you please provide your observations or suggestions relating to changes in USDA programs to help move toward a more rational and fair dairy policy through either regulatory action or legislation? In particular, would you address steps that might be taken to help find a policy of comity among all regions to eliminate the otherwise unavoidable conflict and turmoil that would result from regional compacts or other tools of geographic disparity?

Answer. On or before April 4th, the U.S. Department of Agriculture (USDA) will issue its final decision on consolidation and reform of Federal Milk Marketing Orders as mandated by the Federal Agriculture Improvement and Reform Act of 1996 (1996 Act) as amended. In the nearly three years since enactment of the 1996 Act, USDA has requested information from all segments of the dairy industry and received nearly 4,500 comments on Federal order reform and consolidation. In addition, USDA established agreements with dairy industry experts in the academic community to analyze specific issues, including the Class I price structure and replacement of the Basic Formula Price (BFP) for milk, and conducted several listening sessions around the country before and after release of USDA's proposed rule in January 1998. We believe this meticulous approach in informing the public and obtaining input from interested parties will yield a final decision that is in the best interests of all segments of the dairy industry and be fair to all areas of the country.

EMERGENCY PRECEDENTS

Question. USDA recently announced the granting of $50 million to hog producers to help offset the dramatic reduction in price. How does the Department intend to address similar requests from producers of other commodities (e.g. beef cattle, aquaculture, minor crops, etc.) now that a precedent appears to have been established?

Answer. Hog producers were hit with the lowest prices in five decades and we made every effort to find a way to help producers. We would hope to be able to help other producers in similar circumstances and are working hard to shore up the safety net for all farmers and ranchers.

RURAL RENTAL HOUSING ASSISTANCE

Question. The budget request for 2000 would reduce the amount available for Rental Assistance, in part, by deferring a portion of the funds until October 1, 2000. What effect would this action have on current tenants of eligible housing facilities and on the USDA housing programs generally?

Answer. The manner in which the budget is requested for rental assistance will have no effect either on the flow of funds to the borrowers or on the tenants of the units. These funds are provided through five-year contracts and this permits spreading the budget authority over tow years.

EFFECTS OF CLIMATE CHANGE

Question. To what extent is climate change having an impact on USDA policies? Recent weather events lead to a conclusion that adverse conditions are affecting agriculture more severely and more significantly than in earlier decades, resulting in more volatile markets, reduced farm income, and disruption of consumer expectations. How is USDA responding to these changes in terms of long-term policy and what recommendations would you make for Congressional action in this regard?

Answer. Temperature increases can have both positive and negative effects on crop and forest yields, with the difference depending on location and on the magnitude of the increase. And agricultural and forestry systems are most sensitive to

extreme climatic events such as floods, wind storms, and droughts, and to seasonal variability. Climate change could alter the frequency and magnitude of extreme events and change seasonal patterns. Increases in rainfall intensity pose a threat to agriculture and forestry and the environment because heavy rainfall is primarily responsible for soil erosion, leaching of agricultural chemicals, and runoff that carries livestock waste and nutrients into water bodies. Adjustment costs are likely to be higher with greater rates of change. While climate change is not expected to seriously threaten the U.S. ability to produce enough food to feed itself through the next century, regional production patterns are likely to affected.

Strategies such as changing planting and harvest dates, rotating crops, selecting varieties for cultivation, changing irrigation practices, fertilizers and pesticide use, and choosing cultivation and forest management practices can lessen potential yield losses from climate change and improve yields in regions where climate change has beneficial effects.

We need to improve our understanding of how extreme events could affect agriculture and forestry and develop appropriate management systems for coping with these events. And we need more research to explain and predict how agriculture and forestry will be affected by climate change USDA investment in additional research on the adaptation of appropriate strategies is needed to gain a better understanding of the climatic factors that affect enterprise level adoption such as information flow, access to capital, and the role of global change public programs and policies.

We need Congressional support for our fiscal year 2000 research and climate change technology programs so we can conduct this vital research and demonstrate alternative management practices that not only address the climate challenge but provide significant benefits in the form of improved productive capacity of our soils, improved water quality, and habitat protection. We would also welcome your ideas on how USDA's programs can be augmented to include greenhouse gas abatement and carbon sequestration. And we look forward to working with you to address the international challenge of reducing the atmospheric concentrations of greenhouse gases in the most cost-effective way.

Question. Reduced farm income increases the difficulty of obtaining commercial credit. In many cases, commercial lenders are restricted by state and federal banking requirements in a manner that will adversely affect farmers when cash flow, debt to assets ratios, or other financial conditions can not be met. What role is USDA taking with the financial industry (including federal and state regulators) to help farmers overcome banking regulatory burdens?

Answer. FSA provides substantive guaranteed loan assistance for bank customers who have been affected by the weakened farm economy. With this assistance from FSA, family farmers who otherwise would be prohibited from obtaining commercial credit are able to continue their credit relationship with their home-town banks. USDA has no influence over federal and state regulators. However, issuance of FSA loan guarantees to commercial lenders gives confidence to regulators that exposure to loan losses is reduced.

Question. Does USDA intend to seek additional levels of direct farm credit for Farm Service Agency programs to help offset growing difficulty of farmers to obtain operating capital from commercial lenders?

Answer. FSA will utilize all available resources in the farm loan programs to assist family farmers with their credit needs. Seeking additional funds for these programs is actively being considered.

Question. Does USDA intend to seek additional farm credit funding budget authority for fiscal year 1999?

Answer. Use of loan funds in all farm loan programs is being closely monitored. Deliberation will be given to seek additional funding authority for programs that will be exhausted before the end of fiscal year 1999.

LOAN DEFICIENCY PAYMENT CALCULATIONS

Question. It has come to my attention that differences in points of delivery for certain commodities in WI and MN are working to the detriment of Wisconsin farmers in the calculation Loan Deficiency Payments (LDP's). In other states it has been determined that the existing system for LDP calculations based on posted county prices did not accurately reflect prices received by producers. Please review the situation in Wisconsin and report your findings and actions taken to ensure fair and equitable treatment for Wisconsin producers.

Answer. LDP's are calculated using county loan rates that are established once a year and Posted County Prices (PCP) that may change daily. There is a common misconception that the PCP pricing system was designed to ensure that all pro-

ducers of a commodity have the potential of earning the same marketing loan gain or LDP. In actuality, the primary objective of the PCP system is to determine a value as close as possible to the local cash market price in any given area. The PCP system was designed to provide producers with equitable, but not necessarily equal value for their commodities.

The Kansas City Commodity Office (KCCO) conducts weekly surveys of 187 counties in major production areas throughout the nation to determine if Posted County Prices (PCP's) accurately reflect local market prices. The most recent surveys for corn and soybeans were conducted on March 9 and included four counties in Wisconsin. In general, the results indicate that PCP's in Wisconsin accurately reflect local market conditions for these commodities.

If you have specific questions concerning PCP for a specific commodity or region of Wisconsin, I encourage you to submit your comments to the Farm Service Agency for further review.

STUDY OF DAIRY PRICES AND THE WTO

Question. Section 151 of the Federal Agriculture Improvement Act of 1996 calls for a study and report regarding the United States membership in the World Trade Organization and the potential impact of such membership on domestic dairy prices, federal dairy programs, and other related items. This report was to be provided to the House and Senate Agriculture Committee's no later than July 1, 1997. Please provide information on the status of this report and, if complete, would you please provide a copy to this subcommittee?

Answer. The analysis for the study of the impact on milk prices, producer incomes, and dairy program costs of additional access resulting from U.S. obligations under the World Trade Organization has now been completed and the final report is currently being prepared. We will transmit a copy of the report to Congress as soon as it is completed.

FSIS USER FEES AND FARM INCOME

Question. Please explain if you disagree that any FSIS user fee imposed on meat and poultry companies would not be passed on solely to producers. Do you believe the major meat and poultry companies act more competitively in their relationship with consumers than producers? If so, please explain?

Answer. We do not estimate that the impact of the user fees will be passed down to producers in the form of lower prices paid. We estimate that most of the fees will passed on to consumers in the form of higher retail prices. We estimate that the cost will be passed onto consumers, because they are less likely to decrease the amount of meat and poultry they consume as result of higher the higher prices created by the proposal. The overall impact on retail prices would be less than one cent per pound.

Question. If so, why is there so much concern expressed by the Department and elsewhere about concentration with the agricultural industry, especially in regard to the livestock sector and the effect of concentration on farm prices?

Answer. There is much concern about concentration in the livestock sector, because in 1997 the top 4 firms slaughtered 80 percent of the steers and heifers, 54 percent of the hogs, and 74 percent of the sheep and lambs. USDA has placed a high priority on addressing issues surrounding the high levels of concentration in the meat packing industry. Where anticompetitive practices are found in violation of the Packers and Stockyards Act, USDA will pursue appropriate remedies aggressively.

EMERGENCY FORESTRY ASSISTANCE

Question. Emergency Forestry Assistance. The fiscal year 1999 Appropriations Act included $10 million in emergency funding through the Forestry Incentives Program (FIP) related to forest fires in Florida and disasters in other states, including Wisconsin. What is the status of providing this assistance and what plans for distribution of benefits do you intend to use? Additionally, what timetable do you envision for delivery of this assistance? Since the identified need in Wisconsin is nearly $1.3 million for disasters in 1998, and since $10 million provided nationally will not cover all identified needs, will the Department reflect these shortfalls in emergency funding to states based on an appropriation of FIP funding for fiscal year 2000?

Answer. On February 16, 1999, $9 million in Forestry Incentives Program (FIP) funds were allocated to 17 States to address reforestation needs caused by wildfires and other natural disasters in 1998. A $1 million reserve is being retained for future assistance, primarily for tree planting needs in Florida. USDA's Natural Resources Conservation Service (NRCS) and Forest Service, along with State foresters, are

currently delivering the services associated with this funding. The Administration's fiscal year 2000 budget currently does not request funding for the FIP program in fiscal year 2000.

SANCTIONS

Question. Please provide an update on U.S. negotiations regarding the lifting of sanctions against countries such as Cuba and Iran in terms of the implications for agriculture. Please provide any information relating to the effect the lifting of such sanctions would have for U.S. producers.

Answer. In the case of Cuba, last January, the President announced an initiative to enhance U.S. support of the Cuban people and to promote a peaceful transition to democracy. As part of this initiative, the United States is implementing certain "new measures" including allowing exports of food and certain agricultural commodities to Cuba. Exports are limited to non-governmental entities in Cuba so that eligible recipients are effectively small "mom and pop" shops, private farmers and restaurants. While this represents an important first step, the immediate impact on the level of exports of agriculture products to Cuba is likely not to be great. USDA will continue to work with the Commerce Department in drafting the regulations that will govern these sales.

If sanctions on Cuba were lifted, the United States could reasonably expect to supply about half of Cuba's agricultural imports or about $350 million annually. According to some analysis, Cuba has the potential to become a $1 billion market for agricultural exports after substantial investment occurs, which would make Cuba the second largest U.S. agricultural export market in Latin America.

With respect to Iran, in December, the Treasury Department received a request for approval of a license to broker a sale of approximately $500 million in agriculture exports to Iran. While a sale of this kind is currently prohibited under the terms of the comprehensive embargo against Iran, the request is being given serious consideration by the Administration. USDA is working to ensure that all points of view are represented in the decision-making process.

Despite heavy competition from Australia, Canada and South America, if normal relations were resumed with Iran, it is not unreasonable to expect that U.S. agricultural exports to Iran could reach $300 million in a relatively short period of time and perhaps twice as much within five years. Principal gains for U.S. exports would be in grains and oilseed products.

ASSISTANCE TO RUSSIA

Question. There have been recent claims that Russia has executed sales of wheat to Iraq. Although there appears to be no evidence that these sales involved the conveyance of commodities originating in the U.S. (notwithstanding the fungibility of commodities such as wheat) these allegations do raise certain questions about the role of U.S. assistance in Russia. Please provide information that outlines the steps the U.S. is taking to ensure that food assistance to Russia is actually being delivered to the populations intended.

Answer. First, it is important to note that Russian government officials have assured USDA that such shipments are not being considered.

Second, USDA is taking extraordinary steps to oversee the Russian food aid package and thereby ensure that the assistance is provided to the targeted population. To avoid any mishandling of the commodities, USDA has set up a broad system to monitor compliance of the Russian government with its commitments under these food aid agreements. Monitoring will be necessary in two broad areas: (1) the importation, distribution and sale of the commodities and (2) the deposit of commodity sale proceeds into the "Special Account" by the Russian Government and subsequent transfer into the Russian pension fund. USDA monitoring of the agreements will be designed to minimize the potential for fraud and abuse in the distribution and sale of food aid commodities, and to ensure that appropriate reporting and monitoring systems have been designed to ensure that such problems do not occur.

A key item in the process is the establishment of a U.S. Russian working group in Moscow to identify and resolve any irregularities. The working group is under the supervision of the Minister Counselor for Agricultural Affairs, and bears responsibility for approving the Russian work plans, reviewing logistics and financial reports, estimating the ruble value of commodity shipments, and recommending to the Minister Counselor disbursements from the Special Account to the Pension Fund of the Russian Federal Budget.

On the logistics side, USDA is requiring detailed work plans from Russian authorities about how and where commodities will be distributed, and the Russian government will be required to report on its fulfillment of those work plans.

On the financial side, all records of the Russian Government and its agents must be made available for inspection by USDA monitors. In addition, a bi-weekly financial report submitted by the Russian Government will be reviewed by the working group.

In addition, USDA has established a monitoring group within the U.S. Embassy. At least four individuals from USDA will be detailed to Russia on a full-time basis to assist in this effort. The staff will be placed in both the U.S. Embassy, Moscow and the U.S. Consulate, Vladivostok. At any one time, at least two of these individuals will be traveling to the regions to meet with local officials and organizations, perform spot checks on the deliveries of commodities, and investigate any allegations of fraud or mishandling of the commodities. Data on the progress of shipments will be tracked in Moscow using a sophisticated database created specifically for this purpose.

Besides the joint U.S.Russian monitoring effort and these independent U.S. activities, the Russian government has established its own audit and control operations. The economic crime control unit of the Ministry of Internal Affairs will be tracking the commodities as they move within the country, from discharge at the port or point of entry to purchase within the regions. In addition, the State Customs Committee and the Ministry of Railways have established their own joint committee to track the food aid shipments.

USDA believes these actions will greatly help to assure our food aid benefits a broad spectrum people in Russia who are experiencing a very difficult situation.

PAKISTAN

Question. Last year, Congress took action relating to sanctions against Pakistan in order to help protect U.S. agricultural interests in that country. Now, we hear an opportunity exists to provide an additional 200,000 tons of wheat to Pakistan, but since that nation is in default on GSM loans, that sale (or any other) is in jeopardy. What is USDA doing to help protect markets such as this?

Answer. To help Pakistan meet its wheat import needs and preserve U.S. access to that market this year, USDA has donated a total of 300,000 metric tons of wheat under the authority of section 416(b) of the Agricultural Act of 1949. The wheat will be shipped this spring. In addition, USDA is providing to Pakistan $15 million worth of additional wheat and $10 million worth of soybeans under the Public Law 480 Title I concessional sales program. These food aid activities are not precluded by the default under the CCC export credit guarantee program.

Question. To what extent is the Pakistan problem related to the general financial pressures in that part of the world?

Answer. The Asian financial crisis is a contributing factor to Pakistan's current financial woes, along with the economic sanctions imposed after the nuclear tests in May, and Pakistan's own difficulties in managing its economy effectively. The extent to which financial problems in Asia have affected Pakistan's finances in general and its ability to buy U.S. wheat in particular is difficult to quantify.

For example, the value of cotton and textiles exports, which constitute about two-thirds of Pakistan's $7.5 billion annual export earnings, is down about 15 percent this year compared to last. This is partly due to reduced exports to Far Eastern markets as a result of the economic downturn there and partly due to depressed prices in general as a result of the global economic situation. At the same time, worker remittances (a major source of foreign exchange) have virtually dried up since the Government of Pakistan's hard currency bank accounts were frozen last May following the nuclear tests.

Question. How many other trading partners, or potential trading partners, are in similar situations?

Answer. Pakistan has managed to remain current on payments to the Australian and Canadian wheat boards, so those agencies do not face the same situation as the United States.

DAIRY EXPORT INCENTIVE PROGRAM

Question. The fiscal year 2000 budget reflects a decrease in this program. Please provide information relating to this program's use in fiscal year 1999 and the reasons for the projected reduction in 2000.

Answer. The President's budget assumes that bonus awards under the Dairy Export Incentive Program will reach $99 million in 2000, which is just slightly below the level of $102 million projected for 1999. However, these numbers are only projections of program activity. The actual level of DEIP bonus awards in both 1999 and 2000 will be determined by market conditions and the Uruguay Round Agreement subsidy reduction commitments.

BANANA REGIME ISSUES

Question. A February 3rd article in the Journal of Commerce discusses the relationship of the current Banana Regime issue with the overall economies in the Caribbean Basin and suggests that a U.S. victory at the WTO may ultimately cause the U.S. more harm than good. Would you please comment on that statement and provide an overview of the implications of the Banana Regime issue on U.S. agricultural trade?

Answer. The issues in the EU Banana Regime case ultimately test whether the EU will provide access to its market on a fair and non-discriminatory basis. While the Banana case does not present a situation in which U.S. agricultural products are being denied access, it does present a situation in which U.S. businesses that supply or service agriculture (e.g., U.S. farm equipment manufacturers, fertilizer producers, marketing firms, etc.) have suffered injury because of discriminatory practices. Maintaining the principles of fair access to the EU market is an important issue for U.S. agriculture in general.

The Banana case also tests whether the EU will comply with its obligations under the WTO or will ignore the Dispute Settlement Body (DSB) Panel rulings. If it ignores the DSB rulings, the benefits of the Uruguay Round will be put at risk for all members.

The United States, and U.S. agriculture in particular, has a strong interest in an effective WTO dispute settlement mechanism. Since the WTO was established in 1995, the United States has received favorable decisions in three agricultural cases and has three other cases pending where preliminary findings have supported our positions. In addition, the United States has resolved a number of agricultural issues through the WTO consultation mechanism without going to a panel.

FOOD SAFETY

BIO-TERRORISM

Question. Please explain the steps USDA is taking, along with other Federal agencies, regarding the threat of intentional contamination of our food supply as either part of an international terrorism threat or any other means. To what extent does the President's Food Safety Initiative address this issue?

Answer. APHIS has requested $1.2 million in the fiscal year 2000 President's Budget to develop a national emergency management system to meet the needs of emergency disease outbreaks and emerging animal health issues including microbiological residues, manure management, transmissible spongiform encephalopathies, and biological terrorism. Components of the system would include prevention activities such as surveillance and a national disease reporting system; preparedness activities such as training and the development of response plans; and response and recovery activities. Of the $1.2 million, approximately $700,000 would be used to survey for significant animal health events including biological terrorism. APHIS would also conduct 4 training sessions for Agency and State employees and industry representatives regarding biological terrorism, decontamination procedures, and other animal health events. The remaining $500,000 would be used to complete a master plan for the new system and to develop a National Animal Disease Reporting System and Geographical Information System. The President's Food Safety Initiative does not include any funds for bioterrorism activities.

HACCP

Question. Please provide information regarding the effect HACCP implementation is having on small firms. Since implementation of HACCP at the small firm level is very recent, have there been any unanticipated problems that should be considered by the Appropriations Committee that might not have been known at the time the fiscal year 2000 budget request was being developed?

Answer. Approximately 2,200 small establishments were required to implement Hazard Analysis and Critical Control Point (HACCP) systems by January of this year. At this time we have not encountered any serious problems.

PESTICIDE DATA PROGRAM

Question. Please provide information explaining the role of the Pesticide Data Program (PDP) within the context of food safety. Also, please provide information that directly links the PDP to the availability of pesticides for producers, especially for producers of minor crops.

Answer. The Pesticide Data Program (PDP) provides data on pesticide use and residue detections for a variety of commodities as close to the point of consumption

as possible. The program was created to strengthen the Government's ability to respond to food safety concerns, to protect public health, and to provide the Environmental Protection Agency (EPA) with the data needed to assess the actual dietary risk posed by pesticides. The availability of this data has become more critical with the passage of the Food Quality Protection (FQPA), which established more stringent health-based standards for pesticide residues to assure protection of the public, especially for at risk populations, such as the elderly and children. Without actual residue data, risk assessment studies for pesticides are based on a theoretical maximum amounts of pesticide use. Such studies may greatly overstate the exposure to consumers and may jeopardize EPA's registration of pesticides important to agriculture. The Food and Drug Administration (FDA) utilizes the data to more accurately identify and respond to instances in which pesticide residues exceed established tolerances.

About 88 percent of PDP data are for pesticide residues on minor crops. These data have been extremely useful in conducting evaluations necessary to retain the pesticide registration for pesticides needed to sustain minor crops.

INCOME, MARKETS, AND RESOURCE PROTECTION

INVASIVE SPECIES

Question. Please provide information relating to potential cost to the national economy due to the existing and potential introduction of alien species for which USDA has regulatory jurisdiction. In what areas of the nation are these problems the most serious?

Answer. On February 3,1999, the President announced an Executive Order to expand the effort to address the growing environmental and economic threat of invasive species. This order establishes an interagency Invasive Species Council with the Department's of Agriculture, Commerce and Interior with the Secretaries as co-chairs. Experts estimate that invasive species already infest over 100 million acres of the United States and is growing at a rate of 3 million acres annually. The costs to the U.S. economy are about $123 billion annually.

Question. Is there any way to better protect areas into which these species may migrate in the immediate future?

Answer. The Council will develop a comprehensive plan to minimize the economic, ecological, and human health impacts of invasive species and determine further steps to prevent the introduction and spread of invasive species.

Question. From a budgetary perspective, keeping in mind the constrains on this subcommittee, what are the best strategies to control the threat from these pests?

Answer. The USDA budget includes an increase of $16 million for programs to combat invasive species by preventing entry, improving monitoring and detection, providing rapid assessment and eradication, increasing crosscutting research and technology, and developing partnerships directed at education and outreach.

ORGANIC CERTIFICATION

Question. Please provide information regarding finalization of the Organic Certification program. In which areas of the nation do you believe this program will be the most important from both a producer and consumer perspective?

Answer. USDA is currently working with the organic community and consumers to develop a regulation that responds to the 275,000 comments received in response to the proposed rule. Since publication of the rule, USDA has published several issue papers to gather further input on animal confinement, animal medications, and procedures for termination of producer certification. USDA's goal is to establish clear, consistent regulations that stimulate the growth of the organic livestock sector, satisfy consumer expectations and allow organic livestock producers flexibility in making site-specific, real-time management decisions. Although some areas of the country may produce more organic product than others, both producers and consumers Nationwide will benefit from the uniform standards established by this rule.

WETLANDS RESERVE PROGRAM

Question. Will the expected enrollments in the Wetlands Reserve Program (WRP) in fiscal year 2000 bring total enrollments to the fully authorized level?

Answer. Yes, the requested enrollment for fiscal year 2000 would bring the total WRP enrollment up to the 975,000 acre enrollment cap.

Question. In the event the WRP enrollment authorization is met, does USDA intend to request additional authorization? If so, when and to what levels?

Answer. Once the cap is reached, USDA would have to seek new authority to enroll additional acres. The President's Clean Water Action Plan recommends that up to 250,000 acres be enrolled in the WRP each year over a five-year period.

WATERSHED INFRASTRUCTURE RELIABILITY

Question. Watershed Infrastructure Reliability. Since many watershed structures are reaching their life expectancy, what does USDA plan to do to help avoid continuing deterioration of these structures beyond educational activities?

Answer. Beyond the one-time educational program, USDA has no firm plans to address the continuing deterioration of the structures built under the Small Watershed Program. However, USDA is exploring ideas on how best to assist sponsors in addressing the problem within current authorities and budget constraints.

Question. To what extent does the current status of these structures present a threat to public safety?

Answer. In some instances, especially with older watershed structures that have not been properly maintained, there has been significant deterioration which could create an imminent threat to public safety. While downstream developments are also placing people at risk, there have been no examples where failure of an NRCS assisted structure resulted in loss of life.

Question. Please explain if you believe the level of activity needed to correct the problem of deteriorating infrastructure does not rise above the normal maintenance requirement, and thereby places burden of repair solely on local watershed organizations.

Answer. The problem of deteriorating dams after they reach their designed life is more complex than sponsors merely not maintaining the dams. However, it is our current position that the sponsors of dams built under the Small Watershed Program are responsible and liable for the operations and maintenance, as well as compliance with all state and federal laws involving dam safety and environmental permits. Currently, USDA has no statutory authority to provide financial assistance for operations, maintenance nor rehabilitation.

RESOURCE CONSERVATION AND DEVELOPMENT

Question. Do you believe Resource Conservation and Development (RC&D) districts should be expanded in number or should the areas be expanded geographically? Should the RC&D program contain a "graduation" requirement which would allow new districts to come into the program as others leave due to either completion of RC&D goals or inactivity?

Answer. At current funding levels, we can only adequately support the 315 existing RC&D areas and could not afford any program expansion. There are currently 37 applications for new area authorizations on file with an additional 20 councils being formed.

The RC&D program should only contain a "graduation" requirement for those RC&D Councils found to be inactive or performing below a minimum level. This would be a 'de-designation' of a RC&D area. USDA, in consultation with the National Association of RC&D Councils, Inc. has developed minimum performance criteria for RC&D Councils. The 315 existing designated area councils will be requested to assess their performance using this criteria this fiscal year and identify actions to improve where needed. Inactive or limited performance councils would be provided the opportunity to revise their area plan and strengthen results. USDA could then determine to withdraw assistance if insufficient progress occurs. We expect that this would rarely occur.

RURAL HOUSING RENTAL ASSISTANCE

Question. The budget request for 2000 would reduce the amount available for Rental Assistance, in part by deferring a portion of the funds until October 1, 2000. What effect would this action have on current tenants of eligible housing facilities and on the USDA housing programs generally?

Answer. The 2000 budget actually provides for an increase in rental assistance, from $583 million that was appropriated for 1999 to $640 million for new and expiring contracts in 2000. Rental assistance is provided through 5 year contracts and dispersed over the period of these contracts. Therefore, it is not necessary to have the total amount of funds to support these contracts available in the fiscal year they are made. While the 2000 budget reflects a change in the way rental assistance is budgeted, making some of the funding available in a subsequent budget year, this change is not expected to have any impact on program recipients. The 2000 budget provides sufficient funding for the renewal of all existing rental assistance contracts that are expected to expire in 2000, and for new contracts to support the loans and

grants expected to be made for farm labor housing and the on-going rural rental housing loan program.

FORMULA RESEARCH FUNDING

Question. For the first time in many years, Congress in fiscal year 1999 appropriated funding level increases for many of the Formula Funded research programs, such as Hatch Act, Smith-Lever, and other programs important to states and rural areas. However, the fiscal year 2000 budget request, again, calls for significant reductions in these accounts. Please explain the rationale for these reductions, the anticipated effect it will have on state and country based research and extension activities, and the extent to which USDA consulted with its state and local partners in this decision.

Answer. The Administration advocates a broad range of funding mechanisms in support of university-based agricultural research, education, and extension. These mechanisms, including formula programs, competitive grants, special grants and projects, and other programs—such as Smith-Lever 3(d)—are interdependent and jointly contribute to the success of our knowledge-based system of agriculture. Although some states may be impacted by the cut in formulas, the vast majority continue to match federal dollars at a rate of four state dollars to every federal dollar. The priorities which define Federal support for programs in agricultural science and education are developed through a collaborative, State/Federal process of consultation with stakeholders, mutual planning, and in almost all cases, joint investment.

METHYL BROMIDE

Question. Please provide information regarding USDA activities in fiscal year 1999 and in the fiscal year 2000 budget relating to methyl bromide alternatives, including your expectations on finding an acceptable alternative in the near term, and please note any changes in program activities that may have resulted from last year's extension of production phase-out from 2000 until 2005.

Answer. In fiscal year 1999, ARS has nearly $14,400,000 appropriated for research on methyl bromide alternatives. The funds currently are distributed among 20 ARS locations (see table). About half of the funds are in the two states that are most impacted by the impending loss of methyl bromide—California ($4,374,000) and Florida ($3,029,000). The Honolulu, HI, and Weslaco, TX, locations, where research on methyl bromide alternatives for quarantine purposes is conducted, account for an additional 25 percent of the funding ($3,168,000).

ARS Funding for Methyl Bromide Alternatives Research is as follows:

Location	Fiscal Year 1999	Fiscal Year 2000
Davis, CA	$ 226,000	$ 226,000
Fresno, CA	3,485,400	3,485,400
Riverside, CA	126,600	126,600
Salinas, CA	535,900	535,900
Washington, DC	241,200	241,200
Gainesville, FL	213,000	213,000
Miami, FL	1,219,300	1,219,300
Orlando, FL	1,597,100	1,597,100
Byron, GA	83,900	83,900
Tifton, GA	462,200	462,200
Honolulu, HI	1,684,700	1,684,700
Manhattan, KS	70,800	70,800
Beltsville, MD	1,048,200	1,048,200
Stoneville, MS	182,200	182,200
Corvallis, OR	487,400	487,400
Charleston, SC	330,600	330,600
Weslaco, TX	1,482,900	1,482,900
Wenatchee, WA	209,200	209,200
Yakima, WA	258,000	258,000
Kearneysville, WV	435,000	435,000
Total	14,379,600	14,379,600

Other USDA agencies with methyl bromide alternatives research projects are the Forest Service (FS) and Cooperative State Research, Education, and Extension Service (CSREES). The Forest Service (FS) has reestablished nursery programs at Athens, Georgia, and St. Paul, Minnesota, with the goal of developing integrated pest management programs that will ensure high quality seedlings. In the postharvest area, FS, together with the Foreign Agricultural Service(FAS)and the Animal and Plant Health Inspection Service (APHIS), has been successful in negotiations to get U.S. heat-treated coniferous wood accepted into Europe and kiln-dried lumber into Korea in lieu of fumigation with methyl bromide. CSREES, which administers the NRI competitive grants, has funded research on biological control of soilborne diseases.

An increase of $5 million is proposed in fiscal year 2000 for a new competitive grants program in CSREES aimed to support the discovery and implementation of practical pest management alternatives for commodities affected by the methyl bromide phase-out. The new program will focus on short- to intermediate-terms solutions for all commodities at risk. Activities will involve research designed to deliver and demonstrate the practicality and economic feasibility of new technologies.

An acceptable alternative must allow growers to raise a profitable crop reliably from year to year. In the short term, it is clear that acceptable alternatives will have to come from among those already under development and testing. Because methyl bromide is effective over a wide range of soil types, climates, and crops, no single alternative is available to replace all the uses. The most likely short-time alternatives will be replacement fumigants that are already registered. Other kinds of alternatives, such as resistant varieties, biological control, and cultural improvements, show promise; but there is not enough time to develop and adapt them to acceptable cropping systems before the phase-out. Even for replacement fumigants, results are mixed and not as consistent as methyl bromide—probably why the replacements have not been widely adopted as long as methyl bromide is available.

Although there are likely to be short-term replacements for some uses of methyl bromide, in most cases, the alternative is likely to cost more and be less effective. Serious economic consequences and shifts in agriculture within states and among foreign countries are expected.

The strategy for finding alternatives is not expected to change because of the extension of the phase-out; there will just be more time to look for solutions. The strategy remains to identify and develop alternatives in laboratories and small plots, then test the most promising ones in larger plots under a variety of conditions, and finally to select the most effective and validate their effectiveness in commercial field-scale settings. The final stages are done with the cooperation of the agriculture industries and growers, many times on grower land.

USER FEE OFFSETS

Question. Section 754 of the fiscal year 1999 Appropriations Act directed that any submission of unauthorized user fees in the fiscal year 2000 budget request before this subcommittee would have to include certain additional information if the revenue for those fees was necessary to meet the President's budget authority requirements. While the budget authority request for FSIS appears to include the full amount necessary for inspection and related activities in fiscal year 2000, the table found on page 379 of the Budget reflects a total discretionary requirement for this subcommittee that assumes the $504 million in proposed revenues from unauthorized user fees for FSIS activities. Please list by USDA agency and by amount any assumptions of revenues from unauthorized user fees to achieve the discretionary spending found on page 379 and, consistent with Section 754 please note the funding levels currently in the budget request recommended for reduction in the event the fees in question are not authorized prior to the convening of a committee of conference for the fiscal year 2000 appropriations bill.

Answer. We will provide the information for the record.

[The information follows:]

FISCAL YEAR 2000 FEE PROPOSALS WHICH IMPACT DISCRETIONARY SPENDING

[In millions of dollars]

Agency	Proposal	Budget Authority
Food Safety and Inspection Services	Salaries and Expenses. This proposal would charge fees for the full cost of providing Federal inspection of meat, poultry, and egg products. The user fees exclude Grants to States and Special Assistance to State Programs..	−504
Animal and Plant Health Inspection Service	Salaries and Expenses. This proposal would establish user fees for costs for animal welfare inspections and issuance of biotechnology certificates..	−9
Grain Inspection, Packers and Stockyards Administration.	Salaries and Expenses. This proposal would establish a fee for grain standardization and a licensing fee to cover the costs of administering the provisions of the Packers and Stockyards Act relating to meat packing and stockyards activities..	−19

COUNTY AND STATE OFFICE STREAMLINING

Question. To what extent are total agency costs in the office consolidations considered? For example, would USDA require relocation of a state office for one agency in order for all state agencies to be in a single location if the cost for the relocation exceeded the costs of current locations?

Answer. FSA with NRCS and RD will be establishing a working group comprised of representatives from management and the unions to develop a plan for implementing office consolidations where these are not already in place. The working group will be looking at every aspect of plans to achieve savings under current budget resources. It is possible that the benefits to producers and field offices of a common state office location could outweigh a somewhat higher cost, yes.

EMPLOYEE REDUCTIONS AND OFFICE CLOSURES

Question. Since budget constraints are resulting in lower service levels in field offices due to increased workload and a reduced workforce, has USDA conducted an evaluation to determine when the continuation of a county office in a given location is of less importance to the customer than the maintenance of "service" in the area? At what point does the presence of a workforce in an area become more important than the existence of a field office regardless of whether that office can meet workload requirements?

Answer. The Agency is continually monitoring workload in States to determine areas of increased workload and moves both human and monetary resources to those areas based on availability to provide the most effective and efficient service to its customers. State Executive Directors have been charged to use all management tools available to ensure that producers are served as expeditiously as possible using details, directed reassignment of employees, shared management and office collocation and consolidation to get the work accomplished. When the cost of keeping a service center in operation exceeds the benefit of service provided at the counter, States consider closure and consolidation of operations to improve efficiency but only with Congressional concurrence.

FARM SERVICE AGENCY FEDERAL AND COUNTY EMPLOYMENT STATUES

Question. Please provide an update on activities relating to the conversion of Farm Service Agency (FSA) county personnel to Federal status.

Answer. No further discussion or action has been taken in converting FSA county employees to Federal status. Currently, the Secretary is on record as being in favor of this conversion. No Congressional action has been taken to enact this proposal. However, on October 21, 1998, the President signed Public Law 105–277 which contained a section to provide permanent FSA County Office committee employees with Federal Civil Service status for only the purpose of applying for USDA Civil Service vacancies.

FARM SERVICE AGENCY SALARIES AND EXPENSES

Question. The fiscal year 2000 request for FSA Salaries and Expenses includes an $80 million increase, although that increase does not take into account the additional $40 million provided as emergency spending in fiscal year 1999 which reduces the actual increase to $40 million. To what extent has the FSA Salaries and Expenses account been supplemented by carryover balances in past years and how much will be available in fiscal year 2000?

Answer. Historically, there has been carryover in past years. FSA has both Federal offices and Non Federal County Offices, and the ability to obligate administrative funds for carryover workload is authorized by a general provision in each year's appropriation act, which is only applicable to the non Federal county offices. Funds obligated for carryover workload expenses are normally kept at a minimum. Funds made available to county committees in a fiscal year are based on actual and estimated workload and staff year requirements according to the FSA County Office Work Measurement and Funding Allocation System. Requirements are updated during the year to take into account changing conditions. Programs administered by county committees are highly volatile in nature and subject to rapid changes. Such changes include weather conditions, domestic market prices, export sales, legislative and policy changes. Many emergency programs end up being quickly administered at mid-fiscal year or late in the fiscal year. In a disaster situation the top priority is to furnish a check to a farmer or rancher as quickly as possible, so most county offices must end up delaying or completing the process of all necessary paperwork according to required procedures in order to comply with Agency procedures as well as satisfy general and specific audits by OIG and/or GAO.

In past years, for example, obligated carryover in fiscal year 1997 amounted to $63.8 million of which $50.8 million was designated for use in fiscal year 1998 and $13 million for use in fiscal year 1999. The ending obligated carryover for fiscal year 1998 was actually $32.1 million which includes the $13 million brought forward from fiscal year 1998 and programmed for fiscal year 1999. The $32.1 million is for carryover workload expenses to be completed in fiscal year 1999. There is currently no expected carryover estimate for fiscal year 2000, given 1999 funding enacted.

Question. To what extent will the $80 million increase described in the fiscal year 2000 budget request actually reflect an increase in funding available to a maintain personnel?

Answer. The increase is actually $40.5 million. The 1999 funding level includes the additional $40 million provided by the emergency appropriations title of the 1999 Act. This funding identified as administrative support for the emergency programs allowed FSA to maintain fiscal year 1998 staffing levels into fiscal year 1999. An increase of approximately $40.5 million over the fiscal year 1999 enacted level is required to sustain critical program delivery, including pay costs at a reduced staffing level, offset by some decreased operating costs. After adjusting fiscal year 1999 for $32.1 million in obligated carryover funding, the actual net increase for fiscal year 2000 amounts to only $8.4 million. Therefore, the small increase in total availability actually requires a decrease in staffing because of pay and related costs.

Question. In what manner does the agency expect to reduce the staffing levels to those included in the budget documents by the end of fiscal year 2000.

Answer. fiscal year 2000 Explanatory Notes reflect a decrease of 752 staff years for Federal and non-Federal staffing level, from fiscal year 1999 staffing of 16,545 FTE's to fiscal year 2000 staffing level of 15,793. FSA has no buyouts or RIF's planned for fiscal year 2000. The Agency hopes to achieve the 752 decrease in staff years through attrition, which will be difficult.

Question. What effect will this have on the administration of programs and the level of service afforded to customers?

Answer. Because workload, particularly for marketing assistance loans, loan deficiency payments and farm loans, is expected to increase in fiscal year 2000, the proposed reduction of 752 staff-years proposed will pose a formidable challenge to FSA The Agency will strive for maximum efficiency in program delivery as it continues with its reengineering efforts for program and administrative services. But ultimately, these reductions will negatively impact program delivery in terms of delays in delivering payments to farmers, and in implementing emergency and disaster programs across the nation, particularly in locations already minimally staffed as a result of previous agency downsizing.

CONSERVATION TECHNICAL ASSISTANCE

Question. To what extent will the restrictions on Commodity Credit Corporation (CCC) Section 11 reimbursements affect the administration of conservation programs in fiscal year 2000? Does USDA plan any action, either administratively or

through requests to Congress, to correct any serious problem posed by the Section 11 limitation?

Answer. Section 161 of the 1996 farm bill amended Section 11 of the CCC Charter Act to limit the uses of CCC funds for reimbursable agreements and transfers and allotments of funds to State and Federal agencies. In fiscal year 2000, after adjusting the cap to remove the Emerging Markets Program from the base, the total expenditure of CCC funds for such uses may not exceed $36.2 million. The budget projects obligations under the revised cap for reimbursable agreements will total $36.2 million in fiscal year 2000, excluding funding for technical assistance for the Wetlands Reserve Program (WRP) and the Conservation Reserve Program (CRP). Technical assistance needs in fiscal year 2000 for the WRP are estimated to total $18.3 million, with $2.0 million provided from unobligated prior year appropriations and $9.8 million from funds available under the Section 11 cap, leaving a shortfall of $6.5 million. Technical assistance needs in fiscal year 2000 for the CRP are estimated to total $18.1 million. However, no funds for CRP technical assistance in fiscal year 2000 are available from unobligated prior year appropriations, no CCC funding has been provided for, and we are therefore attempting to determine appropriate actions to resolve the funding shortfall.

FOOD GLEANING SAVINGS

Question. As efforts at Food Gleaning become more successful, will there by any anticipated future savings for USDA feeding programs? If so, when might these be realized and to what levels might they reach?

Answer. Gleaning provides America the opportunity to save, and to provide to low income people, huge quantities of food that would otherwise go to waste. While it is reasonable to anticipate that, overall, this could affect demand for Federally funded nutrition assistance, we anticipate that the effects will be small and very much at the margins. Mostly the gleaning effort will help people who don't otherwise get enough to eat, some of whom are program participants, and many who are not. However, gleaning in no way is seen as supplanting, even partially, the need for the Nation's nutrition safety net. It will augment it. It will reduce waste and augment nutrition assistance at very little cost compared to the value of the food that can be saved for human consumption.

USDA AGRICULTURAL POLICY ADVISORY COMMITTEE (APAC)

Question. Please provide an update on the status of nominations to the USDA Agricultural Policy Committee (APAC). Wisconsin has a candidate that represents the small and medium-sized family dairies that are prevalent in the Midwest. What is the Department's status on completing those nominations?

Answer. We are in the final phases of the review process and anticipate the process will be completed by the end of March.

QUESTIONS SUBMITTED BY SENATOR DORGAN

DISASTER PROGRAM SIGN-UP

Question. Not only do we have a farm program safety net that is not working, but our delivery system is also facing serious problems. Sign up for the 1998 and multi-year crop disaster assistance programs were scheduled to start a week ago Monday (Feb. 1). Last week, it was announced that farmers should wait a week before coming in, because our county offices didn't have all the materials available to sign farmers up. Yesterday, I was informed that our farmers would have to wait another week until a computer download could be completed. We have also had a serious backlog in processing of farm credit applications.

While I recognize that FSA staff has been working extremely hard to get disaster aid to our farmers, the fact is that there has not been adequate staffing to effectively deliver the programs on a timely basis to our producers. This is a critical time for our farmers. They are in the midst of arranging financing for this year's crops. For many, the disaster payments will make the difference between whether they are able to farm this spring. Yet, the proposed budget is still recommending a reduction in FSA staffing. What is the Department's future plans so that farmers can be assured that they will receive timely delivery of USDA service through FSA?

Answer. FSA county staffing has declined by 28 percent from 1993 to 1998 as a result of appropriations actions, field office streamlining and workload reductions resulting from the 1996 Farm Bill. The emergency funding of $40 million included in the 1999 appropriations act has allowed FSA to maintain approximately the same staffing level in 1999 as in 1998. However, it did not provide for any additional staff

to handle the large workload increases associated with the new emergency disaster assistance programs. The additional programs have strained FSA delivery in many States. This has compounded backlogs associated with the increased activity in the loan deficiency payments, marketing loan assistance, other assistance activities stemming from low prices, and the disbursement of disaster payments.

The proposed fiscal year 2000 staff reductions may affect program delivery and service to producers, particularly in locations already minimally staffed as a result of previous agency downsizing. Without significant improvement in commodity prices, these proposed staffing reductions may not be consistent with the economic realities we are facing and the resultant workload. We will be reassessing our needs in order to deliver assistance to farmers timely.

FARM CREDIT ASSISTANCE

Question. Yesterday, Vice-President Gore announced that a Federal rule change would be issued later this week to streamline the procedures for the handling of guaranteed farm ownership and operating loans. This is welcomed news. But, a streamlined process doesn't help when the program is out of funds. In North Dakota, the allocations for a number of categories of guaranteed FSA loans are already fully used. What additional amounts of FSA credit will be needed to meet the needs for this spring and when will USDA submit such requests to Congress?

Answer. FSA intends to pool and redistribute unused funds in March for the guaranteed operating with interest assistance and farm ownership loan programs. This action will help alleviate, but not eliminate, funding shortages in North Dakota. The option of seeking additional farm loan funding authority from Congress is under review.

Question. In addition, what changes would you recommend to current FSA credit authorities so that you can provide appropriated credit to serve the needs of family farmers in this period of distress?

Answer. FSA is confident that existing loan programs, if fully funded, will meet the needs of family farmers affected by low commodity prices. FSA farm loans provide low-interest rate assistance in the direct and guaranteed operating with interest assistance programs. Lenders are able to restructure the indebtedness of their customers with FSA guaranteed operating and farm ownership loans.

FLOODED LANDS RELIEF

Question. Last year, you announced a $12 million program under the Disaster Reserve Assistance Program to assist livestock producers who experienced flooding due to natural disasters. In addition, $35 million was allocated for flooded agricultural lands as part of the $2.4 billion disaster assistance package. These programs are urgently needed in our region, particularly in the Devils Lake area which has suffered for the past six years with flooding. When will USDA have these programs ready so that farmers can begin signing up for them and receiving assistance from them?

Answer. The regulation is currently going through departmental clearance. Immediately upon OMB clearance and publication in the Federal Register signup will begin. We have been working with the impacted states to determine the length of signup needed. Input from the states indicates that a six week signup period is needed. Data will be uploaded to determine a factor and issue payments.

FSA BUDGET PRIORITIES

Question. At a time when FSA is having difficulty maintaining adequate staff and county offices to deliver farm programs to our farmers, I am greatly concerned about the Agency's priorities. While I do not oppose the co-location of USDA state offices, I am greatly concerned that our FSA state office may be required to move its office to Bismarck with moving costs estimated at almost $1 million. In addition, since there is not adequate space in the current federal building in Bismarck in which USDA offices are currently housed, it would also mean the construction of a new facility. Based on projected costs savings, it would take almost a dozen years for FSA to recover enough in savings to pay for this move.

At a time when FSA is seriously behind in its workload and has been cutting staff at the county level in recent years, it would make more sense to use existing funds for providing direct service to producers, rather than moving offices. I would request that the Department conduct a thorough review of this proposed move and report its findings to this subcommittee prior to taking any further action on this matter.

Answer. As part of the 1994 reorganization, the Department of Agriculture has been consolidating administrative organizations that provide support to program managers. Currently three separate administrative structures provide support to

the Natural Resources Conservation Service, and the Farm and Foreign Agriculture Services and Rural Development mission areas—down from nine such organizations in 1993. The Department has combined these three structures into one unit which will be known as the Support Services Bureau, and by delegating the authority to conduct most administrative functions to the state level, closer to the customer.

This action was implemented due to the following reasons:

—A consolidated structure will deliver better services to our local customers and employees.

—A consolidated structure will provide for a new consistency in administrative policy.

—A consolidated structure will make better use of limited administrative resources.

—A more efficient administrative structure will help to preserve limited budget resources for program delivery.

The proposal to consolidate the Bismark FSA State Office with the other agencies is part of this plan. FSA, NRCS, and RD will be establishing a working group comprised of representatives from management and the unions to develop a plan for implementing the administrative convergence. The working group will be looking at every aspect of the plan to achieve savings under current budget circumstances, but will certainly take into consideration the balancing of moving costs necessary to achieve the convergence plan with any diminished service level to producers. We will advise the subcommittee prior to consolidating the offices at Bismarck.

TRADE & POLICY RESEARCH CENTER

Question. USDA's budget for fiscal year 2000 includes funding for the Trade and Policy Research Center at North Dakota State University. The budget states that the project will contribute primarily to the Department's Strategic Goal 1, "An agricultural production system that is highly competitive in the global economy," and Goal 5, "Enhanced economic opportunities and quality of life for families and communities." Please provide for the record a statement on the longer-term need for the research and analysis which will be provided by the Trade and Policy Research Center for the Northern Plains Region, and how this would complement and supplement research conducted by the Food and Agricultural Policy Research Institute (FAPRI).

Answer. The Northern Plains Policy and Trade Research Center (NPPTRC) at North Dakota State University has been a member of the Food and Agricultural Policy Research Institute (FAPRI) consortium for several years and provided important analytical input that is unique to the large northern plains region of the United States. Most other consortium members receive federal funding for the work they do on behalf of several states in their respective regions while NPPTRC has been representing the northern plains states primarily with its own resources. The proposed research project will greatly enhance the quality of policy and trade research in the northern plains and improve the FAPRI agricultural forecasts. The NPPTRC global wheat model and global sugar model currently interact with the FAPRI model in evaluating agricultural outlook for wheat and sugar. The proposed program will enhance the quality of these models as well as develop new analytical tools that capture the unique resource endowment, climate, crop mix, and marketing environment of the northern plains and provide timely analyses of major trade issues and policy changes for private and public decision makers.

USDA EPSCOR

Question. Congress for a number of years has directed USDA to use 10 percent of its National Research Initiative Competitive Grants Program (NRI) funding for an Experimental Program to Stimulate Competitive Research (EPSCoR). USDA EPSCoR strengthens our nation's research capability and helps ensure that quality research in the agricultural sciences is a nationwide commitment. Using the three most recent years for which data is available, what percentage of NRI funding was committed to researchers in the USDA-EPSCoR States?

Answer. The percentage of NRI funding committed to researchers in the USDA-EPSCoR states for the three most recent years for which data are available is as follows: 1996 = 12.7 percent; 1997 = 12.6 percent; 1998 = 15.2 percent.

Question. Please provide a chart listing, by state, the number of proposals submitted to each of the four USDA EPSCoR award areas (Research Career Enhancement Awards, Equipment Grants, Seed Grants and Strengthening Standard Project Awards), and the number of those proposals which received funding.

Answer. The number of proposals submitted by and awards made to USDA-EPSCoR states in the NRI Research Career Enhancement Awards, Equipment

Grants, Seed Grants and Strengthening Standard Project Awards programs are as follows:

NATIONAL RESEARCH INITIATIVE COMPETITIVE GRANTS PROGRAM

State	Research Career Enhancement Awards		Equipment Grants		Seed Grants		Strengthening Standard Research Project Awards	
	Proposals	Awards	Proposals	Awards	Proposals	Awards	Proposals	Awards
Fiscal year 1996								
Alaska	...	...	...	...	...	...	3	...
American Samoa	...	...	...	...	...	...	...	...
Arkansas	...	...	2	2	5	1	11	5
Connecticut	...	...	1	1	3	3	11	2
Delaware	...	...	...	...	...	...	10	3
District of Columbia	...	...	...	...	...	...	1	...
Guam	...	...	...	...	...	...	...	...
Hawaii	...	...	...	...	...	...	2	...
Idaho	...	...	2	2	3	3	17	4
Maine	1	...	1	...	3	1	9	1
Micronesia	...	...	...	...	...	...	...	...
Mississippi	...	...	3	2	5	1	11	3
Montana	1	1	3	1	5	...	13	5
Nevada	...	...	...	...	1	...	5	...
New Hampshire	1	...	...	...	3	1	5	2
New Mexico	...	...	3	2	1	...	5	...
North Dakota	...	...	5	...	5	2	8	3
Northern Marianas	...	...	...	...	...	...	...	...
Puerto Rico	...	...	...	...	2	...	...	...
Rhode Island	...	...	6	4	7	...	7	...
South Carolina	...	...	1	1	10	3	13	2
West Virginia	...	...	...	...	3	...	9	2
Wyoming	...	...	1	...	5	1	5	1
Fiscal year 1997								
Alaska	...	...	...	...	1	...	3	...
American Samoa	...	...	...	...	...	...	...	...
Arkansas	...	...	4	4	8	3	9	3
Connecticut	...	...	1	1	2	1	9	1
Delaware	...	...	1	1	1	...	4	...
District of Columbia	...	...	...	...	2	1	...	...
Guam	1	...	...	...	...	...	...	...
Hawaii	1	1	...	...	2	1	4	...
Idaho	...	...	1	...	1	...	6	...
Maine	...	...	1	1	6	3	7	3
Micronesia	...	...	...	...	...	...	...	...
Mississippi	...	...	2	1	5	2	11	1
Montana	...	...	4	4	12	3	1	...
Nevada	...	...	1	1	...	...	8	2
New Hampshire	...	...	...	...	3	1	1	...
New Mexico	...	...	1	1	...	...	3	...
North Dakota	1	1	5	4	3	...	7	1

QUESTIONS SUBMITTED BY SENATOR FEINSTEIN

CITRUS FREEZE

Question. How are the fiscal year 1999 Disaster Supplemental funds being allocated?

Answer. Producers who suffered losses to their 1998 crops and their 1999 crops for which harvest began in December, 1998 are provided the option of receiving single year loss benefits on either their 1998 or 1999 crop, but not both. To determine multi-year benefits, the 1998 crop insurance indemnities will be used to determine eligibility.

Question. Will there be sufficient funding to cover the additional cost imposed on the funding by the citrus freeze?

Answer. The 1999 Appropriations Act, Public Law 105–277, provided a total of $2.375 billion for crop loss disaster assistance. If the value of applications received ultimately exceeds available funds, then payments to producers would need to be prorated.

Question. Unlike other farm workers, California's citrus workers are permanent residents in the areas where they work. What steps can the USDA take to address the needs of California's farm workers who lost their only source of income due to the freeze?

Answer. To date, The Department has made available $1.8 million for emergency rental housing for farm workers displaced due to the December freeze. The Department is reviewing a range of possible options which could be used to assist farm workers affected by the citrus freeze. This includes review of funding options within the Rural Development area as well as existing legislative authorities. For example, Section 2281 of the Food, Agriculture, Conservation and Trade Act of 1990 authorizes up to $20 million annually in emergency grants to public agencies or private organizations with tax exempt status to assist seasonal farmworkers that have lost income due to natural disasters, however, no funds are currently available under this authority. In 1992, following Hurricane Andrew, use of Commodity Credit Corporation funds was authorized in emergency supplemental legislation for farm worker housing in south Florida. The funds were used to purchase and install trailers.

FREEZE IN CALIFORNIA

Question. Are you planning to extend the same waivers relating to food stamps that were granted to Tulare County to the other counties impacted by the freeze?

Answer. Tulare and Fresno County have requested certain waivers and they were provided. The California State Agency has advised the other disaster affected counties that waivers are available, but the counties have not requested any at this point.

We have shipped about 40 extra truckloads of food into these counties, to date, coming from State and Federal inventories. And we are keeping a close eye on developments there to make sure we do all that we can.

BORDER INSPECTIONS

Question. What steps are you taking to address the recent fruit fly and pest infestation problems at the border in San Diego and other ports of entry?

Answer. USDA and the California Department of Food and Agriculture (CDFA) are working cooperatively on three Mediterranean fruit fly (Medfly) and Mexican fruit fly (MFF) emergency eradication programs in California. The Medfly operations are located in Orange, San Diego and Riverside Counties. The MFF operations are in several areas of San Diego County such as El Cajon, Oak Park and Stockton. All emergency efforts include regulatory activities, pest control, and surveys. In addition, an areawide sterile MFF release program was implemented in January 1999 to prevent outbreaks due to natural or illegal movement of the exotic insect. The release area encompasses the three infested areas and most populated areas of San Diego south of Interstate 8 to the US/Mexican border. We plan to continue the areawide release program until June, 1999.

Question. Reports have indicated that the actual staffing levels at the border are well below what are recommended in agency guidelines for USDA inspections. How many inspectors are currently working at the major California points of entry?

Answer. There are currently 65 authorized positions at the major California points of entry: Calexico, CA (22); Andrade, CA (2); and San Diego, CA (41).

Question. How many inspectors are recommended by USDA guidelines?

Answer. The USDA guidelines for fiscal year 1999 recommend 65 inspector positions at major California points of entry.

Question. The fiscal year 2000 budget requests an increase in the AQI program. Will any of this increase will go towards correcting the staffing shortage at the US/Mexico border?

Answer. The proposed fiscal year 2000 increase for the AQI appropriated program supports additional staffing of 15 inspectors along the US/Mexican border. We plan to allocate 3 of the new positions at California points of entry: Andrade, CA (2) and San Diego, CA (1). The balance of the positions will be located along the Mexican border in Arizona and Texas.

Question. How much additional funding is necessary to bring the number of inspectors up to USDA standards?

Answer. The proposed fiscal year 2000 increase of $3.9 million for the AQI appropriated supports additional inspection personnel necessary to address the expansion of travel and trade from Mexico, Canada and Hawaii.

Question. How will USDA address the concerns raised by nations such as Australia and Taiwan which have imposed restrictions on importing some agricultural products from the San Diego area?

Answer. USDA is conducting bilateral negotiations to assure these countries that our emergency programs in San Diego, California, including all regulatory, control, and survey efforts, are more than sufficient to guarantee that agricultural products from this area pose no pest risk. In addition, we invited Taiwanese and Australian agricultural officials to visit the emergency project sites to experience the scope and intensity of these programs first-hand. On an ongoing basis, we ensure compliance with all international standards for activities like pest surveillance and notification to promote the credibility of U.S. agricultural products among our various trading partners.

IMPORTATION OF CITRUS FROM ARGENTINA

Question. How is USDA planning to address the concerns raised by the California Department of Food and Agriculture relating to importation of citrus products from Argentina, particularly the problems they raise with citrus black spot and sweet orange scab?

Answer. On October 16, 1998 APHIS extended the public comment period until February 11, 1999. Public hearings were conducted also in Orlando, Florida and Thousand Oaks, California. APHIS is now analyzing the information provided by independent scientists regarding the Argentine petition and the risk mitigation measures advocated by APHIS. It is our intent that these mitigation measures are designed to prevent the introduction into the United States of Citrus Canker, sweet orange scab and citrus black spot.

Question. What is the time line for implementing the rule on importing Argentine citrus?

Answer. We hope to complete our analysis in time for the regulations to be in place for their next crop season.

Question. Does APHIS require additional resources to address this problem?

Answer. No additional funds are needed to complete this analysis.

QUESTIONS SUBMITTED BY SENATOR DURBIN

AGRICULTURAL RESEARCH

Question. Will the amount included for the National Center in the Budget preclude an expeditious completion of this project?

Answer. The amount included in the fiscal year 2000 budget for the National Center for Agricultural Utilization Research (NCAUR) will not preclude an expeditious completion of the North Wing project. The $8.2 million received in fiscal year 1999 will be used for design and construction of the last phase of the North Wing renovation. In the fiscal year 2000 budget, $1.8 million will be needed for planning and design of the Chemical Wing renovation. Planning and design is expected to last 12–18 months. Construction funds for the Chemical Wing renovation will not be needed until fiscal year 2001.

Question. What criteria was used to determine ARS program cuts at facilities like the National Center in Peoria and the University of Illinois at Urbana-Champaign? In particular, please account for the cuts in the following programs at the University of Illinois: Soybean Diseases; Sensors and Systems for Site-Specific Crop Management to Improve Environmental Quality; and Reduced Herbicide Inputs for Effective Weed Management Systems to Improve Water Quality. And, the following programs at the National Center in Peoria: Processing of Natural Polymers; Enhanced Uses of Plant Proteins; Anaerobic Processes in Animal Waste Management; Meadowfoam Research; Bioprocess and Metabolic Engineering Technologies for Biofuels; Biotechnology Research and Development Corporation; and Novel Carbohydrate-Based Materials via Bio Conversion Processes.

Answer. The research projects carried out at the Peoria and Urbana research centers are recognized as important research to the Department and the specific groups, producers and consumers who would benefit from this research. However, these projects have been identified as being less critical to the Nation's broader interests and research needs, such as food safety research, nutrition research, and global climate change. The screening criteria used by ARS officials includes the following elements: the relevance of the research project; the availability of sufficient resources to conduct the research; and the overall impact of research on American agriculture. The projects are numerically ranked according these criteria, and those with the lower rankings are proposed for termination.

Most of the projects proposed for termination in this budget at Peoria and Urbana were identified in prior Administration budgets as less critical and remain in this category. Newly initiated projects not included in the President's requests were also added to the proposed termination list. While these research projects are important, worthwhile, and provide benefits to the agricultural industry and the American public, others of more critical national importance become higher priority.

The funding allocation for discretionary programs in the fiscal year 2000 budget remains exceedingly tight. Choices between better and best are never easy but constraints in this budget made this a necessary process. Let me reiterate that those projects recommended for termination have or will contribute to the solution of agricultural and consumer problems—but they are considered less essential to continue because of a very constrained discretionary Federal budget with competing, higher priority research needs.

FOOD SAFETY

Question. The President stated in early January that of the $105 million increase for the Food Safety Initiative, approximately $65 million would go to USDA. The President indicated that portions of these funds would be used to "introduce HACCP at the 2,700 smaller plants." My understanding is that those plants came on line in January, 1999. How will funds in fiscal year 2000 be used for the above mentioned plants?

Answer. In January, small meat and poultry establishments were required to have implemented Hazard Analysis and Critical Control Point (HACCP) systems. In order to facilitate this transition, we held numerous workshops across the country to provide the operators of these establishments with the technical assistance needed to meet the new requirements. The 2000 budget will provide the resources necessary to maintain these efforts.

Question. How will FSIS funds be used to assist with the "smallest" plants (those employing less than 11) with HACCP implementation in January 2000?

Answer. The 2000 budget includes resources necessary for the Food Safety and Inspection Service (FSIS) to ensure that very small establishments have the technical assistance needed to successfully implement Hazard Analysis and Critical Control Point (HACCP) systems. In addition, funds are requested to redeploy inspection personnel to cover critical inspection vacancies in very small establishments. The 2000 budget also includes funding for initiatives aimed at ensuring that State meat and poultry inspection programs have the capability to implement the HACCP rule. Successful implementation by the States is important, because they inspect approximately 3,000 very small establishments.

Question. In moving towards more "science-based" approaches to food safety inspection, FSIS is proposing changes in the way it uses its inspectors. Has FSIS formed a new interpretation of "continuous inspection" and is there a need for a change in Statutory authority?

Answer. The Food Safety and Inspection Service (FSIS)is beginning to test alternative slaughter inspection procedures in conjunction with the implementation of the Hazard Analysis and Critical Control Point (HACCP) systems regulations. As part of these tests, FSIS personnel will conduct inspection in different ways, but with the same goal of ensuring the safety of all meat and poultry products. This does not connote a new interpretation of continuous inspection. The existing statutory framework for meat and poultry inspection provides FSIS with ample authority and flexibility to build a science-based regulatory system based on these alternatives.

ASIAN LONGHORNED BEETLES

Question. The Administration, USDA in particular, has responded expeditiously and thoroughly in its efforts to combat the infestation of the Asian Longhorned Beetle in the Chicago, Illinois area. Please provide a status report on the efforts taking place in Chicago to combat infestation as well as remove and replant trees. Is there a coordinated approach with other Federal departments and agencies?

Answer. In July and August of 1998, Asian Long-Horned Beetle was discovered at three locations in the Chicago, Illinois area. Over 400 trees have been found to be infested and scheduled for removal. This program is a cooperative effort between APHIS, the Illinois State Department of Agriculture, and the city of Chicago.

Question. What Federal funds are available to assist the City of Chicago, the State of Illinois, and other affected communities?

Answer. In January 1999, $5.5 million was transferred to APHIS from the Commodity Credit Corporation to conduct eradication activities in New York and Illinois.

SUBCOMMITTEE RECESS

Senator COCHRAN. Our next hearing is going to be Tuesday, March 2nd, at 9:30 a.m. in this room, 138 of the Dirksen Senate Office Building. At that time we will hear from Department of Agriculture witnesses on the subject of assistance to producers and the farm economy.

Until then, we stand in recess.

[Whereupon, at 11:25 a.m., Tuesday, February 9, the subcommittee was recessed, to reconvene at 9:30 a.m., Tuesday, March 2.]

AGRICULTURE, RURAL DEVELOPMENT, AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 2000

TUESDAY, MARCH 2, 1999

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 9:34 a.m., in room SD–138, Dirksen Senate Office Building, Hon. Thad Cochran (chairman) presiding.

Present: Senators Cochran, Gorton, Burns, Kohl, Dorgan, and Durbin.

DEPARTMENT OF AGRICULTURE

UNDER SECRETARY FOR FARM AND FOREIGN AGRICULTURAL SERVICES

STATEMENTS OF:

KEITH COLLINS, CHIEF ECONOMIST

AUGUST SCHUMACHER, JR., UNDER SECRETARY FOR FARM AND FOREIGN AGRICULTURAL SERVICES

ACCOMPANIED BY DENNIS KAPLAN, DEPUTY DIRECTOR, OFFICE OF BUDGET AND PROGRAM ANALYSIS

OPENING REMARKS

Senator COCHRAN. The subcommittee will please come to order.

We welcome our witnesses and our guests at our hearing today.

At this hearing, we will review the budget request for the Department of Agriculture for programs administered by the Department which provide assistance to farmers and ranchers.

In this context, we need to know and we would like to hear from our witnesses about the current financial and economic situation confronting farmers, including farm commodity prices and what the Department is doing to help expand markets and improve farm income.

We would like to know the status of the emergency supplemental funding and livestock and marketing assistance payments that were provided for in the Fiscal Year 1999 Agriculture Appropriations Act and how the Department is administering these programs.

We will also be interested in hearing from our witnesses about the adequacy of the funding for credit programs that finance farmers' activities.

Last year, Congress appropriated one of the largest emergency farm relief packages in history, providing nearly $6 billion for disaster and market assistance for the Nation's farmers and ranchers. Also, additional production flexibility contract payments were disbursed before the first of the year to help farmers.

Those who purchased crop insurance will have a 30 percent reduction in premium costs because of this disaster assistance legislation.

We appreciate very much the presence at our hearing this morning of Keith Collins, who is the Chief Economist of the Department of Agriculture; Mr. August Schumacher, Jr., Under Secretary for Farm and Foreign Agricultural Services, and Mr. Dennis Kaplan with the Budget Office of the Department of Agriculture. There are others who are here accompanying these witnesses and we appreciate your being here and providing assistance to us at this hearing.

We have copies of statements that you have prepared and we thank you for those. They will be made a part of the record in full.

I would invite you now to proceed to make whatever comments you think appropriate and to summarize your statements. We will have an opportunity to ask questions after you complete your remarks.

Mr. Collins, you may proceed.

STATEMENT OF KEITH COLLINS

Mr. COLLINS. Thank you very much, Mr. Chairman, and good morning. Thanks for the invitation to start this hearing by discussing the economic conditions in U.S. agriculture.

There is a great deal of concern about the problems the farm economy experienced in 1998 and a great deal of concern about the prospects for 1999. I am going to start by describing briefly the current situation. Then Under Secretary Schumacher will follow up by providing some detail on the assistance programs that we are providing to U.S. agriculture.

As we all know, the farm economy contracted in 1998. As you indicated, the emergency relief package helped many producers cope with the downturn in the farm economy this past year.

In 1999, unfortunately, farm exports are going to continue to be weak and farm prices likewise will continue to be weak. I think that will cause higher farm financial stress, particularly in some areas of the country that have escaped up to this point, notably areas in the Corn Belt and down into the mid-South.

There are two major causes of the downturn that we are now experiencing. The first is macroeconomic, the slowdown in the world economy which is reducing food and fiber demand. World economic growth in 1998 was about half the level of 1996 and 1997. And, as we look ahead for 1999, it will probably remain at that rate, about half the level of the mid-1990's.

In addition to that, we have had a very sharp increase in the value of the dollar which has encouraged imports. It has also eroded our competitive position in world markets.

A second major cause of the downturn is increased world agricultural production of food and fiber. To give you an example, the 3 highest years of production in world history of grains and livestock

occurred in the last 3 years. So production has been boosted by the high prices that we saw in the mid-1990's.

We have had 3 generally favorable weather years. We have had better technology, which is also boosting yields. We have also had a livestock liquidation occurring in a number of countries around the world, which is increasing meat supplies. And we have had key policy changes, such as in China, which has promoted self-sufficiency there.

This combination of large supplies and slow-growing demand is driving down farm prices. While the decline that we are seeing has all the earmarks of being cyclical, I think there are also some underlying structural changes that suggest for some commodities, such as soybeans and hogs, that lower prices on average may endure into the future.

In 1996, farm exports reached a record high of $60 billion. This year, we are forecasting farm exports at only $49 billion. Grain, cotton, oilseed, beef and poultry exports all have been seriously affected.

In addition to that, our trade surplus in agriculture—something we like to extol—will only be $11 billion this year, which would be the lowest level since 1987.

As a result of this weak export market and decline in demand, farm cash receipts last year fell about $10 billion. They went down to about $198 billion. And I think as we look ahead for 1999, we would foresee them staying at that level, although crops would decline a little more, offset by a little increase in livestock.

Despite all this bad news that I have uttered thus far, there are some positive factors, I think, that are helping a number of farmers withstand the decline, the downturn in the farm economy. Declining interest rates, fuel prices, and feed costs lowered farm production expenses last year. They fell 2 percent. That is the first significant decline in about a decade.

In addition to that, farm interest expenses are in pretty good shape. I would take you back to the early 1980's when farm interest expenses were 14 percent of gross cash income of farmers. This past year they were only 6 percent.

Another factor offsetting the drop in market revenues is government payments, which rose $5.5 billion during calendar year 1998. They were $13 billion in total, and, I think as we look out to 1999, we can see government payments again providing good support. They will probably be at least $11 billion.

Our conservation programs, those plus technical assistance, are also an important part of government support. They provide payments; they provide cost sharing to help farmers maintain their soil productivity and deal with environmental concerns.

These aggregate financial measures that I have just discussed suggest that the farm economy was generally performing financially adequately as we started 1999, mainly due to the increase in government payments and the reduction in production costs.

We had the second highest net cash income in history in 1998, and the farm debt-to-asset ratio has remained steady, at about 15 percent, which is well below the 20 percent or more that we saw in the 1980's.

As we look out to 1999, I think the signs point to increased financial stress. Net cash farm income is expected to decline about $3 billion to $4 billion. While farm real estate prices, by most analyst' expectations, are not going to go down, we have seen some declines in farm real estate prices in some regions of the country in the second half of 1998.

I think many producers will have a greater difficulty obtaining credit in 1999. You may have seen the Farm Credit System's report this week that their nonperforming loans rose 69 percent during 1998. They were a big lender to American agriculture. But I would point out that the share of nonperforming loans for the Farm Credit System as well as other banks is still pretty small in their total portfolio.

More people are turning to USDA for credit. Our farm loan commitments since October are up 65 percent over the year earlier.

Very quickly, let me just comment on a couple of the commodity market situations.

For grains, the current season is one of building stocks. Prices this year for the 1998 crops are at 8- to 10-year lows.

I think when we look at grains, the bottom may be near. For wheat, we are going to see less acreage, as low prices combined with planting flexibility will take acreage out of grains, I believe, in 1999. That should reduce wheat stocks. It should stabilize corn stocks. We might see improved prices for wheat, but not very much because there is still going to be a lot of wheat in the world—maybe a 10-percent increase in prices on the 1999 crop.

For corn, unfortunately, with stocks stabilizing, prices are staying about the same, in the $2 per bushel range.

For soybeans, I think carryover stocks this season will reach the highest level in more than a decade. Our soybean prices will be the lowest since 1986, and I do not have good news to report for 1999.

I think we will see a further increase in stocks and even lower prices. Soybeans are attractive to many farmers because they represent a little bit less risky crop. Soybeans have been resilient in bad weather. They have low out-of-pocket costs, compared to some of the other main crops. Soybeans' marketing assistance loan is a little bit higher relative to some of the other crops, and we have new varieties, such as herbicide resistant soybeans.

All of those factors I think will push more plantings of soybeans in 1999, and we could see the season average price drop well below $5 a bushel.

For cotton, this year's exports are the second lowest in 20 years due to reduced world demand for cotton textiles and apparel. Also, our cotton production is much lower, and we have a lot of polyester on the world market. Since there are very low oil prices, there are low polyester prices. And we lost Step 2 payments.

In addition to that, we have a surge in imported cotton textiles in the United States and that has hurt domestic mill demand for cotton.

In 1999, I think we will see higher U.S. production, and that will continue to keep the pressure on cotton prices.

Turning to livestock, we had record meat and poultry supplies in 1998. That gave us the lowest cattle prices in the 1990's, and it gave us the lowest hog prices since 1972.

While our cattle herd has been reacting to low prices for some years and declining since late 1995, and we think that in 1999 we will see lower beef production, the low prices will also probably reduce hog production in 1999, and we will see strengthening prices for both of those commodities, but not big increases. Increases will probably be on the order of 5 percent to 10 percent—better, but still weak, prices.

As beef and pork production is cut back, I think broiler production will be up fairly sharply, given last year's high prices, and that will contribute to yet another year of record high meat and poultry supplies in 1999.

Milk prices were good news in 1998. We had record high milk prices. Unfortunately, over the last several months, we have seen a big increase in milk production, and that has led to a sharp drop in cheese prices.

On Friday of this week, we will announce the basic formula price for February, and I think it is likely to be down in the neighborhood of 35 percent from January's price. That would be a record large month-to-month drop. But I would point out that it would be coming from a very high level. The January price was the second highest in history.

For all of 1999, farm level milk prices will probably average between the 1997 and 1998 levels. Unfortunately, prices have recently been weaker than we thought, and it looks like they will be closer to the 1997 levels, which was not a good year for dairy producers.

Producers will have some offsets to the lower milk prices, however, from lower feed costs and from the $200 million in relief payments to be made soon.

To conclude, there are sectors in agriculture that are stable and growing. However, there are some that are not. For 1999, field crops will be in the category where producers are likely to face increased financial stress.

As I indicated, red meat markets will get stronger, but they will still be weak. I think that these types of forecasts suggest that the financial difficulties that we saw in some producers in the Southern Plains States, some areas in the Southeast, and some areas in the Northern Plains are going to spread into the Midwest and down further into the Delta States in 1999.

I would end by saying there are lots of uncertainties when economists talk about the future—the weather being one, the macroeconomic performance of the world economy being another, and the policies of countries around the world being yet another one.

But I do want to emphasize that there are a lot of cyclical factors at play in agriculture right now. So, as we look out over the next 2 to 4 years, some of those things will correct. The world economy will start to grow better, and I think at that point we will see stronger export demand and better prices for U.S. farmers.

At this point, however, I would say the recovery looks like it would occur at a fairly gradual pace.

That completes my comments, and I will turn it over now to Mr. Schumacher.

[statement follows:]

PREPARED STATEMENT OF KEITH COLLINS

Mr. Chairman and members of the Committee, I welcome the opportunity to discuss the economic outlook for U.S. agriculture. Over the past year, the near-term outlook changed dramatically as adverse weather reduced farm income in some regions, and the Asian financial crisis and large global commodity production caused a sharp drop in farm prices and the value of agricultural exports. With crop yields at trend levels in 1999, major crop prices will likely remain at low levels over the next year, and record total meat and poultry production is likely to prevent a strong rebound in livestock prices. Increased government assistance enacted in 1998, of nearly $6 billion, is helping to maintain farm income and limiting financial hardship in the near term. But with weak exports and prices in 1999, farm financial stress is likely to rise. Over a 2- to 4-year horizon, economic recession in a number of countries should give way to economic recovery, increased demand for U.S. agricultural products, and a gradual improvement in farm prices and incomes.

MACROECONOMIC OVERVIEW

In 1996 and 1997, positive economic growth in the United States, near record indicators of consumer confidence, and the lowest unemployment rate since 1973 bolstered domestic demand for agricultural products, while an expanding world economy and declining barriers to trade supported expansion in U.S. agricultural exports. In 1998, the U.S. economy remained strong, but the foundation for world food demand deteriorated, as Japan, South Korea, Malaysia, Philippines, Thailand, Indonesia, Russia, Saudi Arabia, and Brazil all saw their economies contract. After rising an estimated 3.4 percent in 1997, the world economy grew only 1.9 percent in 1998, the lowest rate of growth in 5 years.

World economic growth is likely to slip a little more in 1999, growing only about 1.7 percent. The U.S. economy may slow as a strengthening dollar further increases the U.S. trade deficit, but inflation, interest rates, and unemployment remain at low levels. Most analysts do not expect Southeast Asia's economies to turn around until 2000, but recessionary pressures are expected to weaken in 1999, with Japan's economy bottoming out and South Korea poised for recovery. However, economic growth will likely slow in Latin America, pulled down by Brazil's currency crisis. And, the Russian economy will decline sharply in 1999.

OUTLOOK FOR U.S. AGRICULTURAL EXPORTS

Lower world market prices and export volume reduced U.S. agricultural exports to $53.6 billion in fiscal year 1998, 10 percent below fiscal year 1996's record-high $59.8 billion. For fiscal year 1999, the U.S. Department of Agriculture (USDA) forecasts exports to drop to $49 billion, as lower export prices more than offset increased volume. Lower world prices and reduced volume will likely cut the value of oilseed and product exports by almost $3.5 billion. In addition, low supplies and reduced competitiveness will lower cotton exports, and the Russian financial crisis is forecast to lower poultry exports. Reduced exports to Asia account for about 85 percent of the drop in the value of U.S. agricultural exports during fiscal year 1996–99.

Pacific Asia, including Japan, South Korea, and Taiwan, is the most important market for U.S. agricultural products, accounting for one-third of total U.S. agricultural export sales this past year. Over the coming decade, rapid income growth in Pacific Asia will stimulate expansion in demand for U.S. farm products. Other important growth markets include our North American Free Trade Agreement (NAFTA) partners, Canada and Mexico. In fiscal year 1998, these two countries imported nearly $13 billion in U.S. agricultural products accounting for nearly one-quarter of all U.S. agricultural exports.

Generally, USDA does not expect Brazil's economic problems, if contained, to lower greatly U.S. agricultural exports. In fiscal year 1998, Brazil was the 2lst largest market for U.S. agricultural exports, importing $0.6 billion in U.S. agricultural products or only about 1 percent of total U.S. agricultural exports to all destinations. However, for some commodities, such as rice, Brazil is a very important market. In fiscal year 1998, rice exports to Brazil amounted to nearly one-fifth of total U.S. rice exports. USDA forecasts a drop in U.S. agricultural exports to Brazil to $0.5 billion in fiscal year 1999.

Brazil is slightly more important as a source of U.S. agricultural imports, ranking as the 8th largest U.S. agricultural import supplier. Brazil accounts for over one-half of U.S. orange juice imports. Other agricultural imports from Brazil include prepared and preserved beef or veal, sugar, coffee and tobacco. In addition, Brazil is a major U.S. competitor in the soybean market.

AN OVERALL ASSESSMENT FROM THE FARM INCOME AND FINANCE PERSPECTIVE

Cash Receipts and Expenses.—With strong demand and record or near-record market prices for several crops, farm crop cash receipts reached a record $112 billion in 1997. Lower crop prices caused crop cash receipts to fall to less than $105 billion last year. For 1999, USDA projects cash receipts for crops will likely decline to $102 billion, $10 billion below the record and the lowest level in 4 years, as crop prices retreat further. Compared with 1997, corn cash receipts may be down by over $4 billion, wheat cash receipts down by over $2 billion, and soybean cash receipts down by nearly $4 billion in 1999.

Livestock receipts reached nearly $97 billion in 1997. Livestock receipts declined by about $3 billion last year, as record high prices and receipts for milk were more than offset by sharply lower prices and reduced receipts for cattle and hogs. This year, lower red meat production will likely lead to higher prices and receipts for cattle and hogs, while poultry receipts remain about the same and more milk production reduces prices and receipts for milk. Total livestock receipts will likely improve in 1999, as the increase in cattle and hog receipts more than offset lower milk receipts.

Declining interest rates, fuel prices, and feed costs have helped farmers reduce their production costs, offsetting some of the decline in cash receipts. Total production expenses declined 2 percent from 1997 to 1998, the first significant drop in more than a decade. In 1999, USDA forecasts total farm expenses to be $186 billion, up only slightly from last year.

Government Payments.—Legislation passed last year along with provisions of the Federal Agriculture Improvement and Reform Act of 1996 (the 1996 Act) are helping to offset much of the loss in farm income resulting from crop losses and lower crop prices. USDA's Economic Research Service (ERS) estimates direct government payments, which do not include net indemnity payments under the Federal crop insurance program, to farmers reached nearly $13 billion in calendar 1998 and will total about $11 billion in 1999, up from $7.5 billion in 1997. For the 1990's, government payments exceeded these levels only in 1993, when payments reached $13.4 billion.

In October, Congress passed and the President signed legislation providing about $5.7 billion in additional direct payments to farmers. Nearly $2.9 billion of these payments were paid out as additional Production Flexibility Contract (PFC) payments in late 1998. USDA will distribute the remaining payments during the first half of 1999, with the bulk going to crop producers who suffered 1998 and prior-year crop losses. Congress also passed legislation last year enabling producers to receive 100 percent of their fiscal year 1999 PFC payments before January 1, 1999, rather than receiving half in mid-December or mid-January and the rest by September 30, 1999. This legislation increased calendar 1998 PFC payments by about $0.5 billion and reduced calendar 1999 PFC payments by the same amount.

Under the 1996 Farm Bill, crop producers received PFC payments of $5.7 billion in fiscal year 1998 and will receive $5.5 billion in fiscal year 1999. Other direct payments provided under the 1996 Farm Bill include loan deficiency payments, which are paid to producers when crop prices fall below the announced loan rate, and payments to producers participating in conservation programs. In 1998, loan deficiency payments were record high with producers receiving about $1.8 billion in loan deficiency payments.

Conservation Programs.—Conservation programs are proving to be very helpful in improving the economics of farming. Farmers and ranchers receive about $2 billion in direct payments annually under USDA's conservation programs. The largest of these programs is the Conservation Reserve Program (CRP). Under this program, farmers receive an annual rental payment and partial payment for establishing appropriate cover as compensation for taking fragile land out of crop production. Currently, over 30 million acres are enrolled in the CRP, helping to enhance wildlife habitat, reduce soil erosion, and improve water and air quality. During the 18th signup, 7.1 million acres were offered for enrollment, and USDA expects to announce accepted bids soon. Under the Environmental Quality Incentives Program (EQIP), USDA provides cost-share payments to farmers and ranchers who adopt sound conservation and manure management practices. This and other conservation programs are helping producers reduce soil erosion, enrich soil productivity, improve water quality and wildlife habitat, restore lands damanged by adverse weather, and earn income or reduce costs of conservation practices.

While USDA's conservation work helps producers directly with financial assistance, the technical assistance that is provided is equally important. For example, many livestock owners face increasing regulatory pressures from EPA, and state, and local agencies to improve water quality. This often means having a safe way to use animal wastes. Through our technical assistance, USDA works with pro-

ducers to develop a plan that allows them to apply the manure to land thereby recycling nutrients, reducing the cost of inputs, and helping meet other environmental requirements.

Financial Situation.—It is hard to characterize simply the financial condition of so diverse an industry as U.S. agriculture. Aggregate financial indicators portray a sector with problems in some areas but generally performing adequately entering 1999, due in part to higher government payments authorized last year and lower production expenses. Net cash farm income—gross cash income less gross cash expenses—of $59 billion in 1998 was down only slightly from the record of nearly $61 billion in 1997. Farm debt has risen 2–3 percent per year in recent years, but the value of farm assets has grown faster. Consequently, farm equity has steadily increased and the debt-to-asset ratio has remained steady at about 15 percent, down from over 20 percent in the mid-1980s. In 1999, however, aggregate indicators suggest increasing financial stress. USDA forecasts net cash farm income will fall to $55.5 billion in 1999. U.S. average farm real estate values may rise slightly, reflecting low inflation and borrowing costs, but land values began declining in 1998 in some regions. Meanwhile, farm debt could decline as farmers reduce their borrowing in response to added government payments, low prices, and reduced spending on equipment and other production inputs. However, if farm income declines as projected, farm operators will have less income available in 1999 to meet principal and interest payments. In addition, many producers struggled with cash flow in 1998 resulting from low prices and adverse weather, and these problems will worsen if low prices linger, as USDA now expects.

Looking ahead at individual commodities reveals an unsettling picture. Continued low hog, cattle, and field crop prices will place additional financial pressures on producers who specialize in the production of these commodities and are already highly leveraged. Hog prices could continue to remain below break-even levels for most producers for much of 1999, and cattle prices, which have been low for quite some time, may still not be strong enough to return a profit for some producers for much of the year. For principal crops, net income could fall sharply. In 1999/2000, the net income (production value plus government payments minus total cash expenses) from wheat, corn, soybean, upland cotton and rice production could drop to $17 billion, compared with over $19 billion in 1998/99 and the average of $22.7 billion for the previous 5 years.

OUTLOOK FOR MAJOR CROPS

Wheat and Rice.—The story of the U.S. wheat market over the past 2 years has been rising production, weak exports, rising stocks, and declining prices after successive years of strong prices in the mid-1990's. In 1998/99, U.S. wheat production reached 2.6 billion bushels, as record yields more than offset a 6-percent drop in planted acres from a year earlier. Total wheat supplies—the sum of carry-in stocks and production—increased 12 percent in 1998/99, compared with the prior year, providing the largest supply of wheat in more than a decade. The strong increase in supplies has pressured wheat prices, which USDA forecasts will average $2.70 per bushel for the 1998/99 season, down from $3.38 last year, and will likely end up being the lowest season-average price in 8 years.

Total domestic use is likely to increase about 8 percent in 1998/99, as lower wheat prices this past summer increased feed use. In contrast, weak global demand and strong overseas competition could lower U.S. wheat exports, despite increased donations to Russia and several other needy countries. Exports of soft red winter wheat may be less than half of the 1997/98 level due to larger supplies of similar wheat in several importing and in competing exporting countries. Hard wheats, especially those with higher proteins, have fared better because of strong demand by several countries for blending with their lower quality crops and because of reduced supplies in Canada. Even with the expanding total use of U.S. wheat, USDA estimates that carryover stocks at the end of the 1998/99 season, compared with total use, will be the highest since 1987/88.

On the world front this season, global wheat production is down 4 percent from 1997/98's record, as area and yield each declined around 2 percent. The European Union (EU) harvested a record-large crop in 1998/99 because of record yields. Australia is expecting a larger crop as favorable planting conditions led to expanded area. Argentine producers, however, cut plantings in response to low prices. Canadian producers also cut plantings, but production was about unchanged from 1997/98 due to higher yields. With production down and world consumption up modestly, world wheat carryover stocks for 1998/99 will decline, a positive development for U.S. producers.

Unfortunately, global import demand may be down 9 percent this season because of bigger crops in several key importing countries, such as Pakistan and North Africa. China will again remain a small importer because of another large crop and huge stocks, while large production and government stocks are sharply reducing India's import needs. For Indonesia, the financial crisis and the elimination of the consumer flour subsidy has sharply reduced wheat imports. Latin America may see limited demand growth, but little year-to-year change is likely for East Asia.

For 1999/2000, U.S. fall winter wheat plantings were down 7 percent from a year earlier and the lowest since 1972/73. If spring wheat acres are similar to last year and yields remain near the historical trend, USDA expects a 1999/2000 crop of around 2.2 billion bushels. However, large carry-in stocks will be partially offsetting and supplies may still be the second largest since 1990/91. World stocks may decline again as consumption exceeds production. A tighter but ample U.S. and global stocks situation should raise U.S. prices but only moderately—on the order of 10 percent—in 1999/2000, and USDA does not expect substantial price improvement unless adverse weather lowers global wheat production.

The U.S. rice market has performed surprisingly well compared with expectations prior to enactment of the 1996 Act that generally foresaw declining U.S. rice production. In 1998/99, U.S. rice production exceeded 188 million hundredweight (cwt.), up 3 percent from last year and the second largest crop on record. All States produced larger rice crops in 1998, except California because of adverse weather there in 1998. Supporting the increase in plantings has been strong domestic demand and exports over the past two seasons and firm prices. In 1998/99, USDA estimates the farm price will average $8.50 per cwt., down from $9.70 last year.

Domestic use of rice is likely to remain strong in 1999/2000, but exports will face strong competition. Rough rice sales to Latin America are likely to be affected by economic problems there, and the global long-grain milled market will be very competitive, particularly with lower-priced rice from Thailand and Vietnam. Recently, U.S. long-grain rice has been selling at about a $70–$80 premium to similar grade Thai rice, compared with a typical premium of $25–$40 in many of the high-quality markets in the Middle East, Africa, and Europe. The U.S. price premium could return to more a normal level in 1999/2000, pushing the average U.S. farm price of rice below this season's level.

Corn and Other Feed Grains.—U.S. feed grain production in 1998/99 exceeded more than 271 million metric tons, up 4 percent from last year and the second highest on record. The corn crop rose 6 percent to the second highest level in history, while grain sorghum production dropped 18 percent and barley and oats production were little changed from 1997/98. Drought reduced corn production in Texas and across several Southern States. However, these production losses were more than offset by gains elsewhere, especially in the northern and western edges of the Corn Belt. Minnesota, Kansas, Nebraska and the Dakotas all had record corn crops in 1998.

Corn supplies in 1998/99 are up 10 percent from last year, because of the larger crop and bigger carry-in stocks. The strong increase in supplies has dampened feed grain prices and sharply increased projected carryover levels. While USDA forecasts total use of corn to be the second highest level on record, total use will not approach 1998 production. U.S. ending stocks of corn on September 1, 1999, are likely to be up nearly 500 million bushels from last year to their highest level since 1992/93. As a result, USDA's corn price forecast of $1.95 per bushel for 1998/99 is down from $2.43 last year, and this year's season-average price will likely be the lowest in more than a decade.

USDA expects gains in feed use and expanding use for ethanol and high fructose corn syrup production will push domestic use of corn to a new record in 1998/99. U.S. corn exports are likely to rise from 1997/98's low level as Argentina's crop declines, but stagnant global demand and continued strong competition from South Africa and China will limit the increase in exports. Also, low-priced foreign supplies of other coarse grains, especially barley, are limiting import demand for corn.

Global coarse grain production fell slightly during 1998/99, as smaller crops in the former Soviet Union, Eastern Europe, and Argentina offset higher U.S. production and a rebound in China's corn crop from the drought-reduced 1997 level. Corn production declined in Eastern Europe as yields dropped from last year's high level. USDA expects Argentina's crop to decline as early dry conditions and more favorable prices caused farmers to shift some area to later-planted soybeans. China's corn production rebounded in 1998 and stocks are rising, but low world prices are likely to keep its exports below the 1997/98 pace.

USDA projects global corn imports to be down slightly from last year, despite expanding demand in North Africa, the Middle East, and Latin America, excluding Mexico. A larger crop could reduce slightly Mexico's corn imports, and Asian de-

mand continues to shrink. Indonesia's imports will be minimal as domestic production is sufficient to meet the needs of its sharply reduced poultry industry. Mixed feed production is dropping in South Korea as the financial crisis cuts meat demand.

Assuming trend yields, U.S. corn supplies could be up again in 1999/2000 as sharply higher beginning stocks more than offset a smaller crop. Domestic use will continue to expand, but the year-to-year gains will be less than in recent years because of reduced livestock production. U.S. corn exports are likely to rise in 1999/2000 as import demand continues to rise in North Africa, the Middle East, and Latin America and demand begins to recover in Mexico and parts of Asia. However, U.S. export gains could be limited by stronger Argentine production and exports in 1999. Thus, in the absence of adverse weather, corn production and total use may about balance, leaving U.S. corn carryover stocks at high levels in 1999/2000 and the price outlook for feed grains about unchanged.

Soybeans and Other Oilseeds.—Producers have responded to the planting flexibility provisions of the 1996 Act by expanding soybean acreage and production. In 1998, U.S. producers planted 72.4 million acres to soybeans, up from 70.0 million acres last year and from 64.2 million acres in 1996. U.S. soybean production was record high both in 1997 and 1998.

In 1998/99, total U.S. soybean supplies are record high, approaching 3 billion bushels and up 5 percent from the previous season. However, total soybean use is likely to fall about 3 percent in 1998/99, as domestic use stagnates and U.S. exports face strong competition from Brazil and Argentina. As a result, USDA now expects 1998/99 U.S. carryover stocks to increase to 410 million bushels, more than double last year's level and the highest carryover in more than a decade. The increase in ending stocks is pressuring farm soybean prices, which are expected to decline from an average of $6.47 per bushel last season to $5.20 in 1998/99, the lowest since 1986/87.

Other than China and Mexico, there are few foreign markets that will likely import more soybeans this season. For 1998/99, USDA projects a 3-percent decline in global soybean imports. EU crushers have run down supplies of rapeseed and sunflowerseed. Given the comparatively large stocks remaining in South America, U.S. export commitments continue to trail last year's pace. USDA projects U.S. exports of soybeans, soybean meal, and soybean oil will be down 7, 17, and 15 percent, respectively, in 1998/99, compared with one year ago.

The recent devaluation of the Brazilian real could lead to more pressure on soybean prices this spring and summer as Brazil markets this year's crop more quickly than normal. This would further reduce 1998/99 U.S. exports and add to U.S. carryover. On the other hand, larger Brazilian exports in 1998/99 could help U.S. exports in 1999/2000 by reducing the South American carry-in. In addition, lower world prices in 1998/99 may cause South American growers to reduce oilseed plantings in 1999, reducing competitor supplies.

U.S. soybean planted acreage in 1999 is likely to increase from last year's record, and foreign competition will likely remain intense. Returns from planting soybeans continues to remain strong relative to other crops. The marketing assistance loan rate for soybeans relative to other crops and greater use of herbicide-resistant soybeans, which has cut costs, may encourage some producers to expand soybean plantings. In addition, yield potential has risen sharply in recent years, as producers have expanded plant population counts and used improved soybean varieties adapted to their area. Yields also have been resilient to adverse weather. With trend yields, U.S. soybean production in 1999 could exceed last year's record.

The demand for soybeans and soybean products in both the U.S. and the rest of the world will expand in 1999/2000 but below the growth rates of recent years. Use in Asian countries may stabilize. China's consumption of both protein feeds and vegetable oils should rise 2–4 percent but well below growth in recent years. In both the U.S. and the EU, protein use should expand by 1–3 percent helped by lower protein prices and a small increase in red meat and poultry production. However, the increase in demand is not likely to be enough to avoid a further increase in U.S. soybean carryover and even lower soybean prices, which could average below $5 per bushel, in 1999/2000.

Cotton.—Cotton plantings fell 3 percent in 1998, resulting in the lowest cotton planted area since 1992. However, U.S. cotton production in 1998/99 fell by over 25 percent from last year, resulting in the smallest crop in 9 years, as adverse weather affected all four cotton-producing regions. Drought was especially severe in Texas, where farmers abandoned a record 42 percent of planted acres. Due to the drop in cotton production, total U.S. cotton supplies in 1998/99 are down by over 20 percent, compared with last season. Despite tighter supplies and ending stocks, cotton prices so far this season have averaged below last year as demand has softened.

USDA projects domestic mill use at 10.4 million bales, down 8 percent from last year. The decline in domestic mill use primarily reflects rising cotton textile and apparel imports, which are amply available at low prices because of reduced Asian demand. U.S. imports have risen at an annual rate of 20 percent since the beginning of calendar 1997 and are projected to reach about 14.0 million-bale equivalents this season. The cotton textile trade deficit of approximately 9.5 million-bale equivalents is equal to 45–50 percent of estimated total U.S. end-use consumption of cotton.

Tight U.S. supplies and the loss of Step 2 payments have reduced the ability of U.S. cotton to compete in world markets and increased the prospects for substantial cotton imports later this year. U.S. cotton exports could drop to only 4.2 million bales, down from 7.5 million bales last year and the lowest since 1985/86. USDA forecasts U.S. raw cotton imports of 350,000 bales during 1998/99, down slightly from 2 years ago but up sharply from last season. Imports will surge after the Step 3 quotas trigger.

Both world cotton production and consumption are down in 1998/99. World production is down 7 percent from last season, due mainly to production declines in China and the United States. China's crop is estimated to be down 6 percent from last year. World consumption is projected down 2 percent from last year, the largest year-to-year decline since 1974/75. Reasons for falling consumption include the Asian economic crisis, increased competition with polyester due to surplus synthetic fiber production capacity in Asia, economic problems in Russia and Brazil, and increased competition from textile exports from countries such as Indonesia and Thailand.

Lower prices for alternative crops could keep U.S. cotton plantings in 1999 at near last year's level. While plantings may be about unchanged in 1999, U.S. cotton production could be up about 25 percent with a return to trend yields. A much larger crop would improve U.S. cotton's competitiveness in world markets, thereby reducing imports and increasing exports from this season's projected levels. However, weak world demand could limit export growth and U.S. ending stocks could rise in 1999/2000, further pressuring cotton prices. Textile imports are likely to remain strong in 1999/2000 and limit growth in domestic mill use.

OUTLOOK FOR LIVESTOCK

Cattle.—The average price received for all beef cattle fell 6 percent in 1998. USDA had expected cattle prices to strengthen during the second half of 1998 following steady herd liquidation since late 1995. However, low cattle prices and drought in southern States caused producers to continue to reduce their herds, increasing cattle available for placement into feedlots. In addition, with good northern forage supplies and producers trying to keep animals on grass longer with the hope of receiving higher prices, ranchers placed heavier animals into feedlots raising average dressed slaughter weights from 699 pounds in 1997 to 723 pounds this year. The continuing liquidation and heavier slaughter weights caused beef production to increase by 1 percent in 1998.

The economic problems in Asia and Russia as well as herd reductions in many major beef exporting countries caused the U.S. beef trade balance to worsen in 1998. U.S. beef imports increased about 11 percent, as world trade slowed and more product was moved into the strong U.S. economy. In comparison, U.S. beef exports rose 1 percent with reduced exports of higher value cuts to Asian countries only partially offset by higher exports to Mexico. On a weight basis, however, net imports equal less than 2 percent of U.S. beef production.

Beef production will likely decline in 1999 as slaughter levels and weights fall, and lower production should bolster cattle prices in 1999. Cattle inventories have declined since 1996, and the 1998 calf crop was the lowest since 1952. USDA expects the combination of fewer slaughter cattle and lower dressed weights to reduce beef production in 1999 by about 3 percent to 25.0 billion pounds.

Much of the year-to-year decline in beef production will not occur until the second half of the year. During early January, producers indicated that the number of heifers over 500 pounds that they are retaining for beef cow replacement was 4 percent below a year earlier. This will make almost the same number of heifers available for placement into feedlots through the first half of 1999 as last year. In the second half of the year, USDA expects producers' increased retention of heifers for the breeding herd and lower slaughter weights will reduce year-over-year beef production by 5 percent. For all of 1999, USDA expects fed cattle prices to average $65.50 per cwt. in 1999, compared with $61.48 last year and $66.32 two years ago.

U.S. beef trade is likely to be more in balance in 1999 as import growth slows and U.S. government donations of beef increase. Largely due to food aid to Russia, U.S. beef exports are projected to increase about 8 percent. In comparison, declining

beef supplies in Canada and Oceania are expected to reduce the growth in U.S. beef imports to about 4 percent in 1999.

Hogs.—Hog production increased by 10 percent in 1998, reflecting strong returns the previous 2 years and expansion of large hog operations. Producers expanded inventories to the point that by September 1, 1998, there were 63.5 million hogs on farms, the highest since 1980. Large productivity increases and structural change also fueled the inventory expansion. Increases in pigs per litter, litters per sow per year, and weight per animal slaughtered have combined to raise pork produced per breeding animal by 20 percent since 1988.

The abnormally large year-to-year increase in pork production caused hog prices to tumble from year ago levels. For all of 1998, slaughter hog prices averaged $31.67 per cwt., down from over $51 in 1997 and the lowest since 1972. In December, hog supplies strained processing capacity causing hog prices to drop to the $10 per cwt. range. Weekly hog slaughter frequently reached 2.2 million head during the fourth quarter of the year, with weekday kills of over 400,000 head and Saturday kills of 200,000. Total fourth quarter slaughter reached 27.6 million head, 1 million more than the fourth quarter of 1994, the last time hog prices plunged.

Larger hog imports were a factor in overall price declines in 1998, but not a major factor. The strong U.S. dollar rate of exchange with the Canadian dollar, large hog production, low prices in Canada, and labor problems at Canadian hog packing plants led to U.S. imports of Canadian hogs of 4.1 million head in 1998, about 4 percent of U.S. pork production, and up from 3.2 million head in 1997. Canadian hog imports reached a higher level in late 1997 and early 1998, and they maintained that level so that weekly imports during the low-priced fourth quarter were not much different than during the third quarter.

Despite the weak world economy and the strong U.S. dollar, U.S. pork exports actually increased sharply in 1998. The United States exported more than 1.2 billion pounds of pork in 1998, up 18 percent from last year. In contrast, pork imports rose 10 percent to 695 million pounds in 1998. The United States continued to be a major market for pork from Canada and Denmark in 1998, while the major U.S. export markets included Japan, Russia, Mexico and Canada.

USDA expects continued large hog supplies to pressure processing capacity and prices during the first half of 1999. The market hog inventory on December 1, 1998, was 2 percent above a year earlier. However, pork production could be up about 5 percent during the first half of 1999, as continued low prices provide a further incentive for producers to reduce the breeding herd. In addition, low prices could cause producers to market hogs at heavier weights. Hog prices will likely average in the $25–$35 per cwt. range during the first half of 1999, which would be below breakeven for most producers.

As hog slaughter begins to decline in the second half of 1999, prices should rise above last year's level, particularly in the fourth quarter. Producers have already responded to the exceptionally low prices in the last half of 1998 by reducing the breeding herd, which on December 1 was 4 percent below a year earlier. In addition, producers have indicated intentions to farrow 7 percent fewer sows during March-May compared with a year earlier. This implies a fractional decline in third quarter pork production but a 10-percent drop for the fourth quarter. For all of 1999, USDA forecasts hog prices to average $34 per cwt., 7 percent higher than last year.

U.S. pork exports are likely to increase about 10 percent in 1999, while imports remain steady. Increased pork exports to Mexico, Japan, and other markets are likely to more than offset lower exports to Canada and Russia. The economic crisis could limit U.S. pork exports to Russia to donations under food aid programs, causing exports to Russia to fall below the level achieved in 1998. Exports to Canada may also trend downward, as restructuring and expansion of the Canadian pork industry reduces the demand for U.S. pork products.

Continued low hog and pork prices for much of 1999 will likely limit the growth in pork imports, and U.S. live hog imports could fall below last year. Slaughter capacity increases in Manitoba, the settlement of labor disputes in Canadian hog slaughter plants, and Ontario hogs increasingly moving to slaughter in Quebec under buying agreements may lower U.S. hog imports from Canada in 1999 but only slightly.

Broilers.—The rate of growth in broiler production was only 2 percent in 1998, as production was negatively affected by below-normal egg hatching rates. Consequently, broiler prices for all of 1998 averaged 7 percent above 1997, weakening during the fourth quarter with the loss of the Russian market and higher U.S. production. In response to higher prices and a return to more normal hatching rates, USDA expects broiler production will be up nearly 6 percent in 1999. The increase in production could lower the price of broilers from over $0.63 per pound last year to $0.59 per pound in 1999.

Broiler meat exports will probably remain weak through much of 1999. The loss of the Russian market is unlikely to be offset by gains in other markets, and first-half exports could be 20–25 percent lower than in 1998. Exports in the second-half of 1999 may increase relative to 1998, especially if sales opportunities with Russia reappear.

Dairy.—Farm-level milk prices were record-high in 1998, averaging $15.38 per cwt., compared with $13.34 in 1997. The sharp increase in farm-level milk prices reflected modest growth in milk production and strong demand for milk products. In 1998, milk production was adversely affected by weather in California, Texas, and the Southeast. In addition to high milk prices, lower feed prices boosted dairy producers' incomes in 1998.

Dairy farmers appear to be reacting to the record-high milk prices and low feed costs over the past year by expanding milk production, which is projected to average about 2 percent higher in 1999. After being up only fractionally for most of the year, milk production increased by 3.5 percent from November 1998 through January 1999. In response to the increase in milk production, which supported higher cheese production, wholesale cheese prices fell sharply in January dropping by about $0.60 per pound. The sharp decline in the price of cheese will lead to a steep drop in farm-level milk prices over the next few months. For all of 1999, USDA expects farm-level milk prices to average about $1 per cwt. lower than last year—putting them about halfway between the 1997 and 1998 levels—but the decline could be even steeper if recent monthly year-over-year increases in milk production are maintained through much of 1999.

OUTLOOK FOR RETAIL FOOD PRICES

The Consumer Price Index (CPI) for food increased by 2.2 percent, while the CPI for all items increased by 1.6 percent in 1998. Last year, lower retail prices for beef, pork, eggs, and nonalcoholic beverages were more than offset by higher prices for dairy products, fish and seafood, fats and oils, fruits and vegetables, cereal and bakery products, and sugar and sweets. Retail dairy product prices increased by 3.6 percent in 1998, reflecting the sharp increase in farm-level prices. Strong vegetable oil prices caused the CPI for fats and oils to increase by 3.7 percent, and weather problems in California, Florida, Texas, and some importing countries pushed up retail prices for fresh fruits and vegetables by more than 7 percent last year.

USDA expects the CPI for food will increase by 2–2.5 percent in 1999. Retail prices for fruits and vegetables should be up only modestly in 1999, assuming there are fewer weather problems in the major fruit and vegetable growing areas this year. In addition, continued large supplies of red meat and poultry will likely prevent retail prices for meat and poultry from increasing much in 1999.

Longer Term View.—Looking to the longer term, USDA's recently published agricultural baseline projections to 2008 provide a view of how the global farm economy would unfold over the next decade under a very specific set of assumptions about policy and weather. This ambitious effort is primarily the work of the Economic Research Service. While we can be sure that the projections will turn out wrong because the assumptions never hold, the analysis is extremely useful to understand the possible implications of the underlying trends as we now see them. A few highlights are:

The global macroeconomy takes 3–4 years to recover to a stable, moderately strong rate of growth. The global economic problems mean a prolonged weakness in global demand for farm products. The slow recovery in the world economy and ample supplies in competitor countries results in U.S. agricultural exports not returning to the record level of 1996 until about the year 2003. U.S. planted acreage drops only a small amount, and with trend yields supplies remain large, leading to a slow recovery in nominal farm prices and steadily declining inflation-adjusted farm prices throughout the projection period. In particular, real soybean and hog prices decline substantially compared with other commodities. Recovery in the global economy leads to strong growth in U.S. meat and poultry exports after 3–4 stagnant to slow growth years. U.S. cattle production turns up for several years starting in 2001, but then declines under strong competition from hogs and broilers. Net farm income grows slowly throughout the projection period and does not reach the 1996 record high of $53.4 billion. Loan deficiency payments are made through 2002. The farm balance sheet improves as the overall debt-to-asset ratio slowly declines throughout the projection period in line with the slow declines observed during much of the 1990's.

KEY UNCERTAINTIES IN THE OUTLOOK

There are many uncertainties that could affect markets and the well-being of market participants over the next 1 to 2 years. Three key factors follow:

—*Weather and agricultural production.*—Last year's heavy rain and flooding in California and drier than normal conditions in the Southern Plains and South highlighted the role of weather in crop production and farm financial conditions. The current La Nina weather event is having a limited effect on U.S. agriculture, with the possible exception of the December freeze in California that severely reduced citrus production. La Nina is not expected to be a major factor affecting global or U.S. crop production this year. However, weather forecasting remains imprecise and the possibility remains that adverse weather could cause a major shortfall in world crop production and a strong increase in prices from current levels.

—*Macroeonomic Performance in Asia and Latin America.*—A number of very important markets for U.S. agricultural products fell into recession in 1998, including Southeast Asia, South Korea, and Japan, which account for about one-quarter of the value of U.S. agricultural export sales. Moreover, the Russian economy is expected to sink dramatically in 1999. The current economic problems in Brazil will lead that country into recession in 1999 and could cause major problems for other Latin American countries. If the Asian economies fail to stabilize or the economic problems in Brazil spread to other Latin American countries, which account for one-fifth of U.S. agricultural export sales, U.S. agricultural exports could drop further, placing additional pressure on farm commodity prices over the next 2 years. The engines of growth in the world economy right now are the U.S. and the EU. Should either of these two countries fall into recession there would be a global recession that would further erode world food and fiber demand and U.S. farm exports.

—*China*.—The outlook for U.S. agriculture is very much linked to what happens in China, home to one-fifth of the world's population. USDA expects China's economy will maintain the strongest growth in Asia over the next several years with per capita GDP growth of 7 percent or more per year. As incomes grow, the demand for food is expected to outpace increases in production causing China to expand agricultural imports. However, China's emphasis on self-sufficiency has raised their grain and cotton production, stocks, and exports this year. Although cotton production incentives appear to be coming down, continued emphasis on grain production and maintenance of trade barriers could dampen future growth in world grain trade and grain prices. In addition, the pace of economic growth may be overly optimistic, given the economic problems in China and in several neighboring countries. Alternatively, if the pace of economic and trade liberalization could quicken, China could be integrated in into the world economy more rapidly than anticipated, which would further strengthen world grain markets.

Mr. Chairman, that concludes my testimony, and I will be happy to respond to any questions.

Senator COCHRAN. Thank you very much, Mr. Collins.

Before we proceed to hear from Mr. Schumacher, I think I will yield at this point to my colleagues on the subcommittee for any opening statements or remarks that they would like to make at this time.

Senator Kohl.

Senator KOHL. Thank you, Senator Cochran. I have an opening statement that I will put into the record because I know that will expedite our hearing.

Senator COCHRAN. Thank you. That statement will be in the record.

[The statement follows:]

PREPARED STATEMENT OF SENATOR KOHL

Secretary Schumacher, Mr. Collins, and Mr. Kaplan, let me join Senator Cochran in welcoming you. Our hearing this morning addresses "Assistance to Farmers and the Farm Economy". That could encompass anything from land conservation to agricultural anti-trust reform to trade policy. And though our subject matter is broad, in view of current trends in farm prices, it demands our immediate attention.

Mr. Collins, I have reviewed the information in your prepared statement. I must say, you do not provide much encouragement for anyone wanting to go into farming. When Secretary Glickman testified before us last month, he observed that, in spite of a record strong national economy, those industries tied to natural resources, especially agriculture, are suffering dismally. That is bad news for this Subcommittee that has the responsibility of looking beyond Wall Street and into the fields and rural roads of small town America. This nation cannot be strong without strength in all parts.

Let us go beyond generalities for a moment. Mr. Collins, you point out that farm exports dropped to $53.6 billion in fiscal year 1998, a 10-percent reduction from 2 years before, and your projections include a further reduction to $49 billion this year. Further, I must point out, this is occurring in an era when we were all being told that "Trade" was going to be the solution for agriculture's problems! I don't see much of a solution when farm exports are falling and we are still faced with unreasonable treatment from our trading partners.

It sometimes seems difficult to get anyone's attention about the plight of U.S. agriculture. No one can deny the dramatic decline in the farm population over the course of this century. But the farmer's role as provider for our nation and protector of our natural resources remains as important as ever. Nations don't go to war over television sets; they go to war over adequate food supplies. Conservation of our natural resources gets a lot of lip service from our friends in the cities, but it is the farmer whose livelihood is tied to protection of soil and water resources. I want to know what the Department of Agriculture is doing to help farmers meet the challenges of environmental protection that will avoid the sometimes harsh rule of regulation. The responsibility we carry to protect the farmers of America is as important as the responsibility of our nation's farmers to provide for all of us. One cannot and should not ignore the other.

Therefore, I was becoming increasingly alarmed the past few weeks when we failed to see any action by the Administration to propose additional funding for farm programs in the upcoming supplemental that you knew was before Congress. It made many of us wonder if anyone in the Administration really cared about the crisis in rural America and I would welcome any of your comments to put our concerns to rest. When Secretary Glickman appeared before us nearly one month ago, he mentioned several needs which still have not been formalized in the form of a budget request to the Congress.

I hope someone can explain to my satisfaction why there seems to be such a disconnect within the Administration on something as important as protecting the farm economy. It was very well for the President to mention the plight of farmers in his State of the Union Message, but we had hoped to see something of substance to follow his words. We are waiting still.

I hear from my farmers in Wisconsin just as all Senators here listen to farmers in their states. I know that while dairy prices have been high, the outlook is grim. Volatility in farm prices concerns me greatly. It is anticipated that dairy prices are going to fall from record highs earlier this year to record lows in the coming weeks and months. I wonder how many other sectors of the economy could survive the enormous shifts in net income that farmers have to live with year in and year out.

To exacerbate the problem of prices for dairy farmers is the ongoing problem of policy. Secretary Glickman informed this subcommittee that distribution of the $200 million we provided last fall for dairy farmers will be provided in time to help cushion the coming fall in dairy prices. However, let me firmly state that providing dollars to help dairy farmers recover from falling prices must not in any way be connected to the overall dairy policy reforms you are soon to announce. It goes without saying that I will be watching both developments very closely and one must not, under any circumstances, be a quid pro quo for the other.

Secretary Schumacher, among your responsibilities is to provide U.S. agriculture a strong voice in world trade. Historically, agriculture has been the shining light in U.S. trade, but as I stated above, it appears that light cannot continue to shine brightly through the haze of unfair practices by some of our trading partners and uncontrollable financial problems now affecting much of the world. Still, you possess tools to help farmers find their way to new consumers around the world. We must continue those efforts. In addition, I worry about the ability of farmers, especially small family farmers, to survive in an economic climate largely controlled by a few corporate giants. Small farmers, too, need direct access to markets. They need to be their own "middle-men" and keep more profits in rural America rather than corporate board rooms.

Let me close by saying that no one in this room, or watching around the country, wants to see us return to the conditions of the 1980's when foreclosures and bankruptcies were the rule of the day. We need to look at measures to conserve land,

to smooth agricultural price volatility, to protect our farmers from uncompetitive concentration in their industry, to open markets to our quality American agricultural products. These are large tasks, but farmers in Wisconsin and around the nation deserve Federal attention that acknowledges their central place in the history of America's prosperity and way of life.

Senator COCHRAN. Senator Gorton.

STATEMENT OF SENATOR GORTON

Senator GORTON. Thank you, Mr. Chairman.

As you know, last year Congress provided a $6 billion disaster and relief package for U.S. agriculture. This package, as you recall, was drafted and passed with the purpose of aiding the agriculture based regions of the country that experienced natural disaster and market losses. Although this package did relatively little to assist producers in Washington State who have been impacted by the Asian flu, worldwide stockpiles of commodities and certain unilateral sanctions, it certainly signified the concern all of us have regarding our Nation's farm economy.

While there is no question that commodity prices have slipped in this country and many family farms are on the brink of bankruptcy, I question USDA's proposed budget as it addresses these concerns. On-the-ground production agricultural programs appear to be of no real significance in this budget. Research money is allocated for global research and climate change instead of regional programs this subcommittee and this country's commodities consistently request and support.

Funding is not requested for the implementation of prospective crop insurance reforms. Federal private land purchase programs are significantly increased, showing that USDA's interest is in simply buying up land farmers can no longer afford to harvest.

Export programs are decreased, even though almost every major producer organization of the country has requested additional foreign market assistance.

My two greatest concerns as a member of this subcommittee, concerns that growers in Washington State consistently emphasize, are agriculture research and export enhancement. For several years, it has been apparent that the Administration does not agree with growers or me on the subject of regional research. The Administration should recognize the error of its ways and discontinue its attempts to eliminate regional research programs.

Second, with respect to exports, I urge USDA to understand the importance of agricultural exports and to use the upcoming World Trade Organization's negotiations in Seattle to expand and enhance our Nation's agricultural trade. With more than 25 percent of Washington State's commodities being exported, our agricultural community has a unique and important interest in these negotiations.

As the department prepares for the WTO Ministerial, I urge it to consider the importance and significant impact trade has on Washington State and on the entire Nation's agricultural economy.

Senator COCHRAN. Thank you. Strong letter follows. [Laughter.]

At this time I would like to submit Senator Burns, and Senator Feinstein's prepared statements for the record.

[The statments follow:]

PREPARED STATEMENT OF SENATOR BURNS

Thank you, Mr. Chairman.

I look upon this Subcommittee to improve the devastating economic situation for American farmers and ranchers. They need more than a helping hand or a quick fix. They need solutions that will pull them out of this crisis and keep them out from any more like it in the future.

The agricultural producer is drowning in a sea of debt and many in Congress want to continue to send lifeboats. The problem is that once the producer makes it into the boat he cannot seem to get to shore. He just continues drifting, barely afloat, and always paddling to try to make it to shore. I would like to see laws passed this session that will not only provide a temporary lifeboat to farmers and ranchers, but pull them completely out of the water.

I believe one way to do that is through an effective crop insurance program. An operative farm income safety net is paramount to the survival of agriculture. A long-term viable solution will be necessary for a safety net with staying power. There are several ideas for crop insurance reform that are being proposed for Congress this year. This project will no doubt be a huge undertaking and one that may or may not be passed in one session. However, the need for reform is imminent and I believe we can make the Federal Crop Insurance Program, or one like it, more useful to producers.

I believe a truly effective crop insurance plan involves simply three things: private insurance, the federal government and the farmer. The federal government can help facilitate a program to unite the producer and the private insurance company. Privatization with government intervention will ultimately put the control in the hands of the farmer. With a risk management plan, bankers are also more likely to finance farmers if they have both their crop and their price covered, with a reliable insurance program. A lasting solution, such as effective insurance, is imperative to bring producers out of this current economic crisis.

I know that several of my colleagues also realize the importance of crop insurance reform this session. The administration claimed crop insurance reform as one of its top priorities and urged Congress to repair the federal crop insurance system. Why then did the USDA neglect to include any funding for this program in the fiscal year 2000 budget? When questioned, Secretary Glickman stated that USDA will "find" the funds. I realize there is a longer growing season here in Washington D.C. than in Montana, but where I come from $1 billion doesn't grow on trees. The lack of funding provided for crop insurance is a slap in the face to each and every agricultural producer.

Funding for the GLCI (Grass Lands Conservation Initiative) was held level under the NRCS budget rather than being increased. This program is invaluable to ecosystem management, which has been a top priority in President Clinton's environmental agenda. This program provides education and technical assistance to agricultural producers who continue to be the ultimate environmental stewards. Funding for this program should be increased from $15 million to at least $20 million.

The proposed USDA budget claims it will strengthen the safety net for farmers and low income populations while providing economic opportunities for rural Americans. It also alleges it will protect our natural resources and further improve the safety of the food supply. While all worthwhile programs, this budget will have a hard time funding any of them adequately. The decreases reflected in the budget certainly do not help the farmer or rancher, and the program increases are not tailored to help them either. Agricultural producers are the backbone of this country and it is especially these people to whom the United States Department of Agriculture should be held accountable.

I am extremely disappointed with the Farm and Foreign Agricultural Services budget cut. The President promised to bring trade in line with agricultures and Secretary Glickman recently suggested increased exports as a solution to the agriculture crisis. Yet, the Farm and Foreign Agricultural Services budget was cut by nearly $6.5 billion. Two of the main programs for exports, the Export Enhancement Program and the Food for Peace (Public Law 480) program, were reduced by $56 million and $772 million respectively. The Export Enhancement Program has funds that are not being currently utilized. We need to make this money available now to allow producers to export commodities in storage. With 70 percent of Montana's grain sent for export we cannot afford to lose these important programs. This administration wants fast-track negotiation yet they are unwilling to appropriate or use the money for the export programs currently in place.

Several other programs important to export enhancement were also cut. The Commodity Credit Corporation Program was cut by $5.8 billion, the Dairy Export Incentive Program by $15 million and the Food for Progress program by $24 million. With

today's global market situation, producers cannot afford to have the few opportunities they have for export reduced. The CCC provides an important service for private negotiations with other countries. Agricultural producers have an increasing need for avenues to market their products through private entities. The budget cut to the CCC makes them more dependent on the federal government, rather than giving them opportunities to expand marketing channels.

The international trade front continues to be a major problem in Montana and other western states, especially in regards to Canada. Even with programs like the Northwest Cattle Project, far more cattle flood the market from Canada than are exported from the United States. The Canadian Wheat Board, a state trading enterprise, maintains control of the grain market and lowers prices for producers on both sides of the border.

The European Union also continues to be a thorn in the side of agricultural producers. Their non-compliance with World Trade Organization regulations on imports of bananas and beef should make them subject to severe retaliation. However, they are still treated as major players in the world market and have hardly received admonishment. China must also be subjected to more than a slap on the wrist for their non-tariff trade barriers. The barrier on TCK smut is non-scientific and only provides a way for China to prevent access to foreign grain.

Trade inequities will continue to be a huge problem until they are addressed in a manner that means compliance. Mr. Schumacher, when will the Foreign Agricultural Service step in to reduce trade barriers and resolve international trade disputes? I thank you for your staffing and support in negotiations between the United States and Canada in Ottawa recently. However, these are baby steps. What agricultural producers need are comprehensive agreements that help them now.

As a result of legislation passed last year and the FAIR act of 1996, approximately $6 billion in government payments was to be given to farmers and ranchers in strife. This money is to be used to offset loss from crop losses and lower prices. Yet, I have constituents call every day wondering where their payments are. When Congress promises loss payments my people at home expect USDA to disperse those funds in a timely and efficient manner. Endless deadline extensions and hurry up and wait policies by the USDA are not helping the farmer pay the bank or the rancher buy hay for the winter.

The biggest problem we have right now in the world of agriculture is getting a fair share of the consumer dollar back to the producer. The most important end result of any legislation introduced this Congress must be to return to the producer his or her share of the economic dollar. Something is wrong with the big picture. Somewhere between the time the producer sells the product and the time it reaches the table, there is a serious disconnect. I believe this committee needs to take a good look at the big picture and arrive at some effective solutions. I commit my support and my efforts to the Chairman and ranking member as well as to the producer in Montana and the nation to work on this issue with them in the coming year.

Our producers have lost nearly all faith in any assistance the USDA or the federal government promises. If they have to go it alone right now, many will fail. They simply do not have the resources or the back-up funds to allow them the luxury of zero dependence on government programs. This Department gives the impression of wanting to help the agricultural producer, but in reality farmers and ranchers may as well be going it alone. The continued disregard by the United States Department of Agriculture for the producers it should represent forces us to come up with an alternative solution.

Thank you again, Mr. Chairman. I look forward to hearing some answers from the USDA, and more importantly to working with you in the coming year to improve the economic situation for the American farmer and rancher.

PREPARED STATEMENT OF SENATOR FEINSTEIN

I want to thank you for being here today.

California is the leading agricultural producing State in the nation. We also have a significant amount going to export. We export about 20 percent of what we grow and, in 1997, our exports were valued at $6.7 billion.

Six of California's top ten agricultural export markets are Pacific Rim countries. The leading export destinations for California agriculture are: Japan, Canada, Hong Kong and South Korea. Combined, these four markets import over $2.6 billion of California agriculture.

Almost fifty percent of our cotton exports go to Japan and South Korea. Other products being exported to Asia—and other destinations—include table grapes, wine, oranges, cattle and tomatoes.

Clearly, what happens in Asia is going to have a profound impact on California's agricultural economy. Thus far, California exports—including agriculture—have managed to avoid serious fallout from the Asian financial crisis, but the decline in trade with Pacific Rim countries will have a lasting impact if things do not turn around there. I read Mr. Collins' statement.

On another note, before closing I would like to thank the Department for scheduling one of its regional forums on risk management in Fresno. I understand the forum is scheduled for later this month and I just wanted to express my gratitude for recognizing the level of concern in California. California faces a very unique situation in terms of the need for crop insurance reform. Only about one fifth of California's 250 types of crops are even eligible for federal insurance. I am pleased the Department understands this situation and is taking steps to hear input from California's growers. Please let me know if I or my office can provide you any assistance with the meeting.

Thank you.

Senator COCHRAN. Senator Durbin, we are interrupting our witnesses to take in the opening statements or comments that members of the subcommittee would like to make. I will recognize you at this time for that purpose if you would like to make any remarks.

Senator DURBIN. Mr. Chairman, I am going to make my statement a part of the record and not read it in the interest of time.

Senator COCHRAN. OK. Thank you very much.

Mr. Schumacher, you may proceed.

STATEMENT OF AUGUST SCHUMACHER, JR.

Mr. SCHUMACHER. Thank you, Mr. Chairman and your colleagues. Thank you for calling today's hearing. I am certainly pleased to be here with Keith. We have been speaking with each other fairly frequently on this difficult farm outlook that has come before us this year, continuing from last year.

We have Under Secretary Michael Dunn with us today, Mr. Chairman, and also Under Secretary Miley Gonzalez. Also I am delighted that Pearlie Reed, Chief of the Natural Resources Conservation Service, is here along with the three administrators from my mission area. With your permission, I would like to call on them to answer some of the detailed questions you may ask. I believe there is an empty chair here so that any of these people can come forward. Or we can respond for the record.

I am going to keep my remarks very short. With your permission, I would like to put my full statement in the record.

Senator COCHRAN. That will be perfectly all right. We will make that a part of the record in full.

Mr. SCHUMACHER. Just to pick up from Keith's comments on the farm crisis, I think certainly the farm economy is not what we had in mind when we went through the 1996 Farm Bill.

Baseline projections for farm prices and exports were quite different in 1996 than they are today, and I was running the Foreign Agricultural Service when exports reached nearly $60 billion. I think we had some pretty good net cash farm income estimates.

Many in agriculture anticipated growing world demand and higher prices, with farmers maximizing returns with some of the new planting flexibility the Farm Bill provided. The theory was that foreign markets would drive growth and that farmers would respond.

But, unfortunately, as we have seen this year farm exports and prices have fallen for most of the heartland crops and certainly some of the livestock since 1996.

We still are projecting long-term—long-term—growth in exports, but U.S. agricultural exports are now only projected at $49 billion for this fiscal year, 1999. They are not expected to reach the 1996 high of nearly $60 billion for another 5 years.

Prices are not expected to recover significantly until exports do.

Now this could all change if there are major weather problems in North China, Australia, Argentina, Brazil or, God forbid, in the United States. Things can be very cyclical, and the baseline assumes normal weather. But, as we have seen, weather is never normal. So we will have to see how the weather situation evolves.

I would now like also to express my deep appreciation and gratitude to our employees who serve in our mission and who serve USDA widely. With this farm crisis upon us, these employees are really working very, very hard, during some very, very difficult times.

I was down in your State 10 days ago and met many employees just to talk through some of the issues and visited a number of farmers. Things are not looking good.

Let me just briefly touch on the supplemental request that is now here, delivered to both Houses of Congress by the White House last week.

I understand Thursday, Mr. Chairman, the Senate is scheduled to mark up the bill to provide supplemental appropriations. The President's request includes $109.6 million to enable USDA to provide an additional $1.1 billion for financing to farmers and ranchers. The message that I am getting from the countryside is that we desperately need some additional credit, supplemental credit, out there.

Our overall usage, as Keith has said, is up 65 percent. For most farm credit programs, funds have been exhausted or will be exhausted very shortly.

It also includes—and this is a very important issue—$42.8 million for Farm Service Agency temporary staff to meet the overwhelming demand not only for credit and servicing of credit but for all of the new LDP's—loan deficiency payments—that we are working on. We can come back to this in the question period to discuss how we are doing in issuing payments. I think you indicated in your opening remarks that you would like to hear more about that, and I would be very pleased to address that, maybe assisted by Keith Kelly and Parks Shackelford of FSA.

But we certainly appreciate your very prompt action, coming up this week, Mr. Chairman, on this vital supplemental bill.

Before I conclude, let me look a little bit at last year's highlights, again emphasizing the workload in the countryside.

Let's take, for example, LDP's. Since July of 1998, those have gone up a thousandfold. In sheer numbers, we have gone from a little over 2,000 in 1997 to nearly 1.5 million in 1998—in dollar terms, $2.8 million in 1997 to $2.8 billion in 1998. This is an extraordinary increase in that safety net on LDP's.

The number of farmers placing crops under loan also has gone up significantly. In addition to the marketing assistance loans,

farmers have had the option to take 100 percent of their 1999 flexibility payments beginning in November 1998, as provided by statutory change last year. Farmers have opted to receive about 60 percent of total estimated AMTA payments in advance.

Now let's look at the emergency assistance about which you inquired.

I am very pleased that within 10 to 12 days after the President signed your emergency bill last year, the $2.8 billion was sent by bank draft or by check to farmers. So virtually all of that went out before Veterans Day. We worked very hard and the computer systems worked very well to get that $2.8 billion out very promptly.

The signup for the $200 million Livestock Assistance Program, which began last November, was extended due to very heavy demand. Payments should be going out in early spring, very early spring.

Signup for the $2.4 billion crop loss disaster assistance program began February 1 and was recently extended to April 9. Payments should go out in late spring, and I would be pleased to follow up on the details of that if you so wish.

The Secretary will be making an announcement very soon on the $200 million Dairy Income Loss Assistance Program. The program implementation plan is working its way through clearance very quickly, because, as Keith said, the price of milk is going down. That program needs to be announced, and those payments will go out very shortly after the Secretary makes the announcement.

Also, independently of the disaster bill, we have taken a number of actions to help pork producers. Secretary Dunn was very active in that, and he can comment further, if you wish, on the pseudorabies eradication. The signup for the Small Hog Operations Program ended February 12, and those checks should go out later this month.

Then, finally, we will be implementing the commodity loan programs for mohair and honey.

So there has been a major, major full court press to get assistance out.

Let me just briefly touch on crop insurance and the export side before I conclude.

In 1998, Federal crop insurance covered about 182 million acres under approximately 1.2 million policies covering liability of $28 billion.

In 1998, we helped many farmers survive crop losses, whether it was in the Northern Plains, with the wetness, or in the Southern Plains with the drought in May and June of last year. It was the hottest and driest period on the historical record. We paid out about $1.6 billion, together with the private sector, on insurable losses.

We have been aggressively promoting new programs. Ken Ackerman and his fine staff have been working with the private sector in expanding existing programs.

Prior to 1996, no Federally backed revenue insurance was available to farmers. RMA now provides five different types of revenue insurance. Unfortunately, many farmers still remain uninsured or underinsured. As you well know, Mr. Chairman—we have discussed this—we developed and submitted a broad outline proposal

for making crop insurance provide better coverage at more affordable prices. As a down payment under the disaster program, we rolled forward $400 million of that on the emergency relief package to reduce the insurance premiums to buy down the buy-up coverage by 30 percent.

In addition, we have proposals that are coming forward, and there will be a number of hearings in the next week and the week after, both in the Senate and the House, on our risk management crop insurance. Those will be covering making higher loan crop insurance coverage more affordable, to expand the range of crops covered by insurance, to develop policies covering multi-year as well as single year losses, and to raise the floor on catastrophic and NAP coverage. That is certainly something the South has been hearing a great deal about. Also, more importantly, there is the implementing of a pilot revenue program for our livestock producers. Livestock covers a little over 50 percent of our total gross receipts and they are not covered very much by revenue. Also it should provide better information and training.

We are looking very much forward to working with you, Mr. Chairman.

Let me then just conclude on the international side.

We have had a very active year, starting about a year ago, with the Korean GSM and the Asian crisis, when Tim Galvin and Chris Goldthwait, stepped smartly to the plate.

Sales of U.S. commodities under our GSM have risen by 40 percent, from $2.9 billion to over $4 billion. Certainly that got the attention of some of our competitors who had put some interesting press releases out about that activity.

All told, we will ship nearly 10 million tons of food under our food aid authorities. And, as Senator Gorton mentioned, we are working very hard in getting ready for the next agricultural negotiations at WTO. We have a very ambitious set of objectives for this round.

For fiscal year 2000, we have $3.5 million for the Cochran Fellowship, and that is working very, very well. We are expanding the program into Africa, which could be our new growth area in a few years' time.

So, in conclusion, we are going to be asking for many comments as we work through the risk management proposals. It is true that we did not put much money in the budget for this because we want to get a consensus, similar to what we did in 1990 and 1995 on the Farm Bill, where we built a consensus with farmers, ranchers, commodity groups, farm groups, farm organizations, and the authorizing committees, and then work through the budget implications as the year develops.

It is going to be an active year. We are starting off with the tremendous work going on in the supplemental that is going forward, and I thank you for taking that up so promptly. We are then going to be finalizing all the payments that are coming out over the next 2 or 3 months. That should be all done by late May or the latest, late spring. Then we have the risk management proposals coming forward. Then we will have to see how the weather and prices continue and whether we need to do even more as we did last year.

When farmers were in crisis, we all stepped up to the plate and assisted family farmers in getting through this crisis.

Thank you very, very much, Mr. Chairman. I appreciate being here and look forward to answering your and your colleagues' questions.

[The statements follow:]

PREPARED STATEMENT OF AUGUST SCHUMACHER, JR.

INTRODUCTION

Mr. Chairman and Members of the Committee, I am pleased to appear before you today with my colleague, USDA's Chief Economist Keith Collins, to discuss our assistance to producers and our commitment to improving the farm safety net. With me this morning are representatives from the Farm Service Agency, Risk Management Agency and Foreign Agricultural Service within my own mission area, as well as representatives from the Research, Education and Economics and Marketing and Regulatory Programs mission areas and the Natural Resources Conservation Service. Statements of the Agency Administrators detailing their fiscal year 2000 budget requests will be submitted for the record. The mission of Farm and Foreign Agricultural Services is to secure the long-term vitality and global competitiveness of American agriculture. The President described our mission another way in his State of the Union message when he said: "We must work hard to bring prosperity back to the family farm."

Our ability to accomplish this mission is surely being tested during this period of low commodity prices and weak overseas demand.

We will continue to use all of the program and policy tools available to us to help producers whose incomes have dropped substantially because of low prices and weather-related production losses. But while planting flexibility provisions of the Federal Agriculture Improvement and Reform Act of 1996 (the 1996 Act), strong export and trade policy programs, risk management initiatives, and our farm loan programs have helped many crop and livestock producers, it is clear that the farm safety net needs to be reinforced. This is a top priority.

The Administration and Congress worked together last year to support farmers in areas hit hard by sharply lower commodity prices, severe weather problems, and, in some cases, successive years of reduced yields. This year we will continue our efforts to expand and improve programs which help producers manage risk, and we look forward to working with Congress to further reform the insurance programs for crop and livestock producers. We also are working hard to expand opportunities for small farmers and others who traditionally have been under-served in our farm programs. The recent class action settlement with African American farmers underscores our continued commitment to ensure fair treatment for all of our customers.

The heavy workload associated with the farm crisis is putting increased stress on an already strained farm program delivery system as well. To improve service and cut costs, we are streamlining business processes, establishing a common computing environment, and consolidating administrative services among the county-based agencies. However, savings from these efforts won't be realized immediately. In the interim, it is vital that Farm Service Agency staffing be maintained at sufficient levels to ensure the efficient delivery of service to our customers on a timely basis.

Mr. Chairman, before addressing our specific proposals for strengthening the farm safety net, I would like to describe recent and ongoing efforts underway by USDA to help America's family farmers and ranchers.

COMMODITY PROGRAM ASSISTANCE

As a result of the depressed market conditions in many grain and oilseed production areas, farmers' use of marketing assistance loans and loan deficiency payments (LDPs) has soared dramatically. The Commodity Credit Corporation (CCC) increased benefits under the commodity programs by allowing LDPs for silage and high moisture corn, as well as for below-grade or contaminated commodities.

By the end of January, farmers had requested nearly 1.5 million LDPs for their 1998 crops—more than a 600-fold increase over the 2,182 LDPs made on 1997 crops. Total marketing assistance loan gain (MLG) and LDP outlays on the 1997 and 1998 crops are now projected to total $3.1 billion, with all but $165 million going to 1998-crop commodities. Corn producers have received 36 percent of the total to date, while soybean producers have received 23 percent, wheat producers 20 percent, and upland cotton producers 14 percent. For 1999 crops, total MLG and LDP outlays are forecast to rise to $4.2 billion.

Putting these outlays into perspective, as of January 20, 65 percent of the 1998 wheat crop (1,665.2 million bushels) had been put under loan or received an LDP. That's more than seven times the year-earlier level, and more than six times the entire 1997-crop quantity covered by the program. Year-to-date activity is similarly large for other crops and reflects the extremely heavy county office workload.

In fiscal year 1999, the value of loan placements and LDPs for all commodities is projected to total $10.6 billion, 38 percent more than in fiscal year 1998. In fiscal year 2000, that figure is forecast to be even higher at $13.2 billion, more than 70 percent greater than in fiscal year 1998. Of these totals, the increase in LDPs alone is demonstrative of the low commodity prices farmers are facing. LDPs for all commodities in fiscal year 1998 were under $500 million; in fiscal year 1999 they are projected to reach $1.8 billion, more than a three-fold increase. For fiscal year 2000, LDPs are projected to be over $2.7 billion, about six times the LDP total for fiscal year 1998.

In addition to the marketing assistance loan program, farmers had the option to take 100 percent of their 1999 production flexibility payments (estimated at about $5.5 billion after adjustments for payment limits) beginning in November 1998. As of February 23 of this year, farmers had opted to receive about $3.7 billion, or about two-thirds, of this amount, leaving the remaining $1.8 billion to be paid later this year.

EMERGENCY PROGRAMS

USDA is working hard to implement the emergency programs funded in the 1999 Act, which include market loss payments, 1998 and multi-year crop loss assistance, livestock feed assistance, and other programs.

Market loss payments of $2.8 billion—amounting to a 50-percent increase in 1998 production flexibility payments—were distributed to major crop producers before Thanksgiving. We are now developing program provisions for distributing $200 million in market loss payments to dairy producers this spring.

Provisions of the $2.4 billion Crop Loss Disaster Assistance Program were announced last December, and signup began February 1. There are two basic parts of the program: 1998 single-year crop loss provisions cover crop losses during the 1998 crop year for which either crop insurance or the Noninsured Crop Disaster Assistance Program (NAP) is available; multi-year provisions provide an additional 25-percent payment to producers who have already received either crop insurance or NAP payments in at least 3 of the last 5 years. Producers may receive benefits under either, but not both, of these programs. The program also covers producers whose crops (primarily wheat) have suffered multiple outbreaks of fusarium head blight (scab). Up to $30 million in crop loss assistance and $12 million in disaster reserve funds will be used to assist farmers with crop and pasture land that has suffered long term flood damage.

The Disaster Assistance Tree Loss Program covers the cost of replanting or rehabilitating trees from which crops are harvested that have been damaged by natural disasters during 1998. It will run concurrently with the Crop Loss Disaster Assistance Program. Growers who have received assistance for tree losses under the Tree Assistance Program (TAP) are not eligible to receive assistance under the new program; however, TAP assistance has been extended by the 1999 Act to cover trees and vines damaged by fire blight in addition to other natural disasters.

Signup for the $200-million Livestock Assistance Program (LAP) began last November and has been extended due to heavy demands. County offices have been swamped with applications for this program. As of January 29, more than 23,000 producers have applied for assistance under this program in Texas alone. Nearly 1,200 counties have been approved for LAP. As of February 22, applications totalled well over $640 million, with many counties still processing applications. At the current application rate, we expect requested assistance could reach about $800 million by the end of the signup period. If this level of participation is realized, LAP payments would compensate producers for roughly 25 percent of their livestock grazing losses incurred during 1998.

FSA also has provided assistance to livestock producers under other appropriated programs, including the $4 million Livestock Indemnity Program (Phase II), which covered livestock death losses due to natural disasters which occurred before May 1, 1998, and the $6.8 million Dairy Production Disaster Assistance Program, which covers disaster-caused diminished milk production or dumped milk. The 1999 Act added $3 million to this program.

The American Indian Livestock Feed Program (AILFP) is funded from the sale of feed grains from the disaster reserve. It replaces an earlier and similar program, the Indian Acute Distress Donation Program, which was suspended by the 1996 Act.

However, the need to assist American Indians has not diminished, and AILFP provides direct cash payments to eligible livestock owners. Tribes may apply as livestock owners, and as of February 10, two tribes—the Chippewa Cree Tribe of Rocky Boy's Reservation in Montana, and the Three Affiliated Tribes of Fort Berthold in North Dakota—have been approved. Payments have been issued, and applications from other tribes are now being reviewed.

Since late 1998, USDA has taken several actions to help pork producers—who've seen hog prices fall 75 percent since July 1997—and improve market conditions. As announced by the Vice President, USDA will make $50 million in direct cash payments to family-sized hog producers and will provide $80 million under the pseudorabies eradication program to remove up to 1.7 million hogs from the market. Signup for the Small Hog Operations Payment Program ended February 12.

We've also accelerated pork purchases for Federal feeding programs, increased pork purchases for the Russian aid package, and included pork in the package of export credit guarantees to South Korea. We're encouraging lenders to work with hog producers during the market downturn, and, in addition to credit assistance, USDA is prepared to use all servicing authorities, including rescheduling and reamortizing, deferring installments and debt writedowns to assist those producers who are FSA borrowers.

CCC has issued $9.7 million under the Noninsured Crop Disaster Assistance Program to producers in 14 States for 1998 crop year losses. Since the 1995 crop year, NAP has provided risk protection similar to basic catastrophic crop insurance coverage for producers of uninsured crops. During 1995 and subsequent crop years, 1,108 NAP areas have been approved. To date, $16.0 million in NAP assistance has been provided to producers in 39 States and Territories for 1997 crop year losses; $60.9 million has been issued to producers in 44 States and Territories for 1996 crop year losses, and $30.5 million was provided to producers in 45 States and Territories for 1995 crop year losses.

Other 1999 emergency funds support new recourse loan programs for honey and mohair, for which procedures are being developed.

FARM LOAN PROGRAMS

A big part of the safety net for farmers involves expanding economic opportunity, which includes access to farm credit resources. Traditionally, USDA's role in the farm credit market has been the "lender of last resort." However, the Department's role is important because it provides opportunities for farmers who experience financial difficulty to stay in business, and fills credit gaps, particularly for small, limited resource, socially disadvantaged and beginning farmers.

The emergency provisions of the 1999 Act provide for an additional $541 million in direct and guaranteed operating loans to producers who are unable to obtain credit elsewhere.

Demand for FSA farm loans in fiscal year 1999 has been extremely strong. Depressed farm prices and the natural disasters which affected producers in many parts of the country have led to a 65-percent increase in overall obligations compared to the same time last year. Many farm families who have been financing their business operations through their own resources or with a minimum of commercial bank debt are now seeking FSA farm loan assistance. As a result of the weakened farm economy, especially in the pork industry, these family farmers have lower incomes and reduced financial resources to work with this fiscal year.

Commercial lenders are utilizing FSA loan guarantees to restructure the short-term indebtedness of their customers into more favorable long-term rates so that they can continue to provide financing. FSA has worked with lenders and other stakeholders to completely streamline loan guarantee application procedures, making them more consistent with standard industry practices and making the loan programs more user-friendly and responsive to the needs of lenders and their farm customers. A new Preferred Lender Program (PLP) dramatically reduces the amount of time and effort lenders must spend in obtaining FSA guarantees by allowing lenders with PLP status the maximum authority possible to make and service guaranteed loans.

Obligations under the guaranteed operating loan (OL) with interest assistance program are currently running 159 percent ahead of a year ago at this time, while the number of applications has increased 56 percent. In the guaranteed farm ownership (FO) loan program, obligations have increased 92 percent, and applications by 28 percent over a year ago.

Applications for direct operating loans are up 44 percent from last year at this time, and obligations under this program are running 35 percent ahead of last year. We expect use of direct OL funds will accelerate as planting season nears. Economic

conditions this year are forcing many family farmers who normally obtain commercial credit to seek direct OL assistance, and low commodity prices are creating severe stress for many highly leveraged small farms operated by minority and beginning farmers.

Many direct OL loans are being made in conjunction with emergency (EM) loans to farmers affected by natural disasters. Applications for EM loans so far in fiscal year 1999 are running 397 percent above a year ago at this time, and obligations are running 185 percent above last year. The heaviest use of EM loan funds generally occurs in March through June. As is true for nearly all USDA direct loan programs, funding levels for direct FO loans have historically been less than farmers' demand for them. Many of these farmers are minority and beginning farmers who are without the resources to obtain credit from a commercial lender, even with a guarantee. As part of our ongoing commitment to improving our services to small farmers and to others who have been underserved in the past, USDA's fiscal year 2000 budget request includes $128 million in direct FO loans, compared to $86 million available for 1999—a 48-percent increase. We also are increasing our outreach to previously underserved farmers. In fiscal year 1999, loans made to beginning farmers are up 32 percent and loans to socially disadvantaged producers are up 42 percent from a year ago. These increases mark the third consecutive year that we've increased the number of loans made to these groups of producers. However, providing loan funds to small farmers with limited equity and low incomes is only the first step in helping them to become successful. Many benefit from credit supervision, training, and assistance in managing their farm businesses. Currently, we are providing loan making and loan servicing benefits to these family farmers while achieving a declining delinquency rate on the overall FSA caseload. The default rate on FSA direct loans, as of January 1, has dropped from 23 percent in fiscal year 1995 to 15 percent this year.

We are carefully monitoring the demand for FSA farm loans and the amount of loan funds obligated. In addition to the number of applications, we have a large carryover of unfunded applications from last year, and some States are reporting fund shortages in non-targeted loan categories (portions of loan allocations that are not set aside for beginning and minority farmers until after April 1, 1999) for guaranteed FO and OL loans with interest assistance. The statutory increase in loan limits to $700,000 also means the fiscal year 1999 allocation of loan funds is able to fund fewer applications for guaranteed loans, even as these applications have increased dramatically. Because of the strong increase in demand for farm loan assistance, we anticipate that most funds will be exhausted much earlier than last year.

Beginning farmer (BF) targets for guaranteed loans are lifted on April 1. The BF targets for direct OL are removed on September 1. Socially disadvantaged targets remain in effect until administratively withdrawn, and historically, this takes place in the latter part of the fiscal year.

CONSERVATION RESERVE PROGRAM

Many farmers also benefit from participation in the Conservation Reserve Program (CRP). Although CRP acreage is selected on the basis of the environmental benefits it will provide, conversion of the cropland to permanent vegetative cover does affect crop production, crop prices, and farmers' incomes.

In the eighteenth CRP signup, which ended last December, USDA received 90,000 offers for a total of 7.1 million acres. County offices will soon be notifying producers of bid acceptances.

RISK MANAGEMENT

In his State of the Union address, the President reiterated his call for a bipartisan plan to create a strong safety net for farmers. That need is critical. We need policy tools that can provide needed support to farm incomes when natural disasters and market disasters strike, tools that farmers can rely on in a proactive approach to risk management.

The first step in building a stronger safety net is using $400 million from the 1999 emergency appropriation as a down payment on improving crop insurance. That $400 million will be used to reduce farmers' premiums by 30 percent this year, as an incentive to increase the use of buy-up coverage, and to help energize a broad-based crop insurance program that will be the anchor for the safety net.

In building on that base, we would like to work with Congress on some specific proposals, which include:

Increasing participation by making higher-level crop insurance coverage more affordable and effective for farmers; developing policies to cover multi-year as well as single-year losses; raising the floor for catastrophic coverage and the Noninsured

Crop Disaster Assistance program; expanding the range of crops that can be covered; authorizing a pilot revenue program for livestock as a first step to bringing the largest sector of American agriculture under the crop insurance umbrella; creating other new pilot options to see what works for farmers; working more creatively with private companies to develop risk management tools; and providing better information, education, and service to farmers.

While we believe crop insurance should be the centerpiece of the safety net, we need to look at a broad range of ways to help farmers manage risk. These ways should include allowing farmers to extend the due dates on market assistance loans to ease the pressure on cash flow. They should include incentives for establishing on-farm storage facilities to give farmers greater marketing flexibility.

In the next few months Secretary Glickman will hold three regional forums around the country; Deputy Secretary Rominger and I will hold others. We are inviting members of Congress to attend. We want to get input from all quarters, and to hear from farmers, ranchers, lenders, local officials—all who have a stake in agriculture—on how we can improve the safety net for producers. We want to hear directly from farmers and ranchers on what we need to do to make crop insurance a more attractive and viable vehicle in their risk management strategies.

Crop insurance has come a long way since the 1994 reforms were enacted. In 1998, the program provided nearly $28 billion in protection on more than 181 million acres through nearly 1.2 million policies. Hard-hit producers received $1.4 billion in indemnities. That performance stands in stark contrast to the situation just 5 years earlier, when only 83.7 million acres were insured through 700,000 policies providing $11.3 billion in liability.

Now, there are a number of new insurance programs with improved coverages, including five different types of revenue insurance protection, new crop programs, and dairy options. Last year, the Risk Management Agency (RMA) responded to the acute farm crisis gripping much of the Northern Plains with improved and expanded crop and revenue insurance for spring wheat and barley, corn and soybeans.

We intend to continue working on improving the crop insurance program. We will do everything possible to encourage program participation, to correct inequities in the structure of premium rates, yield guarantees, or other program provisions, to make the program user-friendly for companies and producers alike, and to facilitate new product development and other program innovations. We look forward to working with Congress on crop insurance reforms based on the principles of maximum participation, comprehensive coverage, use of market mechanisms, flexibility, and program delivery at the lowest possible cost to taxpayers and producers. Achieving these goals will provide a strong foundation for the reliable and effective safety net that producers need.

EXPORT PROGRAMS

Developments in overseas markets during the past year have certainly demonstrated that the health of the American farm economy is inextricably linked to the global economy. As markets in Asia, Latin America, Russia and elsewhere experienced financial turmoil and their imports of food and agricultural commodities were reduced, the impacts of those developments were felt throughout rural America. That is why the agricultural community worked so hard to ensure adequate funding for the International Monetary Fund, which is leading the international financial reform efforts.

We recognize that a healthy farm economy depends on strong export markets and USDA is using all of its available export tools to help American farmers and ranchers weather this economic crisis. Faced with the challenges posed by last year's market disruptions, we have expanded substantially the level of CCC export credit guarantees made available for export to markets in Asia, which otherwise would have been unable to obtain financing for their food and agricultural imports. As a result, sales registrations under the guarantee programs exceeded $4 billion in 1998, an increase of 40 percent above the previous year.

For fiscal 1999, we have announced the availability of $4.2 billion in export credit guarantees, compared with $3.9 billion announced at this time last year. This total does not include our anticipated $1 billion program for South Korea. We are continuing our negotiations with the South Korean government over the commodity mix to be included in the package.

In addition to these major undertakings, we also continue our export assistance efforts under other programs. For example, under the Dairy Export Incentive Program (DEIP), Secretary Glickman has authorized export bonuses up to the maximum volume and spending limits consistent with our World Trade Organization (WTO) obligations. From July through January, bonuses of nearly $80 million were

paid for exports of nearly 70,000 metric tons of U.S. nonfat dry milk, over 3,000 tons of whole milk powder, and 4,000 tons of cheese. Last May, Secretary Glickman reactivated the Export Enhancement Program (EEP) to announce a 20,210-ton allocation for frozen poultry to six Middle East countries to partly compensate U.S. poultry producers for markets lost in Europe. To date, 1,500 tons have been sold under this initiative. He also announced an EEP initiative for barley to Algeria, Cyprus, and Norway in response to the European Union's heavily subsidized sale of barley into the U.S. market. Before this initiative expired, USDA paid $1.2 million in bonuses for nearly 25,000 tons of U.S. barley exports. We continue to stress the importance of market development. In 1998, we allocated $90 million to 64 U.S. trade associations, state regional groups, and cooperatives for export promotion activities under the Market Access Program (MAP), and approved marketing plans for $33.5 million for 27 U.S. trade associations under the Foreign Market Development (FMD) program. In 1999, we have approved marketing plans of $33.5 million for 26 U.S. trade organizations under FMD. Just last month, we invited applications for our 1999 MAP and our fiscal 2000 FMD program. We are using a new means this year to reduce U.S. wheat surpluses while increasing our food aid to other nations—the President's Food Aid Initiative, announced in July. This initiative is being carried out under authority of the CCC Charter Act of 1933 to purchase surplus wheat from the domestic U.S. market. The wheat is subsequently being made available for donation overseas under the authority of Section 416(b) of the Agricultural Act of 1949.

By late October last year, we had fully allocated the 2.5 million metric tons of wheat and wheat products initially authorized. We doubled the size of the initiative in December, authorizing Section 416(b) donations totaling 5 million metric tons. Wheat donations under the Food Aid Initiative alone will now equal the total commodity tonnage that the United States will provide worldwide this year under all other food aid programs.

As of Jan. 30, 1999, allocations under the initiative totaled around 4.8 million tons of wheat and wheat products. Of the total, 3.3 million has been allocated for government-to-government donations, including Russia (1.5 million tons), Bangladesh (600,000 tons) and Pakistan (300,000 tons), with the remaining 900,000 tons going to 16 other countries. Another 1 million tons has been allocated for donations through the World Food Program, while 427,000 tons has been allocated for distribution by private voluntary organizations (PVO's).

Shipments have begun to some countries, and we continue to negotiate donation agreements with a number of recipient countries and PVO's. We expect that all 5 million tons will be shipped by the end of this calendar year.

We are also carrying out a major food aid effort in Russia. Along with the wheat that I mentioned earlier, our package for Russia includes 500,000 tons of corn, 300,000 tons of soybean meal, 208,000 tons of soybeans, 116,000 tons of rice, 120,000 tons of beef, 50,000 tons of pork, 50,000 tons of poultry, 39,000 tons of nonfat dry milk, and 15,000 tons of planting seeds. The U.S. and Russian governments have established an unprecedented monitoring program to ensure that aid reaches the targeted populations throughout Russia. USDA is devoting substantial resources to monitor the delivery and distribution of the food aid. Four additional USDA staff will be sent to Russia to aid in this effort. USDA also is requesting assistance from other U.S. government agencies to monitor the package and will, if necessary, consider sending additional staff.

TRADE NEGOTIATIONS

We must move forward with greater market reform in the next round of world trade talks, which begins late this year in Seattle. Although the Uruguay Round was a landmark agreement for agriculture—more was done to liberalize trade and bring agriculture into the GATT system than in all previous rounds combined—we have to recognize that agriculture still has a long way to go to complete its reform and be fully integrated into the world trading system.

Our goals for the upcoming WTO negotiations include: elimination of export subsidies; substantially cutting—and where possible eliminating—tariffs on farm products; tightening rules on domestic subsidies; reforming state trading enterprises; and tightening rules on technical barriers that unjustifiably restrict trade.

WTO accessions provide an excellent opportunity to address and resolve some trade problems. We will be working with China on its WTO accession.

In addition, we will continue to work to resolve the contentious bilateral trade issues that hinder our exports, such as the EU hormone ban, restrictive Canadian import policies for livestock and wheat, and unfair Chinese phytosanitary rules.

CONCLUSION

Mr. Chairman, that concludes my statement. I look forward to working with the Committee on the fiscal year 2000 budget so that together we can meet the needs of our nation's farmers and ranchers.

PREPARED STATEMENT OF PEARLIE S. REED, CHIEF, NATURAL RESOURCES CONSERVATION SERVICE

Mr. Chairman, thank you for the opportunity to appear before you today. For twenty-nine years I have served with the Soil Conservation Service and the Natural Resources Conservation Service. During the course of those years, I have had the opportunity to work with and meet many outstanding conservationists—people who care greatly for the land and for the farmers and ranchers that they serve. That is why I am here today. I want to represent the conservationists who go to work everyday to try and help our farms become more productive, to assist our communities be stronger and more sustainable, and to also protect and improve our land, water, and other valuable natural resources.

Our people in the field are what NRCS is all about. They are some of the most capable and dedicated employees you will find anywhere in the government. However, these employees need our assistance, if they are going to be successful at what they do. They need us to help them spend time out on farms and ranches with the farmers, rather than performing administrative tasks in the office. They need us to provide the technical and financial resources that they can use to help farmers; they need us to tell their story, so that folks here in Washington will understand our successes—but more importantly, what their needs are.

I want to begin with the topic of accountability. It is something that members of this Subcommittee have expressed very strongly to us. We got the message. As a result, during the course of fiscal year 1998 we put several new accountability measures in place. One aspect is the Total Cost and Accountability System (TCAS). It measures, on a daily basis, the number of hours that employees spend on various functions, including conservation planning, watershed work, or assistance in Farm Bill program implementation. A second aspect of our accountability system is the Performance and Results and Management System (PRMS). This system focuses on measuring the results of our work and capturing accomplishments. Although PRMS is just coming on-line, we believe it will be a useful tool in meeting the objectives of the Government Performance and Results Act (GPRA).

A third component is the Workload Analysis. At the state and field office levels, data were collected about the expertise of our employees in geographic areas of the country, how programs were utilized to achieve objectives, and what our future projected workload would be. The Workload Analysis aids NRCS strategic planning, in that we can set targets and match objectives to realistic resources and staffing. Initial results suggest that we need more help in the field to assist with program implementation and meet the needs of farmers. As Chief, I have taken many steps to minimize administrative tasks, and help conservationists spend time in the field. My "workload reduction team" has recommended and implemented many steps, such as eliminating unneeded forms and reports, that cost valuable staff time. For example, in Yolo County, California, commonly requested soil survey data is now available on the Internet and has reduced requests to the office; in New Mexico, many forms have been automated and streamlined, reducing staff workload; and in Texas, elimination of the Field Office Computing System (FOCS) has made more time available for field staff to meet with customers. We are pleased with the results of workload reduction, but regardless of the steps we take here in the leadership, we need sufficient resources to apply toward meeting the incoming workload.

We know the workload is great. For nearly 30 years, I have seen the people of NRCS eagerly and consistently go above and beyond the call of duty. We see every citizen who walks in an NRCS office as our customer. Some have criticized NRCS for this. I believe it is something to be proud of. NRCS staff are part of the communities they serve and the most impressive achievements of our agency, are where our field conservationist help people to help themselves. It is through the relationship that our field staff develop with individual farmers, or through the role they play in helping communities, that they have developed trust and a reputation for providing quality advice time and time again. Some call it "locally-led" or a "bottom-up" approach, but our work really comes down to "interactive assistance". NRCS staff interact with customers: we want to know what the farmer's objectives are; we gain an understanding for how the operation is run; and we work with them to apply conservation practices that will achieve their goals. We also strive to achieve national goals of clean water, erosion control, nutrient management, among many

others. We do all of this based upon sound science and utilization of the best technology available. It is an interactive process and it may take weeks, months or even years to put all of the pieces together and it is also very difficult to quantify.

Demands for NRCS' services continue to grow at an accelerating pace. In recent years, the need and demand for Conservation Technical Assistance (CTA) has increased as resource problems have been identified, including those associated with nonpoint source pollution, misapplication of fertilizers and pesticides, and land use changes. NRCS has responded by developing new technology and conservation standards to address emerging challenges such as nutrient management, wetland destruction, global climate change, the aging watershed infrastructure, and soil erosion. While this has increased public and local awareness of natural resource concerns, it has also broadened the agency's customer base to include a growing list of customers. We estimate that the operators of livestock operations will require over 350,000 nutrient management plans in the coming decade for the estimated 450,000 AFOs addressed by the Clean Water Action Plan. In addition, almost 11,000 small watershed dams constructed under the authority of Public Law 534, and Public Law 566 will reach the end of their design life in this coming decade. These watershed structures represent the safety, economic viability, and economic sustenance of thousands of communities. In defense terms, we often speak of "military readiness". What I would ask us all to do today, is think about the "readiness" of our conservation delivery system.

The people of NRCS have always given 100 percent of their abilities and will continue to do so. The 1985 Farm Bill asked them to concentrate more efforts on highly erodible lands, and they met that responsibility. The 1990 Farm Bill asked them to work harder for America's wetlands, and they also met that responsibility. The 1996 Farm Bill asked them to work harder for wildlife habitat, farmland protection, animal agriculture and a host of other activities. They are working hard to meet that responsibility, but they need our help.

I want to suggest, in closing, that the reason that so much is being asked of NRCS is that so much is being asked of our nation's farmers and ranchers. Everyday, they put their boots on and go out to bring us the lowest cost, safest, and most abundant food supply on this planet. At the same time, we ask them to be the caretakers of our water, guardians of our air, and the stewards of the soil. It is up to us to give them a hand.

PREPARED STATEMENT OF JAMES R. LYONS, UNDER SECRETARY FOR NATURAL RESOURCES AND ENVIRONMENT

Mr. Chairman, Members of the Committee. It is my pleasure to outline for you the fiscal year 2000 budget request for the Department of Agriculture's Natural Resources Conservation Service (NRCS). Over the past six years I have had the honor to appear before this Subcommittee during each appropriations cycle to present the budget for NRCS. In reviewing the budget requests for the agency in those years, it is quite startling to see how the agency has changed and emerged as a leader in Federal conservation activities. Through passage of the federal Agriculture Improvement and Reform Act of 1996 (1996 Farm Bill), and implementation of the Department of Agriculture Reorganization Act of 1994, NRCS has stepped up not only to advance the conservation mission of USDA, but also to become the central Federal agency for conservation on America's private lands.

Farmers, ranchers, and communities across the nation can turn to NRCS and receive assistance on a wide spectrum of conservation, encompassing nutrient and pesticide management, wetlands conservation, watershed planning, flood prevention, water quality improvement, development/maintenance of wildlife habitat, and, of course, soil conservation. To meet that demand, NRCS delivers a wide variety of financial and technical resources to its customers, through programs as diverse as the Wetlands Reserve Program, Wildlife Habitat Incentives Program, and the Farmland Protection Program.

But regardless of the programs that NRCS delivers and the responsibilities with which the agency has been entrusted, the core of NRCS has been and continues to be its people. It is the NRCS delivery system in the field that makes all of the work happen. It is the field conservationists who combine knowledge of the latest technology and science, with experience in farming and ranching operations to sensibly apply good conservation management practices. It is the field conservationists who have earned the trust of farmers and ranchers across the nation through that sound advice and assistance.

I want to take a moment to outline in more detail, how the NRCS field delivery system provides the conservation technical assistance necessary to meet the agency's mission.

NATURAL RESOURCES CONSERVATION SERVICE TECHNICAL ASSISTANCE

NRCS provides natural resources conservation assistance primarily on private lands. More than 70 percent of the land in the contiguous United States is privately owned, including virtually all of the Nation's agricultural lands. It is on the private lands where millions of individual decisions are made by farmers and ranchers, that the ultimate success of our natural resource efforts will be determined. NRCS is the only Federal agency whose major purpose is to provide conservation technical assistance to private landusers across the country. The agency's focus is on helping landowners and users achieve natural resource and environmental goals while maintaining productive and profitable operations and economically viable rural communities. NRCS has had significant success, and the field structure is designed to continue that success in the future. These are a few of its many assets:

People.—NRCS has a nationwide network of professional staff at the local level that provide conservation technical assistance to owners and users of privately-owned land. NRCS field staff areas of expertise cover a broad spectrum of natural resource issues. Over forty percent of the agency's science and technology occupations are engineers, over 25 percent are soil scientists, and nearly 10 percent are schooled in rangeland sciences. Other disciplines encompass biology, agronomy, cartography, physics, and forestry. NRCS field staff live and work in the areas that they serve, and have invaluable knowledge of the soil resources, watersheds, climate, and wildlife in the area. But even more importantly, our field staff know their customers. They interact with them everyday and understand the farming operations, agricultural trends, and resource constraints of the people they serve.

Technical skills.—NRCS natural resource specialists are trained to deliver technological support to groups and individuals quickly, efficiently, and consistently nationwide. Through a national framework, including science and technology consortiums as well as NRCS Institutes, field staff are trained to apply science-based assistance with a great degree of sensitivity to local conditions. NRCS field staff working in partnership with the local conservation districts are used as a primary source of help by local people—and often by people administering programs for other Federal, State, and local agencies.

Technical excellence.—NRCS specifications for soil and water conservation practices are considered invaluable throughout government and private industry. In addition, the agency is the leader in soil classification and soil mapping. NRCS soil surveys and GIS-based data are utilized daily not only by NRCS staff, but other Federal agencies, local governments, and academia. Soil surveys are used daily to make decisions as small as what type of plants to place in a backyard garden, to how best to engineer highways and bridges.

Natural resource planning experience.—NRCS has vast experience in broad-scale planning in watersheds and other areas and site-specific planning on farms and ranches to address natural resource concerns. Effective natural resource planning in the future will require this type of planning process to develop effective solutions that meet the needs for a sustainable land and its people. NRCS serves as a catalyst by providing coordination to bring local people together with skilled technical people to develop and implement meaningful solutions. These planning efforts are provided through the Watershed Survey and Planning Program, the Resource Conservation and Development (RC&D) Program, and Coordinated Resource planning provided through Conservation Operations.

Diversity.—I would like to underscore the contributions that NRCS is making toward ensuring equitable service and opportunity for all customers and employees of USDA. NRCS has had a good record of ensuring diversity and opportunity in the past, however, I believe we can do better. Throughout various program and technical assistance activities, NRCS will work hard to provide the necessary outreach and assistance to ensure that our customers have easy access to services. In response to the Civil Rights Action Team report, the Secretary has undertaken many steps to improve the Department's activities and policies in this area. I am confident that NRCS will continue to seek proactive ways to better serve minority and low-income customers. One of the hallmarks of the conservation assistance is that it is available to anyone, anywhere. That includes areas that are not typically designated as high workload areas based upon farm program participation, population, or other demographic factors. By offering basic and universal conservation assistance on a national basis, NRCS offers minority and limited resource farmers a needed helping

hand. A legacy of conservation on private lands must be built with the participation of everyone.

Partnerships and volunteerism.—Since its creation, NRCS has operated through voluntary cooperative arrangements with individuals, the private sector, and Federal, State, and local governments. The value of NRCS technical assistance is recognized by local and State partners; equally, we recognize the invaluable contribution of volunteers, who contribute immeasurably to conservation efforts. Americans have freely and generously given of their time to the volunteer arm of NRCS, known as the Earth Team. In fact, in fiscal year 1998 some 17,287 NRCS Earth Team volunteers donated 674,299 hours to conservation efforts. As calculated by the Points of Light Foundation, this equates to an additional $9,200,000 in direct assistance to private landowners for natural resource protection, an increase of nearly 11 percent from fiscal year 1997. The return on the investment for NRCS is enormous. We estimate that for every dollar spent on the Earth Team, we receive $48 dollars in service benefits.

Local people as decision-makers.—When NRCS provides conservation and program assistance, the agency works under mutual agreements with some 3,000 conservation districts that are established under state law. About 17,000 local conservation district supervisors provide the agency with invaluable guidance. The NRCS cooperative team structure is an established and practical example of how Federal programs can be managed with local guidance at the local level. It is crucial to remember that the agency's approach is a voluntary one. Our professionals provide options for problem-solving—developed in conjunction with customers, but it is the customers who make the final decisions.

Leverage.—State and local governments contribute substantially, with both people and dollars complementing NRCS technical assistance. Without NRCS technical assistance, which greatly enhances the value of State and local efforts, these funds almost certainly would not have been spent on natural resource protection. In a sense, this cooperation constitutes a two-way leveraging: State and local programs and NRCS benefit from each other's involvement.

We are asking a lot from our field delivery system. And as we look at how the agency has evolved to assist in so many areas of conservation, it has accomplished more despite decreasing numbers of employees nationwide. To a great degree, we have taken every step possible to ensure that reductions would not come at the expense of field services. As a result, the agency still maintains over 75 percent of its staff in the field. However, those staff are under increased demand for their time and expertise. Chief Pearlie Reed is working to minimize administrative functions, so that field staff can dedicate their time where it is needed most—on farms and ranches across the countryside. But as workload increases and our customers demand more services, we need to provide additional staff resources to help the agency meet that demand. Having said that, I will describe our programs and plans for fiscal year 2000.

The following table shows the major items in this year's budget request:

[In thousands of dollars]

	Fiscal year—		
	1998	1999	2000
Appropriation			
CONSERVATION OPERATIONS	633,231	641,243	680,679
WATERSHED SURVEYS AND PLANNING	11,190	10,368	11,732
WATERSHED AND FLOOD PREVENTION OPERATIONS	181,036	99,443	83,423
DEBT FOR NATURE	.....	.....	5,000
RESOURCE CONSERVATION & DEVELOPMENT	34,377	35,000	35,265
FARMLAND PROTECTION PROGRAM	.....	.....	50,000
CCC Funding			
WETLANDS RESERVE PROGRAM (WRP) [1]	193,597	127,870	207,065
WILDLIFE HABITAT INCENTIVES (WHIP)	30,000	20,000	10,000
ENVIRONMENTAL QUALITY INCENTIVES PROGRAM (EQIP)	200,000	174,000	300,000
FARMLAND PROTECTION PROGRAM (FPP)	18,000	.....	27,500

[1] Does not include technical assistance costs funded from unobligated WRP appropriation balances; fiscal year 1998—$18.7 million; fiscal year 1999—$4 million; fiscal year 2000—$2 million.

CONSERVATION OPERATIONS is the foundation for most of the agency's activitiesies. Conservation Operations represents a long-standing and historical partnership of interests all working in a concerted effort toward a sustainable and productive nation. The following programs and initiatives are funded through Conservation Operations:

CONSERVATION TECHNICAL ASSISTANCE is the cornerstone for most agency activities. The fiscal year 1998 appropriations were $541,361,000; and the fiscal year 1999 comparable appropriation is $547,905,000. The fiscal year 2000 budget request is $585,000,000 or a $37 million net increase.

The proposed funding levels represent support to the functions and activities that are vital to meeting the mission of conserving, improving, and sustaining our natural resources for the future. Conservationists on the ground are under increasing demand for their services, as they tackle new programmatic responsibilities while retaining a commitment to the community for providing basic assistance to landowners in need. It is our goal to ensure NRCS staff support to grassroots watershed partnerships and the development of conservation plans for communities. Throughout the nation, NRCS conservationists facilitate and enable local action. Technical assistance funding ensures the presence of these individuals and promotes voluntary conservation.

We have also responded to requests of this Subcommittee and others for additional data on our accomplishments and workload within Conservation Operations. I am pleased that NRCS has begun to implement accountability systems to capture the total cost of workload in various areas. Also, we are creating a sound system for measuring performance and quantifying the degree to which we are meeting our stated goals.

With respect to workload, one area of particular concern is the issue of water quality problems associated with animal feeding operations (AFO's). In September , 1998, as called for in the Administration's Clean Water Action Plan (CWAP), USDA and the Environmental Protection Agency (EPA) jointly released for public comment a draft AFO Strategy that establishes national performance expectations for all AFO owners and operators. The strategy presents a series of actions that USDA and EPA will take to minimize the water quality and public health impacts of the nearly 450,000 AFO's in the United States. Thousands of producers will likely request nutrient management assistance. In order to help them develop effective nutrient management plans that protect our Nation's water resource, the fiscal year 2000 budget proposes to increase the amount of conservation technical assistance available to AFO operations by $20 million.

Recognizing that NRCS can never fully meet this workload, the proposed funding level for Conservation Operations also represents a continued cooperative effort between NRCS and its conservation partners including Conservation Districts, Resource Conservation and Development Councils, and other non-profit and community action groups. The relationship between NRCS and its partners represents a catalyst that empowers local people to become involved in conservation activity. In addition, the funds that are appropriated by Congress are leveraged and matched by the hard work and resources of the thousands of partners and volunteers in virtually every aspect of NRCS operations. Additional support for the CWAP in the budget request includes $20 million for Competitive Partnership that will be used to strengthen the leadership of locally-based organizations such as conservation districts or watershed councils, to enable them to provide coordination of locally-initiated conservation efforts. Finally, a further increase of $3 million will be used by NRCS for additional monitoring to help target resources and document baseline conditions and performance.

Another area of increasing concern is the issue of Global Climate Change. As the Administration and Congress work toward international protocols concerning greenhouse gas emission, farmers and ranchers can play a key beneficial role. Preliminary research indicates that sound conservation practices, such as wetland protection, conservation tillage, conservation buffers, as well as planting biomass covers have the potential to dramatically reduce greenhouse gas levels. We want to learn more about this, and the proposed Conservation Technical Assistance increase includes $12 million for soil studies and inventories to provide accurate baseline soil carbon data and to assess the impacts of Federal programs on soil carbon stocks. Also, $3 million is proposed to fund demonstration and pilot projects to test various carbon sequestration and greenhouse gas mitigation strategies and monitoring mechanisms.

These increases are partially offset by a decrease of $31 million for a transfer of base funding to the proposed Support Services Bureau, which will centrally fund the administrative support services common to the county-based agencies. The fiscal year 2000 Budget requests $74 million for the Support Services Bureau's informa-

tion technology and Common Computing Environment functions. In fiscal year 1999, $31 million for similar activities was appropriated to NRCS. In addition, $16 million will be made available from CCC, and transfer authority is requested to merge the agencies' central administrative costs into this common account. Estimates of the amounts to be transferred from FSA, NRCS, and RD for administrative services are not yet available.

Some other activities that are encompassed by Conservation Technical Assistance Include the following:

Highly Erodible Land Conservation (HELC).—The 1996 Farm Bill provided amendments that have made HELC compliance requirements more farmer friendly and have provided USDA with additional options in assisting producers with compliance status, reduced the burden of complying with the HELC provisions and have provided USDA with additional tools to use in working with producers. However, all producers who receive USDA program benefits must fully apply a conservation plan or use an approved conservation system on highly erodible land. Therefore, NRCS continually assists producers in developing plans for land that they acquire and in making changes in their current plans so that their practices may reflect changes in cropping systems, weather conditions, new technology, and economic incentives. Our experience has shown that approximately 20 percent of producers will change their conservation systems each year.

Wetland determinations and certifications.—The 1996 Farm Bill changed Swampbuster to give farmers greater flexibility in complying with wetland conservation requirements by providing more options for mitigation and wetland conversions. NRCS determines areas subject to Swampbuster and responds to requests from farmers who plan activities that may adversely impact wetlands. NRCS certifies wetland determinations only upon request when clients propose a project to alter the hydrology within wetlands. Responding only on a request basis was provided for in the 1996 Farm Bill and ensures that requests from clients are serviced in a timely manner and that certifications are conducted where absolutely necessary. Certified determinations stay in effect as long as the land is used for agricultural purposes or until the owner or operator requests a review after natural events change the topography or hydrology of an area. Certified wetland determinations are conducted by NRCS on agricultural lands and non-agricultural lands for USDA program participants. Generally, these NRCS certified wetland determinations are also valid under Section 404 of the Clean Water Act. In fiscal year 1997 and fiscal year 1998, landowners requested about 40,000 certified wetland determinations annually and these requests are expected to increase.

Aside from wetland determinations, changes initiated by the 1996 Farm Bill have increased the activities of NRCS in wetland mitigation. NRCS provides assistance to landowners who wish to enhance functions of existing wetlands, restore former wetlands, and create new wetlands to replace wetland functions lost from planned conversions or alterations. These options, while creating increased opportunity and flexibility for landowners, require a great deal of work by NRCS field staff, who assess the functions of individual wetlands and provide the customer with technical assistance in every phase of the mitigation process. Other changes by the 1996 Farm Bill requires development of categorized minimal effect exemptions and also revises the concept of abandonment. When done under an approved conservation plan, landowners with farmed wetlands and farmed wetland pastures may allow an area to revert to wetland status and convert it back at a future date without violating Swampbuster. Thus far, interest and participation in these wetland activities has been widespread among landowners. While NRCS welcomes the opportunity to provide additional assistance to these landowners, these provisions have resulted in a marked workload increase for NRCS.

Grazing Land Conservation Initiative (GLCI).—This grassroots-driven initiative has helped NRCS better define the resource needs and benefits generated when grazing lands are improved. NRCS has been requested to continue technical assistance to livestock producers on private grazing lands. Grazing lands include rangelands, pasture, hayland, and grazed forestlands.

Natural Resources Inventory (NRI) analysis of range vegetation shows that over 15 percent of non-Federal rangelands are in poor condition; over 44 percent are in fair condition; 34 percent in good condition; and only 6 percent in excellent condition. The NRI indicates that 75 percent—nearly 299 million acres—of non-Federal rangelands need conservation treatment. Properly managed grazing land represents a renewable resource for producing food and fiber. Vegetative cover on well-managed grazing lands contributes to: (1) increased water quality and quantity; (2) improved wildlife habitat; (3) reduced soil erosion and sedimentation; and (4) improved riparian areas.

In fiscal year 1999, NRCS was able to continue support for a Grazing Land Conservation Coordinator position in each of the fifty states. This position helps us to provide multi-resource technical assistance to support grazing lands conservation and water quality improvement on rangelands and begin the process of rebuilding the agency's expertise in rangeland conservation, a capability demanded by our customers.

Urban Conservation.—Another area of attention has been the work of NRCS in urban and suburban conservation. Natural resources do not recognize the boundary between urban and rural areas and to ignore their interaction within a watershed would not do justice to either. The watershed approach to resource conservation has been widely acclaimed and highly successful. However, when we begin to examine and work to rehabilitate the health of a watershed we must include all contributing factors that may be present, including community and residential elements. The efforts of NRCS are aimed to improve water quality and protect our natural resources while maintaining and enhancing production. The demand for assistance with issues such as water quality and soil erosion prevention are matters that effect everyone, and workable solutions must include the participation of everyone. NRCS has had great success in utilizing the science and technology that it has gained in its 60 year history to all types of resources in many settings. Likewise, the expertise in soil and water quality that the agency has gained is well suited and easily applied to help communities realize their goals for ecosystem health. We will continue to work together as neighbors to achieve actual goals.

Snow survey and water supply forecasts provide western states and Alaska with vital information on summer water supplies. The fiscal year 1998 appropriation was $5,835,000, the fiscal year 1999 appropriation was $5,990,000; and the fiscal year 2000 request is $6,124,000. NRCS field staffs provide necessary leadership, standardization of procedures, and automation to a partnership of Federal, State, and local personnel to collect snow-pack data from more than 1,200 remote high mountain sites. After compiling and analyzing the data, NRCS is able to provide snowpack estimates and water yield on a monthly basis throughout the snow melting period. The knowledge gained through this effort supports critical decisions on billions of dollars of agricultural production, municipal water supply, hydroelectric and industrial water supply, flood control, and water flow requirements for fish and wildlife. This modest program contributes substantially to the economic and environmental well-being of a very large part of the country.

Soil Surveys provide the public with local information on the uses and capabilities of their soil resources. The fiscal year 1998 appropriation was $76,409,000; the fiscal year 1999 appropriation is $78,323,000; and the fiscal year 2000 request is $80,565,000. Soil surveys are based on scientific analysis and classification of soils and are used to determine land capabilities and conservation treatment needs. The published soil survey for a county or designated area includes maps and interpretations with explanatory information that is the foundation of resource policy, planning and decision-making for Federal, State, county, and local community programs. Homeowners and landowners also use soil survey information when making decisions. Soil surveys are conducted cooperatively with other Federal agencies, land grant universities, State agencies, and local units of government, many of whom contribute funds and staff.

Soils information has been gathered over many years and is primarily contained in published soil survey manuscripts and maps. There is a need for digital soils data for use in geographic information systems (GIS). NRCS has the leadership role for coordinating the development, maintenance, and distribution of a modernized digital soils data base. Geographically referenced digitized soil survey data, along with orthophotography will provide the accurate reference base needed for computer-assisted conservation, natural resource planning, and for geographic referenced data sharing. In addition, digitizing the soil surveys provides efficiency when updating and maintaining the soil survey data.

Plant Material Centers assemble and test plant propagation and the usefulness of plant species for biomass production, carbon sequestration, erosion reduction, wetland restoration, water quality improvement, stream bank and riparian area protection, coastal dune stabilization, and to meet other special conservation treatment needs. The Plant Materials Centers also focus on the important role of native species in ecosystem functions. The fiscal year 1998 appropriation was $8,825,000; the fiscal year 1999 appropriation is $9,025,000; and the fiscal year 2000 budget request is $9,238,000. Plant materials represent inexpensive, long-term conservation solutions to many environmental and natural resource problems and their maintenance costs are usually low. Many landowners and managers willingly use plant materials, if available, to meet their conservation needs.

The work at the 26 centers is carried out cooperatively with State and other Federal agencies, commercial businesses, and seed and nursery associations. Plant Materials Centers play an important research and development roles since most commercial nurseries will not develop new plant materials due to limited markets, but will grow and market the stock once a dependable plant has been developed. After species are proven, they are released to the private sector for commercial production.

Following are the other appropriated discretionary accounts in the NRCS Budget:

Watershed Surveys and Planning.—NRCS works with local sponsoring organizations to develop plans on watersheds dealing with water quality, flooding to develop plans on watersheds dealing with water quality, flooding, water and land management, and sedimentation problems. These plans then form the basis for installing needed works of improvement. The agency also works cooperatively with State and local governments to develop river basin surveys and floodplain management studies to help identify water and related land resource problems and evaluate sound solutions. For fiscal year 2000, this activity is proposed to be funded at $11.7 million.

WATERSHED AND FLOOD PREVENTION OPERATIONS is the first and only national program that helps local organizations plan and install watershed-based projects on private lands. It provides site-specific technical expertise and locally based watershed planning and financial assistance for plan implementation. The Watershed Program provides a process to solve local natural resource problems and avoid excessive regulation. fiscal year 1998 funding for Public Law 534 and Public Law 566 was $101,036,000; the fiscal year 1999 funding level is $99,443,000; and the fiscal year 2000 request is $83,423,000. The authorized purposes of watershed projects include watershed protection, flood prevention, water quality improvements, soil erosion reduction, irrigation water management, sedimentation control, fish and wildlife habitat enhancement, wetland creation and restoration, and public recreation. The program empowers local people as decision-makers, builds partnerships and requires local and State funding contributions and ownership.

The funding request for fiscal year 2000 also includes $1 million to educate the public about the condition of the aging infrastructure installed under our watershed programs. NRCS has assisted project sponsors to install over 15,000 individual measures since 1944. An integral part of many of these projects was structures for flood and water control, municipal and industrial water supply, and recreation. Since their installation, conditions surrounding the structures have changed due to an increase in population, residences built below the structures, upstream land use changes, and changed Federal and State dam safety regulations. By fiscal year 2000, approximately 2,000 of the aging structures could require significant restoration.

Debt for Nature.—The fiscal year 2000 budget includes $5 million as proposed legislation to help implement the Debt for Nature program. Debt for Nature provides technical and financial assistance to USDA borrowers with cash flow problems, who also have lands that require conservation treatment. In exchange for debt forgiveness on their lands, program participants agree to enroll environmentally sensitive lands into conservation easement. USDA's Civil Rights Action Team recommended that the program be implemented. The USDA farm loan program has a significant number of limited resource borrowers who have a high debt load and tight cash flow situation. The Debt for Nature program is a win-win, in that it offers direct financial assistance to borrowers, and also provides the public with protection of valuable natural resources. The program will work to mitigate the adverse economic implications of the ailing farm economy in many communities. The proposal will also directly facilitate the reduction of soil erosion, the implementation of the conservation buffer initiative, and the conservation of diminished and other important fish and wildlife habitat.

RESOURCE CONSERVATION AND DEVELOPMENT (RC&D) is a program initiated and directed at the local level by volunteers. The fiscal year 1998 appropriation was $34,377,000; the fiscal year 1999 appropriation is $35,000,000; and the fiscal year 1999 budget request is $35,265,000. This increase of $265,000 represent pay cost increases.

Each RC&D area encompasses multiple communities, various units of government, municipalities, and grassroots organizations. The RC&Ds represent a creative approach for helping citizens address multi-jurisdictional natural resource and community development issues. NRCS provides coordination to the program which serves as a catalyst for these civic oriented groups to share knowledge and resources, and it leverages public and private funds to solve common problems—including economic development—in a given area. Assistance is obtained from the private sector, corporations, foundations, and all levels of government. Historically,

every dollar of NRCS technical and financial assistance for this program and applied directly to local projects, has been matched by about $13 from other sources. By fostering local ownership and self sustenance for conservation and rural development projects, we believe that RC&D will contribute greatly to the legacy of locally-led action. The fiscal year 2000 request of $35,265,000 will allow NRCS to continue to support the 315 RC&D areas currently authorized.

COMMODITY CREDIT CORPORATION PROGRAMS

NRCS also administers, on behalf of the Commodity Credit Corporation (CCC), several cost-share programs, including those set forth in the 1996 Farm Bill and also provides technical assistance to individuals and groups participating in the Conservation Reserve Program, which is administered by the Farm Service Agency. The conservation programs provided by the 1996 Farm Bill, which NRCS administers on behalf of CCC, are the Environmental Quality Incentives Program (EQIP), the Farmland Protection Program (FPP), and Conservation Farm Option (CFO), and the Wetlands Reserve Program (WRP). In addition, NRCS administers the Wildlife Habitat Incentives Program (WHIP), which was funded by a transfer from CCC to NRCS. The 1996 Farm Bill also amended the Food Security Act of 1985, to the continued implementation of which NRCS administers on behalf of CCC.

The ENVIRONMENTAL QUALITY INCENTIVES PROGRAM (EQIP) provides in a single, voluntary program flexible technical, financial, and educational assistance to farmers and ranchers who face serious threats to soil, water, and related natural resources on agricultural land and other land, including grazing lands, wetlands, forest land, and wildlife habitat. Assistance is provided in a manner that maximizes environmental benefits per dollar expended, while assisting producers with issues such as local environmental laws or community identified environmental needs.

Funds of the CCC are used to fund the assistance provided under EQIP. For fiscal year 1999, $174 million was available to implement the EQIP. The program is primarily available in priority conservation areas throughout the Nation. The priority areas consist of watersheds, regions, or areas of special environmental sensitivity or having significant soil, water, or related natural resource concerns that have been recommended through a locally-led conservation process. For fiscal year 1998, nearly 75 percent of the EQIP financial assistance funding was provided within priority areas. Over 1,300 priority areas were approved by the State Conservationists and about 655 of these were funded. Funds are made available to the States based upon the quality of the priority area proposal, local initiatives, and the environmental needs of the affected areas.

The program has been very successful. We received nearly 55,000 applications in fiscal year 1998. After NRCS ranked the applications based on criteria developed at the local and state level, FSA county committees approved over 19,800 long-term contracts with farmers and ranchers. The EQIP financial assistance on these contracts will exceed $156 million.

The fiscal year 2000 proposal seeks an increase in EQIP funding to $300 million. Based on the fact that requests for assistance far exceed available funding, there is a need to continue to prioritize and focus our efforts so that we meet our Congressional mandate to maximize environmental benefits per dollar expended. We expect that in fiscal year 2000, continued interest in animal nutrient management and the release of the joint USDA/EPA AFO strategy will spur an increase in EQIP participation by owners and operators of animal feeding operations. The nutrient management focus of the program will help meet national objectives of water quality, while involving farmers and ranchers in voluntary and cooperative solutions.

The WILDLIFE HABITAT INCENTIVES PROGRAM (WHIP) provides for implementing wildlife habitat practices to develop upland wildlife habitat, wetland wildlife habitat, threatened and endangered species habitat and aquatic habitat. WHIP provides a significant opportunity to restore native habitat, help landowners understand how to best meet their own needs while supporting wildlife habitat development, and to develop new partnerships with State wildlife agencies, nongovernmental agencies and others.

WHIP is a solely voluntary program, whose projects encompass a wide array of wildlife practices. Projects performed under the program include advancing the following measures: upland wildlife habitat, wetland wildlife habitat, threatened and endangered species habitat, fishery habitat and other approved activities.

State NRCS offices have made an enormous effort to develop partnerships and outreach methods with government and private organizations to develop a program that targets specific state concerns. We estimate that approximately 1 million acres will be enrolled in the program in 1999, at a cost of $20 million. In order for WHIP to continue to be a successful national program, it needs to remain available for all

those interested in incorporating wildlife into the overall management of their farm or ranch operations. The fiscal year 2000 budget request includes legislation to authorize continued funding of WHIP at $10 million. $8.1 million would be for the implementation WHIP practices and $1.9 million for technical assistance, certification, and status reviews on enrolled acres. Funds for technical assistance are critical for the continued implementation of program activities.

The FARMLAND PROTECTION PROGRAM (FPP) protects prime or unique farmland, lands of State or local importance, and other productive soils from conversion to nonagricultural uses. It provides matching funds to leverage funds from States, Tribes, or local government entities that have farmland protection programs. The FPP establishes partnerships with State, Tribes, and local government entities to acquire conservation easements or other interests in land. It protects strategic farmland from urbanization. It ensures that the valuable farmlands are preserved for future generations and also helps maintain a healthy environment and sustainable rural economy. The program was originally funded in the 1996 Farm Bill at a level of $35 million. To date, those funds have been exhausted, and local interest in the program has been overwhelming. In the State of Union Address, the President referenced the issue of urban sprawl and the troubling trend of conversion of agricultural lands for development. The fiscal year 2000 budget proposes a total of $77.5 million for the Farmland Protection Program in two components: $50 million in new discretionary funding from the land and Water Conservation Fund to support the President's Lands Legacy Initiative and $27.5 million in CCC funding under proposed legislation.

WETLANDS RESERVE PROGRAM (WRP) is a voluntary incentive program to assist owners of eligible lands to restore and protect wetlands and necessary adjacent upland areas. WRP preserves, protects, and restores valuable wetlands mainly on marginal agricultural lands where historic wetlands functions and values have been either totally depleted or substantially diminished. Wetland restoration of such marginal lands provides landowners with a financial alternative to continued attempts to produce agricultural products on such high risk lands. Program delivery is designated to maximize wetland wildlife benefits, to provide for water quality and flood storage benefits, and to provide for general aesthetic and open space needs. Approximately 70 percent the WRP project sites are within areas that are frequently subjected to flooding and the flood storage being provided will lessen the severity of future flood events. The WRP is making a substantial contribution to the restoration of the nation's migratory bird habitats, especially for waterfowl.

Cumulative acreage enrollment through fiscal year 1999 is expected to reach 775,000 acres. For fiscal year 2000 we propose to enroll almost 200,000 acres and essentially reach the 975,000 acre legislated cap for the program. Technical assistance funding needed for the larger enrollment effort in fiscal year 2000 will be $18,300,000.

From inception of the program in 1992 through 1998, interest in WRP has been exceptional, providing approximately 665,447 acres enrolled in the program through the end of fiscal year 1998, and enabling the achievement of the long-standing goal to reach the presently authorized acreage cap of 975,000 acres by the end of fiscal year 2000. Historically, there have been more than five fold as many acres offered than the program could enroll. Beginning with the fiscal year 1998 sign-up, landowners are provided with the continuous opportunity to seek enrollment in the program. States periodically rank all unfunded offers and seek allocation of funding for the highest ranked offers. By following this process, the maximum opportunity for landowner participation is provided and the WRP is assured of having the best possible list of ranked offers available for funding during the year.

In response to the 1996 Farm Bill, the enrollment is separated into three components (i.e., permanent easements, 30-year easements, and cost-share agreements). Pursuant to the 1999 Appropriations Act, enrollment is now being balanced to respond to the level of landowner interest in each of these three components. The authorized level of enrollment for 1999 is 120,000 acres. Thus far approximately 22,000 acres have been enrolled. The level of landowner interest in the three components is presently 77 percent permanent easement, 18 percent 30-year easement, and 5 percent cost-share agreement. While we project that the backlog of unfunded acreage being offered in fiscal year 1999 will be 7 times greater than the actual acres enrolled in 1999.

Under the continuous sign-up process the backlog list for each of the program components will continue to be updated. Once the fiscal year 1999 enrollment process is completed, these lists will be available for immediate use in selection of the 2000 enrollment.

CONCLUSION

NRCS offers landowners a great deal of options and can provide programs and resources that are tailored to an individual customers needs. And the assistance is interactive. We expect to gain a full understanding of the needs and goals of our customers and provide planning and programs that a farmer and rancher can realistically implement. This is what has made NRCS an attractive vehicle for offering so many different kinds of assistance. It is also why when we look toward emerging issues such as nutrient management and greenhouse gasses, that NRCS is an obvious choice to lead the way. However, these policy and financial commitments become moot unless the Department of Agriculture and NRCS, its lead conservation agency, have sufficient resources to deliver the technical assistance that farmers and ranchers time and again say they need to take advantage of the conservation opportunities now confronting them. Our partners in State and local governments and the private sector, responding to widespread public support for environmental protection efforts, have increased their financial commitments to conservation on private land in recent years. At the same time, they look to the Federal government for a continuing commitment to technical assistance for private land and private landowners, not the diminishing commitment in real dollars that has been the trend over the past two decades. It is this technical assistance that, when coupled with the contributions of our many public and private-sector partners, will allow us to realize the full promise of the 1996 farm bill and to look beyond. Given the needed resources in this appropriation request, we can support the field conservationists of NRCS to make it happen.

That concludes my statement. I am looking forward to working with you in the months ahead to review the proposal and work together to maximize service to our customers and help them be good stewards of the land. I will take any questions that members of the committee might have.

TIMING OF DISASTER PAYMENTS

Senator COCHRAN. Thank you very much, Mr. Schumacher.

One concern that we have is that it has taken so long to get these payments that have been authorized and funded in this disaster assistance package to the farmers. We were hopeful that this could be handled with a little more dispatch than it has been.

You mentioned in your statement postponing the signup date until some time in April. It seems that, when we passed that emergency assistance, we were promising funds would be available, and you did, as you said, send out some of the money. Where people were already on the rolls and already on the list in the computers, those checks got sent out quickly. We appreciate that and commend you for that.

But the other part of the program has not really produced any money for farmers or any disaster assistance. It was called an emergency program and we are getting asked: where is the money and where is the assistance?

I know you had to design new software and you had other problems. And these offices have worked very hard. I agree with you here. The people out in the field are doing all that they can. But it seems that there is not enough emphasis on this program from the Washington level.

What can we expect in terms of getting the funds under this program into the hands of farmers in view of the very serious economic situation in which they find themselves this year?

Mr. SCHUMACHER. Thank you, again, for your comment.

If I may just take a minute or two on this, this is very, very important. A lot of farmers are interested in when they are going to get their checks, and what else they have to do to qualify for the different categories of disaster assistance. If you would bear with me for a minute or two, I would like to walk through it a bit.

When the bill was signed in November, as you said, the computers worked very well, and we were able to issue the first round of payments very quickly. There were no glitches, checks went out, and people were actually commenting and asking how we got those out so fast. It was terrific.

However, when we started the second phase of assistance, complications began to set in. First, we had a number of, shall we say, inquiries from both Senate and House members, asking for some changes. There was an interesting dialogue for a few weeks with members of Congress.

We did make a few adjustments. Some of them we could not make, but some we did make, and that delayed it for a few weeks.

Then we hit the California freeze. That hit us hard, and we looked at making some further program adjustments because of that. We have to work very hard on that.

So if we look at what is going well, we have $400 million insurance, buy-up for the buy-down, clear and that is moving reasonably well.

I think the dairy assistance program will work well. We have that moving quite quickly. We are helping dairy farmers and I think that will go fairly well.

I think the multi-year crop loss disaster assistance program is going reasonably well. We need to sort out a key issue of entities, and if you have further questions, I can ask Ken Ackerman to address that. But that, by and large, is going fairly smoothly once we have the entity issue sorted out. It was certainly raised by other Members of the Senate.

The Livestock Assistance Program has sort of overwhelmed us with the number of applications. We only have $200 million, which we will have to prorate. We extended the signup to March 25. Payment will go forward, as I said, in April.

The biggest challenge right now is the single-year crop loss disaster assistance program, Mr. Chairman. We had some computer compatibility problems, which should be resolved this week. The program has been extended to April 9. Once we have the computers fixed, we will get that done.

I think it is very important that we get our software in order because this will help farmers when we actually get down to the final paperwork. This is because if we get the computers set up right, which we think we can get done fairly quickly, producers will not have to reconstruct their 1998 records. This is very important. And they will not have to come into the offices with a reconstruction of their prior year records either. If we can take the time now to get it right, then we will get those payments out in late spring.

We have done a lot of work. We have more work to do, and we promise we will be getting that assistance out.

We have taken one additional measure. I am very pleased that Carolyn Cooksie is here; she is our Deputy Administrator for Farm Loan Programs, under Keith Kelly. With the supplemental coming down there is tremendous workload on farm credit by her group. What we are going to do is let farmers do some income assignments, using an estimate of what the farmers are likely to get in crop loss and livestock feed assistance payments. I think it will be

helpful for farmers to have those amounts reflected in their cash flow when they come in to see loan officers at the local level.

So we are trying to be flexible and timely. It is complicated. But I think, by and large, we are working it through and we will get those payments out fairly soon.

LIVESTOCK ASSISTANCE PROGRAM

Senator COCHRAN. With respect to the Livestock Assistance Program, is there any date that you can give us that we can pass on to our farmers and let them know when they may expect to actually receive payments?

Mr. SCHUMACHER. Parks, do you want to comment on that?

Mr. SHACKELFORD. Early April.

Mr. SCHUMACHER. In early April.

Senator COCHRAN. We know that you cannot make a final decision on how much money an individual farmer gets until the signup has been complete. Isn't that correct?

Mr. SCHUMACHER. Yes, we have to factor that.

Senator COCHRAN. Because it is all prorated.

Mr. SCHUMACHER. Right.

Senator COCHRAN. So can you estimate at this point, based on the applications you have received, how much money this is going to mean to individual farmers? Can you give us an estimate of that?

Mr. SCHUMACHER. Keith mentioned that it is 25 percent to 30 percent on the Livestock Assistance Program.

Senator COCHRAN. For the Livestock Assistance Program, yes?

Mr. SCHUMACHER. Yes. It's 25 percent to 30 percent. The factor will take it down because the demand has been so high.

Senator COCHRAN. Considering the demand and how high it has been, is the Department considering asking for any additional funds for this program?

Mr. SCHUMACHER. Our supplemental that we sent up does not include this. We want to get the available funds out as quickly as possible, and we have not formally considered an additional request for this within the Administration.

COTTON PROGRAM

Senator COCHRAN. Mr. Collins, you mentioned the export situation and a lot of the prices that are affected by that, the breakdown in some of these markets. In the cotton program, you talked about the Step 2 program and that you were out of money.

Is it not a fact that the Administration requested a cut in funding for this program last year and that you have requested no money for the program this year?

Mr. COLLINS. That is a fact, Mr. Chairman.

Senator COCHRAN. Why haven't you?

Mr. COLLINS. I think it was simply a question of budget priorities. It was a question of looking at the various needs that we had within our mandatory spending. We simply decided that the cotton Step 2 program was not among the top priority items.

That does not acknowledge that there is not an effect by not having a Step 2 program. I think we have seen one this year.

USE OF EXPORT PROGRAM AUTHORITIES

Senator COCHRAN. We hope that the Administration will be more aggressive also in these export enhancement programs. We noticed that the EEP Program and the Dairy Export Enhancement Program, and other programs may not be as aggressively utilized by the Department given the downturn in our sales in overseas markets as they should have been.

Tell us how the Department has utilized these existing authorities. Some of this does not depend upon funding that this Committee provides. You have CCC authority that you can use. But there does not seem to be any aggressive work going on in this area.

Am I wrong? If I am, tell me how I am wrong about that.

Mr. SCHUMACHER. You know, the Australian Prime Minister called me an "avaricious looter" for some of our aggressive use of our GSM. I was quite surprised at that, Mr. Chairman. I don't normally get those kinds of comments. Particularly, I think we have been very, very aggressive in terms of the utilization of our CCC authorities on food aid to Russia and to other countries associated with the President's food aid initiative announced last July.

On the Dairy Export Incentive Program, I think we are at the right level, and we have rolled up some unused balances from prior years to even more aggressively use the program. We have certainly heard from some of our competitors as they felt we went beyond our authorities. But we felt that that was the right thing to do and think that it has been very effective and the program has been fully utilized.

On the Export Enhancement Program itself, as you recall, when the EU tried to subsidize barley into this country, we took very, very aggressive steps and used our EEP authorities. But, overall on EEP, we have not used it in the last couple of years because we felt that the utilization of the other authorities of the CCC would give us a more targeted response, especially on wheat.

Senator COCHRAN. Senator Kohl.

DAIRY ASSISTANCE PROGRAM

Senator KOHL. Thank you, Senator Cochran.

With respect to the $200 million in assistance to dairy producers, do you have a target date for the distribution of that money?

Mr. SCHUMACHER. Yes. We would like to get that out in early April, if we can. It's sometime in April.

Senator KOHL. The money is to be distributed in early April?

Mr. SCHUMACHER. If we can make that target.

We have pretty well completed all of our analysis and a number of proposals have been made. We are examining that program at the highest levels in the USDA at the moment, and we hope to have an announcement fairly shortly, Senator.

We are going to keep the program as simple as possible. So dairy farmers will get their payments in the spring flush.

Senator KOHL. Can you give us some indication with respect to the general principles that you will use in your decisions as to how to distribute that money? I am talking about will it be on the basis of trying to help small family farmers? Or will it be on the basis

of number of units, like factory farms, things of that sort? Give us some indication of where you are.

Mr. SCHUMACHER. Well, the proposals we are putting forward are not quite formally at the Secretary's level at the moment, but they are very, very near to getting there. But, certainly, we would be tilting toward helping family operators.

Senator KOHL. OK.

I would like to ask you with respect to the ongoing efforts at USDA to reform U.S. dairy policy, to what extent does current dairy policy still serve to avoid disruptions of supplies of fluid milk to consumers? And, have not changes in technology and transportation vastly reduced or even eliminated those kinds of problems?

Mr. SCHUMACHER. Keith or Mike Dunn, would you respond?

DAIRY POLICY

Mr. COLLINS. I will respond.

I think that certainly the current dairy policy—and by that you are referring to Federal milk marketing orders, I believe, which have the purpose of ensuring adequate fluid supplies to fluid users. I think the question is are they still as relevant today as they were when they were conceived in the 1930's.

I think economists have looked at this question in a lot of detail and have come to the conclusion that there still is a purpose to be served in ensuring a stable, adequate, high quality supply of milk to fluid users. I think that is one of the reasons why Congress did not eliminate the Federal Milk Marketing Order Program in 1996.

Nevertheless, I think that the 1996 Farm Bill suggested that the whole program needed to be looked at. The changes in technology and transportation that you are talking about, the ability to truck milk 1,000 miles with almost no loss in temperature of the milk, and quality of the milk mean that we had to go back and take a very hard look at the incentives that are in the program to ship milk from one region to another.

That has been the whole purpose behind the work we have done in Federal milk marketing order reform.

So I think the answer is that there is probably a general consensus that many of the provisions of orders still have a usefulness, but that the levels at which they are set may not be appropriate.

Senator KOHL. All right. In connection with that, how can dairy policy be shaped in order to eliminate or reduce undue harm to any one region of the country? What is USDA doing to help establish a policy that can benefit all dairy producers?

Mr. COLLINS. This is the essence of Federal marketing order reform.

We did propose a rule last year. We took 4,000 or so comments on that rule. We are in the process of issuing a final rule.

I can only say that I can guarantee you, Senator Kohl, that the final rule will be issued within the next 4 to 5 weeks because the statutory deadline is April 4.

So we will have a final rule, and I hope you will see in that final rule that we have addressed some of your concerns, that we have tried to design a dairy policy that more reflects the technology change in the marketplace and that does impart a sense of equity

across the Nation. But it will be up to you to make that judgment when you see it.

IMPACT OF TRADE AGREEMENTS ON DAIRY PRICES

Senator KOHL. Thank you.

Secretary Schumacher, you mentioned in your statement the efforts you are making to promote dairy exports through the Dairy Export Incentive Program. In terms of trade, we need also to consider the effect of imports on dairy producers.

What effect are dairy imports having on domestic prices? And, in particular, what has been the impact of NAFTA, GATT, and the WTO on domestic prices?

Mr. SCHUMACHER. The dairy imports are under tight quotas. We have not seen much impact on dairy imports—some on the high value cheeses. But I notice that we are getting much more competitive on some of the specialty cheeses and high value cheeses in different parts of the country.

With respect to NAFTA, we have done very well in Canada and Mexico. Exports continue to rise, nearly $13 billion between our two NAFTA partners. It has been a real success. But on dairy and poultry in Canada, we have not done well under the existing NAFTA and Canadian Free Trade Authorities.

We lost the dairy case with Canada. Certainly in the next round we are going to take that up again because there is a wonderful market in Canada with their supply management system. Canada theoretically is supposed to be free trading under NAFTA. But on dairy and poultry, we do not really have as much access as we really need to have to that market.

We will be taking that up aggressively—and they are well aware of that—in the next round of the WTO starting in Seattle in November.

OPPORTUNITIES AND OBSTACLES TO DAIRY EXPORTS

Senator KOHL. In addition to the Dairy Export Incentive Program, what opportunities do we have to support dairy exports and what specific obstacles do you see?

Mr. SCHUMACHER. Chris, would you join us on that?

Chris is running the Dairy Export Incentive Program.

I think we have had some success, especially, for example, on some of the powders in Mexico where there is a strong demand. They are privatizing further down there. We have had a number of inquiries even yesterday for additional powder. So I think there is pretty good demand for that.

Our biggest problem, Senator, to be quite frank, is the European Union. Their inability to eliminate export subsidies on dairy is really hurting us very badly. That, again, is something we are going to be very aggressive on in the next round. We need a level playing field with those tremendous subsidies they have on the export side. It is killing us in the long term. There is no question about that.

Chris, did you want to amplify on that?

Mr. GOLDTHWAIT. I would make two points.

Senator COCHRAN. Would you identify yourself for the record, please?

Mr. GOLDTHWAIT. I'm Chris Goldthwait, the General Sales Manager at the Department.

I would add two points to what the Under Secretary has said. First of all, we are already competitive in world markets with respect to some specialty dairy products—for example, whey powder and ice cream.

I think the second important thing is that, as the Under Secretary said, our dairy industry is beginning to look forward to the aftermath of the next trade round, at which point we hope we will have eliminated the European export subsidies.

We foresee that we are going to be competitive in a much broader range of dairy products in the absence of the distortions caused by the EU export subsidies. And we are already positioning ourselves through the use of the DEIP Program for that situation where, for example, just in the past few months we have introduced a special use of the program for specialty cheeses where we think, once the cheeses are introduced to foreign buyers, they will demand a premium over the generic market cheeses.

Mr. SCHUMACHER. If I may, Senator, I just want to clarify one important issue.

In the original poultry and dairy situation we did not do well. But we did recently win a WTO case in Canada, and I am very pleased about that. I mean how can we export when they have a 300 percent tariff against us?

We did win that one.

Senator KOHL. Okay.

There are many small farm operations, as you know, that are finding it increasingly difficult to compete in an environment of large corporate interests. For a number of reasons, the small operator is finding it more and more difficult to balance rising production costs with shrinking leverage in the marketplace.

To what extent is the current downturn in prices especially harmful to small operators?

Mr. SCHUMACHER. I think this is one of the most difficult issues we are facing. The operators, for example, in Minnesota and Wisconsin—Mike, you may want to join us on this one—for them I think the average is going to be very difficult. It is buffeted, to some extent, by low feed prices and a drop in interest rates.

But certainly, as the dairy prices go down, it will probably be unduly hurtful to family operators with 50, 70, 80 cows.

Senator KOHL. Is this a cyclical thing or is there something more deep operating in the marketplace that makes these small operators more and more likely to go out of business permanently?

Mr. SCHUMACHER. I have been for many years working with small dairy farmers in different parts of the country. As we see some of the big dairy feedlot operations expanding in the Southwest and in the West, and in some cases in the Rocky Mountain Foothills, they have certain advantages of water, three times a day milking, and lower costs in the Southwest because of the better climate. It has made them a little bit more competitive on these large operations. There are also cheaper labor costs.

So it is going to be a difficult time, I think, with lower dairy prices in the next couple of years for smaller operators in the North-Central and the Northeastern part of the United States.

We are even hearing from the Southeast extensively. A number of commissioners are constantly calling me to assist on dairy as well.

Mike, do you want to add to this?

Mike has been our lead on dairy. Maybe he could make a comment. This is Michael Dunn.

Senator COCHRAN. Mr. Dunn, would you state for the record your title.

Mr. DUNN. I am Michael Dunn, Under Secretary for Marketing and Regulatory Programs.

Certainly, we are concerned about all small farmers. Senator Kohl, if you are addressing specifically dairy producers, last year the basic formula price averaged a little over $14. That was an outstanding year. In March, when the BFP did drop down to $10.88, we had some hearings on whether or not we should establish a base price, a floor price. Most folks indicated that that should be about $13.50.

So at $14 BFP last year, we had a very, very good year.

As Mr. Collins has indicated, unfortunately, we may not see that this coming year. So that will, I believe, force us to do a lot more innovative things than we have in the past.

Senator KOHL. What do you expect will be the price of feed this year on average?

Mr. COLLINS. As I indicated in my opening statement, I thought it might be very close to the 1997 level, which was a little over $12 per cwt. It was $12.05 in 1997, which was a year of great financial stress for dairy producers.

This past year, as Mr. Dunn said, it was $14.20.

All along over the last few months, I have been thinking it might be about midway between the two years. But if you have seen what has happened in milk markets over the last couple of weeks, notably a 1-day drop in the BFP futures of over 60 cents this week, I am now thinking it is probably going to be much closer to the $12.05 than to the $14.20—maybe between $12.00 and $12.50, probably.

Senator KOHL. Thank you.

Thank you, Mr. Chairman.

Senator COCHRAN. Senator Durbin.

AGRICULTURAL TRADE

Senator DURBIN. Thank you very much, Mr. Chairman.

I thank the witnesses for joining us today.

Could I ask some general questions on trade, Mr. Collins? Perhaps others could help?

We have been told that our trade deficit continues to rise in this country at alarming rates. Usually, we have had a positive trade surplus in the agricultural accounts. Is that still a fact?

Mr. COLLINS. It is still a fact, although this year will be the lowest in over 10 years.

Senator DURBIN. On the agriculture account?

Mr. COLLINS. On the agriculture account. It will be about an $11 billion surplus. A couple of years ago, it was as much as $27 billion or $28 billion.

Senator DURBIN. So are we continuing to import more food or are exports going down? Or both?

Mr. COLLINS. Both.

Senator DURBIN. Both at the time?

Mr. SCHUMACHER. I think exports, Senator, have gone down like $10 billion. Imports just chug along at about $1 billion extra. So it is a gradual rise in our imports and a sharp, relatively sharp, drop in our exports, although I think we are still well ahead of where we were on exports in the first 3 years of this decade.

EXPORT TACTICS

Senator DURBIN. Secretary Schumacher, you also mentioned that we have come into some controversy about tactics in terms of encouraging export products. Could you be more specific?

Mr. SCHUMACHER. Yes.

Tim Galvin, Chris Goldthwait, and the fine folks we have in the Foreign Agricultural Service have done an absolutely spectacular job in the overseas area.

For one, we have doubled the GSM program credits, as I mentioned in my testimony earlier, especially in Asia.

We have also had major increases in our food aid donations in terms not only of existing programs, but we have put 8 million tons additional into the pipeline. That is now moving forward. Most of that will be shipped this year.

In terms of meat volume—if we look back 10 or 12 years—the really major change that has occurred is the extraordinary performance of our poultry exports until the Russian problem hit. We now have a net value surplus on beef. And our pork continues to do very, very well on a volume basis.

So on volume, we are doing quite well on the red meats and certainly were doing superbly on the poultry until the Russian thing hit. But when it did hit, we then put 50,000 tons of poultry on donation, and then 200,000 tons or so on P.L. 480, Title I. We heard some criticism from some of our trading partners.

But I think it is legal. We are well within our WTO obligations, unlike the Europeans, who are bumping up against them.

So we continue to be very aggressive in the use of those programs and will be very active in the WTO, whether it is on cherries, or apples from the West, or other issues that we are dealing with—for example, the long-standing problem we have had on beef hormones. That is coming to a head on May 13 and we are working hard on that as well.

So we have been very aggressive and we certainly have been criticized by some of our trading partners for that. But so be it.

NAFTA TRADE INCREASES

Senator DURBIN. I note from testimony here that it appears that the bottom has dropped out of the Pacific Basin demand for U.S. exports. I think there is some indication that the NAFTA trade, though, has increased. Is that what your testimony has indicated?

Mr. SCHUMACHER. That is correct, Senator. We are doing actually quite well with our Mexican partners and are holding our own in Canada. But what is interesting is Japan. They continue to be our single largest trading partner but trade has dropped off $3 billion

or $4 billion, mostly in value, because of their recession. That has certainly had an impact since they are unwilling to open up some of their markets not only to ourselves but to their neighbors. That has exacerbated the recession in Malaysia, Thailand, and other big markets where trade has fallen off as well.

So the bulk of that drop has been in Asia. We are holding steady in South America. The whole Western Hemisphere is $18 billion and is holding pretty steady. We continue to do reasonably well in Europe with a two-way trade of about $18 billion.

In Russia, we were not selling a great deal, except for poultry. I think that is why the work of Tim and Chris on poultry will be helpful.

CROP INSURANCE

Senator DURBIN. If I could switch to another topic, I have to leave very briefly. I wanted to talk about the risk management aspect of this.

I have supported disaster assistance. There have been times when I have needed it in my home State and other States have needed it. I have tried to be sensitive to their needs.

We have said for a long time, though, that we are going to try to encourage producers to buy crop insurance, to provide for themselves, and that there would be some penalty attached to it if they did not. We have had a variety of different approaches in this area in the past, suggesting that if you did not buy the crop insurance, you would not be eligible for disaster assistance.

I listened to your testimony and it suggested that we are still having a very difficult time convincing producers to buy crop insurance. I don't know if that is a fair characterization of what you said.

Mr. SCHUMACHER. I think what we have tried to do is this. The Congress delinked the program payments from crop insurance so that it was not mandatory so there was some drop-off. But I think what we try to do now with this disaster is to roll forward the $400 million so that we make crop insurance more affordable this coming year, as I indicated, to buy down the buy-up coverage. I think that has been popular.

We are also widening very much the crop insurance, for example, our whole farm adjusted gross revenue in pilot programs. And, as indicated, we have 4, 5, or 6 major initiatives in our white paper, and we will be expanding on those in hearings coming up in the next 10 days.

Senator DURBIN. I want to take a closer look at that. A few years ago we got into it and discussed the fact that we were selling crop insurance in areas where God had instructed us not to.

We had had crop failures 70 percent of the time, but we still sold the insurance policy as if maybe next year it will come around. I would like to get an update on that, perhaps, and see how we are doing in that regard.

Thank you very much for your testimony.

Senator COCHRAN. Next is the distinguished Senator from North Dakota.

FARM SUPPORT

Senator DORGAN. Mr. Chairman, thank you very much.

Let me thank the representatives of the Department of Agriculture. We have put you through some difficult times with the disaster program that we developed last fall. We also thank the Chairman of the Subcommittee who was instrumental in the Senate in helping move that, and the Ranking Member as well.

What we have provided for you is a very substantial task. Your agency does a lot of good work under difficult circumstances, and I appreciate that.

Having said that, let me just tell you that, as I look through the budget here, I am reminded that the Department of Agriculture was initiated under President Abraham Lincoln with 12 employees. We have come a long way since Abe Lincoln created the Department of Agriculture. But, as I read your statement, Mr. Collins—and you are an economist, right?

Mr. COLLINS. Yes, sir.

Senator DORGAN. I taught economics for a couple of years. I always say that I was able to overcome that. But it is an interesting field. [Laughter.]

Your testimony was really very interesting to me. But my central thesis is I don't really think we need a Department of Agriculture at all—we can move all of the other functions elsewhere in government—unless the central goal is to maintain a network of family producers, and family farmers in our country.

If that is not the goal, in my judgment we should just abolish USDA and move some of these other things around to another agency.

But if our central goal is to maintain a network of family farm producers in our country, then the question, as I look through your statement and others, is how are we going to do that? The price of wheat in North Dakota this week is about $2.60 or $2.70 a bushel.

Price adjusted, those are Depression Era prices. That goes back to the Great Depression.

Your statement, Mr. Collins, indicates that that probably will not improve in the coming year. And if that is the case, I want to ask a series of questions.

Congress has said under the current farm program that we want farmers to operate in the free market and we are going to create a decreasing level of support in our farm program. So we are now in a sliding scale of downward support prices at a time when we have wheat prices equivalent, in price adjusted terms, to those of the Great Depression.

Last fall we did something to try to help people get into this spring. But the fact is it does not make anybody whole.

If we do nothing, are we not going to lose a massive quantity of family farmers? I mean, you did not have a lot of discussion in your presentation about family farming. Your discussion was about aggregate numbers with respect to income and so on.

NUMBER OF FARMERS

Are we not, under the current scheme of the farm program of declining price supports, at a time when we have seen a collapse of commodity prices and no expectations from you that they are going to improve? Are we not going to see a wholesale reduction in the number of farmers out in this country?

Mr. COLLINS. I think we will certainly see a decrease. Surprisingly, if you look at farm numbers, they have been quite stable over the last 5 years, at around 2.2 million farms. That is our revised estimate based on the census of agriculture. The census of agriculture has 1.9 million farms, but the annual survey that we do shows 2.2 million.

Within that category, though, there have been some substantial changes, particularly, as you characterize it, the small family farm in the middle, the one who says they are principally engaged in agriculture, the one who is trying to get most of their income from agriculture, but whose annual sales might be $50,000 to $200,000. Those are the ones who have been under tremendous stress and, in many cases, those are the ones who have gone out of business, or they become smaller, or they become larger.

There has been a lot of dynamic change in that area.

So yes, I would look out over the next couple of years and if this situation that we have now persists for any appreciable time, I would think we are going to put tremendous pressure on those farms.

Senator DORGAN. I think those numbers are completely at odds with what is going on in the country.

My home county has gone from 5,000 people to 3,000 people in a 20-year period, and in recent years it has accelerated. If you stand on a section line and look in any direction, you can name the farmers that are gone who were there 5 years ago, 3 years ago, or 10 years ago.

Mr. COLLINS. Sure.

Senator DORGAN. So the aggregate data is at odds with what you see out in the country, I think. Most of these farmers are leaving and what we have is a skeleton out there. These small towns are drying up as a result of it.

The reason I am asking the question is this. It seems to me that the real pile driver here on the budget question is what must Congress do to respond to a circumstance of Depression-level prices? Is the Freedom to Farm bill with decreasing price supports—at a pretty pathetic level at this point—going to do anything? Or is it just sort of waiting while we see a wholesale collapse of the family farm structure?

And if that is the situation, then do we not have a requirement, both from the Department of Agriculture to recommend, and the President to recommend, and the Congress to respond, for some new, significant initiative that says this country wants to have a network of family farmers in its future?

Mr. COLLINS. Maybe I could start that and Mr. Schumacher could chime in since you are fundamentally asking a policy question as well.

The answer to the first part of your question about how the Farm Bill will perform is this. Clearly, in 1996, we took away some of the counter-cyclical effects of the Farm Bill. There still is a very modest counter-cyclical cushion in there. That is the loan deficiency payment, which is kicking in. But, admittedly, it is a level that is at a fairly low rate relative to production expenses for many farmers.

Senator DORGAN. A couple of dollars a bushel below production levels.

Mr. COLLINS. For many farmers. I agree with that.

There is also the AMTA payment on top of that, which has been running at $5.5 billion, but, as you say, it will decline to $4 billion by the end of the period.

So there is some support being provided by government. I mean, we will spend in fiscal year 1999 $18 billion on farm price and income support programs. The last time we did that was in the 1980's.

So I would not characterize the current farm program as simply walking away.

On the other hand, farmers have seen their costs rise over time. The fact that there are not the counter-cyclical benefits of the earlier Farm Bill, combined with the world economic problems and the shrinking demand, there is no question that this Farm Bill is not going to offset that kind of income loss.

Then that becomes a policy question, how you want to deal with that.

In 1996, the policy choice was to move away from affecting market prices, to, in a sense, decouple the program to the extent that it could be decoupled.

If you are going to go that route, then the only choice for enhancing farm income is through larger direct payments to farmers.

If you are not going to go that route, then you have to make the choice: do you want somehow to have government affect supply and more directly intervene in market prices? Those have been the choices on the table for a long time.

Senator DORGAN. Mr. Chairman, I recognize that I asked a policy question, but the implication of a change of policy that I think is necessary has huge budget ramifications. That is the reason I did.

I look at the numbers bureau by bureau, and so on. All of that is just moving nickles and dimes around. If we are not in a circumstance where we have family farmers given the opportunity to survive during these tough times, then all of this, in my judgment, is basically for naught. I would just as soon consult Abe Lincoln and maybe get rid of USDA—that is not my choice, of course—and move the other things around.

I essentially want the central feature here to be a feature that says we want to maintain a network of family farmers, and the budget implications of doing that, from a policy standpoint, is what we ought to be discussing.

Senator COCHRAN. Thank you, Senator.

Senator Burns.

Senator BURNS. Thank you.

Senator Dorgan, we can do only one thing to eliminate the attrition of small farmers: pass a law that you cannot build a tractor any more than 65 horsepower on the drawboard. That will do it—pure and simple.

I thank you for coming today and appreciate it very much.

PRODUCTION AGRICULTURE

Senator BURNS. I do want to say that, as for the root of our problem, we are probably working on the wrong end of it when we start talking about the economic climate of American agriculture at the production level.

I think our good friend at Auburn University made a good point. Since 1984, we have only seen food prices go up about 3 percent, but we have seen increased profitability both in the banking, meat processing, grain companies, and transportation. The good times have rolled on. Also there has been increased profitability in our grocery stores. But we have seen farm income drop almost over 30 percent.

We can make it through any kind of economic decline in any of the commodities if those prices on the decline are reflected in the end product, because we consume everything we produce—but at a price. We have not seen that happen at this time, however, and no commodity is making any money at the production level.

Oil is $7 a barrel. As for mining, the environmentalists are trying to run that out of Montana. There is also timber, and certainly no product from the farm.

What I am saying is at the production level nobody is making any money.

However, on the other end of it, on the front end of the grocery store and where the consumers pay, they are doing fabulously well, as Wall Street would indicate.

So I think we are working on the wrong end of this thing.

Exports in pork, as you brought up, Mr. Schumacher, have a $15 live weight on hogs. We ought to be covering the world in hogs. There is nobody, not even the Taiwanese, who could produce hogs at that level.

I am just at odds as to where the answer lies.

I think this bodes hard times for the rest of the economy, but it has not come yet and I thought it would be here by now. So I was wrong about that. Of course, I have not been right on much, anyway.

But I am right on one thing, though. Everybody got worried about Y2K and I went up to the Montana Department of Livestock and filed for that brand, Y2K. [Laughter.]

That cost $50. The other day a guy called up and said he would like to have something to commemorate the turning of the century, but you own that brand. Would you take $500 for it.

Now I'll have to look at that. That might be a good trade. I don't know. [Laughter.]

I just want to say that my message here is that we are working on the wrong end of this thing. We are not getting any support from our processors, purveyors, and retailers—none.

I think that is our big problem. We are just not getting our share of that consumer dollar. I did not see pork chops go down in price at the grocery store. Did anybody go to Giant Food recently? Your pork chops cost the same, don't they? They cost the same.

Mr. COLLINS. No. The Consumer Price Index for pork chops for January was about 10 percent lower than for January 1998. So they are going down somewhere in this country.

Senator BURNS. But, I'll tell you, it's just like moving the Rock of Gibraltar.

Mr. COLLINS. It is hard, I admit.

Senator BURNS. Yes, it is hard to do.

But I think that is where the problem lies, and I don't think anybody has come up with any answers. I sure have not come up with any. But that is where we have to work on it. That is what the USDA has to do, start going to our companies and saying listen, folks, we have to get some dollars back to the farm, and that is where you come in.

You could become an advocate for production agriculture because you have the power to do it. You have the power to call up any CEO in this country and they will return your call. But we are not doing that. We are not doing that.

Those are the areas where we have to work.

I was in Minneapolis yesterday and talked to some pretty large sized, important folks there. I am going to continue to work with those folks and try to get ourselves out of this situation. I don't think the Government could do it.

I don't think this Federal Government can deal with the problem that we have with our friends to the North. I don't think the Government can do it.

I think producer to producer we can do it. We can do something about the rate of exchange, and we can help the Canadian farmer if we can raise his income level. This is because when the water comes into the bay, all boats go up.

We have to get them in a position to where they are making money, too. We have a great production and we are very proficient. We do everything. There is no part of the American economy that is more efficient than agriculture at the production level. I mean, we are good.

Senator COCHRAN. Excuse me. We have a vote on now.

Senator BURNS. Really? Then I will go vote now and will just shut up. [Laughter.]

But I want to make that point. You are sitting in a position where you can do something and you have to call those folks in. That is where it is at. We could eat our way out of anything.

If you pick up a farm paper in Missouri, it says to come and get your hogs: free hog, free Christmas pig. And nobody is doing too much about that.

I say that that is your role.

It is good to see you are better, Jim Baker. I was worried about you a little bit. I thought you were on the casualty list there for a little while.

Let's go vote.

Senator COCHRAN. The Committee will stand in temporary recess so that we can go to the floor for this vote. We will be back very shortly.

Thank you.

[A brief recess was taken.]

Senator COCHRAN. The Committee will please come to order.

CROP INSURANCE PROGRAM

Earlier this month, the Secretary of Agriculture in a speech he made announced some proposals to strengthen the Crop Insurance Program. My question is, is there a specific legislative vehicle that will be introduced at the Administration's request to authorize changes in the program? If so, what will the changes be? What are the costs estimated to be? Will there be any kind of additional funding request made of this Congress this year for crop insurance?

Mr. SCHUMACHER. Mr. Chairman, with your permission, I would like to ask Ken Ackerman, if he could, to join us at the table. Ken will be testifying extensively in the next few weeks and he could help us address that question. He is the man on the spot.

Senator COCHRAN. Thank you.

Mr. Ackerman, tell us what your official title is these days.

Mr. ACKERMAN. Thank you, Mr. Chairman.

My official title these days is Administrator of the Risk Management Agency.

Senator COCHRAN. Thank you.

Mr. ACKERMAN. I guess on your question, as Mr. Schumacher mentioned, I will be testifying in more detail on this over the next 2 weeks before the authorizing committees—before the Senate Agriculture Committee on March 17 and on the House side on March 10.

We will be putting more detailed proposals on the table. The Secretary proposed a white paper at the time the budget came out on February 1 that outlined our ideas for reforming crop insurance.

The process we would like to follow this year is to try to reach consensus within the farm community, with commodity groups, and with the House and Senate members on both sides of the aisle on the basic ideas to reform crop insurance, and then address the budget issues.

We recognize that it will be an expensive project. The Secretary has said it will cost at least $1 billion. We have been refining our budget estimates, and I hope to be able to testify on that in more detail over the next couple of weeks.

But we do recognize that we do have to address the budget issues in order to accomplish legislation this year.

Senator COCHRAN. One of the elements of a proposal that we have heard is that you are suggesting that $1 billion may be needed to subsidize premium costs to induce farmers to purchase revenue assurance policies. Is that going to be part of the proposal?

Mr. ACKERMAN. Yes, that would be part of the proposal. The number of $1 billion, or "at least $1 billion," would cover the entire package. As I said, we are refining what that overall number would be.

But, clearly, the biggest expense item in either our package or any of the other proposals that have been discussed would clearly be toward creating better incentives for farmers to buy up to higher levels of coverage.

One of the biggest problems we have had in crop insurance, in our experience last year as Mr. Schumacher mentioned, is too many farmers were either uninsured or underinsured. We found that those farmers who had catastrophic level coverage, for instance, tended to be very disappointed in that coverage in the event that they had real significant losses.

We feel that revenue insurance should be fully supported. Under crop insurance currently it does not get a full subsidy, as with MPCI, multi-peril crop insurance.

So yes, that is part of our package of proposals and, yes, that would have a significant budget impact.

Senator COCHRAN. One of the problems in the South is that rating inequities put Southern farmers at a disadvantage, and that is a serious problem in the minds of a lot of producers in our part of the country.

What can be done to deal with that in an effective way?

Mr. ACKERMAN. I guess there are two parts to the answer on that. The fact that farmers find crop insurance not accessible enough, not affordable enough, is a general problem nationwide. We think that has to be addressed by creating better incentives through subsidy—through better targeting the subsidy system.

But specifically on rates in the South, we recognize we have an issue with rates on cotton. Cotton planting patterns have changed a lot in the last few years, and a lot of the rate base on cotton goes back 10 or 20 years.

We are doing a study specifically on our cotton rates right now and we have made that an agency priority. We have brought in some outside advisors, some outside university people to look at our rates. We have had a number of meetings with the National Cotton Council to discuss the rating system, and we expect that we will be able to report our findings to you probably within the next 2 or 3 months.

Senator COCHRAN. Thank you very much. Your answers are very helpful.

Mr. ACKERMAN. Thank you.

CONSERVATION RESERVE PROGRAM

Senator COCHRAN. I have a series of questions now that deal with the Natural Resources Conservation Service. You may want to invite Mr. Reed to come forward to help answer these questions.

It is my understanding that limitations placed on the Commodity Credit Corporation technical assistance funds are severely hampering the ability of the Natural Resources Conservation Service staff to provide technical assistance to land owners. If the section 11 cap, as it is called, is not fixed, what will be the impact on NRCS support for the Conservation Reserve Program?

Mr. REED. Senator Cochran, our estimate right now is that, based on the current dollars that are available, we have enough money to do CRP-type work, provide technical assistance, up to about the 15th of May.

We estimate, based on what the Secretary plans to accept in the 18th signup, that we need approximately $28 million in order to provide the anticipated technical assistance that is needed.

NRCS STAFF YEAR REDUCTION

Senator COCHRAN. For the record, I think we should identify the Chief of the Natural Resources Conservation Service, who is Chief Pearlie Reed. We appreciate your being here today.

We understand also that the fiscal year 2000 budget request will result in a reduction of staff for the Natural Resources Conservation Service. What impact is this going to have on NRCS and its ability to carry out its functions as required by law?

Mr. REED. Well, based on basic soil and water conservation work that the policy makers in this country are expecting us to do and all of the additional things that the policy makers are putting on our plate, namely the massive animal waste workload, the emerging water quality issues, and global climate change initiatives, we are being asked to do too much.

The proposed 1,055 staff year reduction for the NRCS for fiscal year 2000 will be something that will, quite frankly, get us in a position where we cannot deliver on those priorities that have been established for us.

Senator COCHRAN. This may not be a question that you are supposed to answer, but I am curious to know how much funding would be necessary to add to the NRCS budget request to ensure that you have the staff to meet your responsibilities?

Mr. REED. Approximately $90 million over and above the fiscal year 1999 level for conservation technical assistance.

WATERSHED FACILITIES

Senator COCHRAN. We recognize the fine work you have done, that the agency has done, over the last 40 years in putting flood control structures and other watershed projects in place that benefit local communities and production agriculture. Tell us, if you can, what you are going to do about the problem of maintenance requirements and the deterioration of these watershed infrastructure facilities. We understand that this is a problem, that because some of these structures were constructed so long ago, they now are not doing the job that they were expected to do, and are creating, in some cases, public safety and health risks. We need to know about this and what can be done about it.

Mr. REED. Mr. Chairman, starting in the late forties up to about 1962, under P.L. 534 and 566 and the RC&D program, we built approximately 10,000 or so dams out in the countryside that were designed to last for 50 years.

Those dams have functioned as they were designed to function. Now they are filling up with sediment and they are to the point where there is a need out in the countryside for some major, major rehabilitation.

I should add that it is really not a maintenance problem, it is not an operations problem. It is a problem with the system having functioned based on the life expectancy that the dams were designed for.

Starting about 1962, we started to design these dams to last 100 years. So for those that were constructed since 1962, we have a little bit longer before we need to be concerned about their life expectancy.

But the major thing right now is that I am of the opinion, we are of the opinion in the NRCS that we have a potential major public health and safety situation out in the countryside: the roads, the bridges, and other parts of the infrastructure out there, namely water supplies, recreation facilities. Indeed, a lot of development has gone in the flood plain below some of these structures.

We are of the opinion that, if this issue is not addressed, it is just a matter of time before we have some major, major disasters—loss of life, loss of property, and all of the things that go along with that.

Our lawyers tell us that it is not the NRCS's or Federal Government's responsibility for these projects, that it is a local issue. My concern is that it is a major public health, public safety issue, and I think it is our responsibility to bring that to the attention of the policy makers in this country and let them decide how best to deal with it.

Senator COCHRAN. Is there any specific amount in the budget submission that is designed to deal with this problem, or to educate communities about the problem, or to do anything in regard to it?

Mr. REED. There is approximately $1 million for an education effort.

CONSERVATION PROGRAMS

Senator COCHRAN. Let me ask you about some of the other programs that the agency is involved with.

We know that, because of the economic problems in production agriculture, there are some programs that do provide some financial benefits to help farmers. I am curious to know your reaction to the benefits that are available and the sufficiency of these benefits. Conservation programs are some that have been very important to me personally, and we have been actively involved in trying to design the programs so that they are workable.

I would like your reaction to these conservation programs. I have in mind the Wetlands Reserve Program, the Wildlife Habitat Incentives Program, which we were able to get authorized a couple of years ago; and EQIP, which has become very well known. Describe to us what is being done in the administration of these programs to help farmers.

Mr. REED. Let me just tick off the programs. Of course, the biggest one is CRP. Then we have the Wetlands Reserve Program, the WRP Program. In the President's budget we are proposing that a $5 million amount be made available for Debt for Nature.

Senator COCHRAN. For what? I'm sorry?

Mr. REED. For Debt for Nature. Basically, that is a program that has been authorized but never funded that would provide technical assistance and financial assistance to farmers in such a way where maybe they could provide easements and things like that to offset certain kinds of debts.

Senator COCHRAN. OK. Thank you.

Mr. REED. I would like to offer to provide for you for the record some specific examples of situations out in the countryside where farmers have been able to keep their farms, of farmers who are in situations where they have been able to get out of severe economic stress because of the WRP program, because of the Wetlands Reserve Program. But I am not prepared to talk about those specifically today.

Senator COCHRAN. Okay. That would be helpful to have in the record and we would appreciate your submitting that for inclusion in the record.

[The information follows:]

CONSERVATION PROGRAM ASSISTANCE TO PRODUCERS DURING TIMES OF ECONOMIC STRESS

USDA Conservation Programs [1] provide financial, technical, and education assistance to aid farmers and ranchers attain their conservation goals, comply with environmental requirements, and achieve longer term resource sustainability. These programs mitigate not only the vagaries of weather but also the violent shifts in agricultural markets while providing long term productivity gains and reduced reliance on purchased inputs. Several examples are cited below that depict how conservation programs assist producers during times of economic stress and over the long term.

Mississippi, Iowa, and Maine—EQIP helps producers reduce costs and contributes to long term income while providing environmental benefits.

Regardless of the economic hardships being experienced by producers, there is an ever increasing number of local and State environmental laws and regulations that must be addressed. In Iowa. State legislation requires producers to stop using agricultural drainage wells for the disposal of agricultural land surface runoff. EQIP priority areas in Humboldt and Pocahontas Counties are being used to provide assistance for developing environmentally safe methods of runoff disposal and to comply with this legislation, while helping producers minimize costly outlays to meet this requirement. A similar State mandate in Mississippi requires the elimination of underground pits for the disposal of poultry carcasses. EQIP priority areas in East Central Mississippi and in the Upper Pearl River watershed are helping the small, family poultry farmers meet the new regulations.

A second way that EQIP assists farmers in economic stress is with the establishment of natural resource conserving practices that maintain or enhance the long-term economic viability on the farm. Farmers under economic stress commonly make investments that provide near term income even though investing in conservation of natural resources can enhance longer term sustainability and economic potential. For example. the Passamaquoddy Tribe in Maine is using EQIP for forest and wildlife habitat conservation and management purposes that will ultimately improve their forestland income. They are also establishing integrated crop and pest management techniques with EQIP assistance that reduce reliance on costly agrochemicals while maintaining yields on their blueberry lands.

The economic stresses stemming from adverse market conditions can often impact small, limited resource. and minority farmers more severely than larger operations with more capital. Limited resource farmers in Mississippi were found to have a higher percentage of their forest lands being inadequately managed or not reforested after harvesting because they had to invest their limited funds in farm operations with a quicker income return. EQIP has provided financial assistance to these limited resource producers for reforestation purposes that will primarily improve the local natural resources while helping longer-term economic returns.

WYOMING—flow WHIP provides supplemental income

In Wyoming, thirty landowners in one country entered into WHIP agreements for land surrounding two state wildlife management areas. The State's wildlife areas are rich in water and wetlands, yet lacked upland bird habitat and nesting cover, and thus limited overall wildlife benefits. The land enrolled in WHIP provides the missing habitat for pintails, mallards, pheasant, and sharptails as well as neotropical migratory birds. In addition, the participants can lease their land during

[1] USDA conservation programs cited here include the Environmental Quality Incentives Program (EQIP), Wildlife Habitat Incentives Program (WHIP), Wetlands Reserve Program (WRP), and Emergency Watershed Program (EWP).

hunting season as a source of additional income and enterprise diversification. This, in turn, benefits the local economy.

Senator COCHRAN. There is one parochial question on this subject that I wanted to bring up.

The legislature in our State authorized $5 million from the sale of bonds last year to be used for the rehabilitation of watershed infrastructures. The State can only use this money if some match is provided from the Federal Government. That is the provision of the statute that the legislature passed.

The agency has authorized a pilot project for the rehabilitation of an aging project. Would the agency consider Mississippi as a possibility for this pilot program?

Mr. REED. Absolutely. [Laughter.]

But let me tell you that in the fiscal year 1998 appropriations, you provided the authorization for us to do that and I think it was approximately $1 million. We have obligated those funds for this pilot project in the State of Oklahoma. So, as it has been explained to me by our lawyers, in order for us to proceed elsewhere with pilot projects, we would have to get the appropriate authorizations or appropriations to do so.

Senator COCHRAN. Okay. We will work on that. Maybe we need some new lawyers. [Laughter.]

HONEY LOANS

Let me ask you something, Mr. Secretary, about a revision that we put in the emergency appropriations title last year to the fiscal year 1999 appropriations bill that had to do with marketing loans for honey producers. It is not probably widely known, but Congress approved this program because honey producers, like many others involved in agriculture, faced seriously low prices. The Department has delayed implementing this program, and I am curious to know why.

Congressman Skeen, who is chairman of the Appropriations Subcommittee on the House side, and I learned that the Department also had assumed to not implement the program in the manner intended.

We wrote a letter recently to try to spell that out. We would like the delays to end, but we have not gotten a reply to our letter and no regulations implementing the program have been published.

We would like to have regulations promulgated so that the Department could implement the program. Can we expect action on that? Or is there any reason why the Department is just refusing to carry out the provision of section 1122 of the 1999 Agriculture Appropriations Act?

Mr. SCHUMACHER. Thank you. Again, with your permission, I would ask Mr. Parks Shackelford, who is running that program and is here today, to reply.

Mr. SHACKELFORD. I am the Associate Administrator for Programs at the Farm Service Agency.

Actually, we very strongly intend to implement the program. The difficulty was that, unlike some of the other no net cost programs, this legislative language required that it be run at no net cost and did not provide an exemption for administrative costs.

We have worked with the industry trying to determine a way that we can provide the loans at a reasonable cost to cover the administrative costs and still be workable to the industry.

I think our staff has come up with some creative ideas—for example, the fact that we will be getting interest payments and can offset some of the costs.

The regulation is in clearance. We hope it will be published very soon and that we will be able to get these loans out to the industry.

Senator COCHRAN. Thank you.

COTTON PROGRAM

Dr. Collins, we mentioned earlier in the hearing the Step 2 Certificate Program for cotton. It seems to have worked very well to promote cotton exports overseas and to ensure that domestic mills have access to domestic cotton at competitive prices.

Could I ask you a couple of questions about this? We observed, when we were talking about it earlier, that funds have been exhausted under existing authorities. What is the intention of the Department with respect to seeking additional funds?

Mr. COLLINS. I do not think the Department has any stated position on that at this time, Mr. Chairman.

Senator COCHRAN. What is your assessment of the value of these certificates to domestic cotton producers?

Mr. COLLINS. I want to be very careful how I answer that because I remember a year ago you asked me that and I got a flood of mail afterwards based on my response. [Laughter.]

I would say that there are a couple of things we could look at.

One is what has happened since the Step 2 Program terminated in mid-December. What has happened since then is that we have only made a net increase of about 100,000 bales in sales of cotton—that is the sales minus the cancellations we have had since then. That would be, by all historical standards, a very poor performance on export sales.

So I would have to say that the world has been looking for a Step 2 payment this year for us to be able to sell cotton. So this is a year in which the Step 2 Program would have made a big difference.

As we look out to 1999, however, I think the effect would be lessened. This is a year in which we had a very small crop in the United States but we had large supplies around the world. As a result, we had the unusual situation of low U.S. supplies and low prices. These do not usually come together.

As we look out to 1999, we may see a situation where we have large U.S. supplies but again low prices. With those large U.S. supplies, I think we would be in a better position to compete, and I think the effect of the Step 2 program probably would not be great.

However, there is an effect. I mean, I think it does increase domestic mill use and it does increase export sales. But it depends on the world conditions in each season as to how effective it would be.

CROP INSURANCE

Senator COCHRAN. During the last brief recess we had, the so-called President's Day Recess, I ran into a few of my friends who

are in the cotton business, cotton growers. They think that the Step 2 program is something that they really need, and they would like very much to have it extended.

For the first time, I understand we have a new crop insurance product called Crop Revenue Coverage, offered for sale in our State for rice producers. We have received a number of calls from producers about this product, and there is some concern that the availability has influenced planting decisions and may have affected the rice market.

This coverage, as I understand it, does not serve as a price guarantee for the quantity of rice a farmer produces. In other words, it is not similar to a put option. Is that correct?

What are your thoughts about the influence and the availability this product has had on planting decisions and market prices?

Mr. ACKERMAN. Senator, as for the product you are referring to, there are two related products. So it is important to distinguish.

There is a product called Crop Revenue Coverage which is a widely available product on a number of crops. But this is the first year it has been offered for rice. It is different than a put option.

What it does is give a farmer a guarantee on their revenue. In other words, it will cover you if prices move down, but only if your revenue, the price times yield, falls below a certain floor.

It will also give you a protection if the price moves upward.

This is different than a put option because a put option is based on the price standing alone. CRC, as an insurance based revenue product, is based on price times yield. This is a product that we reinsure, back, subsidize, and that we are very fully engaged in.

There is an additional product that is a private sector product offered by the same company, called CRC Plus. CRC Plus is what is called an add-on product which basically enhances the price guarantee. In this case, it does it, I believe, by 3 cents.

There were some concerns that, because of changes in the rice price since the time the prices for these tools were set several months ago, that may have influence on some planting decisions by farmers.

CRC Plus is a product that we do not reinsure. It is a purely private product. The only review function we have for it is to see whether it impacts the risk borne by the Government on the underlying product.

At this point, I can tell you the sponsoring company is reviewing the situation. They are considering a number of options. We have not seen any direct indication that CRC Plus is affecting rice prices.

Obviously, the availability of any insurance tool, if it is a good insurance tool, would be to give farmers more confidence to plant a crop. If it is having that kind of beneficial impact, that may not necessarily be a problem. But it is a new tool. Like many of the new revenue tools, we are learning by experience this year because we are dealing in a time of volatile prices and we have a new generation of crop insurance products on the market today that are price sensitive. We are learning a lot of lessons this year about how they operate when markets are volatile, particularly when market prices change after the initial prices are set on products.

We have had that happen before with traditional crop insurance products if we set a price election on a crop and then the market moves away from it. When you have a price sensitive product, that concern can be compounded.

We are tracking this very closely. We have been in very direct contact with the companies, simply to be on top of the situation. But CRC Plus is a purely private product.

Senator COCHRAN. Thank you.

MONITORING FOOD AID TO RUSSIA

Mr. Schumacher, in your statement which you submitted to the Committee you point out that the United States and Russia have established a monitoring program, which is new and unprecedented, to help ensure that food aid reaches the populations for which the aid is intended.

Could you describe this program and how it works? Or, is it working to get the food aid to the targeted populations?

Mr. SCHUMACHER. Yes. It has been really an unprecedented monitoring system that we put in place. The first shipments of seeds should arrive in St. Petersburg on March 12 and we'll be kicking in the monitoring as that starts. We've put enormous effort into ensuring that the agreements that we have signed with the Russian Government will be adhered to and we'll know where this product is going.

With your permission, I will ask Mr. Goldthwait to take a minute or two to go into the very important details to assure all of us that this is going to take place well.

Senator COCHRAN. All right.

Mr. GOLDTHWAIT. Senator Cochran, the monitoring and oversight program has actually three parts to it.

First of all, there is an element that the Russian Government itself is undertaking. They are setting up a special unit within the Ministry of Interior basically to do individual tracking of the shipments within Russia. That is what they are doing.

What we are doing has two components. It has what I call a real time reporting component where, instead of getting all of our reporting on the disposition of commodities after the fact, traditional in USDA food aid programs, we are actually going to be getting reporting on the discharge of the commodities within 48 hours after they reach the Russian ports and the movement of the commodities on an ongoing basis to, ultimately, their endpoint of disposition.

That is the second element.

The third element is an extensive spot checking effort, actual people on-site, going out and, first of all, talking to the people that are to receive the commodities before the commodities are going to be delivered, alerting local media as to what to expect. Then the people will actually be observing the discharge of commodities at the ports, visiting the railheads and storage locations as they are distributed internally, and, ultimately, going to the end delivery point and observing the commodities as they arrive in the designated regions.

The actual plan for the disposition of the commodities for all of the commodities is available on the FAS website.

FISCAL YEAR 2000 FSA STAFFING

Senator COCHRAN. Thank you.

Mr. Schumacher, the Administration's supplemental funding request, which was submitted last week, includes $42.7 million for Farm Service Agency salaries and expenses to accommodate the increased county office workload.

Does the fiscal year 2000 budget request accommodate the agency's workload requirements as well? Will it result in any staff reductions?

Mr. SCHUMACHER. Yes, the fiscal year 2000 budget includes a reduction of 752 in staffing.

Senator COCHRAN. That's 752 staff years?

Mr. SCHUMACHER. Yes, 752 FTE's, full-time equivalent staff-years. That's a reduction in the budget for the year 2000 for permanent employees.

Senator COCHRAN. What will be the practical consequences of that? Will farmers suffer because of that, the programs?

Mr. SCHUMACHER. We are going to be looking hard at additional forms of efficiency. We will be going through an administrative convergence to make sure that, as we move forward into some consolidation, we're putting people behind counters and not in administrative offices. However, sometimes we have county offices that are very thinly staffed, and we can do better if we combine two offices. We will work closely with Congress on these proposals.

So we are making some efficiencies there as well, sir.

ADDITIONAL COMMITTEE QUESTIONS

Senator COCHRAN. I have some additional questions and other members of the Committee may, as well, which I will submit. I request that you respond in writing in a timely fashion.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED BY SENATOR COCHRAN

FARM OWNERSHIP LOANS

Question. The fiscal year 2000 President's budget request proposes an increase of $42,400,000 in budget authority for direct farm ownership loans resulting in an increase to provide 500 additional loans for minority farmers and to help reduce the backlog of unfunded loan applications. What is the current backlog that exists for direct farm ownership loans?

Answer. There are 1,214 direct farm ownership loan applications on hand as of March 2, 1999.

AGRICULTURAL CONSERVATION PROGRAM

Question. There has been a $33,300,000 carry over balance available for the Agricultural Conservation Program for several years now. Why hasn't this money been used for ACP cost-sharing agreements and when does the agency expect this money to be obligated?

Answer. The Federal Agriculture Improvement and Reform Act of 1996 repealed the ACP and incorporated its objectives into the Environmental Quality Incentives Program. The remaining funds are available only for valid prior years' obligation adjustments.

Question. When will all cost-sharing agreements be completed?

Answer. The last multi-year cost-share agreement was entered into during fiscal year 1996 for water quality incentive practices. Those practices are completed over

a 3- to 15-period. The last ACP long-term agreements were entered in fiscal year 1995 and are contracts for 3 to 10 years.

TREE ASSISTANCE PROGRAM

Question. The unobligated balance of $3,200,000 brought forward from prior years for the Tree Assistance Program is available for use in fiscal year 1999. Does the agency plan to use these funds in fiscal year 1999?

Answer. The unobligated balance of $3,200,000 brought forward from the prior years for the Tree Assistance Program will be used in fiscal year 1999. Any unobligated balance at the end of fiscal year 1999 will expire according to Public Law 105–277.

Question. If yes, then for what purposes?

Answer. This funding will be used to provide cost-share payments to orchard and vineyard growers who suffered losses due to fire blight infestation (a destructive disease caused by bacteria) that was caused by a natural disaster.

LOANS FOR IRRIGATION SYSTEMS

Question. The Committee conference report accompanying the fiscal year 1999 Agricultural Appropriations Act states that the conferees expect USDA to provide guaranteed loans for installing irrigation systems for farmers in areas declared a disaster due to droughts. Have any loans been provided for this purpose? If not, why?

Answer. Providing funds to install irrigation systems is an authorized purpose for guaranteed loans. FSA does not gather data on the use of loan funds for specific purposes, so we are not able to fully respond to this question.

LIVESTOCK PRICING

Question. Hog Prices have dropped as low as $7 per hundredweight in some parts of the country. Cattle prices reached around $80 per hundredweight at the first of the year, and have hovered in the $60–70 range in some parts of the country. Does USDA have any plans to provide any emergency relief to cattle farmers?

Answer. USDA recently authorized $20,000,000 of section 32 funds to support the beef industry. USDA is currently purchasing beef roasts and ground beef. In fiscal year 1999, USDA has purchased $66,000,000 worth of beef with Section 32 funds to fulfill entitlement needs for the 1998–99 School Lunch Program.

Question. What authority does USDA have to assist the livestock industry?

Answer. The Agricultural Marketing Service assists the livestock industry under Section 32 of the Act of 1935 (Public Law 320).

SUSPENSION OF LOANS FOR HOG PRODUCTION FACILITIES

Question. The Federal Register contained a notice on January 26, 1999, that temporarily suspends direct Rural Economic Development Loan and Business and Industry Guaranteed Loan financing for the construction of specialized facilities used for the production of hogs. How many loan applications will be affected by this suspension?

Answer. In addition to the suspension you mentioned, on January 8, 1999, FSA suspended direct and guaranteed loans for construction or expansion of specialized facilities used for the production of hogs. We do not know how many applications were affected by these temporary suspensions.

Question. Will these applications be considered for funding once the suspension is lifted or will all appropriations be obligated by that time?

Answer. When the suspensions are lifted, applications will be considered for funding. The suspensions are indefinite in duration so it is impossible to say what the availability of funds will be when they are lifted.

Question. What will be the determining factors to lift this suspension?

Answer. The suspensions will be lifted when the Secretary determines that resumption will not contribute to oversupply and continue to depress hog prices.

SMALL HOG OPERATIONS PAYMENT PROGRAM (SHOP)

Question. Many hog farmers claim that the $50,000,000 assistance that will be provided to them is too small to help medium and large hog producers. Was this assistance directed towards the smallest producers?

Answer. The Small Hog Operations Payment Program (SHOP) was directed towards small hog operations, which may or may not be an individual producer.

Question. How is a "small producer" defined by USDA?

Answer. A small hog operation is defined as any hog operation whose gross income for 1998 was $2,500,000 or less. The operation must also have marketed less than 1,000 hogs during the last 6 months of 1998 and must still be in business.

Question. Is USDA considering additional emergency assistance for small and medium-sized producers?

Answer. Approximately $50,000,000 of Section 32 funds were authorized for SHOP. The Section 32 provisions invoked permit direct payments to farmers to reestablish their purchasing power. If additional assistance is needed to help hog farmers reestablish their purchasing power, providing additional Section 32 program assistance would be considered.

DELIVERY OF EMERGENCY PROGRAMS

Question. Please give an update on the delivery of the following emergency programs: wool and mohair recourse loans, honey recourse loans, indemnity payments for cotton producers, and emergency assistance provided in Title IX, Section 1124.

Answer. There are no programs available for wool. The CFR regulations for honey and Mohair Recourse loan programs were filed on March 3, 1999. Notice LP-1673, instructing county offices to publicize the programs, accept applications and disburse loans was issued to State Offices on March 4, 1999. Application forms for both programs are available on the FSA electronic bulletin board system. The forms are also available to applicants with Internet access on the Price Support Division web site (www.fsa.usda.dafp.psd).

In terms of indemnity payments for cotton, USDA was to make a $5,000,000 payment to the State of Georgia to help fund an indemnity fund, which was to be established and managed by Georgia, to compensate cotton producers in Georgia for losses incurred in 1998 or 1999 as a result of bankruptcy of a warehouseman or other party. In order for USDA (CCC) to pay Georgia the $5,000,000, Georgia was required to contribute a matching $5,000,000. Georgia has until July 1, 1999 to establish the fund and until January 1, 2000 to make all the payments.

To do this, Georgia had to pass a law allowing it and to appropriate the funds. The Georgia legislature has passed the law and drawn up the paperwork to appropriate the funds, and the documents were still awaiting signature by the Governor. If the fund is not established by Georgia by July 1, USDA shall make available our $5,000,000 to provide partial compensation to cotton producers.

Funding for emergency assistance shown in the fiscal year 1999 Appropriations Act, Section 1124, was further broken down in Section 763. As required in Section 763, paragraph b, $27,000,000 was transferred to the Secretary of Commerce, $20,000,000 was transferred to the Economic Development Administration, and $7,000,000 was transferred to the National Oceanic Atmospheric Administration. An additional $5,000,000 was transferred to the Small Business Administration, in accordance with Section 763, paragraph c. We are also working with the State of Alaska to offer $18,000,000 in emergency aid to individuals with family incomes below the federal poverty level in connection with fishery failures.

FARM LOANS

Question. The Secretary of Agriculture announced that USDA will postpone certain loan payments for farms suffering severe financial distress from low prices. The loan deferment announcement included 1998 farm ownership and operating payments due January 1, 1999. These payments will instead be added at the end of the repayment period along with loan servicing authorities, including debt rescheduling and forgiveness, to assist farmers. What will be the cost of delaying these payments, if any?

Answer. We estimate that there will be no additional cost to the Government as the amount set aside continues to accrue interest at the note rate and will be due and payable when the loan matures.

Question. Besides the 1998 farm ownership and operating payments due January 1, 1999, what other loan payments will be postponed by this deferment?

Answer. All FSA Farm Loan Program loans may receive disaster set-aside. These include payments on Farm Ownership, Operating, Soil and Water, Emergency, Economic Emergency and Rural Housing loans for farm service buildings that were impacted by the 1998 disasters and low commodity prices. Non-program farm type loans may receive disaster set-aside if the borrowers also have any of the regular Farm Loan Program loans types listed above.

Question. The fiscal year 2000 President's budget request proposes an increase of $28,000,000 for emergency loans for a total of $53,000,000 in program level that will provide about 852 loans. Based on the fiscal year 1999 demand for emergency loans

and the supplemental request, is the fiscal year 2000 request for this program still appropriate?

Answer. It is not possible to predict the frequency and severity of natural disasters. Hopefully, normal weather patterns will be prevalent in fiscal year 2000, and the high demand for emergency loans experienced in fiscal year 1999 will not be repeated.

Question. In the fiscal year 1999 Appropriations Act, the limitation on the amount of both a farm ownership and an operating loan was raised to $700,000. How has this affected the type of loans that are being made? Are larger loans being made to fewer people?

Answer. Yes, larger loans are being made to fewer people. Thus far in fiscal year 1999, the average loan amount has increased. Farm ownership loans increased 12 percent (from $177,127 to $199,053) and operating loans increased 14 percent (from $123,879 to $141,287).

Question. To what extent has this change contributed to the increased demand/shortfall of fiscal year 1999 emergency funds for these loans?

Answer. For the past 8 years, the average loan size has been increasing 2 to 5 percent each year. We believe the increased loan size has contributed to exhausting our loan funds so early in the year.

Question. Many banks that lend to farmers are turning away those that are on the brink of losing everything, so there is an increasing demand for USDA farm credit loans. How is this affecting the demand for USDA's direct and guaranteed farm operating and ownership loans and the availability of funds?

Answer. Demand for both direct and guaranteed loans has increased significantly in fiscal year 1999 compared to fiscal year 1998 due to low commodity prices and numerous natural disasters. Due to this growth in demand for FSA farm loan assistance, there will be a shortage of funds in all FSA direct and guaranteed loan programs in fiscal year 1999. On February 26, the President requested supplemental funding to provide an additional $1,100,000,000 in financing to farmers and ranchers.

COTTON

Question. Funds for the Step 2 competitiveness provision for cotton were exhausted in December, 1998. USDA announced a special import quota under Step 3 on Thursday, February 25, 1999. In the absence of additional Step 2 funds do you expect domestic cotton consumption and exports to decline for the 1999/2000 marketing year?

Answer. USDA has not yet published the official 1999/2000 projections for cotton in the monthly World Agricultural Supply and Demand Estimates (WASDE) report. However, at USDA's recent Agricultural Outlook Conference, estimates placed 1999-crop domestic mill use for all kinds of cotton at between 10,000,000 and 10,500,000 bales, roughly the same as the level now expected in 1998/99. Exports of cotton for 1999/2000 were estimated at the conference to range from 5,000,000 to 6,000,000 bales. This would represent an increase of between 600,000 and 1,600,000 bales (about 25 percent) from the exports estimated for 1998/99. Ending stocks of cotton for 1999/2000 are projected to increase about 2,000,000 bales, to about 5,400,000 bales, an increase of nearly 60 percent from the carryover stock level from 1998/99.

Question. Will Step 3 import quotas continue to open on a weekly basis and if so, for how long?

Answer. Step 3 import quotas will continue to trigger as long as the Friday-Thursday average U.S. quotation for middling 1–3/32", delivered C.I.F. northern Europe, exceeds the northern Europe index by 3.00 cent per pound or more. The spread between the U.S. quote and the northern Europe index for the current crop is now about 15 cents. On Tuesday, March 15, the first indication of the forward-crop prices was published. Though there was some improvement noted in the competitive position of U.S. cotton, the spread still appears to be about 10 cents. Thus, the Step 3 quotas can reasonably be expected to continue triggering for many weeks.

Question. In the absence of additional Step 2 funds, does USDA have any authority which, if utilized, would make US cotton more competitive and which would serve to close import quotas?

Answer. Both Step 1 and Step 3 still are in effect. By its design, Step 3 is supposed to start and stop automatically with no action required of—or permitted to—USDA. It has started this year at a time when it was needed. The actual importation of cotton likely will stop when the cotton is no longer needed. We cannot stop the continual announcements of new, unneeded import quotas. Since the adjustment of the U.S. northern Europe quote will be zero in the absence of Step 2, only the

market can stop those superfluous announcements. Under Step 1, USDA has authority to reduce the marketing loan repayment price, also known as the "adjusted world price" or AWP, whenever the U.S. northern Europe quotation exceeds the northern Europe price, as long as the calculated AWP is less than 115 percent of the loan rate. (We use the "A" Index to represent the northern Europe price.) Factors to be considered in determining whether a Step 1 adjustment should be made are specified in the law. They are: (1) the U.S. share of world exports, (2) the current level of cotton export sales and cotton export shipments, and (3) other relevant data, as available. Under that last category, we at USDA have considered the volume of loan activity to be very important.

The theory behind the adjustment of the AWP under Step 1 is that the authority can be used when it becomes clear that cotton is being maintained in the loan program and is not flowing into the market. The competitive position of U.S. cotton is being hurt as a result of the impediment to flow. With larger loan deficiency payments or gains from the lower loan repayment price, farmers are believed likely to forgo loans or redeem loans. Cotton will become available to the market. Competitiveness will be served.

We have no experience that would tell us if this theory is valid. The few instances in which Step 1 was invoked in the 1991 crop year did not appear to affect loan activity. However, the provision had just recently been enacted, and it is possible that it was not used aggressively enough. It does increase budget exposure, and that always has been an important consideration. Between January 1994 and December 1997, Step 1 adjustments were not possible because the AWP was too high.

There are two schools of thought on the implementation of Step 1 adjustments: (1) Step 1 adjustments to the AWP should be used sparingly and intermittently to entice farmers to redeem loans or forgo loans as needed to relieve temporary constrictions in market flow; or (2) Step 1 should be incorporated into a larger pricing strategy designed to enhance U.S. competitiveness in world cotton trade.

Under the first approach, if heavy loan placements appear imminent, it is argued that a reduced AWP could help move cotton into the market instead of to the loan. These results are predicted because farmers will perceive either that they will earn a larger marketing loan gain if they redeem loan cotton or that they will earn a larger LDP by deciding not to place the cotton in the loan. Under this line of reasoning, the key ingredient for Step 1 to work properly is uncertainty. Farmers should never be sure whether USDA will again announce a Step 1 adjustment in the following week. Therefore, to take advantage of the increased benefit, they must move in the current week. One thing we have learned recently concerning this approach is that, once farmers become cognizant of the mere possibility that Step 1 might be invoked, they tend to hold their cotton off the market so they do not "miss" the extra benefit. This defeats the purpose of Step 1.

Under the second approach, Step 1 should be operated during a specific period to provide "carry-plus" so that U.S. cotton can be offered in world trade at more competitive prices. The AWP would float at some level under where it would regularly be. The loan deficiency payment rate or gain from marketing loan redemptions would be constant from week to week, while the AWP would fluctuate from week to week, as it does now. This approach would, in effect, move the pricing structure downward and should contribute to competitiveness. It would not encourage speculative holding, as the first approach appears to do. Under this approach, Step 1 could function in the same general manner as Step 2 had functioned before the funding went dry, i.e., as a means of reducing the U.S. price level in both domestic and international trade.

LOAN DEFICIENCY PAYMENTS

Question. There is a $750,000 per "person" limitation on cumulative loan deficiency payments (LDPs). During 1998, USDA took action which increased eligibility for LDPs (silage and high aflatoxin corn) and the amount of LDPs (adjustments to the county-posted price). As a result of these actions, does USDA expect some commodities pledged as collateral for CCC loans to be forfeited as producers hit the payment eligibility limits?

Answer. Department commodity analysts do not expect appreciable amounts of grain, soybeans or cotton to be forfeited from the 1998 crops. There may be individual producers whose operations are of such a size that they may reach the $75,000 limit on loan deficiency payments (LDPs) and marketing loan gains, but most will not.

Using LDP rates determined recently, over 2,000 acres of soybeans would be required to generate a payment of $75,000 at the national average yield. In the Mississippi Delta and the Southeast, with the poor yields of 1998, between 3,000 and

4,000 acres of soybeans would be required. At the height of the corn LDP about 6 weeks ago, to hit the $75,000 limit would have required over 3,000 acres of corn in the Delta and over 4,000 acres in the Southeast. In the case of cotton, about 1,000 acres would be required to generate loan deficiency payments of $75,000 in the Mississippi Delta or the Southeast.

Most farms have more than one of these commodities planted. The acreage required to reach the $75,000 limit is, therefore, something over 1,000 acres. Most producers have had a chance to organize their operations so that they have avoided large acreage on a single operation. Most have had a chance to avail themselves of the "three-entity" rule, effectively doubling the acreage required to hit the limit. The analysts do not expect the payment limit to affect many producers or cause the forfeiture of many bushels or bales.

Question. Does USDA expect to require some producers to repay LDPs, resulting from audits which identify overpayments?

Answer. Yes, some producers will be required to repay their LDP's if an overpayment occurred.

Question. Does USDA expect to advise some producers with commodities still under loan that they cannot redeem those commodities at the world price even though the commodities have been contracted for future delivery using USDA approved options contracts?

Answer. If a producer should reach the $75,000 limitation of LDP or marketing loan gains, no further marketing loan gains could be permitted that producer for 1998-crop commodities. In that case, the producer would be informed that 1998-crop loans could no longer be redeemed at reduced rates, such as the AWP, in the case of cotton.

Question. Under the cost reduction authority of current farm law, does USDA have authority to forgive interest and loan principal on commodities under loan?

Answer. We have determined that loans could be repaid at less than the original loan rate under the cost reduction option.

Question. If so, what conditions would warrant the use of that authority?

Answer. Under the provisions of Section 1009 of the Food Security Act of 1985, as amended, the redemption amount due on a commodity loan may be reduced if the reduction will cause a saving to the Federal Government of: (1) interest receipts that otherwise might be lost; (2) receipts of loan principal that would be lost if the collateral were forfeited in satisfaction of the loan; or (3) reduction or elimination of handling, storage, and carrying charges that otherwise might accrue to the Government because of a forfeiture.

Question. Is USDA contemplating the use of that authority for any commodity in the immediate future?

Answer. No, we are not anticipating using that for any commodity in the immediate future.

ACREAGE REPORTING

Question. What is the current status of acreage certification by the Farm Service Agency (FSA)?

Answer. Producers are required to certify acreage for the following benefits:

—Production Flexibility Contract Payments—fruits and vegetables

—Loans and LDPs—Acreage of the crop for which a loan or LDP is being requested

—CRP annual rental payments—CRP acreage according to CRP–1 appendix

—NAP—Crop acreage for which a NAP benefit may be requested

—Quota Tobacco and Peanuts—All quota tobacco, except burley, and peanuts

Question. If producers voluntarily report acreage, what action is taken by FSA?

Answer. County offices accept FSA–578's from all producers who wish to report their acreage for any FSA program purpose.

Question. Are there requests for FSA acreage data by other agencies or organizations?

Answer. The National Agricultural Statistics Service (NASS) uses the data to evaluate the accuracy of acreage surveys done annually. FSA acreage totals are used as a secondary source of State and national crop estimating programs. They also use the data when allocating State estimated in support of county estimates programs.

Private insurance companies, reinsured by Risk Management Agency (RMA), use and rely on FSA acreage to verify crop insurance acreage information reported by producers.

FSA also provides acreage and production information related to the tobacco and peanut programs to RMA electronically for use by private crop insurance companies.

This program allows producers to obtain crop insurance without providing production certification to companies.

Natural Resources Conservation Service uses FSA acreage information to develop producer crop rotation plans for compliance with the highly erodible land conservation provisions.

The Boll Weevil Eradication Program, administered by the Animal and Plant Health Inspection Service, has historically relied heavily on the FSA acreage information.

Question. Is USDA cooperating with NASA in the development and utilization of cropping and other data collected by satellites?

Answer. In April 1998, a Memorandum of Understanding (MOU) was signed by the Secretary of Agriculture and Administrator of NASA. The MOU provides a framework for cooperation and coordination to facilitate research, development, transfer, and utilization of satellite data in implementing precision agriculture techniques and managing resources. Following the signing of the MOU, USDA helped NASA identify research priorities in the areas of agriculture, forestry, and range resource management. NASA offered to fund research in these priority areas in a NASA Research Announcement which drew about 180 research proposals from the national remote sensing community. By March 1999, through a series of panels—co-chaired by USDA and NASA—those proposals, that demonstrated the most potential for developing improved remote sensing applications were selected for funding.

LIVESTOCK PRICE REPORTING

Question. Secretary Glickman has stated that there is a need for greater authority to require packers to report livestock and meat prices through a mandatory program. He also has indicated that he plans to take "specific steps" to collect additional price information under existing law. Does the Department have a legislative proposal to submit to Congress to grant USDA the authority to require livestock price reporting?

Answer. USDA has drafted proposed legislation to grant USDA the authority to require mandatory livestock price reporting. The proposed legislation currently is at OMB for clearance.

Question. What "specific steps" under existing law will the Department take to help determine if there is evidence of price manipulation or unfair pricing activity by packers? What are the existing authorities for these "specific steps"?

Answer. The Grain Inspection, Packers and Stockyards Administration (GIPSA) has broad authority to collect information from subject firms, conduct investigations, and interview parties to carry out its enforcement responsibilities under the Packers and Stockyards (P&S) Act. GIPSA will use transaction data collected under the mandatory reporting pilot investigation included in USDA's fiscal year 1999 appropriation to investigate pricing issues affecting the cattle and sheep industries. In the hog industry, GIPSA is conducting an investigation of hog procurement contracts and marketing agreements to assess their use and reasons for price differences among producers.

Question. It has been reported that a Federal investigation last year showed that the prices meatpackers report for hogs are lower than the actual transaction prices. I have also heard that Secretary Glickman is seeking a Justice Department probe into possible hog price fixing, and USDA is investigating price spreads between farms, packers, and retailers. When will the Department finish the investigation?

Answer. GIPSA's Western Cornbelt Hog Procurement Investigation, which was completed last year, showed that the quality of a "base hog" as reported in public market news reports was lower than the average quality of hogs purchased by packers. Thus, prices reported for a "base hog" were lower on average than actual transaction prices during the period of the investigation. Secretary Glickman has asked the Department of Justice and the Federal Trade Commission to examine the current record price spread in pork. USDA's investigation of price spreads was initiated as a result of Secretary Glickman's Pork Crisis Task Force. A time frame for completion of this investigation has not yet been set.

Question. How have the low prices that farmers are receiving for their hogs been affected by this "possible hog price fixing"?

Answer. USDA has not alleged that low prices for hogs resulted from "possible hog price fixing." A large supply of hogs was and continues to be the most important factor pressuring prices. Other factors likely played a role in the precipitous price drop seen at the end of 1998, and USDA is committed to determining whether practices in violation of the P&S Act played a role.

Question. What other activities have been undertaken by the Department to address this issue?

Answer. USDA has undertaken a number of activities to address the issues raised by the recent hog price crisis. In addition to an investigation of price spreads, GIPSA is conducting a comprehensive review of hog contract provisions and a review of recent hog slaughter plant closings.

MEAT LABELING

Question. A National Cattlemen's Association survey indicates 78 percent of consumers polled want to know where their grocery meat comes from. What is the Department's position on country-of-origin meat labeling?

Answer. Currently the Department does not have an official position on country-of-origin labeling for meat and meat products.

Question. How will this affect the cost of meat to consumers?

Answer. We are not sure of the effect of country-of-origin meat labeling on the cost of meat to consumers since we have not conducted any consumer cost analysis.

Question. What, if any, actions has the Department taken regarding this issue? If not any, does the Department have any plans to take action in the future?

Answer. As directed by the Omnibus Consolidated and Emergency Supplemental Appropriations Act for Fiscal Year 1999, USDA is conducting a study of the potential effects of mandatory country-of-origin labeling on imported beef and lamb muscle cuts. As part of this study, USDA will review the regulations and policies governing USDA grading of imported meat and the use of the U.S. grade stamp on meat imported into the U.S. We plan to submit the report to Congress in April, as directed.

DAIRY PRODUCTION DISASTER ASSISTANCE PROGRAM

Question. An additional $3,000,000 was appropriated in the fiscal year 1999 Appropriations Act for the dairy production indemnity program. Has this money been distributed to dairy farmers?

Answer. Yes, and approximately $750,000 of that remains undesignated.

Question. Geographically speaking, which States in the country benefitted from this additional assistance?

Answer. California received approximately $1,400,000, New York received $200,000, and Georgia and Florida received approximately $150,000 each.

Question. What was the average payment for a qualified dairy farmer?

Answer. The average payment was approximately $7,775 per dairy operation.

DAIRY MARKET ASSISTANCE

Question. The fiscal year 1999 Agriculture Appropriations Act provides $200,000,000 in disaster assistance for dairy producers. The law gives the Secretary of Agriculture the discretion to distribute this assistance in a manner that he sees fit. How is this assistance being allocated and distributed to dairy farmers given that dairy prices were at a high last year and are predicted to fall in 1999?

Answer. The Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 1999, provides that $200,000,000 shall be available to provide market loss assistance to dairy farmers in a manner determined by the Secretary. The record high milk prices of last fall have been replaced with below average prices. The Basic Formula Price (BFP), which is the price that the Federal Milk Marketing Order system sets for milk used in manufacturing and is the price mover for fluid milk, declined from $16.27 per cwt in January to $10.27 per cwt in February. The $6.00 decline from January to February is more than twice the previous record monthly drop of $2.52 per cwt in November 1996. The February BFP is over $2 below the past 5-year average BFP in February—$12.51 per cwt. However, the drop will not be fully reflected in milk checks until April due to the lag in fluid milk price changes. The sudden plummet in the BFP resulted in a sense of urgency to get immediate and direct help to dairy farmers in a timely fashion.

USDA will make payments under the Dairy Market Loss Assistance Program based on a dairy operation's first 26,000 cwt of milk produced and marketed in either 1997 or 1998, whichever is the highest. Targeted to family-sized operations, the amount of eligible production is about the annual production of a herd of 150 cows. The final payment rate per cwt will be calculated after signup ends, but USDA expects the rate to be between 18 and 20 cents per cwt and the maximum benefits to be about $5,000 per dairy operation.

Question. What criteria has the Department developed to determine which farmers are eligible to receive this assistance?

Answer. All dairy operations that produced and commercially marketed milk from cows in the United States from October 1998 to December 1998 are eligible.

Question. What is the time line for the delivery of this program assistance to eligible farmers?

Answer. Producers must apply at their local Farm Service Agency office between April 12 and May 21, 1999. Payments are expected to be made in mid-June.

GROCERY MERGERS

Question. Across the nation, we are seeing consolidation in all areas of business. The supermarket industry is no exception. What impact will the consolidation of this industry have on prices paid to farmers for their goods and the prices charged to consumers?

Answer. At the national level, the concentration of sales among chain and other grocery retailers has traditionally been relatively low, but has been increasing in the past few years. In 1997, over two hundred grocery store chains operated in the United States, along with several thousand independent grocers. The four largest chains, accounted for approximately 23 percent of all supermarket sales. At the local level, where competition for consumer dollars occurs, concentration of sales is generally considerably higher, but varies across local areas and has not increased significantly since 1990. The four largest supermarket operators accounted for 96 percent of sales in Miami but only 52 percent in New York, with other metropolitan areas falling between the two.

Consolidation can make firms in the supermarket industry more efficient and benefit both farmers and consumers. For example, larger firms may contract directly with farmers for fruits and vegetables. Improved efficiency and eliminating intermediaries can mean higher prices for producers and lower retail prices for consumers. Farmers have historically marketed very little of their production directly to retailers. Thus, the competition between retailers for farm level products has not been an important factor affecting farm prices. More critical to farm prices is the overall demand for agricultural goods and the competition among traditional first buyers of farm goods like grain elevators and meat packers.

Consolidation may be creating a food system that is slower to respond to market forces. Lower farm prices may not be passed through to consumers as quickly when supermarket chains are fewer and larger and face fewer competitors. When this happens, farm prices may stay low longer because retail price cuts are not being used to work off the supply-demand imbalance that caused farm prices to fall.

NATURAL RESOURCES CONSERVATION SERVICE STAFFING

Question. In the fiscal year 2000 President's budget request for the Natural Resources Conservation Service (NRCS) a staff level of 1,055 is decreased from the fiscal year 1999 level. Why is the number of staff being decreased when the proposal of several new Administrative initiatives are in the fiscal year 2000 budget request in the conservation area?

Answer. The NRCS budget increases are primarily for grants, easements, and other financial assistance directly for producers. However, the technical assistance required to support these initiatives and the acreage reduction from fiscal year 1999 for the Conservation Reserve Program result in 1,055 fewer staff years. Most of the reductions will take place in the field because past reorganizations have drastically reduced staff above the field level. This will result in a substantial reduction in the level of service provided to landowners and landusers in such areas as planning assistance, implementation of conservation practices, construction projects, resource inventories and reduced levels of implementation for some cost share programs.

Question. Is the agency's funding strained under the current workload and staff level? Why?

Answer. The fiscal year 2000 budget does not provide full funding for all the technical assistance needed to implement the proposed program activities, but all the staff years are counted as being funded in the 11,194 FTE ceiling shown in the budget. The fiscal year 2000 does not request any additional for the emergency watershed protection program. There is a $25,300,000 short fall to pay for the technical assistance necessary to implement Wetlands Reserve, Farmland Protection, and Conservation Reserve programs. The short fall exists because the cost to service these programs exceeds the CCC Section 11 cap on technical assistance.

COMMUNITY/FEDERAL INFORMATION PARTNERSHIPS

Question. The fiscal year 2000 budget request proposes an increase of $5,000,000 and 20 full-time employees (FTE) for the Community/Federal Information Partner-

ships (CFIP). $1,500,000 would be used to hire 10 additional FTEs. From where will the other 10 FTEs come and what work are they currently doing?

Answer. The explanatory notes mistakenly identified 20 FTEs for the Community/Federal Information Partnerships. This initiative would only require the addition of 10 FTEs.

AIR QUALITY

Question. In the fiscal year 2000 budget request and agency programming, how does NRCS plan to work with American farmers who face air quality compliance problems?

Answer. Both the Environmental Quality Incentive Program (EQIP) and the Conservation Reserve Program (CRP) help American farmers who face air quality problems. EQIP enables NRCS to direct financial assistance to farmers with air quality problems. For example, in California there are four serious PM–10 non-attainment areas. In fiscal year 1998, NRCS' California State Office addressed air quality problems in the following ways: $15,000 for education grants to local Resource Conservation Districts and Air Quality Management Districts that helped publicize methods for controlling on-farm road dust; $300,000 for statewide concerns cost-shared at 75 percent with farmers for dust suppression on farm roads and chipping almond residues as an alternative to burning; and, within geographic priority areas, local work groups supported cost sharing on air quality mitigation practices. Similar levels of spending are planned for fiscal year 1999. The CRP has also mitigated air quality problems on thousands of acres across the nation (e.g., Washington).

Question. What funding is requested for this purpose, if any, and what amount of funding is needed to get the job done?

Answer. NRCS is not requesting specific funds for technical assistance in the current budget cycle to address air quality compliance. However, in response to the question regarding the funding needed to get the job done, NRCS estimates that about

$25,000,000 will be needed to begin addressing compliance issues through the Conservation Operations Program. These funds would be used to train existing field staff and to employ new staff to increase specialized technical assistance available to agency customers in defined air quality non-attainment areas.

Question. How is the agency working in cooperation with both the Environmental Protection Agency and USDA's Air Quality Task Force in representing the needs and interests of the American farmer on air quality issues?

Answer. Pearlie Reed, Chief, NRCS, chairs the Agricultural Air Quality Task Force (AAQTF). The AAQTF is comprised of representatives of agricultural production, agricultural industry, science, and health, including a representative of EPA's Office of Air Quality Planning and Standards. AAQTF recommendations regarding oversight, coordination, and science of agricultural air quality are transmitted to the Secretary of Agriculture and the Administrator of EPA. To date, the AAQTF developed a Memorandum of Understanding, signed by Secretary Glickman and Administrator Browner (NRCS A–3A75–8–30), to facilitate cooperation on agricultural air quality between USDA and EPA and has recommended priorities for air quality research. NRCS has also located a liaison with EPA's Office of Air Quality Planning and Standards in North Carolina. USDA staff from NRCS, FS, ARS, and CSREES and EPA staff from the Office and Air Quality Planning and Standards and the Office of Research and Development are meeting regularly on agricultural air quality issues.

GRAZING LANDS CONSERVATION INITIATIVE

Question. In fiscal year 1997, fiscal year 1998, and fiscal year 1999 $15,000,000 was earmarked for the continuation of the grazing lands conservation initiative. Please update the Committee on this initiative and include any money in the fiscal year 2000 President's budget request for this project.

Answer. NRCS continues to work successfully with the National GLCI Steering Committee and other partners to develop and coordinate NRCS' commitment to meeting the needs of local farmers and ranchers responsible for management of the nations grazing lands. The fiscal year 2000 President' budget does not specify additional appropriations to implement this initiative. NRCS continues to expand on past accomplishment which includes the availability of grazing land specialists in all states. The following is a report of NRCS fiscal year 1998 accomplishments due to increased emphasis and demand for technical assistance for the Nation's grazing lands. Fiscal year 1999 activities are ongoing and are not available at this time

ACCOMPLISHMENTS

Staffing

In 1998 hired 45 new employees and 421 employees allocated the majority of their time to providing technical assistance on GLCI activities.

Training

Over 16,000 individuals, including NRCS employees, and personnel from other agencies, and private grazing landowners and managers received training.

Technical Assistance

Technical assistance was provided on over 14,000,000 acres of grazing land. The conservation practice Prescribed Grazing was applied to over 11,500,000 acres.

Grazing Land Projects

There are 324 grazing land projects nationwide that demonstrates grazing land management and technologies.

Public Education and Awareness

NRCS conducted over 1,000 public awareness and education and awareness activities to over 202,000 individuals.

DEMONSTRATION PROJECTS LANGUAGE

Question. The appropriation language proposed in the fiscal year 2000 budget request deletes the prohibition on demonstration projects. This deletion will provide NRCS the ability to have demonstration project to educate and share conservation techniques with small farmers and financially limited landowners. Please explain the need for this change in law.

Answer. This change is proposed to allow NRCS the flexibility needed to efficiently and effectively implement its Civil Rights Outreach program. Demonstration projects are often the most effective way to work with groups of underserved farmer and ranchers. However, the current language in the Conservation Operations appropriation account prevents us from conducting demonstration projects, and our lawyers tell us authorities granted under other NRCS programs are inadequate to carry out this type of demonstration project.

CLEAN WATER ACTION PLAN

Question. As a part of the President's Clean Water Action Plan, all States have prioritized their watersheds according to the need for water quality and natural resource restoration or protection. This process is known as the Unified Watershed Assessment. Of the requested increase of $31,000,000 for conservation technical assistance (CTA), how much is allocated for the Clean Water Action Plan?

Answer. All of the requested increase in CTA funding is for implementation of Clean Water Action Plan initiatives (Animal Feeding Operation strategy—$8,000,000; locally-led conservation—$20,000,000; and watershed health monitoring—$3,000,000).

UNIFIED WATERSHED ASSESSMENT

Question. How much is being spent on the Unified Watershed Assessment process currently and how much is allocated for fiscal year 2000?

Answer. For fiscal year 1999, there was no funding specifically allocated to NRCS for the Unified Watershed Assessment (UWA) process. NRCS support for the UWAs in fiscal year 1999 came as a part of ongoing program efforts. The fiscal year 2000 budget request proposes a $3,000,000 increase for additional environmental monitoring and research work, a portion of which will provide data and information needed to establish base information and evaluate program outcomes for Federal resources used in UWA priority areas.

ANIMAL FEEDING OPERATIONS DRAFT STRATEGY

Question. Another component of this Clean Water Action Plan is the Animal Feeding Operations (AFO) draft strategy. The fiscal year 2000 budget request proposes an increase of $8,000,000 and 97 staff years to support this initiative. The Environmental Protection Agency estimates that there are 450,000 animal feeding operations and 6,600 concentrated animal feeding operations in this country. It believes that a large number of these will need to develop or revise their waste management plans. How much is currently being spent on this initiative and how many staff years are working on it?

Answer. NRCS will spend $53,500,000 ($37,000,000 Conservation Technical Assistance and $16,500,000 EQIP) in fiscal year 1999 to provide technical assistance through the locally-led planning and implementation process to help AFO owners and operators address water quality issues related to animal agriculture. The small watershed progra contributes technical assistance dollars also, however, data is not available to identify specific contributions. Starting with this year, NRCS is tracking through its accountability system how its staff time is used to address the needs of AFO owners and operators, by specific program and activity, for all employees.

Question. What kind of demand from farmers is there for this technical support through Conservation Operations since no cost-share assistance will be provided.

Answer. NRCS currently assists approximately 10,000 AFOs annually through a variety of programs (i.e., Conservation Operations, EQIP, and the small watersheds program) to prepare animal waste management plans, provide technical engineering and agronomic expertise, design and build structures, and implement land management practices. Regularly these farmers seek our technical assistance before they determine whether or not to apply for financial assistance from a variety of potential cost-share sources, including USDA and state and local agencies. Thus, initially they will receive planning assistance, for example, through the Conservation Operations program, but they may ultimately receive implementation assistance through a different or non-USDA financial assistance program. Our accountability system is not currently capturing the data we need to provide specific demand numbers; however, we anticipate that the pending issuance of the Unified National Strategy for AFOs will significantly increase the demand by AFO owners and operators for technical assistance.

Question. How does this demand compare to the demand for technical and cost-share assistance provided through the Environmental Quality Incentives Program (EQIP)? Is not this work not addressed through EQIP? Please explain.

Answer. The primary source of USDA financial assistance to AFO owners and operators is the Environmental Quality Incentive Program (EQIP), which has been funded at $200,000,000 in 1997 and 1998 and $174,000,000 in 1999. Approximately 45 percent of the funds in each of these years fund contracts with AFOs to develop and provide cost share incentives to help implement nutrient management plans. The requests for financial assistance funds for AFOs during each of those years was approximately three times the amount available. It is likely that the Unified AFO Strategy, as well as the increased attention to this issue by states, will further increase the demand for both technical and financial assistance from USDA. It should also be noted that EQIP is specifically designed to encourage the leveraging of other sources of technical, educational and financial assistance funds.

Question. The fiscal year 2000 Budget Justification Notes state that the $8,000,000 for AFO will be combined with approximately $1,000,000 in climate-related AFO pilot projects and $11,000,000 in redirected conservation technical assistance funds. This will bring the total to $20,000,000 for the AFO conservation technical assistance. What sort of climate change-related AFO pilot projects are planned? From what area of conservation technical assistance will the $11,000,000 be redirected?

Answer. The AFO pilot projects will demonstrate and test various greenhouse gas mitigation strategies and monitoring mechanisms, as well as a variety of financial assistance mechanisms under existing authorities. Examples of potential pilot projects include compost-based waste handling facilities, constructed Wetlands for waste management, rotational grazing systems, and improved feed/forage efficiency.

Conservation technical assistance funds are to be used to maintain and improve the soil, water, and related resources of the Nation's nonpublic lands by reducing excessive soil erosion; reducing agricultural nonpoint source pollution of water; improving irrigation efficiency; making more effective use of water; reducing upstream flood damages; improving range condition; and restoring, maintaining, and improving wetlands. Thus, the allocation of the $11,000,000 will be made with the requirement that the funds be used to address the needs of AFOs.

Question. The fiscal year 2000 budget request proposes an increase of $15,000,000 for activities supporting the Global Climate Change. What is currently being spent on these activities?

Answer. NRCS has funded its Global Climate Change research program at $1,200,000 in fiscal year 1998 and fiscal year 1999. Prior years were funded at $1,500,000. Funds were distributed and utilized as follows:

—50 percent to the National Soil Survey Center, Lincoln Nebraska ($600,000). Conservation and Wetlands Reserve Programs carbon sequestration effects, conducted jointly with ARS and University Cooperators, changes in soil climate (moisture and temperature) and associated rates of carbon sequestration, Soil Carbon map production, National soil carbon stock analysis

—40 percent to NRCS state offices for University cooperator research projects ($442,000). Most funds directed toward a long term 8-state (TX, LA, OR, IN, ND,MN,NH,UT) comprehensive wetlands study which includes rates of change in carbon stocks.

—10 percent to universities in response to RFP's on climate change and carbon sequestration ($162,000).

SOIL CARBON STUDIES

Question. Which agency conducted the soil carbon studies? What is NRCS' role in expanding this study?

Answer. Several agencies within USDA, including the ARS and the FS, are conducting soil carbon studies. NRCS is engaged in a multi-year effort related to Global Change. As a result, seven technical volumes have been published on soils and global change and five more are currently in process. Most of these publications were proceedings from scientific meetings organized jointly by the Natural Resources Conservation Service, the Agricultural Research Service, the Forest Service, the Environmental Protection Agency, the National Aeronautics and Space Administration and the Ohio State University. Titles include: Management of Carbon Sequestration in Soil, Soil Management and the Greenhouse Effect, and Soil Processes and the Carbon Cycle. One volume was a special synthesis report on The Potential for U.S. Cropland to Sequester Carbon and Mitigate the Greenhouse Effect. Similar reports on the potential for U.S. grazing lands and U.S. forestlands are currently in production.

The carbon cycle research projects undertaken by the NRCS are directed at terrestrial soil carbon interactions with atmospheric biochemical fluxes. This knowledge will enable circulation models to more accurately describe, at the regional scale, the impacts of agriculture and forestry on greenhouse gas levels, and to project adaptation capacity.

The NRCS cooperative soil survey data is the first building block essential to understanding the terrestrial carbon pool. To establish the scientific basis for a terrestrial carbon inventory, refinement of soil carbon data across soils, climate regimes, and under various management systems and land uses is required. The fiscal year 2000 Global Change budget initiative in NRCS begins to address this requirement. Specific components include the following:

NRCS will enhance the national soils data bases through five initiatives: Accelerate digitizing of county level soil surveys, and update the state level soil mapdatabase, which are the primary geospatial data layers linked to the national soils attribute database, Complete the National Soil Information System (NASIS) development effort to achieve on-line database access, Add "use-dependent" soil carbon data and soil pedon descriptions to the NASIS database, Develop on-line, a real-time georeferenced soil pedon database Develop the Ecological Site Information System (ESIS: a cooperative FS/BLM/NRCS effort) for range and forestland.

Evaluations, including field validation and calibration, of modeling, remote sensing, and statistical inventory approaches to field level, regional and national scale carbon stock assessments that are sensitive to the land management practices and agronomic systems that impact soil carbon levels.

—Directed field soil sampling and increased laboratory analysis capacity

—Development, testing and application of improved sampling, inventory and analysis protocols

This enhanced NASIS database, and associated databases, models, inventory and assessment products will be applicable to integrated environmental and agricultural sector policy impact analysis, as well as providing scientifically grounded tools for potential carbon crediting or trading programs. It will enable carbon cycle, land use, and socio-economic models and inventories to utilize soil carbon data that reflect actual biophysical and human induced variability in soil carbon stocks.

Focus of the first year's effort in these carbon studies (Global Change Research Program, $12,000,000) will be in major agricultural regions on major crops in common production systems, and expanding into about 25 percent of non-federal range and forest lands.

The initiative also has a component (Climate Change Technology Initiative, $3,000,000) that includes pilot projects for delivery of carbon enhancing/emission reducing conservation systems.

Incentives, planning tools, and technical assistance for conservation systems that comprehensively enhance soil carbon sequestration and reduce greenhouse gas emissions, while also achieving water quality, wildlife and other environmental benefits will be field tested and evaluated.

Pilots will be conducted on croplands, grazing lands, and animal feeding operations, using existing financial and technical assistance programs. Innovative management systems and field carbon prediction and planning tools being developed by ARS will be field applied and evaluated.

Example of systems and practices that build soil organic carbon, and reduce greenhouse emissions that will be piloted may include: Cropland, use of cover crops, field application of organic amendments, reduced tillage and residue management systems,nutrient management, establishment of landscape buffers; Animal production and grazing land establishment of grass based animal feeding systems, establishment of aerobic compostig operations alternative management systems for confined animal manure handling.

Attention will be paid to technology and delivery systems appropriate for limited resource, small scale, and underserved clients.

MEASUREMENTS OF SEQUESTRATION OF SOIL ORGANIC CARBON

Question. Once the measurement and incentive systems are developed and applied, sequestration of soil organic carbon will be measured and verified. Which agency will carry out the measurements of sequestration of soil organic carbon?

Answer. NRCS does not anticipate conducting extensive measurement of carbon sequestration. NRCS is cooperating with ARS and others to direct selected field carbon measurements to develop, validate and verify models that could be used at various scales to predict carbon sequestration. Models that are being developed to predict soil carbon sequestration are compatible with existing programs in use in the NRCS field offices to plan and predict the erosion control benefits of conservation systems. The intent is to create a seamless system, into which data need be entered only one time to predict erosion rates and carbon sequestration rates for farming system options selected by farmers. The information infrastructure is being designed to be available on the Internet, so that farmers or private sector consultants may utilize the available information and analytic tools independent of federal conservation programs. These tools may also be applied by NRCS in national and regional carbon stock inventories in addition to other natural resource condition assessments, such as erosion in the National Resources Inventory. Field measurement validation of models will be conducted by NRCS in cooperation with the Agricultural Research Service. Field level measurement for verification may be conducted by NRCS or others as appropriate, based on the type of program or private contractual agreement in place for carbon storage.

GLOBAL CLIMATE CHANGE

Question. Will any of this work address the study by the Pew Center on Global Climate Change that indicates global warming will change where crops are currently grown in the U.S.? (The study indicates crop acreage and livestock operation will shift northward.)

Answer. The NRCS budget request includes $200,000 which will be contributed to the Agricultural Sector and regional global climate change assessment reports that are being coordinated through the USDA Global Change Program Office and the USGCRP.

TRACKING GRAZING CONSERVATION ASSISTANCE PROGRAM FUNDS

Question. In the fiscal year 1999 Senate Report, the Committee directed the agency to establish a system to provide an accounting of funds used for the grazing conservation assistance program within conservation operations. What has the agency done to address this directive?

Answer: NRCS has established an accountability system that meets the directive. The National Performance and Results Measurement System (PRMS) captures data from all levels of NRCS. It provides easy and timely access to agency accomplishments. Time and Cost Accounting System (TCAS) is part of the accountability system to collect information on how employees spend their time. Specific to the GLCI earmark, PRMS and TCAS collectively will allow the agency to monitor and report progress in staffing, training, technical assistance, projects and outreach activities. Additionally the NRCS has also implemented a workload analysis system to address future GLCI workload requirements.

PLANT MATERIALS CENTERS FUNDING

Question. Please explain how the $1,000,000 for the plant materials centers in the fiscal year 1999 Senate Report has been used to continue development of warm season grasses for use in the Conservation Reserve Program and the Wildlife Habitat

Incentives Program. How has the agency encouraged the development and transfer of technology among all the Department's natural resources conservation programs?

Answer. The $1,000,000 was distributed among plant centers doing work with warm season grasses. Some of the species under study include: eastern gama grass, bluestems, switch-grass, dropseed, gramas, and Indiangrass. All of these species are natives that provide critical food and/or habitat (e.g., cover) for wildlife. Consequently, they represent a core group of plants that are available for use in the Wildlife Habitat Incentives Program. Many of the same species are also important components of the Conservation Reserve Program (CRP). In the Great Plains, for example, bluestems, Indian grass, and switch-grass are widely used to restore and stabilize highly erodible lands. In recent years, the Plant Materials Program has developed and released cultivars that are now in high demand for the CRP. Without these releases, it is doubtful that the CRP would be very functional.

Despite past success, however, there is an ongoing need to develop better materials and technical information on warm season grasses. The $1,000,000 has enabled this work to continue actively at 16 Plant Materials Centers. Centers that are involved include ones in Arizona, Arkansas, Florida, Georgia, Kansas, Louisiana, Mississippi, Missouri, Montana, New Mexico, New York, North Dakota, Texas (3 centers), and Washington. These centers have studies underway with warm season grasses to develop better selections and more advanced technology.

Technology development and transfer in the Plant Materials Program has advanced along a broad front. Cooperative work is underway with the National Park Service, Department of Defense, Department of Transportation, and Agricultural Research Service. The Plant Materials Program serves as a source of technology for application-oriented information. The Natural Resources Conservation Service encourages work of this sort. It is promoted as one way to avoid duplicative efforts among other natural resources conservation programs. Technology transfer is achieved through printed materials, oral presentations, and electronic transfer. Last year, for example, the Plant Materials Program had 310 written materials and 469 oral presentations. Written materials included technical notes, plant guides and fact sheets, symposium/poster materials, and progress reports. Oral presentations included training sessions, tours, and local/regional/national presentations. Electronic transfer was also accomplished via an Internet homepage. The address is: http://plant-materials.nrcs.usda.gov.

PRIORITY AREA PILOT PROJECTS UNDER EQIP

Question. Please explain the progress that the NRCS has made in addressing the Committee's directive in the fiscal year 1999 Senate Report regarding the priority area pilot programs under the guise of EQIP.

Answer. The fiscal year 1999 Senate Appropriations Report, the Committee "directs the agency to evaluate the applications for fiscal year 1999 and proceed to provide adequate funding for not less than two national priority area pilot projects." NRCS is in the process of establishing the two national priority areas called for in the Senate Report.

In the interim, to meet the Committee's direction, $5,650,000 was allocated in fiscal year 1999 to increase funding to two priority areas previously identified and approved by NRCS State Conservationist, and recognized by NRCS as having national significance. Of this amount, $1,300,000 was allocated to Mississippi for the Mississippi Delta region. The funds will be expended in several smaller priority areas approved in this region. The second area of national significance is the Colorado River Salinity Control effort. Colorado, Utah, and Wyoming were allocated a total of $4,350,000 for use in priority areas where salt reduction is occurring in cooperative efforts with other local, State, and Federal agencies and groups.

WETLANDS RESERVE PROGRAM EASEMENTS

Question. How has the agency addressed the acceptance of WRP bids and the goal that landowners be offered a choice among permanent and nonpermanent easements as well as cost-share agreements?

Answer. Landowners are offered the opportunity to sign up for one or more of the categories of WRP projects. The offers for each category are ranked with others of the same category and funds are allocated to fund the best offers from each of the three types. The amount of enrollment from each category is proportional to the level of landowner interest.

COOPERATIVE AGREEMENTS SUPPORTING WRP

Question. Please describe the existing cooperative agreements with private conservation organizations to support the implementation of the WRP.

Answer. Cooperative agreements are in effect with a number of private conservation entities. They include the California Waterfowl Association, Ducks Unlimited, Great Swamp Conservancy (New York), Iowa Natural Heritage Foundation, Mississippi Fish and Wildlife Foundation, National Fish and Wildlife Foundation, Pheasants Forever, and the Wisconsin Waterfowl Association. The type of services included in the various agreements include: site evaluation and planning assistance to landowners; engineering field topographic surveys and structure design; on-site restoration implementation assistance; nest structure conservation and placement; funding assistance to primarily limited resource landowners; and administrative assistance with realty title clearance and land survey issues. In the Lower Mississippi River Valley States of Arkansas, Louisiana, and Mississippi, the assistance is in the form of engineering field topographic surveys and structure design, on-site restoration implementation assistance, nest structure construction and placement and cost-share assistance to limited resource landowners.

TRANSFER OF WATERSHED ACCOUNTS TO CONSERVATION OPERATIONS

Question. What is the purpose of the new appropriations language proposed in the Administration's fiscal year 2000 budget request that transfers funding for Watershed Surveys and Planning to Conservation Operations?

Answer. Appropriating the funds to the water resources planning and construction accounts shows the total program costs of planning, technical assistance and construction during the fiscal year. Transferring these planning and technical assistance funds to the Conservation Operations account shows the costs for most of NRCS field activities in one appropriation account.

Question. What is the purpose of the new appropriations language proposed in the Administration's fiscal year 2000 budget request that transfers funding for technical assistance for Watershed and Flood Prevention Operation to Conservation Operations?

Answer. Appropriating the funds to the water resources planning and construction accounts shows the total program costs of planning, technical assistance and construction during the fiscal year. Transferring these planning and technical assistance funds to the Conservation Operations account shows the costs for most of NRCS field activities in one appropriation account.

FLOOD PREVENTION PROGRAM FUNDING

Question. The decrease of approximately $16,000,000 in the proposed fiscal year 2000 budget request for Watershed and Flood Prevention Operations is based on the possibility that no Public Law 534 projects will score high enough for environmental and economic benefits to be funded. Is this correct? What will this money be used for instead?

Answer. The decrease in the Watershed and Flood Prevention Operations of $16,000,000 is not directly related to the fact that in recent years, $15,000,000 of the total appropriation for watershed operations has been designated for Public Law 534. It has been NRCS' position that since all projects are funded by the same appropriations, both Public Law 534 and Public Law 566 projects should stand on their own merits in terms of economic and environmental defensibility. For this reason all projects in contention for funding are evaluated using the same criteria. To this point, Public Law 534 projects have competed well with those being considered.

If no Public Law 534 projects were found to be economically and environmentally defensible in the near term then all available funds would be used to fund Public Law 566 projects.

PUBLIC LAW 534 WATERSHED PROJECTS CRITERIA

Question. For Public Law 534 watershed projects, there are 23 unserviced applications and 24 projects in the planning process. Will these be assessed under this new criteria of environmental and economic benefits in order to be addressed? When does the agency plan to move forward on the unserviced applications and the others in the planning process?

Answer. The environmental and economic defensibility is considered for each project in contention for funding. In many ways these challenges are addressed in the planning process as a means of ensuring an appropriate investment of both federal and local dollars. The program statutes require that all projects must be economically defensible. It is doubtful that all necessary permits could be obtained unless it can be clearly demonstrated that a given project is also environmentally defensible. However, decisions for funding are not based solely on any one criteria. Consideration is given to other factors including existing threats to life and property

that would be addressed by the project, and the needs of economically depressed communities.

As to when the NRCS will move forward with unfunded authorized Public Law 534 projects and unfinished watershed plans is dependent on three key variables: sponsor commitment; the amount of Public Law 534 funding available to support the technical assistance necessary to complete the work; and, the amount of financial assistance available to complete the project.

Local sponsors are required to make commitments regarding landrights, liability, and securing the non-federal funds required in cost share projects. Sponsors are also required to obtain all necessary permits prior to implementation of their projects. Many of the authorized projects on which there has been no activity, and those with incomplete watershed plans have been placed in a hold status at the request of local sponsors. They simply have not wanted to accept the risk and uncertainties associated with readying their projects for funding in light of the drastic decline in appropriations for watershed operations.

RISK MANAGEMENT AGENCY

Question. In the fiscal year 2000 President's budget request an increase of $715,000 is proposed for civil rights activities for the Risk Management Agency (RMA). What activities is the Risk Management Agency currently doing in the civil rights area?

Answer. RMA has significantly increased outreach activities aimed at assuring that ALL farmers and ranchers can equally access all risk management tools and programs. We have designated a full time National Outreach Coordinator as well as regional coordinators in the Regional Service Offices to implement the National Outreach plan. To assure that we reach all small and limited resource and traditionally under served farmers and ranchers, we have entered into cooperative agreements with eleven (11) community based and other organizations, summarized below, to provide risk management education and technical program assistance. We are reviewing four outreach proposals for consideration in fiscal year 2000. The Office of Civil Rights and Community Outreach Staff recently mailed out approximately 400 letters to community groups and organizations requesting that they get the message out to their constituents on the Emergency Financial Assistance to Farmers announced by President Clinton.

In addition, RMA is currently working on the following initiatives relating to civil rights:

Data Collection.—RMA and the Office of General Counsel have developed data and reporting regulations and procedures for reinsured companies to begin collecting civil rights data in the fall of 1999. The data will be used to determine how effectively RMA programs are reaching underserved groups and identify areas where additional outreach is needed.

Civil Rights Compliance Reviews.—RMA is currently developing procedures, based on guidelines furnished by the Department, for conducting on-site civil rights/EEO evaluations and training for reinsured companies. The first of these training sessions is scheduled to begin on July 1, 1999.

Diversifying the Delivery System.—The Office of Civil Rights and Community Outreach is working with reinsured companies to recruit and hire minority Agents. We are providing the companies with a list of minority insurance agents who may be interested in selling crop insurance. We are also inviting the companies to recruit at National Conferences, e.g., Minorities in Agriculture and Natural Sciences (MANRRS) scheduled in April, and at the 1890 and 1994 Land Grant Colleges and Universities.

Cooperative Agreements.—RMA has cooperative agreements with the following organizations:

—Federation of Southern Cooperatives—Provides program technical assistance and training to small and limited resource farmers in 12 southern states, and is conducting a customer survey.

—Toppenish High School—Promote and encourage community efforts and government agency participation in developing the project to utilize the high school to educate local farmers and deliver outreach efforts. The Washington State FAC, including the Spokane RMA Regional Service Office will work with the project coordinator on this initiative.

—Intertribal Agriculture Council—This agreement is funded by RMA and other USDA agencies to support specific goals to inform Indian producers and tribal governments of programs and program technical assistance which may be available to them in the conservation of their natural and agricultural resources.

—Rural Coalition/Coalition Rural—The Coalition will sponsor an annual conference which will include representatives from approximately 90 community-based organizations (CBOs). These representatives will be trained on several USDA programs. They will provide USDA training to members of their respective CBOs through workshops and one-on-one consultations.

—Hmong American Community, Inc.—Provides risk management education, program training and information to Hmong and other Southeast Asin farmers in California.

—Bringing Rural America Venture Opportunities—RMA is partnering with Office of Small and Disadvantaged Business Utilization to create technology-based jobs on Indian lands and surrounding economically disadvantaged rural areas. Tribal entities (Indian Nations) will establish small start-up technology companies. Initial services provided will be software development for USDA.

—Lac du Flambeau (LDF) Band of the Lake Superior, Chippewa Indians, Lac Du Flambeau, WI—The LDF tribe will initiate an agricultural and resource management program to provide disadvantaged farmers and ranchers on the LDF Indian reservation with the technical assistance and infrastructure necessary to assure success. The LDF Band will provide assistance to the LDF Indian tribe by allowing them to begin providing food, jobs and income for their tribal members.

—University of California, Cooperative Extension—Will develop a directory and guide of Agricultural programs and services for small farmers in San Joaquin Valley.

—National Black Farmers Association, Inc.—Will provide training and technical assistance programs to disadvantaged farmers in 16 counties in Virginia.

—First American Curriculum Development Project—RJS & Associates will develop five major (both print and computer assisted instructional) curriculum units tailored to meet the needs of American Indian agribusinesses. RJS & Associates will work with the twenty-nine tribally controlled land grant colleges in the development of this curriculum. This project will also identify and develop potential employees (American Indians) for RMA and other USDA agencies to address under representation in the workforce.

Question. How much of your current resources are being spent on civil rights activities?

Answer. There was no separate funding provided for Civil Rights activities in RMA's fiscal year 1999 appropriation, but the Civil Rights staff has estimated $207,000 is needed for ongoing activities.

Question. How much will the survey which RMA plans to commission with North Carolina A&T State University cost? How was this 1890 Land Grant University chosen to do this survey?

Answer. We are currently estimating $25,000 for the survey. We have not made a commitment to North Carolina A&T at this time—other universities are also being considered. North Carolina A&T is being considered because it has the capacity to conduct surveys and provide professional analysis.

RISK MANAGEMENT EDUCATION

Question. An increase of $3,000,000 for Risk Management Education activities is also proposed in the President's fiscal year 2000 budget request. What amount of resources and on which activities is the RMA currently spending on education?

Answer. Since its beginning in fiscal year 1998, the Risk Management Education (RME) initiative has never received operating (A&O) funding. All expenditures for RME have come from the FCIC Fund. In the enacted 1998 Agricultural Research Title, Public Law 105–185, certain expenditures from the FCIC Fund (including those for RME) were capped at $3,500,000 per year as part of a measure to permanently fund the crop insurance program. For fiscal year 1999, $1,000,000 of the $3,500,000 FCIC cap has been allocated to RME activities.

The fiscal year 1999 RME budget is as follows:

Item	*Amount*
Direct Producer and Trainer Education (local workshops)	$550,000
Cooperative State Research, Education, and Extension Service (continued development of the Internet Library)	100,000
Publications	250,000
FFA Essay Contest	50,000
Curriculum Development	50,000
TOTAL	1,000,000

PUBLIC OUTREACH

Question. How much is RMA currently spending on public outreach activities?

Answer. We are spending an estimated $260,000, with an additional $330,000 possible for a nationwide mailing to approximately 1,000,000 producers should the proposed reform measures be approved.

INTERNATIONAL CROP INSURANCE

Question. Why is the RMA considering an expansion into an international crop insurance program and what purpose will this program serve?

Answer. RMA's international work assignments are in response to requests made by various nations and emerging economies through USDA's Foreign Agricultural Service (FAS) foreign agricultural posts. Inquiries are handled on a case by case basis depending upon the individual request. Generally, initial briefings are handled by FAS Agricultural Attaches and other FAS personnel traveling overseas on other business. When there is a need for further technical assistance, RMA receives a request from FAS and a one or two hour meeting is held during which various RMA program staff are asked to brief the international representatives regarding: (1) How the U.S. crop insurance program is designed; (2) What benefits US producers receive; (3) The program's delivery mechanism, i.e., the Standard Re-insurance Agreement (SRA) which RMA uses to contract for delivery services with private sector insurance providers, and (4) Answers regarding any specific questions which are asked.

Recent inquiries include: Japan has made two separate inquiries as to how the Dairy Options Pilot Program (DOPP) works; France requested information regarding revenue products, status of current legislative proposals, whether there is a possibility of new legislation which would restore price protection to US producers; Australia has inquired about potential legislative changes and inquired about Risk Management Education strategies; Rumania has requested USDA/RMA to provide training for four Rumanians on starting a crop insurance program utilizing a public-private partnership.

Since the beginning of 1998, delegations from the following countries, international producers' groups, or international re-insurers have made requests through FAS to the Risk Management Agency: Argentina, Austria, Australia, Brazil, Canadian Crop Insurance Research Directors, Czech Republic, European Corn Growers' Association, France, Germany Farmers' Union, Hungary, Israel, Italy, Japan, Mexico, New Zealand, Peru, Poland, Republic of South Africa, Rumania, Russia, Sweden, Taiwan, and the United Kingdom.

Interest has also been expressed by the World Bank for RMA availability for representatives to speak at tentative upcoming seminars and/or participate in other local conferences.

In addition, under the auspices of the U.S.-Republic of South Africa (RA) Bi-National Agreement (Bi-National) and in response to a specific request from the RA, the United States Agency for International Development (USAID) funded a grant to USDA/RMA which includes a section on creating crop insurance pilots for the RA. The general purpose of Bi-national is to foster stability for a new democracy with a newly enfranchised majority population and an emerging economy. Vice-President and Secretary Glickman participated in signing ceremonies for the Bi-National in South Africa in mid-February. With funding (approximately $300,000) from USAID, RMA will give assistance to RA so that crop insurance pilots and a subsequent education and training program can be created. Private insurance companies and their international re-insurers can be expected to participate in the project.

Development of an international perspective for agricultural production insurance can assist local U.S. producers in two ways:

—One: Level playing field issues for U.S. producers: WTO-GATT agreements (within the framework of the Annex II negotiations) call for the phase-out of direct subsidies to participating nations' agricultural producers by the year 2020; and the FAIR ACT of 1996 legislated the phase-out of U.S. producers' direct subsidies (with AMTA payments slated to end in 2002). As AMTA payments decline, U.S. farmers are being forced to compete in foreign markets with international producers who still receive large direct subsidies. RMA's assistance to foreign inquiries has a long range goal of assisting other nations reduce their producers' subsidies so that all farmers receive the same kinds of assistance, i.e., sell/compete on a "level playing field" under similar conditions.

—Two: Spreading the risk so that the cost of insurance can be cheaper for U.S. producers: Reinsurance companies, who are investing and taking risk on one side of the world, are seeking ways in which they can spread out or mitigate their own risk taking. Having global access to successful farming endeavors on

all parts of the globe, rather than in just one hemisphere, can help to mitigate the risks.

Question. What is the estimated cost of this program.

Answer. To date, RMA does not have a specific budget for international activities. Other than the USAID funds through the Bi-National Agreement, RMA expenditures have, for the most part, been revenue neutral because of FAS' participation in the program and the ability of FAS and RMA to work together. Other RMA costs are minimal, e.g., limited to the sharing of materials which are already developed for U.S. farmers. If RMA were to take a more pro-active approach to the creation of an international crop insurance program, either additional Congressional funding or a Memorandum of Understanding would be necessary.

CROP INSURANCE REFORM

Question. The current crop insurance program was intended to eliminate the need for ad hoc disaster assistance in appropriations bills. Why do you think your proposed reform package would eliminate the need for ad hoc disaster assistance?

Answer. By addressing the concerns that farmers have raised regarding the program, we would increase participation and coverage nationally so that when natural disasters strike, farmers would have an adequate safety net to see them through the financial hardships. The Administration's proposal addresses the problems most often expressed by producers as to why the crop insurance program does not work for them. The plan would raise the current level of protection associated with catastrophic risk protection to some level that is more meaningful than the current 50/55 (yield/price) coverage available. At the same time the proposal would increase the current subsidy level for buy-up coverage. Producers often complain that subsidies above the 65/100 coverage level are necessary to make effective coverage more affordable. The plan would also provide incentives for all coverage plans including the increasingly popular revenue plans. The Administration's proposal also seeks to address concerns raised by multi-year disasters and would authorize some form of umbrella coverage to assist farmers who have suffered repetitive crop losses due to natural disaster.

The Administration's proposal would also seek authorization to offer limited coverage for livestock which is currently restricted by statute and would continue to emphasize the role of risk management education to ensure that farmers are aware of available options, including market mechanisms, to protect them from financial losses.

KEY INITIATIVES

Question. The President's fiscal year 2000 budget request proposes an increase of $7,000,000 to inform producers about risk management tools and alternatives. Also this increase would be used to expand research and create programs to cover more crops and expand the range of programs offered to existing crops. What is the agency currently spending on these program initiatives and how will the success of these initiatives be measured?

Answer. In fiscal year 1999, it is estimated that $1,000,000 of the available $3,500,000 in the FCIC Fund will be used for Risk Management Education activities and programs. This is an important part of the crop insurance program in that it informs producers, through educational programs in local workshops, of risk management tools available to them, and also provides train-the-trainer sessions for educational partners, such as lenders and crop insurance agents. The remaining portion of the funds available, $2,500,000, will be used to maintain and improve current crop programs and to research new programs, to assure that farm producers have a cost-effective means of managing their risk through a strengthened safety net of risk management tools. A portion of this funding may also be used for the Public Outreach and Civil Rights activities. Civil Rights activities are estimated at $207,000, and Public Outreach activities are estimated at $590,000.

RMA uses several methods of measuring the effectiveness of the RME initiative. First, evaluations are administered at all workshops and training sessions. These are used by local program planners to get feedback from producers as to which elements of training meet their needs so that future training sessions can be more effective. Second, a professional evaluator has been contracted through the Cooperative State Research, Education and Extension Service to examine larger projects funded through the RME initiative. Third, a survey project funded by RMA and conducted by four Land Grant universities will identify producers' risk management awareness and skill levels over several diverse agricultural areas and among small and limited resource farmers. Follow up surveys in the future will show the extent

to which the RME initiative has been effective in raising producers' ability to manage risk.

RMA will contract to assess the value of the Public Affairs support for the risk management education initiative. Key elements of the contract will include market research, to determine what producers know about the crop insurance program; the development of an outreach plan to inform producers of knowledge that was lacking; developing and producing materials and information to reach targeted audiences; and a final evaluation of the venture to see if the goals were met. The type of evaluation conducted will depend heavily on the funds made available for the effort.

The success of the Civil Rights outreach initiatives will be measured through initial producer surveys, with a follow up survey with a year or two. Success will also be measured by the level of program participation of minority and small, limited resource producers, as well as the number of fee waivers granted to minorities and limited resource farmers in 1999 and 2000, as compared with 1998.

RMA will measure the success of its research and development of new crop programs by evaluating premium income, insured acreage, participation, and actuarial soundness of pilot programs relative to performance goals established for the pilot at program inception. RMA will measure the success of its expansion of existing crop programs and overall program effectiveness by evaluating the degree to which U.S. agricultural production is covered by RMA insurance products. Currently, RMA covers an estimated 62 percent of U.S. agricultural production as allowed by the Act. As new crop programs and plans of insurance are made available, RMA will look to cover an increasing share of the total U.S. agricultural production. In addition, evaluations are made to assess producer acceptance, the ability of products to provide a viable economic benefit in times of yield or revenue loss, and whether product design adversely affects product delivery. These evaluations assist RMA in determining whether products should be eliminated, modified, or expanded.

FUNDING FOR CROP INSURANCE IMPROVEMENTS

Question. The Budget makes no recommendations for offsets to pay for any changes to crop insurance statutes. I understand that several billion dollars will be necessary. How does the Department propose to pay for these improvements?

Answer. In its white paper, "Strengthening the Farm Safety Net," the Administration states its intentions to seek consensus among producers, the Congress, and other stakeholders as to the nature of the changes needed. Once that consensus is built, agreement will be needed on the difficult task of finding the best way to finance those improvements. RMA is ready to work with Congress to develop a package, finalize the package, and work through everyone's ideas in a responsible manner regarding this issue.

FOREIGN MARKET DEVELOPMENT COOPERATOR PROGRAM

Question. In past years, this Administration has proposed that the Foreign Agricultural Service (FAS) directly fund certain costs supported by the Commodity Credit Corporation (CCC) and that appropriations for the Foreign Market Development Cooperator Program be reduced to offset these and other proposed increases in the FAS appropriation. Now, the President's fiscal year 2000 budget proposes that the Cooperator Program be funded by the CCC rather than the FAS appropriation. Why has the Administration reversed its position, both as to the program costs which should be borne by the CCC and the level of funding for the Cooperator Program?

Answer. The budget proposes to continue funding for the Cooperator Program at $27,500,000, unchanged from estimated fiscal year 1999 level. However, the proposal to shift Cooperator Program funding from the discretionary category to the mandatory category of the budget would free up an equal amount of discretionary spending for other worthy purposes. This proposal is consistent with provisions of the CCC Charter Act which authorize the use of CCC funds for export promotion and market development activities. Program funding for other market development activities carried out by FAS is already provided through CCC and this change would consolidate the source of funding and financial management activities for these various programs. By providing a permanent authorization for CCC funding, the proposal would provide stability for future program activities and would thereby enhance long-term planning by program participants.

Question. The fiscal year 2000 request assumes savings in appropriations from proposed legislation to shift funding for the Foreign Market Development Cooperator Program from the direct appropriation of the Foreign Agricultural Service to the Commodity Credit Corporation. While the appropriations request for FAS is not reduced, the $27,500,000 in savings is nonetheless reflected in the total discretionary appropriations proposed by the President for this Subcommittee. If the legis-

lative proposal to shift funding for the Foreign Market Development Cooperator Program to the CCC is not enacted by the Congress, what reductions in appropriations does the Department propose to offset the $27,500,000 in fiscal year 2000 appropriations required to continue funding for this program?

Answer. The fiscal year 2000 budget was submitted on the basis of current law, which includes funding for the Cooperator Program in the FAS appropriation. Also included in the fiscal year 2000 budget is a legislative proposal to shift for the Cooperator Program to CCC. If this legislative proposal were adopted by Congress, the amount requested for FAS in fiscal year 2000 would be reduced accordingly.

Question. Please provide a table showing the total amount of funding available for the Foreign Market Development Cooperator Program in fiscal years 1997 through 1999, and the amount proposed for fiscal year 2000, showing for each fiscal year the amount of federal funding, non-federal funds, and any federal carryover balance.

Answer. I will be glad to provide that information for the record.

[The information follows:]

COOPERATOR PROGRAM FUNDING

[Fiscal years 1997–2000]

	1997	1998	1999 Estimate	2000 Estimate
FAS Funding	$27,500	$28,000	$27,500	$27,500
Non Federal Funds	47,200	43,900	44,000	44,000
Federal Carryover Balance	10,400	12,200	9,700	7,200

Question. Provide a breakdown of how FMD Cooperator Funds were allocated in each of fiscal years 1998 and 1999.

Answer. I will be glad to provide that information for the record.

[The information follows:]

COOPERATOR FUND ALLOCATIONS

	1998	1999
American Forest & Paper Association	$1,613,300	$2,251,499
American Peanut Council, Inc	522,978	420,168
American Seafood Institute	134,669	68,832
American Seed Trade Association	174,178	153,605
American Sheep Industry Association	108,635	132,935
American Soybean Association	5,504,712	4,285,948
Cotton Council International	2,297,114	1,092,657
Leather Industries of America	253,283	102,073
Mohair Council of America	10,853	26,143
National Cottonseed Products Association	153,551	58,497
National Dry Bean Council	49,759	65,754
National Hay Association	52,682	.....
National Renderers Association	615,878	870,130
National Sunflower Association	258,994	275,176
North American Millers' Association	19,140	33,529
Protein Grain Products International	17,539	.....
U.S. BeefBreeds' Council	28,535	49,267
U.S. Dairy Export Council	239,242	436,390
U.S. Grains Council	4,502,234	4,820,089
U. S. Hide, Skin & Leather Association	84,159	102,973
U S. Livestock Genetics Exports, Inc	657,891	585,987
U.S. Meat Export Federation	1,031,626	601,958 U.S.
Wheat Associates	6,904,601	5,067,903
USA Dry Pea and Lentil Council	73,492	106,529
USA Poultry & Egg Export Council	1,121,758	1,262,484
USA Rice Federation	1,558,393	1,118,970
Western Growers Association	10,804	10,504

COOPERATOR FUND ALLOCATIONS—Continued

	1998	1999
Unallocated Funds	.....	3,500,000
Cooperator Total	28,000,000	27,500,000

REVERSE TRADE MISSION PROGRAM

Question. The fiscal year 2000 request proposes an increase of $250,000 to create a reverse Trade Mission Program. Please explain why this new program is needed to focus on the export potential of high-value products and trade opportunities in the food service and hotel-restaurant-institution section and why this cannot be done through existing market development, promotion and outreach activities.

Answer. This proposal represents a low-cost/high-return investment activity that will expose foreign importers, retail-oriented business, and related trade officials to the diversity and quality of U.S. food products in addition to the superior U.S. food safety, production and marketing systems. This activity can be undertaken using existing market development authorities; however, there are no funds currently available that would allow this program to be implemented without necessitating a reduction in funding for other market development activities.

OVERSEAS CURRENCY FLUCTUATIONS FUND

Question. For fiscal year 1999, the conference committee did not approve the Administration's request recommended in the Senate bill to establish a $2,000,000 revolving fund to enable the Foreign Agricultural Service to manage overseas currency fluctuations. The conference committee did not take a position on the merits of this proposal but pointed out the Administration had not yet developed a plan for this activity as requested in the fiscal year 1998 conference agreement. I do not find this plan in the President's budget, as the conferees expected. In fact, after two years of advocating a mechanism to allow the Foreign Agricultural Service to handle overseas currency fluctuations, I find no such proposal in the President's fiscal year 2000 budget. Why?

Answer. Section 705 of the General Provisions submitted with the Department's fiscal year 2000 budget estimates includes proposed language to allow "up to $2,000,000 of the appropriation shall remain available until expended solely for the purpose of offsetting fluctuations in international currency exchange rates, subject to documentation by the Foreign Agricultural Service". This language will allow the establishment of an overseas buying power maintenance account to assist FAS manage unanticipated changes in the costs of overseas operations associated with exchange rate losses or gains and overseas inflation. This proposal is budget neutral and responds to conference report language which directs the Department to develop a plan for establishing an account to manage overseas currency fluctuations.

EXPORT MARKET EXPANSION

Question. Please describe how the Department has utilized existing authorities including, but not limited to, the Export Enhancement Program, the Food for Progress program, Public Law 480, and GSM credit programs to facilitate additional sales and donations to maintain and expand export markets.

Answer. The Department has sought to maximize the use of its available tools to maintain and expand U. S. agricultural exports during this period of world financial turbulence. For example under the Section 416(b) program, the Department is responding to financial and other crises around the world by donating over 5,000,000 metric tons of wheat and wheat products (flour and bulgur). Also under the Section 416(b) program, we are donating smaller quantities of corn and non-fat dry milk to needy countries. By comparison, the Section 416(b) program shipped almost no commodities in fiscal year 1998.

We also continue to facilitate exports under the Dairy Export Incentive Program. From July through January, bonuses of nearly $80,000,000 were awarded for exports of nearly 70,000 metric tons of U.S. nonfat dry milk, over 3,000 tons of whole milk powder and 4,000 tons of cheese.

The Export Enhancement Program has been used sparingly in recent years due to world supply and demand conditions. However, last May, the EEP was reactivated to announce an allocation of frozen poultry to six Middle East countries and an EEP initiative for barley was announced to Algeria, Cyprus and Norway.

Under the Food for Progress program, USDA programmed more commodities in fiscal year 1998 than it did in fiscal year 1997, getting very close to the 500,000 metric tons (MT) ceiling permitted under the program. USDA successfully programmed commodities to a wider range of countries and regions in fiscal year 1998. By region, commodities were programmed as follows: 50 percent to Eastern Europe and the Former Soviet Union, 30 percent to Africa, Asia and the Middle East, and 20 percent to Latin America. For fiscal year 1999, USDA expects to program close to that level again and has focused its efforts on programming a broader range of commodities, including planting seeds, canned salmon, green and yellow peas, and non-fat dry milk for Russia.

Under the Public Law 480 Title I program in fiscal year 1998, USDA signed agreements with 25 countries providing approximately 1,300,000 metric tons of commodities. For fiscal year 1999, USDA expects to maximize U.S. agricultural commodity shipments under Public Law 480 by focusing on non-wheat commodities, given the availability of the wheat under the President's Food Aid Initiative. For example, USDA expects to program 975,000 MT of commodities (excluding the special Russia program) in fiscal year 1999 including 20 percent as wheat. This compares to 1,300,000 metric tons of commodities programmed in fiscal year 1998 which included 77 percent of wheat. Shipments of feed grains, soybean meal, vegetable oil, and rice are expected to increase as a result.

Under the GSM export credit guarantee programs, USDA expanded the scope of the program in fiscal year 1998 in response to the world financial crisis. Approximately $4.000,000,000 in sales were registered in fiscal year 1998, compared to $2,900,000,000 in fiscal year 1997. The projected sales registrations of $4,700,000,000 in fiscal year 1999 are designed to support expansion and maintenance of U.S. agricultural exports.

In response to the Russian financial crisis, the Department is making broad use of Public Law 480 title I, Section 416(b), and the Food for Progress programs to ship approximately 3,100,000 metric tons. This is into a market that purchased only very limited quantities of U.S. grains in recent years.

PUBLIC LAW 480 PROGRAM

Question. The Public Law 480 title I Program not only provides food aid to targeted developing countries but is intended to promote future markets in these countries. At a time when market expansion is critical, why is the Administration proposing to reduce funding for the program?

Answer. A higher program level for Public Law 480 assistance might have been preferred, but the targets for discretionary spending which were established to help balance the budget make it extremely difficult to allocate additional funds to the program. We will be able to supplement Public Law 480 food assistance in 2000 with commodities to be made available under the Food for Progress Program.

Question. Please provide for the record the Public Law 480 funding allocations, by title, and by country and commodity, for each of fiscal years 1998 and 1999, to date.

Answer. I will provide for the record the Public Law 480 funding allocations, by title, and by country and commodity, for each of fiscal years 1998 and 1999, to date.

[The information follows:]

PUBLIC LAW 480 FUNDING ALLOCATIONS, COMMODITY BY COUNTRY

[Commodity Value $000]

Commodity/Country	Public Law 480			Commodity By Country Totals [1]
	Title I	Title II	Title III	
Fiscal Year 1998				
Beans:				
Albania	.....	39	.....	39
Angola	.....	660	.....	660
Bosnia-Herzegovina	.....	1,525	.....	1,525
Bulgaria	.....	657	.....	657
Burkina Faso	.....	1,007	.....	1,007
Burundi	.....	381	.....	381
Cape Verde Islands	.....	758	.....	758
Ghana	.....	55	.....	55

PUBLIC LAW 480 FUNDING ALLOCATIONS, COMMODITY BY COUNTRY—Continued

[Commodity Value $000]

Commodity/Country	Public Law 480			Commodity By Country Totals [1]
	Title I	Title II	Title III	
Guatemala	.....	560	.....	560
Haiti	.....	220	.....	220
Honduras	.....	852	.....	852
Kenya	.....	1,455	.....	1,455
Liberia	.....	1,100	.....	1,100
Mozambique	.....	495	.....	495
Nicaragua	.....	165	.....	165
Rwanda	.....	2,323	.....	2,323
Serbia	.....	928	.....	928
Unspecified	.....	1,123	.....	1,123
Sub-Total	.....	14,302	.....	14,302
Bulgur:				
Ethiopia	.....	543	.....	543
India	.....	6,091	.....	6,091
Liberia	.....	4,444	.....	4,444
Peru	.....	1,733	.....	1,733
Sierra Leone	.....	5,564	.....	5,564
Sub-Total	.....	18,376	.....	18,376
Corn:				
Angola	.....	5,973	.....	5,973
Cape Verde Islands	.....	1,266	.....	1,266
El Salvador	.....	262	.....	262
Guatemala	.....	70	.....	70
Guyana	67	.....	.....	67
Kenya	.....	3,639	.....	3,639
Korea, North	.....	13,880	.....	13,880
Rwanda	.....	245	.....	245
Somalia	.....	133	.....	133
Sudan	.....	1,866	.....	1,866-
Tanzania	.....	2,023	.....	2,023
Uganda	.....	4,018	.....	4,018
Sub-Total	67	33,375	.....	33,442
Corn Soy Blend:				
Angola	.....	314	.....	314
Bolivia	.....	575	.....	575
Burundi	.....	1,256	.....	1,256
Cape Verde Islands	.....	251	.....	251
Cameroon	.....	628	.....	628
Cote d'Ivoire	.....	170	.....	170
Ethiopia	.....	892	.....	892
Gambia	.....	487	.....	487
Ghana	.....	100	.....	100
Guatemala	.....	1,240	.....	1,240
Haiti	.....	75	.....	75
Honduras	.....	534	.....	534
India	.....	45,609	.....	45,609

PUBLIC LAW 480 FUNDING ALLOCATIONS, COMMODITY BY COUNTRY—Continued

[Commodity Value $000]

Commodity/Country	Public Law 480			Commodity By Country Totals [1]
	Title I	Title II	Title III	
Indonesia	.....	188	.....	188
Kenya	.....	637	.....	637
Korea, North	.....	9,420	.....	9,420
Liberia	.....	1,413	.....	1,413
Madagascar	.....	1,149	.....	1,149
Nicaragua	.....	980	.....	980
Peru	.....	1,947	.....	1,947
Rwanda	.....	69	.....	69
Sierra Leone	.....	1,143	.....	1,143
Sudan	.....	2,000	.....	2,000
Tanzania	.....	1,162	.....	1,162
Uganda	.....	710	.....	710
Unspecified	.....	1,884	.....	1,884
Sub-Total	.....	74,832	.....	74,832
Cornmeal:				
Benin	.....	277	.....	277
Bolivia	.....	5	.....	5
Burundi	.....	1,174	.....	1,174
Cote d'Ivoire	.....	182	.....	182
Haiti	.....	241	.....	241
Lesotho	.....	522	.....	522
Mali	.....	740	.....	740
Rwanda	.....	1,244	.....	1,244
Sierra Leone	.....	431	.....	431
Somalia	.....	822	.....	822
Uganda	.....	1,317	.....	1,317
Sub-Total	.....	6,953	.....	6,953
Lentils:				
Angola	.....	319	.....	319
Bolivia	.....	86	.....	86
Burundi	.....	265	.....	265
Ethiopia	.....	283	.....	283
Haiti	.....	405	.....	405
Peru	.....	1,113	.....	1,113
Rwanda	.....	430	.....	430
Sierra Leone	.....	1,436	.....	1,436
Sudan	.....	1,969	.....	1,969
Unspecified	.....	358	.....	358
Sub-Total	.....	6,662	.....	6,662
Peas:				
Angola	.....	547	.....	547
Benin	.....	138	.....	138
Bolivia	.....	415	.....	415
Burkina Faso	.....	226	.....	226
Burundi	.....	984	.....	984
Ghana	.....	28	.....	28

PUBLIC LAW 480 FUNDING ALLOCATIONS, COMMODITY BY COUNTRY—Continued

[Commodity Value $000]

Commodity/Country	Public Law 480			Commodity By Country Totals [1]
	Title I	Title II	Title III	
Haiti	.....	1,207	.....	1,207
Kenya	.....	256	.....	256
Liberia	.....	1,240	.....	1,240
Mali	.....	176	.....	176
Mauritania	.....	124	.....	124
Mozambique	.....	655	.....	655
Peru	.....	1,889	.....	1,889
Rwanda	.....	1,945	.....	1,945
Sierra Leone	.....	647	.....	647
Sudan	.....	963	.....	963
Tanzania	.....	825	.....	825
Uganda,	.....	1,595	.....	1,595
Unspecified	.....	552	.....	552
Sub-Total	.....	14,411	.....	14,411
Rice:				
Angola	1,699	.....	.....	1,699
Benin	.....	509	.....	509
Bulgaria	.....	176	.....	176
Burkina Faso	.....	1,914	.....	1,914
Cape Verde Islands	.....	348	.....	348
Cote D'Ivoire	.....	293	.....	293
El Salvador	.....	831	.....	831
Ethiopia	.....	139	.....	139
Ghana	.....	864	.....	864
Guatemala	.....	1,493	.....	1,493
Haiti	.....	501	.....	501
Honduras	.....	933	.....	933
Indonesia	10,000	26,894	.....	36,893
Jamaica	5,000	.....	.....	5,000
Korea, North	.....	8,958	.....	8,958
Madagascar	.....	1,515	.....	1,515
Mauritania	.....	867	.....	867
Nicaragua	.....	1,903	.....	1,903
Peru	.....	2,664	.....	2,664
Serbia	.....	260	.....	260
Sub-Total	16,699	51,063	.....	67,762
Sorghum:				
Eritrea	2,000	.....	.....	2,000
Ethiopia	.....	5,850	.....	5,850
Kenya	.....	131	.....	131
Niger	.....	262	.....	262
Somalia	.....	983	.....	983
Sudan	.....	6,285	.....	6,285
Zambia	.....	635	.....	635
Sub-Total	2,000	14,145	.....	16,145

PUBLIC LAW 480 FUNDING ALLOCATIONS, COMMODITY BY COUNTRY—Continued

[Commodity Value $000]

Commodity/Country	Public Law 480			Commodity By Country Totals [1]
	Title I	Title II	Title III	
Soybean Meal:				
Guatemala	.....	3,136	.....	3,136
Guyana	700	.....	.....	700
Nicaragua	.....	242	.....	242
Philippines	10,000	.....	.....	10,000
Sub-Total	10,700	3,378	.....	14,077
Soybeans:				
Indonesia	12,000	.....	.....	12,000
Kenya	.....	377	.....	377
Kyrgyzstan	6,675	.....	.....	6,675
Sub-Total	18,675	377	.....	19,051
Bolivia	.....	773	.....	773
Burkina Faso	.....	1,954	.....	1,954
Ghana	.....	244	.....	244
Guatemala	.....	336	.....	336
Haiti	.....	4,279	.....	4,279
Madagascar	.....	23	.....	23
Peru	.....	671	.....	671
Sub-Total	.....	8,280	.....	8,280
S.F. Cornmeal:				
Bolivia	.....	45	.....	45
Burkina Faso	.....	1,638	.....	1,638
Burundi	.....	2,051	.....	2,051
Gambia	.....	246	.....	246
Korea, North	.....	6,550	.....	6,550
Niger	.....	862	.....	862
Rwanda	.....	2,927	.....	2,927
Sub-Total	.....	14,3187	.....	14,318
S. F. Sorghum Grits:				
Ghana	.....	1,053	.....	1,053
Mauritania	.....	253	.....	253
Niger	.....	462	.....	462
Sudan	.....	359	.....	359
Sub-Total	.....	2,128	.....	2,128
Tallow:				
El Salvador	2,352	.....	.....	2,352
Guatemala	2,879	.....	.....	2,879
Nicaragua	750	.....	.....	750
Sub-Total	.....	5,981	.....	5,981

PUBLIC LAW 480 FUNDING ALLOCATIONS, COMMODITY BY COUNTRY—Continued

[Commodity Value $000]

Commodity/Country	Public Law 480			Commodity By Country Totals [1]
	Title I	Title II	Title III	
Vegetable Oil:				
Albania	3,969	54	.....	4,023
Angola	2,653	2,267	.....	4,920
Bangladesh	.....	433	.....	433
Benin	.....	542	.....	542
Bosnia-Herzegovina	.....	1,291	.....	1,291
Bulgaria	.....	596	.....	596
Burkina Faso	.....	1,643	.....	1,643
Cape Verde Islands	.....	172	.....	172
El Salvador	2,361	.....	.....	2,361
Eritrea	.....	388	.....	388
Ethiopia	.....	7,181	.....	7,181
Gambia	.....	914	.....	914
Ghana	.....	804	.....	804
Georgia	5,038	.....	.....	5,038
Guatemala	.....	1,761	.....	1,761
Guinea	.....	1,257	.....	1,257
Haiti	.....	2,908	.....	2,908
Honduras	.....	506	.....	506
India	.....	18,227	.....	18,227
Kenya	.....	6,637	.....	6,637
Kyrgyzstan	3,283	.....	.....	3,283
Liberia	.....	4,823	.....	4,823
Madagascar	.....	2,895	.....	2,895
Mali	.....	623	.....	623
Mauritania	.....	307	.....	307
Mozambique	.....	3,967	.....	3,967
Nicaragua	2,200	497	.....	2,696
Niger	.....	108	.....	108
Pakistan	.....	2,754	.....	2,754
Peru	.....	32,835	.....	32,835
Rwanda	.....	2,057	.....	2,057
Serbia	.....	1,497	.....	1,497
Sierra Leone	.....	4,495	.....	4,495
Sudan	.....	2,050	.....	2,050
Tajikistan	.....	452	.....	452
Uganda	.....	4,515	.....	4,515
Unspecified	.....	1,445	.....	1,445
Sub-Total	19,504	112,900	.....	132,404
Wheat:				
Albania	3,229	.....	.....	3,229
Angola	3,884	.....	.....	3,884
Armenia	13,282	.....	.....	13,282
Bangladesh	5,964	23,432	.....	29,396
Benin	.....	194	.....	194
Bolivia	6,580	615	.....	7,195
Bosnia-Herzegovina	6,181	1,639	.....	7,821
Cape Verde Islands	.....	1,105	.....	1,105
Eritrea	8,000	.....	3,199	11,199
Ethiopia	.....	13,118	6,480	19,598
Georgia	8,320	.....	.....	8,320

PUBLIC LAW 480 FUNDING ALLOCATIONS, COMMODITY BY COUNTRY—Continued

[Commodity Value $000]

Commodity/Country	Public Law 480			Commodity By Country Totals [1]
	Title I	Title II	Title III	
Ghana	.....	6,813	.....	6,813
Guatemala	1,500	.....	.....	1,500
Guyana	6,835	.....	.....	6,835
Haiti	.....	.....	7,154	7,154
Honduras	.....	982	.....	982
Jordan	18,000	725	.....	18,725
Mongolia	3,124	.....	.....	3,124
Mozambique	3,499	11,861	4,502	19,862
Nicaragua	8,300	.....	.....	8,300
Pakistan	.....	2,055	.....	2,055
Peru	10,000	.....	.....	10,000
Rwanda	.....	2,901	.....	2,901
Sri Lanka	10,000	.....	.....	10,000
Tajikistan	4,939	1,478	.....	6,417
Uganda	.....	1,367	.....	1,367
Zimbabwe	10,000	.....	.....	10,000
Sub-Total	131,636	68,284	21,335	221,256
Wheat Flour:				
Albania	.....	165	.....	165
Algeria	.....	296	.....	296
Bolivia	.....	5,262	.....	5,262
Bosnia-Herzegovina	.....	3,014	.....	3,014
Bulgaria	.....	1,684	.....	1,684
Chad	.....	296	.....	296
Djbouti	.....	183	.....	183
Egypt	.....	788	.....	788
Haiti	.....	6,028	.....	6,028
Mali	.....	296	.....	296
Peru	.....	1,919	.....	1,919
Rwanda	.....	79	.....	79
Serbia	.....	3,079	.....	3,079
Unspecified	.....	1,379	.....	1,379
Sub-Total	.....	24,467	.....	24,467
Wheat Soy Blend:				
Benin	.....	454	.....	454
Bolivia	.....	621	.....	621
Ghana	.....	221	.....	221
Haiti	.....	691	.....	691
Indonesia	.....	3,655	.....	3,655
Mauritania	.....	275	.....	275
Nepal	.....	388	.....	388
Sub-Total	.....	6,305	.....	6,305
Fiscal Year 1999				
Barley:				
Armenia	8,160	.....	.....	8,160

PUBLIC LAW 480 FUNDING ALLOCATIONS, COMMODITY BY COUNTRY—Continued

[Commodity Value $000]

Commodity/Country	Public Law 480			Commodity By Country Totals [1]
	Title I	Title II	Title III	
Sub-Total	.....	8,160	.....	8,160
Beans:				
Angola	.....	1,868	.....	1,868
Burkina Faso	.....	1,410	.....	1,410
Dominican Republic	.....	1,325	.....	1,325
El Salvador	.....	387	.....	387
Ethiopia	.....	297	.....	297
Guatemala	.....	2,728	.....	2,728
Haiti	.....	220	.....	220
Honduras	.....	6,149	.....	6,149
Nicaragua	9,201	825	.....	10,026
Unspecified	.....	1,034	.....	1,034
Sub-Total	9,201	16,242	.....	25,443
Beef:				
Russia	256,200	.....	.....	256,200
Sub-Total	.....	256,200	.....	256,200
Bulgur:				
Guatemala	.....	3	.....	3
India	.....	6,842	.....	6,842
Liberia	.....	1,227	.....	1,227
Peru	.....	1,419	.....	1,419
Sierra Leone	.....	3,028	.....	3,028
Unspecified	.....	1,727	.....	1,727
Sub-Total	.....	14,245	.....	14,245
Corn:				
Angola	.....	1,110	.....	1,110
Bosnia-Herzegovina	3,201	.....	.....	3,201
Ecuador	5,000	.....	.....	5,000
El Salvador	.....	313	.....	313
Eritrea	6,000	.....	.....	6,000
Guatemala	5,200	7,145	.....	12,345
Honduras	6,403	2,546	.....	8,948
Kyrgyzstan	6,253	.....	.....	6,253
Nicaragua	.....	1,015	.....	1,015
Russia	50,150	.....	.....	50,150
Somalia	.....	399	.....	399
Sub-Total	82,207	12,527	.....	94,734
Afghanistan	.....	791	.....	791
Angola	.....	462	.....	462
Bolivia	.....	301	.....	301
Gambia	.....	524	.....	524
Guinea	.....	57	.....	57
Guatemala	.....	899	.....	899

PUBLIC LAW 480 FUNDING ALLOCATIONS, COMMODITY BY COUNTRY—Continued

[Commodity Value $000]

Commodity/Country	Public Law 480			Commodity By Country Totals [1]
	Title I	Title II	Title III	
Honduras	.....	584	.....	584
India	.....	43,919	.....	43,919
Kenya	.....	355	.....	355
Liberia	.....	923	.....	923
Madagascar	.....	641	.....	641
Nicaragua	.....	490	.....	490
Peru	.....	1,350	.....	1,350
Sierra Leone	.....	571	.....	571
Sudan	.....	374	.....	374
Unspecified	.....	2,678	.....	2,678
Sub-Total	.....	55,021	.....	55,021
Cornmeal:				
Benin	.....	217	.....	217
Guinea	.....	445	.....	445
Haiti	.....	98	.....	98
Honduras	.....	3,159	.....	3,159
Sub-Total	.....	3,919	.....	3,919
Lentils:				
Bolivia	.....	258	.....	258
Egypt	.....	358	.....	358
Ethiopia	.....	387	.....	387
Haiti	.....	1,428	.....	1,428
Liberia	.....	580	.....	580
Peru	.....	619	.....	619
Russia	10,649	.....	.....	10,649
Sierra Leone	.....	1,833	.....	1,833
Sudan	.....	1,969	.....	1,969
Unspecified	.....	1,206	.....	1,206
Sub-Total	10,649	8,639	.....	19,287
Nonfortified Nonfat Milk:				
Russia	73,200	.....	.....	73,200
Sub-Total	73,200	.....	.....	73,200
Peas:				
Bolivia	.....	842	.....	842
Cameroon	.....	165	.....	165
Haiti	.....	569	.....	569
Guinea	.....	250	.....	250
Liberia	.....	267	.....	267
Peru	.....	776	.....	776
Unspecified	.....	275	.....	275
Sub-Total	.....	3,144	.....	3,144

PUBLIC LAW 480 FUNDING ALLOCATIONS, COMMODITY BY COUNTRY—Continued

[Commodity Value $000]

Commodity/Country	Public Law 480			Commodity By Country Totals [1]
	Title I	Title II	Title III	
Rice:				
Angola	4,176	.....	.....	4,176
Burkina Faso	.....	1,954	.....	1,954
Cameroon	.....	948	.....	948
Cote D'Ivoire	5,000	.....	.....	5,000
Dominican Republic	.....	4,396	.....	4,396
El Salvador	.....	695	.....	695
Ghana	.....	245	.....	245
Guatemala	.....	2,358	.....	2,358
Honduras	.....	9,787	.....	9,787
Indonesia	38,000	7,686	.....	45,686
Jamaica	5,000	.....	.....	5,000
Madagascar	.....	102	.....	102
Nicaragua	.....	2,855	.....	2,855
Peru	.....	1,296	.....	1,296
Russia	48,792	.....	.....	48,792
Unspecified	.....	732	.....	732
Sub-Total	100,968	33,054	.....	134,022
Pork:				
Russia	43,850	.....	.....	43,850
Sub-Total	43,850	.....	.....	43,850
Russia	156,000	.....	.....	156,000
Sub-Total	156,000	.....	.....	156,000
Salmon:				
Russia	7,800	.....	.....	7,800
Sub-Total	7,800	.....	.....	7,800
Seeds:				
Russia	32,535	.....	.....	32,535
Sub-Total	32,535	.....	.....	32,535
Sorghum:				
Ghana	.....	443	.....	443
Philippines	1,000	.....	.....	1,000
Somalia	.....	917	.....	917
Sudan	.....	3,872	.....	3,872
Zambia	.....	635	.....	635
Sub-Total	1,000	5,867	.....	6,867
Soybean Meal:				
Georgia	2,117	.....	.....	2,117
Guyana	5,000	.....	.....	5,000
Honduras	1,711	.....	.....	1,711
Kyrgyzstan	3,303	.....	.....	3,303

PUBLIC LAW 480 FUNDING ALLOCATIONS, COMMODITY BY COUNTRY—Continued

[Commodity Value $000]

Commodity/Country	Public Law 480			Commodity By Country Totals [1]
	Title I	Title II	Title III	
Philippines	9,000	.....	.....	9,000
Russia (USAPEEC)	59,800	.....	.....	59,800
Sub-Total	80,931	.....	.....	80,931
Soybeans:				
Guatemala	3,800	.....	.....	3,800
Russia	43,472	.....	.....	43,472
Sub-Total	47,272	.....	.....	47,272
S. F. Bulgur:				
Bolivia	.....	353	.....	353
Burkina Faso	.....	2,279	.....	2,279
Ghana	.....	187	.....	187
Guatemala	.....	251	.....	251
Haiti	.....	4,054	.....	4,054
Madagascar	.....	355	.....	355
Sub-Total	.....	7,480	.....	7,480
Bolivia	.....	68	.....	68
Chad	.....	435	.....	435
Unspecified	.....	1,360	.....	1,360
Sub-Total	.....	1,863	.....	1,863
S. F. Sorghum Grits:				
Ghana	.....	1,595	.....	1,595
Mauritania	.....	261	.....	261
Sudan	.....	1,185	.....	1,185
Sub-Total	.....	3,041	.....	3,041
Tallow:				
El Salvador	5,000	.....	.....	5,000
Guatemala	1,000	.....	.....	1,000
Sub-Total	6,000	.....	.....	6,000
Vegetable Oil:				
Angola	4,361	1,287	.....	5,648
Bangladesh	.....	3,206	.....	3,206
Benin	.....	472	.....	472
Bosnia-Herzegovina	3,549	.....	.....	3,549
Burkina Faso	.....	1,261	.....	1,261
Cameroon	.....	81	.....	81
Djibouti	.....	135	.....	135
Dominican Republic	.....	1,011	.....	1,011
El Salvador	5,000	108	.....	5,108
Ethiopia	.....	2,294	.....	2,294
Gambia	.....	1,239	.....	1,239
Georgia	2,199	.....	.....	2,199

PUBLIC LAW 480 FUNDING ALLOCATIONS, COMMODITY BY COUNTRY—Continued

[Commodity Value $000]

Commodity/Country	Public Law 480			Commodity By Country Totals [1]
	Title I	Title II	Title III	
Ghana	.....	1,806	.....	1,806
Guinea	.....	442	.....	442
Guatemala	.....	1,193	.....	1,193
Haiti	.....	3,666	.....	3,666
Honduras	.....	3,711	.....	3,711
India	.....	26,653	.....	26,653
Kenya	.....	6,673	.....	6,673
Liberia	.....	126	.....	126
Madagascar	.....	1,170	.....	1,170
Mauritania	.....	208	.....	208
Mozambique	.....	5,607	.....	5,607
Nicaragua	.....	840	.....	840
Peru	.....	37,884	.....	37,884
Russia	13,780	.....	.....	13,780
Serbia	.....	2,989	.....	2,989
Sierra Leone	.....	1,688	.....	1,688
Sudan	.....	2,532	.....	2,532
Uganda	.....	4,380	.....	4,380
Unspecified	.....	3,142	.....	3,142
Sub-Total	28,889	115,805	.....	144,695
Wheat:				
Benin	.....	248	.....	248
Cape Verde Islands	.....	303	.....	303
Ethiopia	.....	3,260	.....	3,260
Ghana	.....	6,671	.....	6,671
Honduras	.....	1,116	.....	1,116
Indonesia	12,309	.....	.....	12,309
Madagascar	.....	253	.....	253
Mozambique	.....	8,837	.....	8,837
Pakistan	13,724	.....	.....	13,724
Russia	27,200	.....	.....	27,200
Uganda	.....	1,838	.....	1,838
Sub-Total	53,233	22,525	.....	75,759
Wheat Flour:				
Bolivia	.....	5,843	.....	5,843
Chad	.....	197	.....	197
Djibouti	.....	296	.....	296
Haiti	.....	6,072	.....	6,072
Mali	.....	197	.....	197
Peru	.....	1,223	.....	1,223
Serbia	.....	3,483	.....	3,483
Unspecified	.....	1,257	.....	1,257
Sub-Total	.....	18,567	.....	18,567
Wheat Soy Blend:				
Benin	.....	512	.....	512
Ghana	.....	198	.....	198

PUBLIC LAW 480 FUNDING ALLOCATIONS, COMMODITY BY COUNTRY—Continued

[Commodity Value $000]

Commodity/Country	Public Law 480			Commodity By Country Totals [1]
	Title I	Title II	Title III	
Haiti	.....	1,102	.....	1,102
Mauritania	.....	275	.....	275
Sub-Total	.....	2,087	.....	2,087
Undesignated:				
Unspecified (Private Trade)	10,000	.....	.....	10,000
Subtotal	10,000	.....	.....	10,000
Allocated Commodities	1,123,437	469,000	18,969	1,611,406
Reserve	115,343	144,972	18,969	279,284
Program Totals	1,238,780	613,972	37,938	1,890,690

[1] Allocations do not include transportation costs.

COCHRAN FELLOWSHIP PROGRAM

Question. The fiscal year 2000 budget proposes to maintain FAS funding for the Cochran Fellowship Program at a level of $3,500,000. Are available resources sufficient to extend fellowships to all countries which seek to participate in the program? If not, what additional funding would be required to meet these requests?

Answer. The success of the Cochran Fellowship Program to initiate and pursue short- and long-term trade objectives and to influence public- and private-sector decision makers has led to increased requests to initiate the program in countries around the world. For fiscal year 2000, we have had requests from our Agricultural Affairs Offices to start a Cochran Program in Oman, India, Sri Lanka, Cambodia, and Pakistan, and expect requests for several additional African, Middle Eastern, and Latin American countries. The most frequent requests for the Cochran Program are to provide training in areas related to WTO/CODEX agricultural issues, food safety, sanitary and phytosanitary (SPS) issues, genetically modified organisms (GMOs), and biotechnology. At present, the Cochran Fellowship Program is able to provide a fellowship to about twenty-five percent of its potential candidates.

Question. Please provide fiscal year 1998 and fiscal year 1999 program participant levels by country and region.

Answer. In fiscal year 1998, a total of 567 participants from 48 countries received training. This information is presented by country and by region.

[The information follows:]

[Numbers of Participants]

	1998	1994–1998
AFRICA		
Cote d' Ivoire	4	155
Iraq	[1]	78
Algeria	[1]	82
Tunisia	9	34
South Africa	20	87
Namibia	[1]	5
Kenya	3	8
Uganda	3	5
Senegal	4	7

[Numbers of Participants]

	1998	1994–1998
Subtotal	43	461
ASIA		
Korea	7	210
Taiwan	1	99
Malaysia	14	180
Singapore	1	113
Hong Kong	1	47
China	30	250
Thailand	15	153
Indonesia	3	43
Philippines	15	77
Vietnam	23	42
Subtotal	107	1,214
LATIN AMERICA		
Mexico	8	597
Venezuela	15	277
Trinidad & Tobago	4	91
Caribbean	8	24
Colombia	22	113
Panama	7	49
Chile	4	15
Costa Rica	3	3
Guatemala	5	5
Brazil	8	8
Subtotal	84	1,182
NEW INDEPENDENT STATES (NIS)		
Russia	46	487
Ukraine	39	213
Belarus	1	42
Kazakstan	25	126
Kyrgyzstan	17	80
Uzbekistan	13	81
Turkmenistan	7	55
Tajikistan	7	41
Armenia	11	69
Moldova	17	84
Georgia	7	47
Azerbaijan	7	24
Subtotal	196	1,349
NON-EU EUROPE		
Turkey	17	336
Yugoslavia	1	94
Poland	18	502
Hungary	10	145
Czech Republic	15	216
Slovakia	3	95
Bulgaria	12	184
Malta	1	2
Albania	5	49

[Numbers of Participants]

	1998	1994–1998
Croatia	6	36
Slovenia	15	65
Latvia	6	31
Estonia	6	33
Lithuania	7	29
Romania	13	37
Bosnia	4	4
Subtotal	137	1,858
TOTALS	567	6,064

[1] Did not participate in the program

We estimate we will be able to provide training for 760 participants in fiscal year 1999. In addition to the countries listed above, we are starting pilot Cochran Programs in Tanzania, Ghana, Nigeria, and Morocco.

Question. Please provide examples of the benefits of the 1998 Cochran Program to U.S. agriculture.

Answer. The Cochran Fellowship Program provides a cost effective tool in promoting U.S. agricultural exports, addressing policy issues such as are related to food safety, biotechnology, and other non-tariff barriers to trade; promoting mutually beneficial trade and business linkages, as well as fostering goodwill with the United States.

—A fiscal year 1997 Vietnamese participant has purchased about two containers of U.S. pistachios per month since his training in May 1997. The estimated value is about $300,000 per year. Several Vietnamese participants in a fiscal year 1998 Supermarket Management Program bought 18 containers of U.S. consumer ready products as a result of their training and attendance at the Food Marketing Institute/National Association of State Departments of Agriculture (FMI/NASDA) Food Expo in Chicago in May 1998.

—The Agricultural Trade Office in Shanghai, China reports that a fiscal year 1998 Produce Marketing team member purchased, for the first time, two containers of California table grapes after his training. Another team member increased his purchase of U.S. celery from 10 to 15 containers per week. Chinese seafood importers purchased 1,700 tons of yellow fin sole, three containers of squid, two containers of conch, and five containers of frozen scallops from the U.S. after their May, 1998, Cochran training. More U.S. seafood sales are expected in the future.

—U.S. Wheat Associates and the Cochran Program organized a Grain Marketing & Import Management training program for Armenia and Georgia in fiscal year 1998. U.S. Wheat writes: ". . . we felt we had phenomenal success in bringing this industry core to the U.S. commercial wheat market. Following, and as a direct result of that program, we saw several cargoes of U.S. wheat purchased commercially."

—The Agricultural Office in Beijing, China states: "We continue to see double digit growth in the U.S. export of high value products to China and we firmly believe that the Cochran Program is a major reason for this growth."

—The team leader of the fiscal year 1998 China Beef Grading program was promoted to Vice Chancellor at Nanjung Agricultural University. As a result of the program, China developed their first beef grading system. According to the Shanghai ATO ". . . our strengthened connections between the Vice Chancellor and USDA will help USDA and many of its cooperators for many years to come."

—A Thailand Cochran participant reports that he purchased large quantities of raw popcorn, raw almonds, prunes, and other fruits and nuts after his May, 1998 Cochran training in supermarket management. The FAS Agricultural Officer in Thailand states: "the ongoing economic crisis in Thailand may be forestalling additional sales that could be attributed to participation in the program, but the groundwork has been laid for such sales."

—Prior to her departure from the U.S., a Hungarian participant purchased eight containers (20 foot) of walnut meal, 8 containers of almonds, as well as 400 cases of Maraschino cherries.

During fiscal year 1998, 42 Cochran fellows from 14 countries participated in training programs directly related to providing information on the safety of the U.S. food and fiber system as well as providing direct contact with U.S. counterparts. In addition, 11 participants from 4 countries received training in biotechnology and Genetically Modified Organisms (GMO). As a result, these countries have a better understanding of the U.S. food safety and biotechnology systems. For example:

—The FAS Agricultural Office in Poland states that Cochran-trained veterinarians were able to help release two shipments of U.S. cheese which had been held up.

—The new Minister of Agriculture in Lithuania, Dr. Edvardas Makelis, is a 1996 graduate of the Cochran Fellowship Program. The Agricultural Affairs Office in Poland states that Minister Makelis . . . " warmly expressed his appreciation for his participation in USDA's Cochran Fellowship Program in 1996 and stated that he would like to expand opportunities for cooperation between the Ministry of Agriculture and USDA. The Minister offered to help resolve the problem of trade barriers in livestock genetics that has prohibited U.S. exporters to supply livestock semen and embryos to Lithuania."

—After his training, a lawyer of the Hungarian Ministry of Agriculture, one of the drafters of Hungary's new act on Genetically Modified Organisms helped to arrange a biotechnology seminar in Budapest and is a good contact (for USDA) to the Government of Hungary for the recently established Biotechnology Association.

—The Agricultural Office in Malaysia states that a Cochran biotechnology participant ". . . acquired beneficial information from the program which was put to use in her research work on plant genetic modification, and this has enabled her to participate actively in the Malaysian Modification Advisory Group."

—The Agricultural Office in Brazil states that the Cochran training in food regulations improved the understanding of Brazilian food regulators of the concept of consistency and transparency of information related to food inspection and trade under the WTO. It also improved the confidence of Brazilian food regulators of the U.S. food inspection system, and food certification for export.

—The Agricultural Attache in Bulgaria states: "One company involved in the Fiscal year 1998 High Value Products team has contacted the office and said it plans to import U.S. products. Two members of the fiscal year 1998 Meat Products Team are currently using U.S. meat and additives for meat processing because of the visit."

—The Agricultural Office in Austria states that a Czech company started to import U.S. cranberries as a result of their Cochran Program visit to the U.S. distributor. Fiscal year 1997 South African participants have purchased California wine ($12,000) and two containers of processed cheese ($62,000).

—A staff member of the Wisconsin Department of Agriculture states: "Thank you for allowing us to work with the Cochran Fellowship Program to bring cheese buyers from Mexico to Wisconsin. I have already been back to Mexico to meet with the buyers and I am very excited about the potential business for Wisconsin cheese companies. One Wisconsin cheese manufacturer was able to introduce their products into Mexican stores and predicts $200,000 of sales annually to the Mexican market."

—The New Jersey Department of Agriculture hosted a Russian seafood importer. They report that "our companies had the opportunity to gain a better understanding of how to conduct business in Russia."

—The FAS Agricultural Officer in Vietnam writes: "The Cochran Program has provided a key for unlocking some of the more non-transparent areas of the Government of Vietnam (GVN) import regime. This has been extremely helpful in the context of the Bilateral Trade Agreement (BTA) negotiations. This access has enabled us to advocate on behalf of U.S. companies in Vietnam and has led to increased sales of U.S. commodities. We also have been better able to explain the import regulations to USDA/FAS for dissemination to potential exporters."—South African Cochran alumni are helping formulate agricultural policy. For example, one participant is helping consolidate a draft of the South African national agricultural policy paper focusing on public/private sector partnerships; another is formulating agricultural credit policy at the national level; and others are involved at the provincial and local levels in policy areas such as rural electrification, market information systems, land tenure and regional trade.

Question. Please provide the Market Access Program allocations for fiscal year 1998, including the amount of the grant, and the recipient company, commodity, and targeted markets.

Answer. The information is provided for the record.

[The information follows:]

1998 MAP Budget Ceilings by Trade Organization, Brand Company, Product and Market

Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
American Seafood Institute/Rhode Island Seafood Co	Deep Sea Fish	Belgium	Seafood	$7,000
American Seafood Institute/Rhode Island Seafood Co	Deep Sea Fish	China	Seafood	$3,000
American Seafood Institute/Rhode Island Seafood Co	Deep Sea Fish	Japan	Seafood	$3,500
American Seafood Institute/Rhode Island Seafood Co	Deep Sea Fish	Taiwan	Seafood	$3,000
American Seafood Institute/Rhode Island Seafood Co	East Coast Seafood, Inc.	Belgium	American Lobster, Skate, Monkfish, & Dogfish	$5,000
American Seafood Institute/Rhode Island Seafood Co	East Coast Seafood, Inc.	China	American Lobster, Skate, Monkfish, & Dogfish	$5,000
American Seafood Institute/Rhode Island Seafood Co	East Coast Seafood, Inc.	France	American Lobster, Skate, Monkfish, & Dogfish	$106,000
American Seafood Institute/Rhode Island Seafood Co	East Coast Seafood, Inc.	Germany	American Lobster, Skate, Monkfish, & Dogfish	$10,000
American Seafood Institute/Rhode Island Seafood Co	East Coast Seafood, Inc.	Hong Kong	American Lobster, Skate, Monkfish, & Dogfish	$5,000
American Seafood Institute/Rhode Island Seafood Co	East Coast Seafood, Inc.	Italy	American Lobster, Skate, Monkfish, & Dogfish	$30,000
American Seafood Institute/Rhode Island Seafood Co	East Coast Seafood, Inc.	Japan	American Lobster, Skate, Monkfish, & Dogfish	$2,500
American Seafood Institute/Rhode Island Seafood Co	East Coast Seafood, Inc.	Spain	American Lobster, Skate, Monkfish, & Dogfish	$7,500
American Seafood Institute/Rhode Island Seafood Co	Hard-Shelled Int'l	China	Spiny Lobster	$7,000
American Seafood Institute/Rhode Island Seafood Co	Hard-Shelled Int'l	Hong Kong	Spiny Lobster	$10,000
American Seafood Institute/Rhode Island Seafood Co	Hard-Shelled Int'l	Japan	Spiny Lobster	$10,000
American Seafood Institute/Rhode Island Seafood Co	Hard-Shelled Int'l	Taiwan	Spiny Lobster	$3,700
American Seafood Institute/Rhode Island Seafood Co	Marinelli Shellfish	Hong Kong	Clams, Oysters, Mussels, Crabmet, Dungeness Crab	$11,000
American Seafood Institute/Rhode Island Seafood Co	Marinelli Shellfish	Thailand	Clams, Oysters, Mussels, Crabmet, Dungeness Crab	$6,000
American Seafood Institute/Rhode Island Seafood Co	SeaFresh USA Inc.	Belgium	Dogfish, Monkfish, Squid, Skate, Northern Shrimp	$7,800
Total				$243,000
Blue Diamond Growers/Almond Board of California	Blue Diamond Growers	Brazil	almonds / pistachios	$44,000
Blue Diamond Growers/Almond Board of California	Blue Diamond Growers	Hong Kong	almonds / pistachios	$120,000
Blue Diamond Growers/Almond Board of California	Blue Diamond Growers	India	almonds / pistachios	$160,000
Blue Diamond Growers/Almond Board of California	Blue Diamond Growers	Japan	almonds / pistachios	$614,000
Blue Diamond Growers/Almond Board of California	Blue Diamond Growers	Philippines	almonds / pistachios	$45,000
Blue Diamond Growers/Almond Board of California	Blue Diamond Growers	Russia	almonds / pistachios	$35,000
Blue Diamond Growers/Almond Board of California	Blue Diamond Growers	Thailand	almonds / pistachios	$269,000
Blue Diamond Growers/Almond Board of California	Blue Diamond Growers	Taiwan	almonds / pistachios	$78,000
Total				
California Pistachio Commission	Paramount Farms	Malaysia	Pistachios	$25,000
California Pistachio Commission	Paramount Farms	Philippines	Pistachios	$15,000
California Pistachio Commission	Paramount Farms	Thailand	Pistachios	$10,000
Total				$50,000
California Prune Board	Feather River	Italy	prunes	$24,000
California Prune Board	Sunsweet Growers, Inc.	Germany	Prunes	$230,000
California Prune Board	Sunsweet Growers, Inc.	Italy	Prunes	$176,000
California Prune Board	Sunsweet Growers, Inc.	United Kingdom	Prunes	$235,000
Total				$665,000
Chocolate Manufacturers Association	Adams & Brooks, Inc.	Australia	Candy	$2,000
Chocolate Manufacturers Association	Adams & Brooks, Inc.	China	Candy	$2,000
Chocolate Manufacturers Association	Adams & Brooks, Inc.	Germany	Candy	$4,000
Chocolate Manufacturers Association	Adams & Brooks, Inc.	Italy	Candy	$3,000
Chocolate Manufacturers Association	Adams & Brooks, Inc.	Korea, South	Candy	$2,000
Chocolate Manufacturers Association	Adams & Brooks, Inc.	United Kingdom	Candy	$2,000
Chocolate Manufacturers Association	Beacon Sweets, Inc.	Germany	Hard candy & Gummy candy in the shaped as watch/footprint	$10,000
Chocolate Manufacturers Association	Beacon Sweets, Inc.	Japan	Hard candy & Gummy candy in the shaped as watch/footprint	$7,000
Chocolate Manufacturers Association	Brown & Haley	Hong Kong	Confectionery, buttercrunch, boxed chocolate	$52,000
Chocolate Manufacturers Association	Brown & Haley	Taiwan	Confectionery, buttercrunch, boxed chocolate	$18,000
Chocolate Manufacturers Association	Candy Flowers, Inc.	Germany	Chocolate and non chocolate confectionery	$12,000
Chocolate Manufacturers Association	Candy Flowers, Inc.	United States	Chocolate and non chocolate confectionery	$12,000
Chocolate Manufacturers Association	Ferrara Pan Candy Company	Australia	Confectionery	$1,000

1998 MAP Budget Ceilings by Trade Organization, Brand Company, Product and Market

Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
Chocolate Manufacturers Association	Ferrara Pan Candy Company	Germany	Confectionery	$8,000
Chocolate Manufacturers Association	Ferrara Pan Candy Company	United Kingdom	Confectionery	$1,000
Chocolate Manufacturers Association	Goldenberg Candy Co.	Germany	Confectionery	$5,000
Chocolate Manufacturers Association	Goldenberg Candy Co.	Hong Kong	Confectionery	$5,000
Chocolate Manufacturers Association	Goldenberg Candy Co.	Korea, South	Confectionery	$150,000
Chocolate Manufacturers Association	Goldenberg Candy Co.	Taiwan	Confectionery	$105,000
Chocolate Manufacturers Association	Goldenberg Candy Co.	United States	Confectionery	$5,000
Chocolate Manufacturers Association	Hawaiian Host, Inc.	China	Chocolate Covered Macnuts and Other Related Products	$5,000
Chocolate Manufacturers Association	Hawaiian Host, Inc.	Hong Kong	Chocolate Covered Macnuts and Other Related Products	$8,000
Chocolate Manufacturers Association	Hawaiian Host, Inc.	Japan	Chocolate Covered Macnuts and Other Related Products	$5,000
Chocolate Manufacturers Association	Hawaiian Host, Inc.	Korea, South	Chocolate Covered Macnuts and Other Related Products	$26,000
Chocolate Manufacturers Association	Herman Goelitz, Inc.	Australia	Confectionery	$62,000
Chocolate Manufacturers Association	Herman Goelitz, Inc.	China	Confectionery	$42,500
Chocolate Manufacturers Association	Herman Goelitz, Inc.	Germany	Confectionery	$60,000
Chocolate Manufacturers Association	Herman Goelitz, Inc.	Japan	Confectionery	$39,000
Chocolate Manufacturers Association	Herman Goelitz, Inc.	United Kingdom	Confectionery	$119,000
Chocolate Manufacturers Association	Mom 'n Pops	Germany	Chocolate confectionery	$3,000
Chocolate Manufacturers Association	Rocky Mountain Chocolate Factory	Australia	Chocolate and non chocolate confectionery	$6,000
Chocolate Manufacturers Association	Rocky Mountain Chocolate Factory	China	Chocolate and non chocolate confectionery	$5,000
Chocolate Manufacturers Association	Rocky Mountain Chocolate Factory	Hong Kong	Chocolate and non chocolate confectionery	$5,000
Chocolate Manufacturers Association	Rocky Mountain Chocolate Factory	Italy	Chocolate and non chocolate confectionery	$5,000
Chocolate Manufacturers Association	Rocky Mountain Chocolate Factory	Japan	Chocolate and non chocolate confectionery	$5,000
Chocolate Manufacturers Association	Very Special Chocolates, Inc.	Australia	Candy	$12,000
Chocolate Manufacturers Association	Very Special Chocolates, Inc.	Israel	Candy	$10,000
Chocolate Manufacturers Association	Very Special Chocolates, Inc.	Japan	Candy	$20,000
Chocolate Manufacturers Association	Very Special Chocolates, Inc.	Korea, South	Candy	$10,000
Chocolate Manufacturers Association	Very Special Chocolates, Inc.	Philippines	Candy	$30,000
Chocolate Manufacturers Association	Very Special Chocolates, Inc.	Taiwan	Candy	$9,000
Total				$892,500
Eastern US Agricultural and Food Export Council	ASB Group International	United Kingdom	Snack Food	$100,000
Eastern US Agricultural and Food Export Council	Amal Meat Corp	Jordan	grocery products/ condiments	$0
Eastern US Agricultural and Food Export Council	American Caribbean Business, Inc.	Belize	Grocery Prods - Veget, Canf, Fruit, Snkfd, Snkcn, etc.	$5,000
Eastern US Agricultural and Food Export Council	American Caribbean Business, Inc.	Dominican Republic	Grocery Prods - Veget, Canf, Fruit, Snkfd, Snkcn, etc.	$7,500
Eastern US Agricultural and Food Export Council	American Snack Exports Co.	United Kingdom	Salty Snack Foods, SNKSL	$15,000
Eastern US Agricultural and Food Export Council	American Standard Products, Inc.	China	Shrimp Feed	$4,000
Eastern US Agricultural and Food Export Council	American Standard Products, Inc.	Ecuador	Shrimp Feed	$2,000
Eastern US Agricultural and Food Export Council	Amerifood Snacks	United Kingdom	Snack foods	$0
Eastern US Agricultural and Food Export Council	Amoona Inc.	Austria	Prepared Foods, PREPF	$10,000
Eastern US Agricultural and Food Export Council	Amoona Inc.	France	Prepared Foods, PREPF	$10,000
Eastern US Agricultural and Food Export Council	Amoona Inc.	Germany	Prepared Foods, PREPF	$10,000
Eastern US Agricultural and Food Export Council	Amoona Inc.	Netherlands	Prepared Foods, PREPF	$10,000
Eastern US Agricultural and Food Export Council	Amoona Inc.	United Kingdom	Prepared Foods, PREPF	$10,000
Eastern US Agricultural and Food Export Council	Anderson Bakery Company	Canada	Pretzels	$3,000
Eastern US Agricultural and Food Export Council	Anderson Bakery Company	France	Pretzels	$3,000
Eastern US Agricultural and Food Export Council	Anderson Bakery Company	Israel	Pretzels	$6,000
Eastern US Agricultural and Food Export Council	Anderson Bakery Company	Mexico	Pretzels	$3,000
Eastern US Agricultural and Food Export Council	Anderson Bakery Company	United Kingdom	Pretzels	$45,000
Eastern US Agricultural and Food Export Council	Angostura International Ltd.	China	FRTJU, CONDI -- non-alcoholic mixers and sauces	$10,300
Eastern US Agricultural and Food Export Council	Angostura International Ltd.	France	FRTJU, CONDI -- non-alcoholic mixers and sauces	$14,500
Eastern US Agricultural and Food Export Council	Annie's Homegrown, Inc.	Canada	Macaroni/Cheese Dinners	$19,000
Eastern US Agricultural and Food Export Council	Annie's Homegrown, Inc.	United Kingdom	Macaroni/Cheese Dinners	$1,000
Eastern US Agricultural and Food Export Council	Annie's Naturals	Canada	Condiments, CONDI	$5,000
Eastern US Agricultural and Food Export Council	Baycliff Co. Inc.	Australia	PREPF, RICE, prepared foods and rice	$1,250
Eastern US Agricultural and Food Export Council	Baycliff Co. Inc.	Netherlands Antilles	PREPF, RICE, prepared foods and rice	$1,000

1998 MAP Budget Ceilings by Trade Organization, Brand Company, Product and Market

Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
Eastern US Agricultural and Food Export Council	Baycliff Co. Inc.	United Kingdom	PREPF, RICE, prepared foods and rice	$4,000
Eastern US Agricultural and Food Export Council	Bell Export Foods Group	Russia	meat products, soups, cookies	$15,000
Eastern US Agricultural and Food Export Council	Biosan Laboratories, Inc.	Netherlands	Health/Diet	$50,000
Eastern US Agricultural and Food Export Council	Biosan Laboratories, Inc.	Portugal	Health/Diet	$10,000
Eastern US Agricultural and Food Export Council	Calico Cottage Candies, Inc.	Australia	Dry Fudge Candy Mix	$2,500
Eastern US Agricultural and Food Export Council	Calico Cottage Candies, Inc.	Canada	Dry Fudge Candy Mix	$3,000
Eastern US Agricultural and Food Export Council	Calico Cottage Candies, Inc.	New Zealand	Dry Fudge Candy Mix	$2,000
Eastern US Agricultural and Food Export Council	Camiz International	Costa Rica	Cd FT, Dairy Prod, Snack Bakery Prod, Condiments	$80,000
Eastern US Agricultural and Food Export Council	Cape Cod Potato Chip Co.	Canada	SNKSL, Potato Chips	$4,284
Eastern US Agricultural and Food Export Council	Cape Cod Potato Chip Co.	Egypt	SNKSL, Potato Chips	$1,318
Eastern US Agricultural and Food Export Council	Cape Cod Potato Chip Co.	France	SNKSL, Potato Chips	$2,922
Eastern US Agricultural and Food Export Council	Cape Cod Potato Chip Co.	Israel	SNKSL, Potato Chips	$1,062
Eastern US Agricultural and Food Export Council	Cape Cod Potato Chip Co.	Spain	SNKSL, Potato Chips	$2,900
Eastern US Agricultural and Food Export Council	Cape Cod Potato Chip Co.	United Kingdom	SNKSL, Potato Chips	$1,914
Eastern US Agricultural and Food Export Council	Chenango Valley Pet Foods	Canada	Pet Food	$58,000
Eastern US Agricultural and Food Export Council	Chenango Valley Pet Foods	Czech Republic	Pet Food	$8,500
Eastern US Agricultural and Food Export Council	Chenango Valley Pet Foods	Hungary	Pet Food	$8,500
Eastern US Agricultural and Food Export Council	Curtice Burns Foods	France	fruit fillings, frz veg, proc. tomatoes, pop corn snack	$2,500
Eastern US Agricultural and Food Export Council	Curtice Burns Foods	Germany	fruit fillings, frz veg, proc. tomatoes, pop corn snack	$2,500
Eastern US Agricultural and Food Export Council	Curtice Burns Foods	Korea, South	fruit fillings, frz veg, proc. tomatoes, pop corn snack	$1,000
Eastern US Agricultural and Food Export Council	Curtice Burns Foods	Nicaragua	fruit fillings, frz veg, proc. tomatoes, pop corn snack	$1,000
Eastern US Agricultural and Food Export Council	Curtice Burns Foods	Singapore	fruit fillings, frz veg, proc. tomatoes, pop corn snack	$4,000
Eastern US Agricultural and Food Export Council	Curtice Burns Foods	Thailand	fruit fillings, frz veg, proc. tomatoes, pop corn snack	$4,000
Eastern US Agricultural and Food Export Council	Decas Cranberry Sales, Inc.	Taiwan	fresh/frozen cranberries	$4,000
Eastern US Agricultural and Food Export Council	Decas Cranberry Sales, Inc.	United Kingdom	fresh/frozen cranberries	$46,000
Eastern US Agricultural and Food Export Council	Elbron Holding Co.	Moldova	Grocery Prods -- Condi, Juice, BkCer, Prodp, Snkpc, etc.	$25,000
Eastern US Agricultural and Food Export Council	Esporonto Exports Inc.	Egypt	YOICE -- yogurt and ice cream	$20,000
Eastern US Agricultural and Food Export Council	Esporonto Exports Inc.	France	YOICE -- yogurt and ice cream	$5,000
Eastern US Agricultural and Food Export Council	Esporonto Exports Inc.	United Kingdom	YOICE -- yogurt and ice cream	$25,000
Eastern US Agricultural and Food Export Council	Export Dairy Inc.	France	Various Dairy Products -- Butter, Cheese, YOICE, etc.	$7,000
Eastern US Agricultural and Food Export Council	Export Trade Of America	France	Canned Vegetables	$2,000
Eastern US Agricultural and Food Export Council	Export Trade Of America	Germany	Canned Vegetables	$5,000
Eastern US Agricultural and Food Export Council	Export Trade Of America	Saudi Arabia	Canned Vegetables	$3,000
Eastern US Agricultural and Food Export Council	Export Trade Of America	United Arab Emirates	Canned Vegetables	$5,000
Eastern US Agricultural and Food Export Council	Global Beverage Company	Canada	beverages	$15,000
Eastern US Agricultural and Food Export Council	Global Export Marketing Company	Bahrain	TexMex, Salad Dressing, condiments, Vegetable	$10,000
Eastern US Agricultural and Food Export Council	Global Export Marketing Company	Jordan	TexMex, Salad Dressing, condiments, Vegetable	$10,000
Eastern US Agricultural and Food Export Council	Global Export Marketing Company	Kuwait	TexMex, Salad Dressing, condiments, Vegetable	$5,000
Eastern US Agricultural and Food Export Council	Global Export Marketing Company	Saudi Arabia	TexMex, Salad Dressing, condiments, Vegetable	$35,000
Eastern US Agricultural and Food Export Council	Global Export Marketing Company	United Arab Emirates	TexMex, Salad Dressing, condiments, Vegetable	$15,000
Eastern US Agricultural and Food Export Council	Goody, Inc.	United Kingdom	pretzels	$60,000
Eastern US Agricultural and Food Export Council	Hansmann's Mills, Inc.	France	Bakery Products, Condiment	$16,500
Eastern US Agricultural and Food Export Council	Hansmann's Mills, Inc.	United Kingdom	Bakery Products, Condiment	$1,000
Eastern US Agricultural and Food Export Council	Hunter & Hillsberg	Germany	maple syrup/candy/cream, wine	$9,000
Eastern US Agricultural and Food Export Council	International Custom Products Inc.	Germany	food ingred's, cheese & othr dairy prods, CONDI, PROCP	$25,000
Eastern US Agricultural and Food Export Council	International Market Brands	Philippines	Canned & Frozen Vegetables/processed chicken	$25,000
Eastern US Agricultural and Food Export Council	International Market Brands	Singapore	Canned & Frozen Vegetables/processed chicken	$10,000
Eastern US Agricultural and Food Export Council	International Market Brands	Spain	Canned & Frozen Vegetables/processed chicken	$10,000
Eastern US Agricultural and Food Export Council	International Marketing Systems, Ltd.	Australia	grocery products	$0
Eastern US Agricultural and Food Export Council	International Marketing Systems, Ltd.	France	grocery products	$0
Eastern US Agricultural and Food Export Council	International Marketing Systems, Ltd.	Taiwan	grocery products	$0
Eastern US Agricultural and Food Export Council	International Marketing Systems, Ltd.	United Kingdom	grocery products	$0
Eastern US Agricultural and Food Export Council	Jack And Jill Ice Cream Company	Korea, South	Ice Cream	$10,000
Eastern US Agricultural and Food Export Council	Jack And Jill Ice Cream Company	Lebanon	Ice Cream	$5,000
Eastern US Agricultural and Food Export Council	Jack And Jill Ice Cream Company	Suriname	Ice Cream	$15,000

1998 MAP Budget Ceilings by Trade Organization, Brand Company, Product and Market

Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
Eastern US Agricultural and Food Export Council	Jack And Jill Ice Cream Company	Portugal	Ice Cream	$15,000
Eastern US Agricultural and Food Export Council	Jack And Jill Ice Cream Company	Qatar	Ice Cream	$5,000
Eastern US Agricultural and Food Export Council	Jack And Jill Ice Cream Company	Singapore	Ice Cream	$10,000
Eastern US Agricultural and Food Export Council	Jeremy's Microbatch Ice Cream	France	ice cream and yogurt - YOICE	$5,000
Eastern US Agricultural and Food Export Council	Jersey Asparagus Farms, Inc.	Mexico	Asparagus Seed & Crowns	$5,000
Eastern US Agricultural and Food Export Council	John Lustig Meats Inc.	Kuwait	cold cuts-bologna, salami, rs bf, lit dogs, bf bkfst strip	$5,000
Eastern US Agricultural and Food Export Council	John Lustig Meats Inc.	Saudi Arabia	cold cuts-bologna, salami, rs bf, lit dogs, bf bkfst strip	$5,000
Eastern US Agricultural and Food Export Council	John Lustig Meats Inc.	United Arab Emirates	cold cuts-bologna, salami, rs bf, lit dogs, bf bkfst strip	$5,000
Eastern US Agricultural and Food Export Council	Kozy Shack, Inc.	Canada	dairy products, pudding	$59,000
Eastern US Agricultural and Food Export Council	Kozy Shack, Inc.	Mexico	dairy products, pudding	$1,000
Eastern US Agricultural and Food Export Council	LDI Inc./Wege Pretzel Co.	Japan	SNKSL -- pretzels	$12,500
Eastern US Agricultural and Food Export Council	Liberty Growers Inc.	Costa Rica	mixed fruits promoted in a group, pears, peaches & others	$40,000
Eastern US Agricultural and Food Export Council	Liberty Growers Inc.	Dominican Republic	mixed fruits promoted in a group, pears, peaches & others	$10,000
Eastern US Agricultural and Food Export Council	Loriva Supreme Foods Inc.	Australia	Vegetable Oil	$2,500
Eastern US Agricultural and Food Export Council	Loriva Supreme Foods Inc.	Denmark	Vegetable Oil	$1,000
Eastern US Agricultural and Food Export Council	Loriva Supreme Foods Inc.	France	Vegetable Oil	$1,500
Eastern US Agricultural and Food Export Council	Loriva Supreme Foods Inc.	Germany	Vegetable Oil	$2,000
Eastern US Agricultural and Food Export Council	Loriva Supreme Foods Inc.	United Kingdom	Vegetable Oil	$3,500
Eastern US Agricultural and Food Export Council	Maine Potato Growers, Inc.	Costa Rica	Seed and Table Potatos	$5,000
Eastern US Agricultural and Food Export Council	Maple Grove Farms Of Vermont	Canada	Bakery, Maple Product, Salad Dressing, Condiment, Sauce	$10,000
Eastern US Agricultural and Food Export Council	Maple Grove Farms Of Vermont	United Kingdom	Bakery, Maple Product, Salad Dressing, Condiment, Sauce	$2,500
Eastern US Agricultural and Food Export Council	New England Natural Bakers, Inc.	Japan	Trail Mix, Dried Fruit, Nut Mix, Granola	$9,000
Eastern US Agricultural and Food Export Council	New Source Co	Kazakhstan	Juices, CONDI, BKCER, VEGET, Cn Fruit, SNKPC, CnSfd	$25,000
Eastern US Agricultural and Food Export Council	Newman's Own Inc.	Argentina	salad dressing	$10,000
Eastern US Agricultural and Food Export Council	Newman's Own Inc.	Canada	salad dressing	$15,000
Eastern US Agricultural and Food Export Council	Newman's Own Inc.	Germany	salad dressing	$10,000
Eastern US Agricultural and Food Export Council	Newman's Own Inc.	Iceland	salad dressing	$10,000
Eastern US Agricultural and Food Export Council	North American Pet Products, Inc.	France	dog foods	$7,500
Eastern US Agricultural and Food Export Council	North American Pet Products, Inc.	Germany	dog foods	$5,000
Eastern US Agricultural and Food Export Council	North American Pet Products, Inc.	Hong Kong	dog foods	$5,000
Eastern US Agricultural and Food Export Council	North American Pet Products, Inc.	Italy	dog foods	$5,000
Eastern US Agricultural and Food Export Council	North American Pet Products, Inc.	Japan	dog foods	$30,000
Eastern US Agricultural and Food Export Council	North American Pet Products, Inc.	Taiwan	dog foods	$7,500
Eastern US Agricultural and Food Export Council	Northeast Group	Israel	grocery products	$50,000
Eastern US Agricultural and Food Export Council	Old London Foods	Australia	SNKBK, PROCP	$3,000
Eastern US Agricultural and Food Export Council	Old London Foods	France	SNKBK, PROCP	$2,000
Eastern US Agricultural and Food Export Council	Old London Foods	Lebanon	SNKBK, PROCP	$2,000
Eastern US Agricultural and Food Export Council	Old London Foods	New Zealand	SNKBK, PROCP	$2,000
Eastern US Agricultural and Food Export Council	Old London Foods	United Kingdom	SNKBK, PROCP	$6,000
Eastern US Agricultural and Food Export Council	Omega Pet Professionals Inc.	Italy	PETFD	$5,000
Eastern US Agricultural and Food Export Council	Omega Pet Professionals Inc.	Taiwan	PETFD	$5,000
Eastern US Agricultural and Food Export Council	Ontario International, Inc.	Norway	Fresh Vegetables	$4,000
Eastern US Agricultural and Food Export Council	Ontario International, Inc.	Sweden	Fresh Vegetables	$10,000
Eastern US Agricultural and Food Export Council	Ontario International, Inc.	United Kingdom	Fresh Vegetables	$12,000
Eastern US Agricultural and Food Export Council	Premium Grocery Exports	United Kingdom	Condiments	$50,000
Eastern US Agricultural and Food Export Council	Rhino Foods, Inc.	Canada	Cheesecake	$5,000
Eastern US Agricultural and Food Export Council	Romeo's Exotic Juice Inc	Jamaica	Other dairy products	$4,166
Eastern US Agricultural and Food Export Council	Romeo's Exotic Juice Inc	Netherlands Antilles	Other dairy products	$4,166
Eastern US Agricultural and Food Export Council	Romeo's Exotic Juice Inc	South Africa	Other dairy products	$4,168
Eastern US Agricultural and Food Export Council	S&A International	Guyana	vegetables, condiments, cereals, snacks	$40,000
Eastern US Agricultural and Food Export Council	S&A International	Suriname	vegetables, condiments, cereals, snacks	$20,000
Eastern US Agricultural and Food Export Council	S&A International	St. Vincent & Grenadines	vegetables, condiments, cereals, snacks	$20,000
Eastern US Agricultural and Food Export Council	S&R Trading	Brazil	Grocery Products	$12,500
Eastern US Agricultural and Food Export Council	S.B. Global Trading Co.	France	TexMex, Bakery Products	$5,000
Eastern US Agricultural and Food Export Council	S.B. Global Trading Co.	Germany	TexMex, Bakery Products	$25,000

1998 MAP Budget Ceilings by Trade Organization, Brand Company, Product and Market

Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
Eastern US Agricultural and Food Export Council	S.B. Global Trading Co.	Japan	TexMex, Bakery Products	$18,000
Eastern US Agricultural and Food Export Council	S.B. Global Trading Co.	Lebanon	TexMex, Bakery Products	$7,000
Eastern US Agricultural and Food Export Council	S.B. Global Trading Co.	Singapore	TexMex, Bakery Products	$15,000
Eastern US Agricultural and Food Export Council	S.B. Global Trading Co.	United Kingdom	TexMex, Bakery Products	$5,000
Eastern US Agricultural and Food Export Council	Skaftafell International Grocery	Iceland	Grocery Products	$12,500
Eastern US Agricultural and Food Export Council	Sovereign Trading Company	Brazil	cereal, fruit, juice, pet food, vegetables	$35,000
Eastern US Agricultural and Food Export Council	Sweet Street Desserts, Inc.	Canada	snack foods	$3,000
Eastern US Agricultural and Food Export Council	Sweet Street Desserts, Inc.	Finland	snack foods	$1,000
Eastern US Agricultural and Food Export Council	Sweet Street Desserts, Inc.	France	snack foods	$9,500
Eastern US Agricultural and Food Export Council	Sweet Street Desserts, Inc.	Greece	snack foods	$2,000
Eastern US Agricultural and Food Export Council	Sweet Street Desserts, Inc.	Sweden	snack foods	$1,000
Eastern US Agricultural and Food Export Council	Sweet Street Desserts, Inc.	United Kingdom	snack foods	$2,000
Eastern US Agricultural and Food Export Council	TRT International	Russia	mayonnaise	$60,000
Eastern US Agricultural and Food Export Council	Unilink Inc./Isterfrost Inc.	Canada	SCORN -- swt corn, VEGET, OTVEG, SNKPC -- popcorn	$20,000
Eastern US Agricultural and Food Export Council	Unilink Inc./Isterfrost Inc.	United Kingdom	SCORN -- swt corn, VEGET, OTVEG, SNKPC -- popcorn	$80,000
Eastern US Agricultural and Food Export Council	Ziegler Brothers, Inc.	Brazil	Shrimp, larval, trout, tilapia, salmon and flake feeds	$3,600
Eastern US Agricultural and Food Export Council	Ziegler Brothers, Inc.	Canada	Shrimp, larval, trout, tilapia, salmon and flake feeds	$2,800
Eastern US Agricultural and Food Export Council	Ziegler Brothers, Inc.	Ecuador	Shrimp, larval, trout, tilapia, salmon and flake feeds	$2,800
Eastern US Agricultural and Food Export Council	Ziegler Brothers, Inc.	Honduras	Shrimp, larval, trout, tilapia, salmon and flake feeds	$2,700
Eastern US Agricultural and Food Export Council	Ziegler Brothers, Inc.	Panama	Shrimp, larval, trout, tilapia, salmon and flake feeds	$1,800
Eastern US Agricultural and Food Export Council	Ziegler Brothers, Inc.	Venezuela	Shrimp, larval, trout, tilapia, salmon and flake feeds	$1,300
Total				$1,911,450
Mid-America International Agri-Trade Council	A.G. Beverage Corporation	Canada	Soft drink mixes, powder	$1,000
Mid-America International Agri-Trade Council	A.G. Beverage Corporation	Hong Kong	Soft drink mixes, powder	$1,000
Mid-America International Agri-Trade Council	A.G. Beverage Corporation	Japan	Soft drink mixes, powder	$1,000
Mid-America International Agri-Trade Council	A.G. Beverage Corporation	United Kingdom	Soft drink mixes, powder	$1,000
Mid-America International Agri-Trade Council	A.G. Beverage Corporation	United States	Soft drink mixes, powder	$1,000
Mid-America International Agri-Trade Council	Ace Baking Company Ltd.	Hong Kong	Baked Goods	$1,000
Mid-America International Agri-Trade Council	Ace Baking Company Ltd.	Japan	Baked Goods	$1,000
Mid-America International Agri-Trade Council	Ace Baking Company Ltd.	Korea, South	Baked Goods	$1,000
Mid-America International Agri-Trade Council	Ace Baking Company Ltd.	Singapore	Baked Goods	$1,000
Mid-America International Agri-Trade Council	Ace Baking Company Ltd.	Taiwan	Baked Goods	$1,000
Mid-America International Agri-Trade Council	Advanced Nutritionals Coporation	Australia	Energy Drink Mixes	$1,000
Mid-America International Agri-Trade Council	Advanced Nutritionals Coporation	Canada	Energy Drink Mixes	$1,000
Mid-America International Agri-Trade Council	Advanced Nutritionals Coporation	Italy	Energy Drink Mixes	$1,000
Mid-America International Agri-Trade Council	Advanced Nutritionals Coporation	New Zealand	Energy Drink Mixes	$1,000
Mid-America International Agri-Trade Council	Agway Inc.	China	Hulled Millet, Confection Sunflower	$1,000
Mid-America International Agri-Trade Council	Agway Inc.	Germany	Hulled Millet, Confection Sunflower	$1,000
Mid-America International Agri-Trade Council	Agway Inc.	United States	Hulled Millet, Confection Sunflower	$1,000
Mid-America International Agri-Trade Council	American Food Service, U.S.A.	France	Spray oils, snack cakes, peanut bars, baking mixes, etc.	$1,000
Mid-America International Agri-Trade Council	American Food Service, U.S.A.	Germany	Spray oils, snack cakes, peanut bars, baking mixes, etc.	$1,000
Mid-America International Agri-Trade Council	American Food Service, U.S.A.	Netherlands	Spray oils, snack cakes, peanut bars, baking mixes, etc.	$1,000
Mid-America International Agri-Trade Council	American Food Service, U.S.A.	Spain	Spray oils, snack cakes, peanut bars, baking mixes, etc.	$1,000
Mid-America International Agri-Trade Council	American Health and Nutrition, Inc.	Germany	Beans, buckwheat, wheat, sunglower seeds, rye, barley etc	$1,000
Mid-America International Agri-Trade Council	American Health and Nutrition, Inc.	Japan	Beans, buckwheat, wheat, sunglower seeds, rye, barley etc	$1,000
Mid-America International Agri-Trade Council	American Health and Nutrition, Inc.	United States	Beans, buckwheat, wheat, sunglower seeds, rye, barley etc	$1,000
Mid-America International Agri-Trade Council	American Pop Corn Company	Canada	pop corn	$1,000
Mid-America International Agri-Trade Council	American Pop Corn Company	Germany	pop corn	$1,000
Mid-America International Agri-Trade Council	American Pop Corn Company	Kuwait	pop corn	$1,000
Mid-America International Agri-Trade Council	American Pop Corn Company	Lebanon	pop corn	$1,000
Mid-America International Agri-Trade Council	American Pop Corn Company	Mexico	pop corn	$1,000
Mid-America International Agri-Trade Council	American Pop Corn Company	Panama	pop corn	$1,000
Mid-America International Agri-Trade Council	American Pop Corn Company	Philippines	pop corn	$1,000
Mid-America International Agri-Trade Council	American Pop Corn Company	Saudi Arabia	pop corn	$1,000

1998 MAP Budget Ceilings by Trade Organization, Brand Company, Product and Market

Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
Mid-America International Agri-Trade Council	Dahlgren & Company, Inc.	Brazil	Dairy Products	$1,000
Mid-America International Agri-Trade Council	Dahlgren & Company, Inc.	Mexico	Dairy Products	$1,000
Mid-America International Agri-Trade Council	Dahlgren & Company, Inc.	United States	Dairy Products	$1,000
Mid-America International Agri-Trade Council	Dahlgren & Company, Inc.	Venezuela	Dairy Products	$1,000
Mid-America International Agri-Trade Council	Davisco Foods International, Inc.	Argentina	Whey Protein concentrate WPC, Refined Edible Lactose	$1,000
Mid-America International Agri-Trade Council	Davisco Foods International, Inc.	Brazil	Whey Protein concentrate WPC, Refined Edible Lactose	$1,000
Mid-America International Agri-Trade Council	Davisco Foods International, Inc.	Canada	Whey Protein concentrate WPC, Refined Edible Lactose	$1,000
Mid-America International Agri-Trade Council	Davisco Foods International, Inc.	Germany	Whey Protein concentrate WPC, Refined Edible Lactose	$1,000
Mid-America International Agri-Trade Council	Davisco Foods International, Inc.	Japan	Whey Protein concentrate WPC, Refined Edible Lactose	$1,000
Mid-America International Agri-Trade Council	Davisco Foods International, Inc.	Mexico	Whey Protein concentrate WPC, Refined Edible Lactose	$0
Mid-America International Agri-Trade Council	Davisco Foods International, Inc.	United States	Whey Protein concentrate WPC, Refined Edible Lactose	$1,000
Mid-America International Agri-Trade Council	Devansoy Farms, Inc.	Germany	Soy products	$1,000
Mid-America International Agri-Trade Council	Devansoy Farms, Inc.	Italy	Soy products	$1,000
Mid-America International Agri-Trade Council	Devansoy Farms, Inc.	United Kingdom	Soy products	$1,000
Mid-America International Agri-Trade Council	Diamond V Mills, Inc.	Brazil	Feed	$1,000
Mid-America International Agri-Trade Council	Diamond V Mills, Inc.	China	Feed	$1,000
Mid-America International Agri-Trade Council	Diamond V Mills, Inc.	Chile	Feed	$1,000
Mid-America International Agri-Trade Council	Diamond V Mills, Inc.	Germany	Feed	$1,000
Mid-America International Agri-Trade Council	Diamond V Mills, Inc.	Hungary	Feed	$1,000
Mid-America International Agri-Trade Council	Diamond V Mills, Inc.	Mexico	Feed	$1,000
Mid-America International Agri-Trade Council	Diamond V Mills, Inc.	Peru	Feed	$1,000
Mid-America International Agri-Trade Council	Diamond V Mills, Inc.	Poland	Feed	$1,000
Mid-America International Agri-Trade Council	Distributors International Ltd.	Belgium	Assorted crackers, baking mixes, breakfast cereals etc.	$1,000
Mid-America International Agri-Trade Council	Distributors International Ltd.	France	Assorted crackers, baking mixes, breakfast cereals etc.	$1,000
Mid-America International Agri-Trade Council	Distributors International Ltd.	Israel	Assorted crackers, baking mixes, breakfast cereals etc.	$1,000
Mid-America International Agri-Trade Council	Distributors International Ltd.	Singapore	Assorted crackers, baking mixes, breakfast cereals etc.	$1,000
Mid-America International Agri-Trade Council	Distributors International Ltd.	United Kingdom	Assorted crackers, baking mixes, breakfast cereals etc.	$1,000
Mid-America International Agri-Trade Council	Distributors International Ltd.	United States	Assorted crackers, baking mixes, breakfast cereals etc.	$1,000
Mid-America International Agri-Trade Council	Eli's Chicago's Finest Cheesecake	France	Baked Cheese Cake	$1,000
Mid-America International Agri-Trade Council	Eli's Chicago's Finest Cheesecake	Germany	Baked Cheese Cake	$1,000
Mid-America International Agri-Trade Council	Eli's Chicago's Finest Cheesecake	United Kingdom	Baked Cheese Cake	$1,000
Mid-America International Agri-Trade Council	Eli's Chicago's Finest Cheesecake	United States	Baked Cheese Cake	$0
Mid-America International Agri-Trade Council	Essen Nutrition Corp.	India	sauces, syrup, mixes, salad dressings, mayonnaise	$1,000
Mid-America International Agri-Trade Council	Essen Nutrition Corp.	Mexico	sauces, syrup, mixes, salad dressings, mayonnaise	$0
Mid-America International Agri-Trade Council	Essen Nutrition Corp.	United States	sauces, syrup, mixes, salad dressings, mayonnaise	$1,000
Mid-America International Agri-Trade Council	Export Trade Of America	Lebanon	Canned Vegetables	$1,000
Mid-America International Agri-Trade Council	Export Trade Of America	Poland	Canned Vegetables	$1,000
Mid-America International Agri-Trade Council	Export Trade Of America	United States	Canned Vegetables	$1,000
Mid-America International Agri-Trade Council	Farmland Industries, Inc	Mexico	Pet Foods	$1,000
Mid-America International Agri-Trade Council	Farmland Industries, Inc	United States	Pet Foods	$1,000
Mid-America International Agri-Trade Council	Flavor Consultants	Argentina	Soy proteins	$1,000
Mid-America International Agri-Trade Council	Flavor Consultants	France	Soy proteins	$1,000
Mid-America International Agri-Trade Council	Flavor Consultants	Japan	Soy proteins	$1,000
Mid-America International Agri-Trade Council	Flavor Consultants	Singapore	Soy proteins	$1,000
Mid-America International Agri-Trade Council	Flavor Consultants	United States	Soy proteins	$1,000
Mid-America International Agri-Trade Council	Foulds, Inc.	Canada	macaroni and cheese mix	$1,000
Mid-America International Agri-Trade Council	Foulds, Inc.	Hungary	macaroni and cheese mix	$1,000
Mid-America International Agri-Trade Council	Foulds, Inc.	United States	macaroni and cheese mix	$1,000
Mid-America International Agri-Trade Council	Four Corner Trading	Brazil	Dried soup mixes, dressings, flavored mustards, dried fr	$1,000
Mid-America International Agri-Trade Council	Four Corner Trading	Cayman Islands	Dried soup mixes, dressings, flavored mustards, dried fr	$1,000
Mid-America International Agri-Trade Council	Four Corner Trading	Jamaica	Dried soup mixes, dressings, flavored mustards, dried fr	$1,000
Mid-America International Agri-Trade Council	Four Corner Trading	Singapore	Dried soup mixes, dressings, flavored mustards, dried fr	$1,000
Mid-America International Agri-Trade Council	Four Corner Trading	United States	Dried soup mixes, dressings, flavored mustards, dried fr	$1,000
Mid-America International Agri-Trade Council	Four Corner Trading	British Virgin Islands	Dried soup mixes, dressings, flavored mustards, dried fr	$1,000
Mid-America International Agri-Trade Council	Gardetto's	Australia	Pretzels, Snak-ens	$1,000

1998 MAP Budget Ceilings by Trade Organization, Brand Company, Product and Market

Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
Mid-America International Agri-Trade Council	Gardetto's	Bahrain	Pretzels, Snak-ens	$1,000
Mid-America International Agri-Trade Council	Gardetto's	Canada	Pretzels, Snak-ens	$1,000
Mid-America International Agri-Trade Council	Gardetto's	France	Pretzels, Snak-ens	$1,000
Mid-America International Agri-Trade Council	Gardetto's	Germany	Pretzels, Snak-ens	$1,000
Mid-America International Agri-Trade Council	Gardetto's	Netherlands	Pretzels, Snak-ens	$1,000
Mid-America International Agri-Trade Council	Gardetto's	United Kingdom	Pretzels, Snak-ens	$1,000
Mid-America International Agri-Trade Council	Gardetto's	United States	Pretzels, Snak-ens	$1,000
Mid-America International Agri-Trade Council	Gastineau Log Homes, Inc.	China	Log homes (wood)	$0
Mid-America International Agri-Trade Council	Gastineau Log Homes, Inc.	United States	Log homes (wood)	$1,000
Mid-America International Agri-Trade Council	Global Marketing Ltd.	Argentina	Organic plant extract fertilizers	$1,000
Mid-America International Agri-Trade Council	Global Marketing Ltd.	Chile	Organic plant extract fertilizers	$1,000
Mid-America International Agri-Trade Council	Global Marketing Ltd.	Costa Rica	Organic plant extract fertilizers	$1,000
Mid-America International Agri-Trade Council	Global Marketing Ltd.	India	Organic plant extract fertilizers	$1,000
Mid-America International Agri-Trade Council	Global Marketing Ltd.	Kenya	Organic plant extract fertilizers	$1,000
Mid-America International Agri-Trade Council	Global Marketing Ltd.	South Africa	Organic plant extract fertilizers	$1,000
Mid-America International Agri-Trade Council	Global Marketing Ltd.	Turkey	Organic plant extract fertilizers	$1,000
Mid-America International Agri-Trade Council	Global Marketing Ltd.	United States	Organic plant extract fertilizers	$1,000
Mid-America International Agri-Trade Council	Golden Valley Elk Ranch	Hong Kong	Elk velvet	$1,000
Mid-America International Agri-Trade Council	Golden Valley Elk Ranch	Taiwan	Elk velvet	$1,000
Mid-America International Agri-Trade Council	Golden Valley Elk Ranch	United States	Elk velvet	$1,000
Mid-America International Agri-Trade Council	Goody, Inc.	United Kingdom	pretzels	$1,000
Mid-America International Agri-Trade Council	Graceland Fruit Cooperative, Inc.	Germany	dried carrot, peach, apple, blueberry, cherry, cranberry	$1,000
Mid-America International Agri-Trade Council	Graceland Fruit Cooperative, Inc.	Japan	dried carrot, peach, apple, blueberry, cherry, cranberry	$1,000
Mid-America International Agri-Trade Council	Graceland Fruit Cooperative, Inc.	Singapore	dried carrot, peach, apple, blueberry, cherry, cranberry	$1,000
Mid-America International Agri-Trade Council	Graceland Fruit Cooperative, Inc.	Taiwan	dried carrot, peach, apple, blueberry, cherry, cranberry	$1,000
Mid-America International Agri-Trade Council	Graceland Fruit Cooperative, Inc.	United Kingdom	dried carrot, peach, apple, blueberry, cherry, cranberry	$1,000
Mid-America International Agri-Trade Council	Graceland Fruit Cooperative, Inc.	United States	dried carrot, peach, apple, blueberry, cherry, cranberry	$1,000
Mid-America International Agri-Trade Council	HS Trading Co.	Canada	Bagels, specialty cookie	$1,000
Mid-America International Agri-Trade Council	HS Trading Co.	Germany	Bagels, specialty cookie	$1,000
Mid-America International Agri-Trade Council	HS Trading Co.	United States	Bagels, specialty cookie	$1,000
Mid-America International Agri-Trade Council	Hammons Products Company	Germany	Shelled black walnuts, nutmeats	$1,000
Mid-America International Agri-Trade Council	Hammons Products Company	Japan	Shelled black walnuts, nutmeats	$1,000
Mid-America International Agri-Trade Coupcil	Hammons Products Company	United States	Shelled black walnuts, nutmeats	$1,000
Mid-America International Agri-Trade Council	Heartland Beef Sales, Inc.	Canada	Beef w/peppers and onions, Portioned sliced beef, poultry	$1,000
Mid-America International Agri-Trade Council	Heartland Beef Sales, Inc.	United States	Beef w/peppers and onions, Portioned sliced beef, poultry	$1,000
Mid-America International Agri-Trade Council	Honee Bear Canning	Germany	Canned Cherries (Pitted Red Tart, Dark Sweet)	$1,000
Mid-America International Agri-Trade Council	Honee Bear Canning	Japan	Canned Cherries (Pitted Red Tart, Dark Sweet)	$1,000
Mid-America International Agri-Trade Council	Honey Acres Inc,	Australia	Honeybears, gourmet honey, flavored honey creme spreads	$1,000
Mid-America International Agri-Trade Council	Honey Acres Inc,	Bahrain	Honeybears, gourmet honey, flavored honey creme spreads	$1,000
Mid-America International Agri-Trade Council	Honey Acres Inc,	Canada	Honeybears, gourmet honey, flavored honey creme spreads	$1,000
Mid-America International Agri-Trade Council	Honey Acres Inc,	France	Honeybears, gourmet honey, flavored honey creme spreads	$1,000
Mid-America International Agri-Trade Council	Honey Acres Inc,	Japan	Honeybears, gourmet honey, flavored honey creme spreads	$1,000
Mid-America International Agri-Trade Council	Honey Acres Inc,	United Kingdom	Honeybears, gourmet honey, flavored honey creme spreads	$1,000
Mid-America International Agri-Trade Council	Honey Acres Inc,	United States	Honeybears, gourmet honey, flavored honey creme spreads	$1,000
Mid-America International Agri-Trade Council	House of Flavors Inc.	Mexico	Ice cream	$1,000
Mid-America International Agri-Trade Council	House of Flavors Inc.	United States	Ice cream	$1,000
Mid-America International Agri-Trade Council	Hsu's Ginseng Enterprises, Inc.	China	ginseng/roots, slices, tea, capsules	$1,000
Mid-America International Agri-Trade Council	Hsu's Ginseng Enterprises, Inc.	United States	ginseng/roots, slices, tea, capsules	$1,000
Mid-America International Agri-Trade Council	International Brand Services, Inc.	Bahrain	Baked Goods	$1,000
Mid-America International Agri-Trade Council	International Brand Services, Inc.	Kuwait	Baked Goods	$1,000
Mid-America International Agri-Trade Council	International Brand Services, Inc.	Saudi Arabia	Baked Goods	$1,000
Mid-America International Agri-Trade Council	International Brand Services, Inc.	United Arab Emirates	Baked Goods	$1,000
Mid-America International Agri-Trade Council	International Brand Services, Inc.	United States	Baked Goods	$1,000
Mid-America International Agri-Trade Council	International Dehydrated Foods, Inc	Argentina	Shelf stable broth, liquid fat, poedered meat, broth, fat	$1,000
Mid-America International Agri-Trade Council	International Dehydrated Foods, Inc	Taiwan	Shelf stable broth, liquid fat, poedered meat, broth, fat	$1,000

1998 MAP Budget Ceilings by Trade Organization, Brand Company, Product and Market

Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
Mid-America International Agri-Trade Council	Gardetto's	Bahrain	Pretzels, Snak-ens	$1,000
Mid-America International Agri-Trade Council	Gardetto's	Canada	Pretzels, Snak-ens	$1,000
Mid-America International Agri-Trade Council	Gardetto's	France	Pretzels, Snak-ens	$1,000
Mid-America International Agri-Trade Council	Gardetto's	Germany	Pretzels, Snak-ens	$1,000
Mid-America International Agri-Trade Council	Gardetto's	Netherlands	Pretzels, Snak-ens	$1,000
Mid-America International Agri-Trade Council	Gardetto's	United Kingdom	Pretzels, Snak-ens	$1,000
Mid-America International Agri-Trade Council	Gardetto's	United States	Pretzels, Snak-ens	$1,000
Mid-America International Agri-Trade Council	Gastineau Log Homes, Inc.	China	Log homes (wood)	$0
Mid-America International Agri-Trade Council	Gastineau Log Homes, Inc.	United States	Log homes (wood)	$1,000
Mid-America International Agri-Trade Council	Global Marketing Ltd.	Argentina	Organic plant extract fertilizers	$1,000
Mid-America International Agri-Trade Council	Global Marketing Ltd.	Chile	Organic plant extract fertilizers	$1,000
Mid-America International Agri-Trade Council	Global Marketing Ltd.	Costa Rica	Organic plant extract fertilizers	$1,000
Mid-America International Agri-Trade Council	Global Marketing Ltd.	India	Organic plant extract fertilizers	$1,000
Mid-America International Agri-Trade Council	Global Marketing Ltd.	Kenya	Organic plant extract fertilizers	$1,000
Mid-America International Agri-Trade Council	Global Marketing Ltd.	South Africa	Organic plant extract fertilizers	$1,000
Mid-America International Agri-Trade Council	Global Marketing Ltd.	Turkey	Organic plant extract fertilizers	$1,000
Mid-America International Agri-Trade Council	Global Marketing Ltd.	United States	Organic plant extract fertilizers	$1,000
Mid-America International Agri-Trade Council	Golden Valley Elk Ranch	Hong Kong	Elk velvet	$1,000
Mid-America International Agri-Trade Council	Golden Valley Elk Ranch	Taiwan	Elk velvet	$1,000
Mid-America International Agri-Trade Council	Golden Valley Elk Ranch	United States	Elk velvet	$1,000
Mid-America International Agri-Trade Council	Goody, Inc.	United Kingdom	pretzels	$1,000
Mid-America International Agri-Trade Council	Graceland Fruit Cooperative, Inc.	Germany	dried carrot, peach, apple, blueberry, cherry, cranberry	$1,000
Mid-America International Agri-Trade Council	Graceland Fruit Cooperative, Inc.	Japan	dried carrot, peach, apple, blueberry, cherry, cranberry	$1,000
Mid-America International Agri-Trade Council	Graceland Fruit Cooperative, Inc.	Singapore	dried carrot, peach, apple, blueberry, cherry, cranberry	$1,000
Mid-America International Agri-Trade Council	Graceland Fruit Cooperative, Inc.	Taiwan	dried carrot, peach, apple, blueberry, cherry, cranberry	$1,000
Mid-America International Agri-Trade Council	Graceland Fruit Cooperative, Inc.	United Kingdom	dried carrot, peach, apple, blueberry, cherry, cranberry	$1,000
Mid-America International Agri-Trade Council	Graceland Fruit Cooperative, Inc.	United States	dried carrot, peach, apple, blueberry, cherry, cranberry	$1,000
Mid-America International Agri-Trade Council	HS Trading Co.	Canada	Bagels, specialty cookie	$1,000
Mid-America International Agri-Trade Council	HS Trading Co.	Germany	Bagels, specialty cookie	$1,000
Mid-America International Agri-Trade Council	HS Trading Co.	United States	Bagels, specialty cookie	$1,000
Mid-America International Agri-Trade Council	Hammons Products Company	Germany	Shelled black walnuts, nutmeats	$1,000
Mid-America International Agri-Trade Council	Hammons Products Company	Japan	Shelled black walnuts, nutmeats	$1,000
Mid-America International Agri-Trade Council	Hammons Products Company	United States	Shelled black walnuts, nutmeats	$1,000
Mid-America International Agri-Trade Council	Heartland Beef Sales, Inc.	Canada	Beef w/peppers and onions, Portioned sliced beef, poultry	$1,000
Mid-America International Agri-Trade Council	Heartland Beef Sales, Inc.	United States	Beef w/peppers and onions, Portioned sliced beef, poultry	$1,000
Mid-America International Agri-Trade Council	Honee Bear Canning	Germany	Canned Cherries (Pitted Red Tart, Dark Sweet)	$1,000
Mid-America International Agri-Trade Council	Honee Bear Canning	Japan	Canned Cherries (Pitted Red Tart, Dark Sweet)	$1,000
Mid-America International Agri-Trade Council	Honey Acres Inc,	Australia	Honeybears, gourmet honey, flavored honey creme spreads	$1,000
Mid-America International Agri-Trade Council	Honey Acres Inc,	Bahrain	Honeybears, gourmet honey, flavored honey creme spreads	$1,000
Mid-America International Agri-Trade Council	Honey Acres Inc,	Canada	Honeybears, gourmet honey, flavored honey creme spreads	$1,000
Mid-America International Agri-Trade Council	Honey Acres Inc,	France	Honeybears, gourmet honey, flavored honey creme spreads	$1,000
Mid-America International Agri-Trade Council	Honey Acres Inc,	Japan	Honeybears, gourmet honey, flavored honey creme spreads	$1,000
Mid-America International Agri-Trade Council	Honey Acres Inc,	United Kingdom	Honeybears, gourmet honey, flavored honey creme spreads	$1,000
Mid-America International Agri-Trade Council	Honey Acres Inc,	United States	Honeybears, gourmet honey, flavored honey creme spreads	$1,000
Mid-America International Agri-Trade Council	House of Flavors Inc.	Mexico	Ice cream	$1,000
Mid-America International Agri-Trade Council	House of Flavors Inc.	United States	Ice cream	$1,000
Mid-America International Agri-Trade Council	Hsu's Ginseng Enterprises, Inc.	China	ginseng/roots, slices, tea, capsules	$1,000
Mid-America International Agri-Trade Council	Hsu's Ginseng Enterprises, Inc.	United States	ginseng/roots, slices, tea, capsules	$1,000
Mid-America International Agri-Trade Council	International Brand Services, Inc.	Bahrain	Baked Goods	$1,000
Mid-America International Agri-Trade Council	International Brand Services, Inc.	Kuwait	Baked Goods	$1,000
Mid-America International Agri-Trade Council	International Brand Services, Inc.	Saudi Arabia	Baked Goods	$1,000
Mid-America International Agri-Trade Council	International Brand Services, Inc.	United Arab Emirates	Baked Goods	$1,000
Mid-America International Agri-Trade Council	International Brand Services, Inc.	United States	Baked Goods	$1,000
Mid-America International Agri-Trade Council	International Dehydrated Foods, Inc	Argentina	Shelf stable broth, liquid fat, poedered meat, broth, fat	$1,000
Mid-America International Agri-Trade Council	International Dehydrated Foods, Inc	Taiwan	Shelf stable broth, liquid fat, poedered meat, broth, fat	$1,000

1998 MAP Budget Ceilings by Trade Organization, Brand Company, Product and Market

Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
Mid-America International Agri-Trade Council	International Dehydrated Foods, Inc	United States	Shelf stable broth, liquid fat, poedered meat, broth, fat	$1,000
Mid-America International Agri-Trade Council	International Ingredient Corporation	Brazil	feed ingredients	$1,000
Mid-America International Agri-Trade Council	International Ingredient Corporation	China	feed ingredients	$1,000
Mid-America International Agri-Trade Council	International Ingredient Corporation	Korea, South	feed ingredients	$1,000
Mid-America International Agri-Trade Council	International Ingredient Corporation	Mexico	feed ingredients	$1,000
Mid-America International Agri-Trade Council	International Ingredient Corporation	Taiwan	feed ingredients	$1,000
Mid-America International Agri-Trade Council	International Ingredient Corporation	United States	feed ingredients	$1,000
Mid-America International Agri-Trade Council	International Ingredient Corporation	Venezuela	feed ingredients	$1,000
Mid-America International Agri-Trade Council	International Market Brands	Brazil	Canned & Frozen Vegetables/processed chicken	$1,000
Mid-America International Agri-Trade Council	International Market Brands	Denmark	Canned & Frozen Vegetables/processed chicken	$1,000
Mid-America International Agri-Trade Council	International Market Brands	Dominican Republic	Canned & Frozen Vegetables/processed chicken	$1,000
Mid-America International Agri-Trade Council	International Market Brands	Italy	Canned & Frozen Vegetables/processed chicken	$1,000
Mid-America International Agri-Trade Council	International Market Brands	Japan	Canned & Frozen Vegetables/processed chicken	$1,000
Mid-America International Agri-Trade Council	International Market Brands	Korea, South	Canned & Frozen Vegetables/processed chicken	$1,000
Mid-America International Agri-Trade Council	International Market Brands	Philippines	Canned & Frozen Vegetables/processed chicken	$1,000
Mid-America International Agri-Trade Council	International Market Brands	South Africa	Canned & Frozen Vegetables/processed chicken	$1,000
Mid-America International Agri-Trade Council	International Market Brands	Singapore	Canned & Frozen Vegetables/processed chicken	$1,000
Mid-America International Agri-Trade Council	International Market Brands	Taiwan	Canned & Frozen Vegetables/processed chicken	$1,000
Mid-America International Agri-Trade Council	International Market Brands	United Kingdom	Canned & Frozen Vegetables/processed chicken	$1,000
Mid-America International Agri-Trade Council	International Market Brands	United States	Canned & Frozen Vegetables/processed chicken	$1,000
Mid-America International Agri-Trade Council	Jones Popcorn Inc.DBA Clark Snack	Saudi Arabia	Popcorn, microwave and unpopped	$1,000
Mid-America International Agri-Trade Council	Kahiki Foods, Inc.	Canada	Meals-Entrees	$1,000
Mid-America International Agri-Trade Council	Kahiki Foods, Inc.	China	Meals-Entrees	$1,000
Mid-America International Agri-Trade Council	Kahiki Foods, Inc.	United Kingdom	Meals-Entrees	$1,000
Mid-America International Agri-Trade Council	Kahiki Foods, Inc.	United States	Meals-Entrees	$1,000
Mid-America International Agri-Trade Council	Kalsec Inc.	China	extractives of paprika, hops and capsicum	$1,000
Mid-America International Agri-Trade Council	Kalsec Inc.	France	extractives of paprika, hops and capsicum	$1,000
Mid-America International Agri-Trade Council	Knight Seed Company	Germany	Dry edible beans, bird and small animal feed, sunflower k	$1,000
Mid-America International Agri-Trade Council	Knight Seed Company	Mexico	Dry edible beans, bird and small animal feed, sunflower k	$1,000
Mid-America International Agri-Trade Council	Knight Seed Company	United States	Dry edible beans, bird and small animal feed, sunflower k	$1,000
Mid-America International Agri-Trade Council	L P International	Canada	BBQ Sauce, Cheese Dips, Taco Sauce, Flour Tortillas etc.	$1,000
Mid-America International Agri-Trade Council	L P International	Finland	BBQ Sauce, Cheese Dips, Taco Sauce, Flour Tortillas etc.	$1,000
Mid-America International Agri-Trade Council	L P International	France	BBQ Sauce, Cheese Dips, Taco Sauce, Flour Tortillas etc.	$1,000
Mid-America International Agri-Trade Council	L P International	Germany	BBQ Sauce, Cheese Dips, Taco Sauce, Flour Tortillas etc.	$1,000
Mid-America International Agri-Trade Council	L P International	Italy	BBQ Sauce, Cheese Dips, Taco Sauce, Flour Tortillas etc.	$1,000
Mid-America International Agri-Trade Council	L P International	Norway	BBQ Sauce, Cheese Dips, Taco Sauce, Flour Tortillas etc.	$1,000
Mid-America International Agri-Trade Council	L P International	United States	BBQ Sauce, Cheese Dips, Taco Sauce, Flour Tortillas etc.	$1,000
Mid-America International Agri-Trade Council	Lactoprot USA, INC.	Canada	Processed cheese products	$1,000
Mid-America International Agri-Trade Council	Lactoprot USA, INC.	Mexico	Processed cheese products	$1,000
Mid-America International Agri-Trade Council	Lactoprot USA, INC.	United States	Processed cheese products	$1,000
Mid-America International Agri-Trade Council	Land O'Frost	Japan	processed poultry, meats, entree meals	$1,000
Mid-America International Agri-Trade Council	Land O'Frost	Korea, South	processed poultry, meats, entree meals	$1,000
Mid-America International Agri-Trade Council	Land O'Frost	Saudi Arabia	processed poultry, meats, entree meals	$1,000
Mid-America International Agri-Trade Council	Land O'Frost	United States	processed poultry, meats, entree meals	$1,000
Mid-America International Agri-Trade Council	Link Industries	Brazil	kipperedbeef regular flavor,and black pepper	$1,000
Mid-America International Agri-Trade Council	Link Industries	Japan	kipperedbeef regular flavor,and black pepper	$1,000
Mid-America International Agri-Trade Council	Link Industries	Russia	kipperedbeef regular flavor,and black pepper	$1,000
Mid-America International Agri-Trade Council	Link Industries	United States	kipperedbeef regular flavor,and black pepper	$1,000
Mid-America International Agri-Trade Council	Little Lady Foods, Inc.	Canada	French Bread Pizza, pizza products	$1,000
Mid-America International Agri-Trade Council	Little Lady Foods, Inc.	Hong Kong	French Bread Pizza, pizza products	$1,000
Mid-America International Agri-Trade Council	Little Lady Foods, Inc.	United States	French Bread Pizza, pizza products	$1,000
Mid-America International Agri-Trade Council	Lochhead Vanilla Company LLC	Germany	Vanilla powder, pure vanilla and other extracts, nutmeg	$1,000
Mid-America International Agri-Trade Council	Lochhead Vanilla Company LLC	Japan	Vanilla powder, pure vanilla and other extracts, nutmeg	$1,000
Mid-America International Agri-Trade Council	Lochhead Vanilla Company LLC	Norway	Vanilla powder, pure vanilla and other extracts, nutmeg	$1,000
Mid-America International Agri-Trade Council	Lochhead Vanilla Company LLC	United Kingdom	Vanilla powder, pure vanilla and other extracts, nutmeg	$1,000

1998 MAP Budget Ceilings by Trade Organization, Brand Company, Product and Market

Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
Mid-America International Agri-Trade Council	Lochhead Vanilla Company LLC	United States	Vanilla powder, pure vanilla and other extracts, nutmeg	$1,000
Mid-America International Agri-Trade Council	Mann Hay Co., Inc	Mexico	Dairy feed	$1,000
Mid-America International Agri-Trade Council	Mann Hay Co., Inc	United States	Dairy feed	$1,000
Mid-America International Agri-Trade Council	Merrick's, Inc	Japan	animal plasma, milk replacements	$1,000
Mid-America International Agri-Trade Council	Merrick's, Inc	Mexico	animal plasma, milk replacements	$1,000
Mid-America International Agri-Trade Council	Merrick's, Inc	Philippines	animal plasma, milk replacements	$1,000
Mid-America International Agri-Trade Council	Merrick's, Inc	Thailand	animal plasma, milk replacements	$1,000
Mid-America International Agri-Trade Council	Merrick's, Inc	United States	animal plasma, milk replacements	$1,000
Mid-America International Agri-Trade Council	Merrick's, Inc	Venezuela	animal plasma, milk replacements	$1,000
Mid-America International Agri-Trade Council	Merrick's, Inc	Vietnam	animal plasma, milk replacements	$1,000
Mid-America International Agri-Trade Council	Midamar Corporation	Azerbaijan	poultry, processed meats	$1,000
Mid-America International Agri-Trade Council	Midamar Corporation	China	poultry, processed meats	$1,000
Mid-America International Agri-Trade Council	Midamar Corporation	Malaysia	poultry, processed meats	$1,000
Mid-America International Agri-Trade Council	Midamar Corporation	Qatar	poultry, processed meats	$1,000
Mid-America International Agri-Trade Council	Midamar Corporation	Singapore	poultry, processed meats	$1,000
Mid-America International Agri-Trade Council	Midamar Corporation	United Arab Emirates	poultry, processed meats	$1,000
Mid-America International Agri-Trade Council	Midamar Corporation	United States	poultry, processed meats	$1,000
Mid-America International Agri-Trade Council	Midwestern Pet Foods, Inc.	Argentina	pet food (cat,dog)	$1,000
Mid-America International Agri-Trade Council	Midwestern Pet Foods, Inc.	Belgium	pet food (cat,dog)	$1,000
Mid-America International Agri-Trade Council	Midwestern Pet Foods, Inc.	Ecuador	pet food (cat,dog)	$1,000
Mid-America International Agri-Trade Council	Midwestern Pet Foods, Inc.	Germany	pet food (cat,dog)	$1,000
Mid-America International Agri-Trade Council	Midwestern Pet Foods, Inc.	Greece	pet food (cat,dog)	$1,000
Mid-America International Agri-Trade Council	Midwestern Pet Foods, Inc.	Italy	pet food (cat,dog)	$1,000
Mid-America International Agri-Trade Council	Midwestern Pet Foods, Inc.	United States	pet food (cat,dog)	$1,000
Mid-America International Agri-Trade Council	Midwestern Soybean International	Japan	soybeans (dry, edible)	$1,000
Mid-America International Agri-Trade Council	Midwestern Soybean International	Korea, South	soybeans (dry, edible)	$1,000
Mid-America International Agri-Trade Council	Midwestern Soybean International	Singapore	soybeans (dry, edible)	$1,000
Mid-America International Agri-Trade Council	Milk Specialities Co.	Canada	Feed supplements for dairy cows	$1,000
Mid-America International Agri-Trade Council	Milk Specialities Co.	Colombia	Feed supplements for dairy cows	$1,000
Mid-America International Agri-Trade Council	Milk Specialities Co.	Mexico	Feed supplements for dairy cows	$1,000
Mid-America International Agri-Trade Council	Milk Specialities Co.	Venezuela	Feed supplements for dairy cows	$1,000
Mid-America International Agri-Trade Council	Morrison Farms	China	microwave popcorn	$1,000
Mid-America International Agri-Trade Council	Morrison Farms	France	microwave popcorn	$1,000
Mid-America International Agri-Trade Council	Morrison Farms	Germany	microwave popcorn	$1,000
Mid-America International Agri-Trade Council	Morrison Farms	Italy	microwave popcorn	$1,000
Mid-America International Agri-Trade Council	Morrison Farms	Taiwan	microwave popcorn	$1,000
Mid-America International Agri-Trade Council	Morrison Farms	United States	microwave popcorn	$1,000
Mid-America International Agri-Trade Council	Mrs. Clark's Foods, Inc.	Canada	Fruit drink concentrate, juices, salad dressing, condimen	$1,000
Mid-America International Agri-Trade Council	Mrs. Clark's Foods, Inc.	Mexico	Fruit drink concentrate, juices, salad dressing, condimen	$1,000
Mid-America International Agri-Trade Council	Mrs. Clark's Foods, Inc.	United States	Fruit drink concentrate, juices, salad dressing, condimen	$1,000
Mid-America International Agri-Trade Council	My Favorite Jerky LLC	Canada	Meat snacks	$1,000
Mid-America International Agri-Trade Council	My Favorite Jerky LLC	Japan	Meat snacks	$1,000
Mid-America International Agri-Trade Council	My Favorite Jerky LLC	United States	Meat snacks	$1,000
Mid-America International Agri-Trade Council	Native Wisconsin Ginseng Coop	China	Wisconsin ginseng products (tea, capsule, honey etc.)	$1,000
Mid-America International Agri-Trade Council	Native Wisconsin Ginseng Coop	Mexico	Wisconsin ginseng products (tea, capsule, honey etc.)	$1,000
Mid-America International Agri-Trade Council	Native Wisconsin Ginseng Coop	United States	Wisconsin ginseng products (tea, capsule, honey etc.)	$1,000
Mid-America International Agri-Trade Council	Natural American Ginseng Inc.	Canada	Ginseng products	$1,000
Mid-America International Agri-Trade Council	Natural American Ginseng Inc.	China	Ginseng products	$1,000
Mid-America International Agri-Trade Council	Natural American Ginseng Inc.	Hong Kong	Ginseng products	$1,000
Mid-America International Agri-Trade Council	Natural American Ginseng Inc.	United Kingdom	Ginseng products	$1,000
Mid-America International Agri-Trade Council	Natural American Ginseng Inc.	United States	Ginseng products	$1,000
Mid-America International Agri-Trade Council	Natural Products, Inc.	Hong Kong	Soy protein products, bakery ingredients, humanitarian	$1,000
Mid-America International Agri-Trade Council	Natural Products, Inc.	Japan	Soy protein products, bakery ingredients, humanitarian	$1,000
Mid-America International Agri-Trade Council	Natural Products, Inc.	Korea, South	Soy protein products, bakery ingredients, humanitarian	$1,000
Mid-America International Agri-Trade Council	Natural Products, Inc.	Philippines	Soy protein products, bakery ingredients, humanitarian	$0

1998 MAP Budget Ceilings by Trade Organization, Brand Company, Product and Market

Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
Mid-America International Agri-Trade Council	Natural Products, Inc.	Singapore	Soy protein products, bakery ingredients, humanitarian	$1,000
Mid-America International Agri-Trade Council	Natural Products, Inc.	Taiwan	Soy protein products, bakery ingredients, humanitarian	$1,000
Mid-America International Agri-Trade Council	Natural Products, Inc.	United States	Soy protein products, bakery ingredients, humanitarian	$1,000
Mid-America International Agri-Trade Council	NeCo Seed Farms, Inc.	France	Soybeans	$1,000
Mid-America International Agri-Trade Council	NeCo Seed Farms, Inc.	Germany	Soybeans	$1,000
Mid-America International Agri-Trade Council	NeCo Seed Farms, Inc.	Japan	Soybeans	$1,000
Mid-America International Agri-Trade Council	NeCo Seed Farms, Inc.	Kazakhstan	Soybeans	$1,000
Mid-America International Agri-Trade Council	NeCo Seed Farms, Inc.	Sweden	Soybeans	$1,000
Mid-America International Agri-Trade Council	NeCo Seed Farms, Inc.	Taiwan	Soybeans	$1,000
Mid-America International Agri-Trade Council	NeCo Seed Farms, Inc.	United States	Soybeans	$1,000
Mid-America International Agri-Trade Council	Nebraska Bean, Inc.	France	Packaged beans and grain products	$1,000
Mid-America International Agri-Trade Council	Nebraska Bean, Inc.	Italy	Packaged beans and grain products	$1,000
Mid-America International Agri-Trade Council	Nebraska Bean, Inc.	Japan	Packaged beans and grain products	$1,000
Mid-America International Agri-Trade Council	Nebraska Bean, Inc.	United States	Packaged beans and grain products	$1,000
Mid-America International Agri-Trade Council	Norpac Foods		Canned and Frozen Corn	$0
Mid-America International Agri-Trade Council	North American Bison Cooperative	Canada	Bison Meat & Products	$1,000
Mid-America International Agri-Trade Council	North American Bison Cooperative	United States	Bison Meat & Products	$1,000
Mid-America International Agri-Trade Council	Northland Organics Food Corporation	France	Dairy feed, rice & prepared foods, soybean and grains	$1,000
Mid-America International Agri-Trade Council	Northland Organics Food Corporation	Germany	Dairy feed, rice & prepared foods, soybean and grains	$1,000
Mid-America International Agri-Trade Council	Northland Organics Food Corporation	Italy	Dairy feed, rice & prepared foods, soybean and grains	$1,000
Mid-America International Agri-Trade Council	Northland Organics Food Corporation	Japan	Dairy feed, rice & prepared foods, soybean and grains	$1,000
Mid-America International Agri-Trade Council	Northland Organics Food Corporation	Netherlands	Dairy feed, rice & prepared foods, soybean and grains	$1,000
Mid-America International Agri-Trade Council	Northland Organics Food Corporation	United States	Dairy feed, rice & prepared foods, soybean and grains	$1,000
Mid-America International Agri-Trade Council	Nutra-Flo Company	China	Dry animal protein feed ingredient	$1,000
Mid-America International Agri-Trade Council	Nutra-Flo Company	Japan	Dry animal protein feed ingredient	$1,000
Mid-America International Agri-Trade Council	Nutra-Flo Company	Mexico	Dry animal protein feed ingredient	$1,000
Mid-America International Agri-Trade Council	Nutra-Flo Company	Netherlands	Dry animal protein feed ingredient	$1,000
Mid-America International Agri-Trade Council	Nutra-Flo Company	Philippines	Dry animal protein feed ingredient	$1,000
Mid-America International Agri-Trade Council	Nutra-Flo Company	Thailand	Dry animal protein feed ingredient	$1,000
Mid-America International Agri-Trade Council	Nutra-Flo Company	United States	Dry animal protein feed ingredient	$1,000
Mid-America International Agri-Trade Council	O Neil Foods, Inc	Canada	Soy protein concentrate	$1,000
Mid-America International Agri-Trade Council	O Neil Foods, Inc	United States	Soy protein concentrate	$1,000
Mid-America International Agri-Trade Council	Old Fashioned Foods, Inc.	Belgium	Cheese Sauses & Salsas	$1,000
Mid-America International Agri-Trade Council	Old Fashioned Foods, Inc.	Canada	Cheese Sauses & Salsas	$1,000
Mid-America International Agri-Trade Council	Old Fashioned Foods, Inc.	Germany	Cheese Sauses & Salsas	$1,000
Mid-America International Agri-Trade Council	Old Fashioned Foods, Inc.	Japan	Cheese Sauses & Salsas	$1,000
Mid-America International Agri-Trade Council	Old Fashioned Foods, Inc.	Mexico	Cheese Sauses & Salsas	$1,000
Mid-America International Agri-Trade Council	Old Fashioned Foods, Inc.	Philippines	Cheese Sauses & Salsas	$1,000
Mid-America International Agri-Trade Council	Old Fashioned Foods, Inc.	Trinidad & Tobacco	Cheese Sauses & Salsas	$1,000
Mid-America International Agri-Trade Council	Old Fashioned Foods, Inc.	United Kingdom	Cheese Sauses & Salsas	$1,000
Mid-America International Agri-Trade Council	Old Fashioned Foods, Inc.	United States	Cheese Sauses & Salsas	$1,000
Mid-America International Agri-Trade Council	Palermo's Villa, Inc.	Canada	Pizza products	$1,000
Mid-America International Agri-Trade Council	Par-Way/Tryson Company	Canada	Seasoned oil sprays, soybean oil	$1,000
Mid-America International Agri-Trade Council	Par-Way/Tryson Company	Germany	Seasoned oil sprays, soybean oil	$1,000
Mid-America International Agri-Trade Council	Par-Way/Tryson Company	Japan	Seasoned oil sprays, soybean oil	$1,000
Mid-America International Agri-Trade Council	Par-Way/Tryson Company	Mexico	Seasoned oil sprays, soybean oil	$1,000
Mid-America International Agri-Trade Council	Par-Way/Tryson Company	United Kingdom	Seasoned oil sprays, soybean oil	$1,000
Mid-America International Agri-Trade Council	Par-Way/Tryson Company	United States	Seasoned oil sprays, soybean oil	$1,000
Mid-America International Agri-Trade Council	Perky's Food Service Concepts, Inc.	China	Dough, refrigerated dry mixes, Pizza products, various, P	$1,000
Mid-America International Agri-Trade Council	Perky's Food Service Concepts, Inc.	Chile	Dough, refrigerated dry mixes, Pizza products, various, P	$1,000
Mid-America International Agri-Trade Council	Perky's Food Service Concepts, Inc.	Mexico	Dough, refrigerated dry mixes, Pizza products, various, P	$1,000
Mid-America International Agri-Trade Council	Perky's Food Service Concepts, Inc.	Peru	Dough, refrigerated dry mixes, Pizza products, various, P	$1,000
Mid-America International Agri-Trade Council	Perky's Food Service Concepts, Inc.	Singapore	Dough, refrigerated dry mixes, Pizza products, various, P	$1,000
Mid-America International Agri-Trade Council	Perky's Food Service Concepts, Inc.	United Kingdom	Dough, refrigerated dry mixes, Pizza products, various, P	$1,000
Mid-America International Agri-Trade Council	Perky's Food Service Concepts, Inc.	United States	Dough, refrigerated dry mixes, Pizza products, various, P	$1,000

1998 MAP Budget Ceilings by Trade Organization, Brand Company, Product and Market

Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
Mid-America International Agri-Trade Council	Pines International	Australia	Wheat Powder, tabs	$1,000
Mid-America International Agri-Trade Council	Pines International	Hong Kong	Wheat Powder, tabs	$1,000
Mid-America International Agri-Trade Council	Pines International	Indonesia	Wheat Powder, tabs	$1,000
Mid-America International Agri-Trade Council	Pines International	Malaysia	Wheat Powder, tabs	$1,000
Mid-America International Agri-Trade Council	Pines International	Thailand	Wheat Powder, tabs	$1,000
Mid-America International Agri-Trade Council	Pines International	Taiwan	Wheat Powder, tabs	$1,000
Mid-America International Agri-Trade Council	Pogue Industries, Inc.	Japan	pasta, popcorn, sauces	$1,000
Mid-America International Agri-Trade Council	Pogue Industries, Inc.	United States	pasta, popcorn, sauces	$1,000
Mid-America International Agri-Trade Council	Preferred Popcorn L.L.C.	Canada	Raw yellow popcorn	$1,000
Mid-America International Agri-Trade Council	Preferred Popcorn L.L.C.	Hong Kong	Raw yellow popcorn	$1,000
Mid-America International Agri-Trade Council	Preferred Popcorn L.L.C.	Indonesia	Raw yellow popcorn	$1,000
Mid-America International Agri-Trade Council	Preferred Popcorn L.L.C.	Mexico	Raw yellow popcorn	$1,000
Mid-America International Agri-Trade Council	Preferred Popcorn L.L.C.	United States	Raw yellow popcorn	$1,000
Mid-America International Agri-Trade Council	Purity Foods International	Spain	Microwave Popcorn	$1,000
Mid-America International Agri-Trade Council	Quality Ingredients Corporation	Czech Republic	Instant cappuccino, whip topping powder, non-dairy creame	$1,000
Mid-America International Agri-Trade Council	Quality Ingredients Corporation	Germany	Instant cappuccino, whip topping powder, non-dairy creame	$1,000
Mid-America International Agri-Trade Council	Quality Ingredients Corporation	Poland	Instant cappuccino, whip topping powder, non-dairy creame	$1,000
Mid-America International Agri-Trade Council	Quality Ingredients Corporation	Singapore	Instant cappuccino, whip topping powder, non-dairy creame	$1,000
Mid-America International Agri-Trade Council	Quality Ingredients Corporation	United States	Instant cappuccino, whip topping powder, non-dairy creame	$1,000
Mid-America International Agri-Trade Council	RIBUS, Inc.	Belgium	Processing aid ingredient for foods	$1,000
Mid-America International Agri-Trade Council	RIBUS, Inc.	Germany	Processing aid ingredient for foods	$1,000
Mid-America International Agri-Trade Council	RIBUS, Inc.	United Kingdom	Processing aid ingredient for foods	$1,000
Mid-America International Agri-Trade Council	RIBUS, Inc.	United States	Processing aid ingredient for foods	$1,000
Mid-America International Agri-Trade Council	Raskas Foods, Inc.	Brazil	Cream Cheese	$1,000
Mid-America International Agri-Trade Council	Raskas Foods, Inc.	Mexico	Cream Cheese	$1,000
Mid-America International Agri-Trade Council	Raskas Foods, Inc.	United States	Cream Cheese	$1,000
Mid-America International Agri-Trade Council	Roney-Oatman	Taiwan	ice cream, frozen shakes	$1,000
Mid-America International Agri-Trade Council	Ryt-Way Food Products	United Kingdom	Microwave popcorn	$1,000
Mid-America International Agri-Trade Council	SK Food International	Germany	Salty Snacks	$1,000
Mid-America International Agri-Trade Council	SK Food International	Japan	Salty Snacks	$1,000
Mid-America International Agri-Trade Council	SK Food International	United Kingdom	Salty Snacks	$1,000
Mid-America International Agri-Trade Council	SK Food International	United States	Salty Snacks	$1,000
Mid-America International Agri-Trade Council	Sahagian & Associates, Inc.	Argentina	Corn Sticks & popcorn kernals	$1,000
Mid-America International Agri-Trade Council	Sahagian & Associates, Inc.	Brazil	Corn Sticks & popcorn kernals	$1,000
Mid-America International Agri-Trade Council	Sahagian & Associates, Inc.	France	Corn Sticks & popcorn kernals	$1,000
Mid-America International Agri-Trade Council	Sahagian & Associates, Inc.	Germany	Corn Sticks & popcorn kernals	$1,000
Mid-America International Agri-Trade Council	Sahagian & Associates, Inc.	Mexico	Corn Sticks & popcorn kernals	$1,000
Mid-America International Agri-Trade Council	Sahagian & Associates, Inc.	United Kingdom	Corn Sticks & popcorn kernals	$1,000
Mid-America International Agri-Trade Council	Sahagian & Associates, Inc.	United States	Corn Sticks & popcorn kernals	$1,000
Mid-America International Agri-Trade Council	Sigco Sun Products, Inc.	Poland	Sunflower Inshell	$1,000
Mid-America International Agri-Trade Council	Sigco Sun Products, Inc.	Spain	Sunflower Inshell	$1,000
Mid-America International Agri-Trade Council	Sigco Sun Products, Inc.	Turkey	Sunflower Inshell	$1,000
Mid-America International Agri-Trade Council	Sigco Sun Products, Inc.	United States	Sunflower Inshell	$1,000
Mid-America International Agri-Trade Council	Sioux Honey Association	Korea, South	Honey	$1,000
Mid-America International Agri-Trade Council	Sioux Honey Association	Pakistan	Honey	$1,000
Mid-America International Agri-Trade Council	Sioux Honey Association	United States	Honey	$1,000
Mid-America International Agri-Trade Council	Smith Dairy Product Company	Costa Rica	yogurt, ice cream, dairy products	$1,000
Mid-America International Agri-Trade Council	Smith Dairy Product Company	Hong Kong	yogurt, ice cream, dairy products	$1,000
Mid-America International Agri-Trade Council	Smith Dairy Product Company	Nigeria	yogurt, ice cream, dairy products	$1,000
Mid-America International Agri-Trade Council	Smith Dairy Product Company	United States	yogurt, ice cream, dairy products	$1,000
Mid-America International Agri-Trade Council	Sno Pac Foods	Canada	Frozen fruits and vegetables	$1,000
Mid-America International Agri-Trade Council	Sno Pac Foods	Japan	Frozen fruits and vegetables	$1,000
Mid-America International Agri-Trade Council	Specialty Commodities, Inc.	Denmark	Sunflower (in shell), Sunflower kernel	$1,000
Mid-America International Agri-Trade Council	Specialty Commodities, Inc.	Germany	Sunflower (in shell), Sunflower kernel	$1,000
Mid-America International Agri-Trade Council	Specialty Commodities, Inc.	Spain	Sunflower (in shell), Sunflower kernel	$1,000

1998 MAP Budget Ceilings by Trade Organization, Brand Company, Product and Market

Trade Organization	Company_Name	market_code	Promoted_Product	Budget Ceiling
Mid-America International Agri-Trade Council	Specialty Commodities, Inc.	United States	Sunflower (in shell), Sunflower kernel	$1,000
Mid-America International Agri-Trade Council	SunRich, Inc	Austria	Organic corn sweetenders, soy beverages, seed corn etc.	$1,000
Mid-America International Agri-Trade Council	SunRich, Inc	Canada	Organic corn sweetenders, soy beverages, seed corn etc.	$1,000
Mid-America International Agri-Trade Council	SunRich, Inc	Germany	Organic corn sweetenders, soy beverages, seed corn etc.	$1,000
Mid-America International Agri-Trade Council	SunRich, Inc	Japan	Organic corn sweetenders, soy beverages, seed corn etc.	$1,000
Mid-America International Agri-Trade Council	SunRich, Inc	Mexico	Organic corn sweetenders, soy beverages, seed corn etc.	$1,000
Mid-America International Agri-Trade Council	SunRich, Inc	United States	Organic corn sweetenders, soy beverages, seed corn etc.	$1,000
Mid-America International Agri-Trade Council	T.C. Jacoby & Company, Inc.	Mexico	Cheese and cream cheese	$1,000
Mid-America International Agri-Trade Council	T.C. Jacoby & Company, Inc.	United States	Cheese and cream cheese	$1,000
Mid-America International Agri-Trade Council	TKI Foods, Inc.	Argentina	Meal Replacement	$1,000
Mid-America International Agri-Trade Council	TKI Foods, Inc.	Brazil	Meal Replacement	$1,000
Mid-America International Agri-Trade Council	TKI Foods, Inc.	Canada	Meal Replacement	$1,000
Mid-America International Agri-Trade Council	TKI Foods, Inc.	France	Meal Replacement	$1,000
Mid-America International Agri-Trade Council	TKI Foods, Inc.	Germany	Meal Replacement	$1,000
Mid-America International Agri-Trade Council	TKI Foods, Inc.	Mexico	Meal Replacement	$1,000
Mid-America International Agri-Trade Council	TKI Foods, Inc.	United States	Meal Replacement	$1,000
Mid-America International Agri-Trade Council	Terra Prima Inc.	Belgium	Corn chips, soybeans	$1,000
Mid-America International Agri-Trade Council	Terra Prima Inc.	Germany	Corn chips, soybeans	$1,000
Mid-America International Agri-Trade Council	Terra Prima Inc.	Japan	Corn chips, soybeans	$1,000
Mid-America International Agri-Trade Council	Terra Prima Inc.	Netherlands	Corn chips, soybeans	$1,000
Mid-America International Agri-Trade Council	Terra Prima Inc.	Spain	Corn chips, soybeans	$1,000
Mid-America International Agri-Trade Council	Terra Prima Inc.	United Kingdom	Corn chips, soybeans	$1,000
Mid-America International Agri-Trade Council	Terra Prima Inc.	United States	Corn chips, soybeans	$1,000
Mid-America International Agri-Trade Council	Thompson's Pet Pasta Products	Canada	Pet food	$1,000
Mid-America International Agri-Trade Council	Thompson's Pet Pasta Products	Germany	Pet food	$1,000
Mid-America International Agri-Trade Council	Thompson's Pet Pasta Products	United Kingdom	Pet food	$1,000
Mid-America International Agri-Trade Council	Thompson's Pet Pasta Products	United States	Pet food	$1,000
Mid-America International Agri-Trade Council	Tri-Valley Growers	China	Canned Vegetables, Popcorn	$1,000
Mid-America International Agri-Trade Council	Tri-Valley Growers	Costa Rica	Canned Vegetables, Popcorn	$1,000
Mid-America International Agri-Trade Council	Tri-Valley Growers	Greece	Canned Vegetables, Popcorn	$1,000
Mid-America International Agri-Trade Council	Tri-Valley Growers	Korea, South	Canned Vegetables, Popcorn	$1,000
Mid-America International Agri-Trade Council	Tri-Valley Growers	Lebanon	Canned Vegetables, Popcorn	$1,000
Mid-America International Agri-Trade Council	Tri-Valley Growers	Panama	Canned Vegetables, Popcorn	$1,000
Mid-America International Agri-Trade Council	Triple F, Inc.	Mexico	Animal Feed Additives	$0
Mid-America International Agri-Trade Council	Triple F, Inc.	United States	Animal Feed Additives	$1,000
Mid-America International Agri-Trade Council	U.S. Mills, Inc.	Canada	Cereal	$1,000
Mid-America International Agri-Trade Council	U.S. Mills, Inc.	United Kingdom	Cereal	$1,000
Mid-America International Agri-Trade Council	U.S. Mills, Inc.	United States	Cereal	$1,000
Mid-America International Agri-Trade Council	Vienna Sausage Manufacturing Co.	Japan	Value added meats	$1,000
Mid-America International Agri-Trade Council	Vienna Sausage Manufacturing Co.	Mexico	Value added meats	$1,000
Mid-America International Agri-Trade Council	Vienna Sausage Manufacturing Co.	Singapore	Value added meats	$1,000
Mid-America International Agri-Trade Council	WCA Services, Inc.	Germany	Ginseng capsules	$1,000
Mid-America International Agri-Trade Council	WCA Services, Inc.	Sweden	Ginseng capsules	$1,000
Mid-America International Agri-Trade Council	Weaver Meats, Inc.	Canada	Snack foods	$1,000
Mid-America International Agri-Trade Council	Weaver Meats, Inc.	Hong Kong	Snack foods	$1,000
Mid-America International Agri-Trade Council	Weaver Meats, Inc.	Jamaica	Snack foods	$1,000
Mid-America International Agri-Trade Council	Weaver Meats, Inc.	United Kingdom	Snack foods	$1,000
Mid-America International Agri-Trade Council	Weaver Meats, Inc.	United States	Snack foods	$1,000
Mid-America International Agri-Trade Council	Western Export Services, Inc	Japan	grocery products, malt beverage, Beer	$1,000
Mid-America International Agri-Trade Council	Western Export Services, Inc	United States	grocery products, malt beverage, Beer	$1,000
Mid-America International Agri-Trade Council	Wisconsin Ginseng/Herb Association	China	Extract, capsules, aloe-cranberry juice drink	$1,000
Mid-America International Agri-Trade Council	Wisconsin Ginseng/Herb Association	United States	Extract, capsules, aloe-cranberry juice drink	$1,000
Mid-America International Agri-Trade Council	World Royale	Nigeria	Ginseng capsules	$1,000
Mid-America International Agri-Trade Council	World Royale	United States	Ginseng capsules	$1,000
Mid-America International Agri-Trade Council	Zinpro Corporation	Australia	Roasted Cron, Beans, Margarita Mix, Vinegars, Marinade	$1,000

1998 MAP Budget Ceilings by Trade Organization, Brand Company, Product and Market

Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
Mid-America International Agri-Trade Council	Zinpro Corporation	Brazil	Poasted Cron, Beans, Margarita Mix, Vinegars, Marinade	$1,000
Mid-America International Agri-Trade Council	Zinpro Corporation	China	Poasted Cron, Beans, Margarita Mix, Vinegars, Marinade	$1,000
Mid-America International Agri-Trade Council	Zinpro Corporation	France	Poasted Cron, Beans, Margarita Mix, Vinegars, Marinade	$1,000
Mid-America International Agri-Trade Council	Zinpro Corporation	Germany	Poasted Cron, Beans, Margarita Mix, Vinegars, Marinade	$1,000
Mid-America International Agri-Trade Council	Zinpro Corporation	Spain	Poasted Cron, Beans, Margarita Mix, Vinegars, Marinade	$1,000
Mid-America International Agri-Trade Council	Zinpro Corporation	United States	Poasted Cron, Beans, Margarita Mix, Vinegars, Marinade	$1,000
Total				$471,000
National Honey Board	Sioux Honey Association	Kuwait	Honey	$18,500
National Honey Board	Sioux Honey Association	Saudi Arabia	Honey	$20,000
National Honey Board	Sioux Honey Association	United Arab Emirates	Honey	$7,500
Total				$46,000
New York Wine and Grape Foundation	Anthony Road Wine Company	Canada	Wine	$2,000
New York Wine and Grape Foundation	Arcadian Estate Vineyards	Canada	wine	$1,000
New York Wine and Grape Foundation	Baldwin Vineyards	Canada	Wine	$5,000
New York Wine and Grape Foundation	Baldwin Vineyards	United Kingdom	Wine	$2,000
New York Wine and Grape Foundation	Cayuga Ridge Estate Winery	Sweden	wine	$2,000
New York Wine and Grape Foundation	Cayuga Ridge Estate Winery	United Kingdom	wine	$2,000
New York Wine and Grape Foundation	Dr. Konstantin Frank	Canada	Wine	$4,000
New York Wine and Grape Foundation	Glenora Wine Cellars, Inc.	Canada	N.Y. Wine	$2,000
New York Wine and Grape Foundation	Hunt Country Vineyards #2	Canada	wine	$2,000
New York Wine and Grape Foundation	Lakewood Vineyards	Canada	wine	$2,000
New York Wine and Grape Foundation	Lamoreaux Landing Wine Cellars	Sweden	Wine	$3,000
New York Wine and Grape Foundation	Lamoreaux Landing Wine Cellars	United Kingdom	Wine	$1,000
New York Wine and Grape Foundation	Wagner Vineyards	Canada	N.Y. Wine	$2,000
New York Wine and Grape Foundation	Wagner Vineyards	Sweden	N.Y. Wine	$2,000
New York Wine and Grape Foundation	Wagner Vineyards	United Kingdom	N.Y. Wine	$2,000
Total				$34,000
Ocean Spray International, Inc.	Ocean Spray International, Inc	United Kingdom	Cranberry Products	$336,604
Raisin Administrative Committee	Lion Enterprises	United Kingdom	raisins	$37,500
Raisin Administrative Committee	National Raisin Co.	United Kingdom	raisins	$12,500
Raisin Administrative Committee	Sun Maid	United Kingdom	California Raisins	$150,000
Total				$200,000
Southern United States Trade Association	Allied Foods, Inc.	Mexico	Pet foods	$10,000
Southern United States Trade Association	American Sales International	France	Shallowford Farms/Popcorn , Carolina's Best/ Popcorn	$2,500
Southern United States Trade Association	American Sales International	United Kingdom	Shallowford Farms/Popcorn , Carolina's Best/ Popcorn	$2,500
Southern United States Trade Association	American Tanning & Leather Company	Hong Kong	Alligator Hides	$9,000
Southern United States Trade Association	American Tanning & Leather Company	Italy	Alligator Hides	$3,000
Southern United States Trade Association	Crystal International Corporation	France	Trading Company General Grocery Line	$8,500
Southern United States Trade Association	Crystal International Corporation	Honduras	Trading Company General Grocery Line	$38,000
Southern United States Trade Association	Crystal International Corporation	Japan	Trading Company General Grocery Line	$2,750
Southern United States Trade Association	Crystal International Corporation	Jordan	Trading Company General Grocery Line	$5,000
Southern United States Trade Association	Crystal International Corporation	Kuwait	Trading Company General Grocery Line	$5,000
Southern United States Trade Association	Crystal International Corporation	Oman	Trading Company General Grocery Line	$17,000
Southern United States Trade Association	Crystal International Corporation	New Zealand	Trading Company General Grocery Line	$3,500
Southern United States Trade Association	Crystal International Corporation	Peru	Trading Company General Grocery Line	$5,000
Southern United States Trade Association	Crystal International Corporation	Qatar	Trading Company General Grocery Line	$9,000
Southern United States Trade Association	Crystal International Corporation	Saudi Arabia	Trading Company General Grocery Line	$163,750
Southern United States Trade Association	Crystal International Corporation	United Arab Emirates	Trading Company General Grocery Line	$10,000
Southern United States Trade Association	Crystal International Corporation	United Kingdom	Trading Company General Grocery Line	$2,500
Southern United States Trade Association	Donovan Brown & Associates	Argentina	Fruit Juices	$5,000

1998 MAP Budget Ceilings by Trade Organization, Brand Company, Product and Market

Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
Southern United States Trade Association	Donovan Brown & Associates	Mexico	Fruit Juices	$15,000
Southern United States Trade Association	Donovan Brown & Associates	Uruguay	Fruit Juices	$2,500
Southern United States Trade Association	Edimar International	Bahamas	Condiments, Sauces, Pastas, Peanut Butter	$5,000
Southern United States Trade Association	Edimar International	Trinidad & Tobacco	Condiments, Sauces, Pastas, Peanut Butter	$5,000
Southern United States Trade Association	Goody, Inc.	United Kingdom	pretzels	$200,000
Southern United States Trade Association	International Seafood Distributors	Belgium	Sea Scallops, Conch, Monkfish, Crab, Dogfish, Eels	$8,000
Southern United States Trade Association	International Seafood Distributors	China	Sea Scallops, Conch, Monkfish, Crab, Dogfish, Eels	$18,000
Southern United States Trade Association	International Seafood Distributors	Hong Kong	Sea Scallops, Conch, Monkfish, Crab, Dogfish, Eels	$2,000
Southern United States Trade Association	J.T. Gibbons	Panama	Trading Company General Grocery Line	$15,000
Southern United States Trade Association	J.T. Gibbons	Russia	Trading Company General Grocery Line	$20,000
Southern United States Trade Association	J.T. Gibbons	South Africa	Trading Company General Grocery Line	$15,000
Southern United States Trade Association	Jardine Foods	Australia	Trading Company General Grocery Line	$10,000
Southern United States Trade Association	Jardine Foods	Denmark	Trading Company General Grocery Line	$1,000
Southern United States Trade Association	Jardine Foods	Ireland	Trading Company General Grocery Line	$1,000
Southern United States Trade Association	Jardine Foods	France	Trading Company General Grocery Line	$1,000
Southern United States Trade Association	Jardine Foods	Sweden	Trading Company General Grocery Line	$1,000
Southern United States Trade Association	Jardine Foods	United Kingdom	Trading Company General Grocery Line	$1,000
Southern United States Trade Association	KSM Seafood Corporation	Argentina	Seafood and Aquaculture	$1,000
Southern United States Trade Association	KSM Seafood Corporation	Barbados	Seafood and Aquaculture	$1,000
Southern United States Trade Association	KSM Seafood Corporation	Brazil	Seafood and Aquaculture	$1,500
Southern United States Trade Association	KSM Seafood Corporation	France	Seafood and Aquaculture	$11,500
Southern United States Trade Association	KSM Seafood Corporation	Germany	Seafood and Aquaculture	$2,363
Southern United States Trade Association	KSM Seafood Corporation	Israel	Seafood and Aquaculture	$1,850
Southern United States Trade Association	KSM Seafood Corporation	United Arab Emirates	Seafood and Aquaculture	$2,037
Southern United States Trade Association	KSM Seafood Corporation	United Kingdom	Seafood and Aquaculture	$3,750
Southern United States Trade Association	Kwik Enterprises	Argentina	Snack Food	$3,500
Southern United States Trade Association	Kwik Enterprises	Bolivia	Snack Food	$1,000
Southern United States Trade Association	Kwik Enterprises	Brazil	Snack Food	$3,000
Southern United States Trade Association	Kwik Enterprises	China	Snack Food	$1,000
Southern United States Trade Association	Kwik Enterprises	France	Snack Food	$1,000
Southern United States Trade Association	Kwik Enterprises	Hong Kong	Snack Food	$3,000
Southern United States Trade Association	Kwik Enterprises	Indonesia	Snack Food	$3,000
Southern United States Trade Association	Kwik Enterprises	Macau	Snack Food	$3,000
Southern United States Trade Association	Kwik Enterprises	Philippines	Snack Food	$3,000
Southern United States Trade Association	Kwik Enterprises	Singapore	Snack Food	$1,000
Southern United States Trade Association	Kwik Enterprises	Switzerland	Snack Food	$1,000
Southern United States Trade Association	Kwik Enterprises	Uruguay	Snack Food	$1,000
Southern United States Trade Association	Kwik Enterprises	Venezuela	Snack Food	$1,000
Southern United States Trade Association	PS International	France	Wheat flour, rice, popcorn, lentils, peas	$15,050
Southern United States Trade Association	The El Paso Chile Company	Australia	Salsas, spicy dips, Margarita and Bloody Mary Mixes, must	$5,000
Southern United States Trade Association	The El Paso Chile Company	France	Salsas, spicy dips, Margarita and Bloody Mary Mixes, must	$33,650
Southern United States Trade Association	The El Paso Chile Company	Germany	Salsas, spicy dips, Margarita and Bloody Mary Mixes, must	$25,500
Southern United States Trade Association	The El Paso Chile Company	Spain	Salsas, spicy dips, Margarita and Bloody Mary Mixes, must	$11,275
Southern United States Trade Association	The El Paso Chile Company	United Kingdom	Salsas, spicy dips, Margarita and Bloody Mary Mixes, must	$18,575
Total				$782,050
Sunkist Growers, Inc	Sunkist Growers	Canada	Fresh Citrus	$425,000
Sunkist Growers, Inc	Sunkist Growers	Hong Kong	Fresh Citrus	$375,000
Sunkist Growers, Inc	Sunkist Growers	Japan	Fresh Citrus	$1,481,247
Sunkist Growers, Inc	Sunkist Growers	Malaysia	Fresh Citrus	$125,000
Sunkist Growers, Inc	Sunkist Growers	Singapore	Fresh Citrus	$125,000
Total				$2,531,247
U.S. Livestock Genetics	ABS International	Argentina	Bovine Genetics	$1,700
U.S. Livestock Genetics	ABS International	Australia	Bovine Genetics	$1,216

1998 MAP Budget Ceilings by Trade Organization, Brand Company, Product and Market

Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
U.S. Livestock Genetics	ABS International	Brazil	Bovine Genetics	$1,700
U.S. Livestock Genetics	ABS International	China	Bovine Genetics	$2,550
U.S. Livestock Genetics	ABS International	Colombia	Bovine Genetics	$2,200
U.S. Livestock Genetics	ABS International	Czech Republic	Bovine Genetics	$1,500
U.S. Livestock Genetics	ABS International	France	Bovine Genetics	$4,000
U.S. Livestock Genetics	ABS International	Germany	Bovine Genetics	$5,000
U.S. Livestock Genetics	ABS International	Hungary	Bovine Genetics	$1,000
U.S. Livestock Genetics	ABS International	Italy	Bovine Genetics	$4,334
U.S. Livestock Genetics	ABS International	Japan	Bovine Genetics	$3,000
U.S. Livestock Genetics	ABS International	Kenya	Bovine Genetics	$6,000
U.S. Livestock Genetics	ABS International	Korea, South	Bovine Genetics	$1,000
U.S. Livestock Genetics	ABS International	Slovakia	Bovine Genetics	$1,000
U.S. Livestock Genetics	ABS International	Mexico	Bovine Genetics	$2,200
U.S. Livestock Genetics	ABS International	New Zealand	Bovine Genetics	$850
U.S. Livestock Genetics	ABS International	Poland	Bovine Genetics	$1,000
U.S. Livestock Genetics	ABS International	Spain	Bovine Genetics	$1,000
U.S. Livestock Genetics	ABS International	Thailand	Bovine Genetics	$750
U.S. Livestock Genetics	ABS International	Taiwan	Bovine Genetics	$750
U.S. Livestock Genetics	ABS International	United Kingdom	Bovine Genetics	$2,500
U.S. Livestock Genetics	ABS International	Zimbabwe	Bovine Genetics	$750
U.S. Livestock Genetics	AMS Genetics	Germany	Angus Embryo Promotion	$4,000
U.S. Livestock Genetics	Accelerated Genetics #2	Argentina	US animal breeders	$5,000
U.S. Livestock Genetics	Accelerated Genetics #2	Brazil	US animal breeders	$3,300
U.S. Livestock Genetics	Accelerated Genetics #2	Mexico	US animal breeders	$3,500
U.S. Livestock Genetics	Ag-Link International, Inc.	Brazil	Frozen Bovine Semen & Embryos	$2,000
U.S. Livestock Genetics	Ag-Link International, Inc.	Mexico	Frozen Bovine Semen & Embryos	$3,417
U.S. Livestock Genetics	Alta Genetics	Australia	Bovine Genetics	$4,500
U.S. Livestock Genetics	Alta Genetics	Italy	Bovine Genetics	$3,333
U.S. Livestock Genetics	Alta Genetics	Mexico	Bovine Genetics	$17,167
U.S. Livestock Genetics	Amos Ranch	Canada	Simmental Semen	$1,125
U.S. Livestock Genetics	Bovine Elite, Inc	Guatemala	Bovine Genetics	$2,000
U.S. Livestock Genetics	Bovine Elite, Inc	Panama	Bovine Genetics	$2,000
U.S. Livestock Genetics	CRI	Brazil	US Genetics-Bovine Semen	$8,000
U.S. Livestock Genetics	CRI	Chile	US Genetics-Bovine Semen	$1,000
U.S. Livestock Genetics	CRI	Colombia	US Genetics-Bovine Semen	$4,000
U.S. Livestock Genetics	CRI	Mexico	US Genetics-Bovine Semen	$5,500
U.S. Livestock Genetics	Colorado Cattle Tradin	Mexico	Beef cattle, semen and embryos	$4,000
U.S. Livestock Genetics	Elgin Breeding Service	Australia	US Genetics-Bovine Semen	$2,000
U.S. Livestock Genetics	Elgin Breeding Service	Paraguay	US Genetics-Bovine Semen	$2,000
U.S. Livestock Genetics	Excalibur Sires	United Kingdom	Bovine Genetics	$4,000
U.S. Livestock Genetics	Genetic Leaders Int'l	Colombia		$2,000
U.S. Livestock Genetics	Maplehurst Genetics	Turkey	Frozen Bovine Semen	$3,000
U.S. Livestock Genetics	New Generations Dairy Cattle	Australia	Bovine Semen	$500
U.S. Livestock Genetics	New Generations Dairy Cattle	Austria	Bovine Semen	$1,000
U.S. Livestock Genetics	New Generations Dairy Cattle	Germany	Bovine Semen	$2,000
U.S. Livestock Genetics	New Generations Dairy Cattle	Switzerland	Bovine Semen	$6,000
U.S. Livestock Genetics	New Generations Dairy Cattle	United Kingdom	Bovine Semen	$500
U.S. Livestock Genetics	Prickly Pear Ranch	Brazil	Bovine Genetics	$880
U.S. Livestock Genetics	Prickly Pear Ranch	Canada	Bovine Genetics	$4,000
U.S. Livestock Genetics	Select Sires	Argentina	Frozen Bovine Semen	$6,000
U.S. Livestock Genetics	Select Sires	Brazil	Frozen Bovine Semen	$7,000
U.S. Livestock Genetics	Select Sires	Mexico	Frozen Bovine Semen	$7,000
U.S. Livestock Genetics	Sire Power, Inc.	Brazil	Frozen Bovine Semen	$5,000
U.S. Livestock Genetics	Sire Power, Inc.	Mexico	Frozen Bovine Semen	$4,000
U.S. Livestock Genetics	Worldwide Sires, Inc.	Australia	Frozen Bovine Semen	$5,784

1998 MAP Budget Ceilings by Trade Organization, Brand Company, Product and Market

Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
U.S. Livestock Genetics	Worldwide Sires, Inc.	China	Frozen Bovine Semen	$1,750
U.S. Livestock Genetics	Worldwide Sires, Inc.	Italy	Frozen Bovine Semen	$3,333
U.S. Livestock Genetics	Worldwide Sires, Inc.	Japan	Frozen Bovine Semen	$3,000
U.S. Livestock Genetics	Worldwide Sires, Inc.	Kenya	Frozen Bovine Semen	$750
U.S. Livestock Genetics	Worldwide Sires, Inc.	Netherlands	Frozen Bovine Semen	$4,000
U.S. Livestock Genetics	Worldwide Sires, Inc.	New Zealand	Frozen Bovine Semen	$2,500
U.S. Livestock Genetics	Worldwide Sires, Inc.	Poland	Frozen Bovine Semen	$2,250
U.S. Livestock Genetics	Worldwide Sires, Inc.	Russia	Frozen Bovine Semen	$1,500
U.S. Livestock Genetics	Worldwide Sires, Inc.	Spain	Frozen Bovine Semen	$4,800
U.S. Livestock Genetics	Worldwide Sires, Inc.	United Kingdom	Frozen Bovine Semen	$17,333
Total				$223,722
U.S. Meat Export Federation	Certified Angus Beef	Bermuda	Beef	$2,150
U.S. Meat Export Federation	Certified Angus Beef	Bahamas	Beef	$2,350
U.S. Meat Export Federation	Certified Angus Beef	Canada	Beef	$10,700
U.S. Meat Export Federation	Certified Angus Beef	Japan	Beef	$15,750
U.S. Meat Export Federation	Certified Angus Beef	Mexico	Beef	$6,000
U.S. Meat Export Federation	Certified Angus Beef	Peru	Beef	$2,700
U.S. Meat Export Federation	Imperial Packers and Purveyors, Inc	Mexico	Lugareno Superior Spanish Sausages	$4,500
U.S. Meat Export Federation	John Volpi & Company, Inc.	Japan	Traditional Italian Prosciutto & Rotola	$12,000
U.S. Meat Export Federation	Jones Dairy Farm	Bermuda	Pork sausage, bacon, hams	$2,000
U.S. Meat Export Federation	Jones Dairy Farm	Hong Kong	Pork sausage, bacon, hams	$7,000
U.S. Meat Export Federation	Jones Dairy Farm	Japan	Pork sausage, bacon, hams	$40,000
U.S. Meat Export Federation	Jones Dairy Farm	Singapore	Pork sausage, bacon, hams	$1,000
U.S. Meat Export Federation	Lee Enterprises	Korea, South	Beef	$12,000
U.S. Meat Export Federation	Parker International, Inc.	Brazil	Beef Variety Meats	$11,500
U.S. Meat Export Federation	Parker International, Inc.	Hong Kong	Beef Variety Meats	$11,500
U.S. Meat Export Federation	Parker International, Inc.	Japan	Beef Variety Meats	$11,500
U.S. Meat Export Federation	Parker International, Inc.	Korea, South	Beef Variety Meats	$11,500
U.S. Meat Export Federation	Parker International, Inc.	Taiwan	Beef Variety Meats	$11,500
U.S. Meat Export Federation	Universal Frozen Foods	Japan	Frozen Potato Products	$8,500
Total				$184,150
USA Poultry and Egg Export Council	El Jay	Hong Kong		$100,000
USA Poultry and Egg Export Council	Lamex Foods, Inc.	Taiwan	chicken broth	$40,000
USA Poultry and Egg Export Council	Norbest	Japan	Further process turkey and whole turkey	$2,500
USA Poultry and Egg Export Council	Sunday House Foods, Inc.	Mexico	Further processed chicken/turkey	$5,000
Total				$147,500
Welch's Food	Welch Foods, Inc.	Hong Kong	Welch's Fruit Drinks, Fruit Juices	$100,000
Welch's Food	Welch Foods, Inc.	Japan	Welch's Fruit Drinks, Fruit Juices	$191,391
Welch's Food	Welch Foods, Inc.	Korea, South	Welch's Fruit Drinks, Fruit Juices	$229,000
Welch's Food	Welch Foods, Inc.	Taiwan	Welch's Fruit Drinks, Fruit Juices	$110,000
Welch's Food	Welch Foods, Inc.	United Kingdom	Welch's Fruit Drinks, Fruit Juices	$65,000
Total				$695,391
Western United States Agricultural Trade Assoc.	2020 Development Co., LLC	Brazil	Beverages	$5,000
Western United States Agricultural Trade Assoc.	2020 Development Co., LLC	China	Beverages	$5,000
Western United States Agricultural Trade Assoc.	2020 Development Co., LLC	Hong Kong	Beverages	$5,000
Western United States Agricultural Trade Assoc.	2020 Development Co., LLC	Japan	Beverages	$5,000
Western United States Agricultural Trade Assoc.	2020 Development Co., LLC	Singapore	Beverages	$5,000
Western United States Agricultural Trade Assoc.	2020 Development Co., LLC	Taiwan	Beverages	$5,000
Western United States Agricultural Trade Assoc.	Agripac, Inc,	China	Vegetables-canned and frozen	$30,000
Western United States Agricultural Trade Assoc.	Agway Inc.	Canada	Hulled Millet, Confection Sunflower	$5,000
Western United States Agricultural Trade Assoc.	Agway Inc.	Japan	Hulled Millet, Confection Sunflower	$5,000

1998 MAP Budget Ceilings by Trade Organization, Brand Company, Product and Market

Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
Western United States Agricultural Trade Assoc.	Agway Inc.	United Arab Emirates	Hulled Millet, Confection Sunflower	$5,000
Western United States Agricultural Trade Assoc.	Agway Inc.	Taiwan	Hulled Millet, Confection Sunflower	$5,000
Western United States Agricultural Trade Assoc.	Alaska Smokehouse	Canada	Smoked Salmon	$5,000
Western United States Agricultural Trade Assoc.	Alaska Smokehouse	China	Smoked Salmon	$5,000
Western United States Agricultural Trade Assoc.	Alaska Smokehouse	Hong Kong	Smoked Salmon	$5,000
Western United States Agricultural Trade Assoc.	Alaska Smokehouse	Mexico	Smoked Salmon	$5,000
Western United States Agricultural Trade Assoc.	Alaska Smokehouse	Taiwan	Smoked Salmon	$5,000
Western United States Agricultural Trade Assoc.	Alaska Smokehouse	United Kingdom	Smoked Salmon	$5,000
Western United States Agricultural Trade Assoc.	America's Classic Foods	China	Mixed & Processed: Bakery products, hard and soft ice cre	$11,000
Western United States Agricultural Trade Assoc.	America's Classic Foods	Mexico	Mixed & Processed: Bakery products, hard and soft ice cre	$5,000
Western United States Agricultural Trade Assoc.	America's Classic Foods	Philippines	Mixed & Processed: Bakery products, hard and soft ice cre	$4,000
Western United States Agricultural Trade Assoc.	America's Classic Foods	South Africa	Mixed & Processed: Bakery products, hard and soft ice cre	$1,000
Western United States Agricultural Trade Assoc.	America's Classic Foods	Singapore	Mixed & Processed: Bakery products, hard and soft ice cre	$5,000
Western United States Agricultural Trade Assoc.	America's Classic Foods	Vietnam	Mixed & Processed: Bakery products, hard and soft ice cre	$5,000
Western United States Agricultural Trade Assoc.	American Eagle Beverages, Inc.	Argentina	Beverages	$15,000
Western United States Agricultural Trade Assoc.	American Eagle Beverages, Inc.	Brazil	Beverages	$15,000
Western United States Agricultural Trade Assoc.	American Eagle Beverages, Inc.	Hong Kong	Beverages	$20,000
Western United States Agricultural Trade Assoc.	American Popcorn Corp.	Finland	Salted, Cheese, Caramel, Chocolate, Fruit Popcorn	$5,000
Western United States Agricultural Trade Assoc.	American Popcorn Corp.	Norway	Salted, Cheese, Caramel, Chocolate, Fruit Popcorn	$5,000
Western United States Agricultural Trade Assoc.	American Popcorn Corp.	Sweden	Salted, Cheese, Caramel, Chocolate, Fruit Popcorn	$5,000
Western United States Agricultural Trade Assoc.	Ames International, Inc.	China	Nuts & Nut Products	$5,000
Western United States Agricultural Trade Assoc.	Ames International, Inc.	Hong Kong	Nuts & Nut Products	$5,000
Western United States Agricultural Trade Assoc.	Ames International, Inc.	Japan	Nuts & Nut Products	$5,000
Western United States Agricultural Trade Assoc.	Ames International, Inc.	Mexico	Nuts & Nut Products	$5,000
Western United States Agricultural Trade Assoc.	Ames International, Inc.	Taiwan	Nuts & Nut Products	$5,000
Western United States Agricultural Trade Assoc.	Amy's Kitchen, Inc.	Australia	Frozen entrees	$5,000
Western United States Agricultural Trade Assoc.	Amy's Kitchen, Inc.	Canada	Frozen entrees	$5,000
Western United States Agricultural Trade Assoc.	Amy's Kitchen, Inc.	United Kingdom	Frozen entrees	$5,000
Western United States Agricultural Trade Assoc.	Aspen International Export Inc.	Fiji	groecery products	$5,000
Western United States Agricultural Trade Assoc.	Aspen International Export Inc.	French Polynesia	groecery products	$5,000
Western United States Agricultural Trade Assoc.	Aspen International Export Inc.	Tonga	groecery products	$5,000
Western United States Agricultural Trade Assoc.	Associated Microbreweries, Inc.	Canada	Beverages-beer	$5,000
Western United States Agricultural Trade Assoc.	Associated Microbreweries, Inc.	Mexico	Beverages-beer	$5,000
Western United States Agricultural Trade Assoc.	Associated Microbreweries, Inc.	Romania	Beverages-beer	$5,000
Western United States Agricultural Trade Assoc.	Associated Microbreweries, Inc.	Russia	Beverages-beer	$5,000
Western United States Agricultural Trade Assoc.	Atwater Canning Co. Inc.	Mexico	Vegetables-canned	$5,000
Western United States Agricultural Trade Assoc.	Azmex Foods, Inc.	Mexico	Dairy Products	$5,000
Western United States Agricultural Trade Assoc.	B.M. Lawrence And Company	China	Grocery Products Line	$2,000
Western United States Agricultural Trade Assoc.	B.M. Lawrence And Company	France	Grocery Products Line	$5,000
Western United States Agricultural Trade Assoc.	B.M. Lawrence And Company	Hong Kong	Grocery Products Line	$2,000
Western United States Agricultural Trade Assoc.	B.M. Lawrence And Company	Japan	Grocery Products Line	$10,000
Western United States Agricultural Trade Assoc.	B.M. Lawrence And Company	Philippines	Grocery Products Line	$2,500
Western United States Agricultural Trade Assoc.	B.M. Lawrence And Company	Singapore	Grocery Products Line	$2,500
Western United States Agricultural Trade Assoc.	Barbara's Bakery	United Kingdom	Snack foods	$5,000
Western United States Agricultural Trade Assoc.	Bard Valley Medjool Date Growers Asso	Australia	Medjool Dates	$5,000
Western United States Agricultural Trade Assoc.	Bard Valley Medjool Date Growers Asso	Canada	Medjool Dates	$5,000
Western United States Agricultural Trade Assoc.	Bard Valley Medjool Date Growers Asso	Switzerland	Medjool Dates	$5,000
Western United States Agricultural Trade Assoc.	Bard Valley Medjool Date Growers Asso	United Kingdom	Medjool Dates	$5,000
Western United States Agricultural Trade Assoc.	Bay Pac Beverages	Japan	juice, sport drinks	$5,000
Western United States Agricultural Trade Assoc.	Bay Pac Beverages	Korea, South	juice, sport drinks	$5,000
Western United States Agricultural Trade Assoc.	Bay Pac Beverages	Malta & Gozo	juice, sport drinks	$5,000
Western United States Agricultural Trade Assoc.	Bay Pac Beverages	Mexico	juice, sport drinks	$5,000
Western United States Agricultural Trade Assoc.	Bay Pac Beverages	Taiwan	juice, sport drinks	$5,000
Western United States Agricultural Trade Assoc.	Bear Creek Country Kitchens, Inc.	Argentina	Oils-organic	$5,000
Western United States Agricultural Trade Assoc.	Bear Creek Country Kitchens, Inc.	Canada	Oils-organic	$5,000

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Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
Western United States Agricultural Trade Assoc.	Bear Creek Country Kitchens, Inc.	France	Oils-organic	$5,000
Western United States Agricultural Trade Assoc.	Bear Creek Country Kitchens, Inc.	Germany	Oils-organic	$5,000
Western United States Agricultural Trade Assoc.	Bear Creek Country Kitchens, Inc.	Japan	Oils-organic	$5,000
Western United States Agricultural Trade Assoc.	Bear Creek Country Kitchens, Inc.	Taiwan	Oils-organic	$5,000
Western United States Agricultural Trade Assoc.	Bell-Carter Foods, Inc.	Brazil	Canned Ripe Olives	$5,000
Western United States Agricultural Trade Assoc.	Bell-Carter Foods, Inc.	France	Canned Ripe Olives	$5,000
Western United States Agricultural Trade Assoc.	Bell-Carter Foods, Inc.	Germany	Canned Ripe Olives	$5,000
Western United States Agricultural Trade Assoc.	Bell-Carter Foods, Inc.	Italy	Canned Ripe Olives	$5,000
Western United States Agricultural Trade Assoc.	Bell-Carter Foods, Inc.	Japan	Canned Ripe Olives	$5,000
Western United States Agricultural Trade Assoc.	Bell-Carter Foods, Inc.	Mexico	Canned Ripe Olives	$5,000
Western United States Agricultural Trade Assoc.	Bentley & Bentley	Canada	Frozen fruits, vegetables, concentrates etc.	$5,000
Western United States Agricultural Trade Assoc.	Bentley & Bentley	Germany	Frozen fruits, vegetables, concentrates etc.	$5,000
Western United States Agricultural Trade Assoc.	Bentley & Bentley	Hong Kong	Frozen fruits, vegetables, concentrates etc.	$5,000
Western United States Agricultural Trade Assoc.	Bentley & Bentley	Japan	Frozen fruits, vegetables, concentrates etc.	$5,000
Western United States Agricultural Trade Assoc.	Bentley & Bentley	Taiwan	Frozen fruits, vegetables, concentrates etc.	$5,000
Western United States Agricultural Trade Assoc.	Bentley & Bentley	Venezuela	Frozen fruits, vegetables, concentrates etc.	$5,000
Western United States Agricultural Trade Assoc.	Billy Blues Food Corp.	Canada	Sauces and Spices	$5,000
Western United States Agricultural Trade Assoc.	Billy Blues Food Corp.	France	Sauces and Spices	$5,000
Western United States Agricultural Trade Assoc.	Billy Blues Food Corp.	Italy	Sauces and Spices	$5,000
Western United States Agricultural Trade Assoc.	Billy Blues Food Corp.	Japan	Sauces and Spices	$5,000
Western United States Agricultural Trade Assoc.	Billy Blues Food Corp.	United Kingdom	Sauces and Spices	$5,000
Western United States Agricultural Trade Assoc.	Blue Bell Creameries, L.P.	Macedonia	Ice Cream/ Yogurt	$5,000
Western United States Agricultural Trade Assoc.	Blue Sky Natural Beverage Co.	Canada	Beverages	$5,000
Western United States Agricultural Trade Assoc.	Boston Beer Company	Australia	Beer	$5,000
Western United States Agricultural Trade Assoc.	Boston Beer Company	Hong Kong	Beer	$5,000
Western United States Agricultural Trade Assoc.	Boston Beer Company	Japan	Beer	$5,000
Western United States Agricultural Trade Assoc.	Buckeye Bean & Herbs, Inc.	Canada	Pastas, dry soup, bread, sauce mixes	$5,000
Western United States Agricultural Trade Assoc.	Buckeye Bean & Herbs, Inc.	Japan	Pastas, dry soup, bread, sauce mixes	$5,000
Western United States Agricultural Trade Assoc.	California Natural Products	Norway	Medjool dates	$5,000
Western United States Agricultural Trade Assoc.	California Natural Products	Sweden	Medjool dates	$5,000
Western United States Agricultural Trade Assoc.	Capilano Pacific, Inc.	China	Pasta & dry mixes	$10,000
Western United States Agricultural Trade Assoc.	Cascade Clear Water Co.	Canada	beverages	$5,000
Western United States Agricultural Trade Assoc.	Cascade Clear Water Co.	Hong Kong	beverages	$5,000
Western United States Agricultural Trade Assoc.	Cascade Clear Water Co.	Japan	beverages	$5,000
Western United States Agricultural Trade Assoc.	Cascade Clear Water Co.	Philippines	beverages	$5,000
Western United States Agricultural Trade Assoc.	Cascade Clear Water Co.	Singapore	beverages	$5,000
Western United States Agricultural Trade Assoc.	Cascade Clear Water Co.	Taiwan	beverages	$5,000
Western United States Agricultural Trade Assoc.	Cenzone Tech Inc.	Bosnia-Hercegovina	enzymes, acid, lactose	$5,000
Western United States Agricultural Trade Assoc.	Cenzone Tech Inc.	Hungary	enzymes, acid, lactose	$5,000
Western United States Agricultural Trade Assoc.	Cenzone Tech Inc.	Mexico	enzymes, acid, lactose	$5,000
Western United States Agricultural Trade Assoc.	Cenzone Tech Inc.	Taiwan	enzymes, acid, lactose	$5,000
Western United States Agricultural Trade Assoc.	Chef Paul Prudhomme's Magic Seasonin	Japan	Sauces and Spices	$5,000
Western United States Agricultural Trade Assoc.	Chez De Prez Cheesecake, Inc.	Canada	cheese cake	$80,000
Western United States Agricultural Trade Assoc.	Chez De Prez Cheesecake, Inc.	Mexico	cheese cake	$70,000
Western United States Agricultural Trade Assoc.	Chief Wenatchee	Japan	Fresh Fruit	$5,000
Western United States Agricultural Trade Assoc.	Chukar Cherry Company	Canada	Cherry & Berry Products	$5,000
Western United States Agricultural Trade Assoc.	Coffees of Hawaii, Inc.	France	Coffee	$5,000
Western United States Agricultural Trade Assoc.	Coffees of Hawaii, Inc.	Japan	Coffee	$5,000
Western United States Agricultural Trade Assoc.	Coffees of Hawaii, Inc.	Switzerland	Coffee	$5,000
Western United States Agricultural Trade Assoc.	Cookietree Bakeries	Canada	Snack Foods	$12,500
Western United States Agricultural Trade Assoc.	Cookietree Bakeries	France	Snack Foods	$9,000
Western United States Agricultural Trade Assoc.	Cookietree Bakeries	Hong Kong	Snack Foods	$4,000
Western United States Agricultural Trade Assoc.	Cookietree Bakeries	Japan	Snack Foods	$47,500
Western United States Agricultural Trade Assoc.	Cookietree Bakeries	Singapore	Snack Foods	$4,000
Western United States Agricultural Trade Assoc.	Cookietree Bakeries	United Kingdom	Snack Foods	$50,000

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Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
Western United States Agricultural Trade Assoc.	Corona College Heights Orange & Lemo	Japan	lemons, oranges, grapefruit	$5,000
Western United States Agricultural Trade Assoc.	Corona College Heights Orange & Lemo	Korea, South	lemons, oranges, grapefruit	$5,000
Western United States Agricultural Trade Assoc.	Corona College Heights Orange & Lemo	Malaysia	lemons, oranges, grapefruit	$5,000
Western United States Agricultural Trade Assoc.	DXR International, Inc	China	grocery products	$5,000
Western United States Agricultural Trade Assoc.	DXR International, Inc	Korea, South	grocery products	$5,000
Western United States Agricultural Trade Assoc.	DXR International, Inc	Philippines	grocery products	$5,000
Western United States Agricultural Trade Assoc.	DXR International, Inc	Singapore	grocery products	$5,000
Western United States Agricultural Trade Assoc.	DXR International, Inc	Taiwan	grocery products	$5,000
Western United States Agricultural Trade Assoc.	DaVinci Gourmet, Ltd.	Canada	Mochas, dessert sauces, lattes	$5,000
Western United States Agricultural Trade Assoc.	DaVinci Gourmet, Ltd.	Japan	Mochas, dessert sauces, lattes	$1,000
Western United States Agricultural Trade Assoc.	DaVinci Gourmet, Ltd.	Netherlands	Mochas, dessert sauces, lattes	$5,000
Western United States Agricultural Trade Assoc.	DaVinci Gourmet, Ltd.	Spain	Mochas, dessert sauces, lattes	$5,000
Western United States Agricultural Trade Assoc.	DaVinci Gourmet, Ltd.	Sweden	Mochas, dessert sauces, lattes	$5,000
Western United States Agricultural Trade Assoc.	DaVinci Gourmet, Ltd.	United Kingdom	Mochas, dessert sauces, lattes	$5,000
Western United States Agricultural Trade Assoc.	Derco Foods	Brazil	Vegetables, nuts, fruits (dried and fresh)	$5,000
Western United States Agricultural Trade Assoc.	Derco Foods	China	Vegetables, nuts, fruits (dried and fresh)	$5,000
Western United States Agricultural Trade Assoc.	Derco Foods	Colombia	Vegetables, nuts, fruits (dried and fresh)	$5,000
Western United States Agricultural Trade Assoc.	Derco Foods	United Kingdom	Vegetables, nuts, fruits (dried and fresh)	$5,000
Western United States Agricultural Trade Assoc.	Derco Foods	Venezuela	Vegetables, nuts, fruits (dried and fresh)	$5,000
Western United States Agricultural Trade Assoc.	Earthrise Company	Germany	fruit, vegetables	$32,500
Western United States Agricultural Trade Assoc.	Earthrise Company	Italy	fruit, vegetables	$4,000
Western United States Agricultural Trade Assoc.	Earthrise Company	Slovenia	fruit, vegetables	$2,500
Western United States Agricultural Trade Assoc.	Earthrise Company	Switzerland	fruit, vegetables	$6,500
Western United States Agricultural Trade Assoc.	Earthrise Company	Taiwan	fruit, vegetables	$9,000
Western United States Agricultural Trade Assoc.	Earthrise Company	United Kingdom	fruit, vegetables	$26,500
Western United States Agricultural Trade Assoc.	Equipment Team Hawaii	Belgium	fruit	$5,000
Western United States Agricultural Trade Assoc.	Everson Spice Company, Inc.	Canada	Seasonings	$5,000
Western United States Agricultural Trade Assoc.	Excel Trade Limited	Malaysia	Frozen Desserts	$5,000
Western United States Agricultural Trade Assoc.	French Gourmet Inc.	China	Bakery Products	$28,250
Western United States Agricultural Trade Assoc.	French Gourmet Inc.	Hong Kong	Bakery Products	$43,250
Western United States Agricultural Trade Assoc.	French Gourmet Inc.	Japan	Bakery Products	$20,250
Western United States Agricultural Trade Assoc.	French Gourmet Inc.	Singapore	Bakery Products	$13,250
Western United States Agricultural Trade Assoc.	Frontier Trading	Mexico	grocery products	$5,000
Western United States Agricultural Trade Assoc.	Global Merchandising Corp.	China	Spices, cookies, peanuts	$5,000
Western United States Agricultural Trade Assoc.	Global Merchandising Corp.	Japan	Spices, cookies, peanuts	$5,000
Western United States Agricultural Trade Assoc.	Global Merchandising Corp.	Philippines	Spices, cookies, peanuts	$5,000
Western United States Agricultural Trade Assoc.	Global Trading Resource	Russia	Condiments and vegetable oils, flour, turkey	$10,000
Western United States Agricultural Trade Assoc.	Golden Temple Bakery, Inc.	Argentina	Cereals	$5,000
Western United States Agricultural Trade Assoc.	Golden Temple Bakery, Inc.	China	Cereals	$5,000
Western United States Agricultural Trade Assoc.	Golden Temple Bakery, Inc.	Japan	Cereals	$5,000
Western United States Agricultural Trade Assoc.	Golden Temple Bakery, Inc.	Mexico	Cereals	$5,000
Western United States Agricultural Trade Assoc.	Golden Temple Bakery, Inc.	Saudi Arabia	Cereals	$5,000
Western United States Agricultural Trade Assoc.	Golden Temple Bakery, Inc.	United Arab Emirates	Cereals	$5,000
Western United States Agricultural Trade Assoc.	Golden West Nuts, Inc.	Brazil	Almonds	$15,000
Western United States Agricultural Trade Assoc.	Golden West Nuts, Inc.	France	Almonds	$25,000
Western United States Agricultural Trade Assoc.	Golden West Nuts, Inc.	Saudi Arabia	Almonds	$15,000
Western United States Agricultural Trade Assoc.	Golden West Nuts, Inc.	Singapore	Almonds	$15,000
Western United States Agricultural Trade Assoc.	Golden West Nuts, Inc.	United Arab Emirates	Almonds	$25,000
Western United States Agricultural Trade Assoc.	Great Crescent International Inc.	Canada	crackers, cookies	$5,000
Western United States Agricultural Trade Assoc.	Great Crescent International Inc.	China	crackers, cookies	$5,000
Western United States Agricultural Trade Assoc.	Great Crescent International Inc.	France	crackers, cookies	$5,000
Western United States Agricultural Trade Assoc.	Great Crescent International Inc.	Hong Kong	crackers, cookies	$5,000
Western United States Agricultural Trade Assoc.	Great Crescent International Inc.	Taiwan	crackers, cookies	$5,000
Western United States Agricultural Trade Assoc.	Great Crescent International Inc.	United Kingdom	crackers, cookies	$5,000
Western United States Agricultural Trade Assoc.	Great Western Tortilla Co.	France	salsas, tortilla chips	$5,000

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Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
Western United States Agricultural Trade Assoc.	Great Western Tortilla Co.	Germany	salsas, tortilla chips	$5,000
Western United States Agricultural Trade Assoc.	Great Western Tortilla Co.	Japan	salsas, tortilla chips	$5,000
Western United States Agricultural Trade Assoc.	Green Foods Corporation	Canada	Barley pet and nutritional supplement	$5,000
Western United States Agricultural Trade Assoc.	H & H Foods	United Kingdom	Trading Company General Grocery Line	$5,000
Western United States Agricultural Trade Assoc.	H.A. Williams International	Singapore	Cookies and biscuits	$5,000
Western United States Agricultural Trade Assoc.	Hawaiian Sun Products	Canada	Nut & Fruit Proudcts	$5,000
Western United States Agricultural Trade Assoc.	Hawaiian Sun Products	China	Nut & Fruit Proudcts	$5,000
Western United States Agricultural Trade Assoc.	Hawaiian Sun Products	Japan	Nut & Fruit Proudcts	$5,000
Western United States Agricultural Trade Assoc.	Hawaiian Sun Products	Korea, South	Nut & Fruit Proudcts	$5,000
Western United States Agricultural Trade Assoc.	Hawaiian Sun Products	Mexico	Nut & Fruit Proudcts	$5,000
Western United States Agricultural Trade Assoc.	Helrazor, Inc.	Canada	Condiments	$5,000
Western United States Agricultural Trade Assoc.	Helrazor, Inc.	Germany	Condiments	$5,000
Western United States Agricultural Trade Assoc.	Helrazor, Inc.	United Kingdom	Condiments	$5,000
Western United States Agricultural Trade Assoc.	Hughson Nut Marketing, Inc.	Canada	Almonds	$5,000
Western United States Agricultural Trade Assoc.	Hughson Nut Marketing, Inc.	Germany	Almonds	$5,000
Western United States Agricultural Trade Assoc.	Hughson Nut Marketing, Inc.	Taiwan	Almonds	$5,000
Western United States Agricultural Trade Assoc.	Hughson Nut Marketing, Inc.	United Kingdom	Almonds	$5,000
Western United States Agricultural Trade Assoc.	INI International	France	Pasta, oils, sauces, condiments etc.	$5,000
Western United States Agricultural Trade Assoc.	INI International	Hong Kong	Pasta, oils, sauces, condiments etc.	$5,000
Western United States Agricultural Trade Assoc.	INI International	Japan	Pasta, oils, sauces, condiments etc.	$5,000
Western United States Agricultural Trade Assoc.	INI International	United Kingdom	Pasta, oils, sauces, condiments etc.	$5,000
Western United States Agricultural Trade Assoc.	Idaho Pacific Corporation	Brazil	Seasoned & regular Potato Granules,Potato Flakes, Potato	$5,000
Western United States Agricultural Trade Assoc.	Idaho Pacific Corporation	China	Seasoned & regular Potato Granules,Potato Flakes, Potato	$5,000
Western United States Agricultural Trade Assoc.	Idaho Pacific Corporation	Japan	Seasoned & regular Potato Granules,Potato Flakes, Potato	$5,000
Western United States Agricultural Trade Assoc.	Idaho Pacific Corporation	Mexico	Seasoned & regular Potato Granules,Potato Flakes, Potato	$5,000
Western United States Agricultural Trade Assoc.	Idaho Pacific Corporation	Singapore	Seasoned & regular Potato Granules,Potato Flakes, Potato	$5,000
Western United States Agricultural Trade Assoc.	Idahoan Foods	Mexico	potatoe products	$5,000
Western United States Agricultural Trade Assoc.	Idahoan Foods	Philippines	potatoe products	$5,000
Western United States Agricultural Trade Assoc.	Idahoan Foods	Russia	potatoe products	$5,000
Western United States Agricultural Trade Assoc.	Idahoan Foods	United Kingdom	potatoe products	$5,000
Western United States Agricultural Trade Assoc.	Imagine Foods, Inc.,	Australia	ice cream, puddings, beverage	$5,000
Western United States Agricultural Trade Assoc.	Imagine Foods, Inc.,	Canada	ice cream, puddings, beverage	$5,000
Western United States Agricultural Trade Assoc.	Imagine Foods, Inc.,	Israel	ice cream, puddings, beverage	$5,000
Western United States Agricultural Trade Assoc.	Imagine Foods, Inc.,	Italy	ice cream, puddings, beverage	$5,000
Western United States Agricultural Trade Assoc.	Imagine Foods, Inc.,	United Kingdom	ice cream, puddings, beverage	$5,000
Western United States Agricultural Trade Assoc.	International Commodity Consultants, Inc	Azerbaijan	Processed, deli meats	$5,000
Western United States Agricultural Trade Assoc.	International Commodity Consultants, Inc	Russia	Processed, deli meats	$5,000
Western United States Agricultural Trade Assoc.	International Market Brands	Hong Kong	Canned & Frozen Vegetables/processed chicken	$5,000
Western United States Agricultural Trade Assoc.	International Market Brands	Philippines	Canned & Frozen Vegetables/processed chicken	$5,000
Western United States Agricultural Trade Assoc.	International Market Brands	Singapore	Canned & Frozen Vegetables/processed chicken	$5,000
Western United States Agricultural Trade Assoc.	J-K Products International	Philippines	processed products	$5,000
Western United States Agricultural Trade Assoc.	James Farrell & Company		Dairy products	$0
Western United States Agricultural Trade Assoc.	James Farrell & Company	Brazil	Dairy products	$5,000
Western United States Agricultural Trade Assoc.	James Farrell & Company	China	Dairy products	$4,500
Western United States Agricultural Trade Assoc.	James Farrell & Company	Japan	Dairy products	$5,500
Western United States Agricultural Trade Assoc.	James Farrell & Company	Korea, South	Dairy products	$5,000
Western United States Agricultural Trade Assoc.	James Farrell & Company	Singapore	Dairy products	$6,000
Western United States Agricultural Trade Assoc.	James Farrell & Company	Thailand	Dairy products	$6,000
Western United States Agricultural Trade Assoc.	Jana Branda, Inc.	China	Fish and squid	$5,000
Western United States Agricultural Trade Assoc.	Jewel Date Company	France	processed products	$5,000
Western United States Agricultural Trade Assoc.	Jewel Date Company	Germany	processed products	$5,000
Western United States Agricultural Trade Assoc.	Jewel Date Company	Italy	processed products	$5,000
Western United States Agricultural Trade Assoc.	Jewel Date Company	Switzerland	processed products	$5,000
Western United States Agricultural Trade Assoc.	Jewel Date Company	United Kingdom	processed products	$5,000
Western United States Agricultural Trade Assoc.	John T. Handy Company	France	Seafood and Aquaculture	$5,000

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Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
Western United States Agricultural Trade Assoc.	John T. Handy Company	Guatemala	Seafood and Aquaculture	$5,000
Western United States Agricultural Trade Assoc.	John T. Handy Company	Korea, South	Seafood and Aquaculture	$5,000
Western United States Agricultural Trade Assoc.	John T. Handy Company	Kuwait	Seafood and Aquaculture	$5,000
Western United States Agricultural Trade Assoc.	John T. Handy Company	Switzerland	Seafood and Aquaculture	$5,000
Western United States Agricultural Trade Assoc.	John T. Handy Company	United Kingdom	Seafood and Aquaculture	$5,000
Western United States Agricultural Trade Assoc.	Joseph Gallo Farms	Japan	Cheeses/Dairy Products	$5,000
Western United States Agricultural Trade Assoc.	Joseph Gallo Farms	Mexico	Cheeses/Dairy Products	$5,000
Western United States Agricultural Trade Assoc.	Kashi Company	France	Cereals	$5,000
Western United States Agricultural Trade Assoc.	Kashi Company	United Kingdom	Cereals	$5,000
Western United States Agricultural Trade Assoc.	Klamath Valley Botanicals, Ltd.	Canada	Organic products, juices, algae, cereals	$5,000
Western United States Agricultural Trade Assoc.	Kokopelli Winery, Inc.	Canada	Wines (organically grown grapes)	$5,000
Western United States Agricultural Trade Assoc.	Kokopelli Winery, Inc.	Hungary	Wines (organically grown grapes)	$5,000
Western United States Agricultural Trade Assoc.	Kokopelli Winery, Inc.	Japan	Wines (organically grown grapes)	$5,000
Western United States Agricultural Trade Assoc.	Les Boulangers Associes, Inc. (LBA)	Hong Kong	thaw, proof & bake serve bakery products	$5,000
Western United States Agricultural Trade Assoc.	Les Boulangers Associes, Inc. (LBA)	Japan	thaw, proof & bake serve bakery products	$5,000
Western United States Agricultural Trade Assoc.	Les Boulangers Associes, Inc. (LBA)	Singapore	thaw, proof & bake serve bakery products	$5,000
Western United States Agricultural Trade Assoc.	Les Vins de' Amour	China	Juices, wine, cookies, canned fruit, soft drinks	$5,000
Western United States Agricultural Trade Assoc.	Les Vins de' Amour	Hong Kong	Juices, wine, cookies, canned fruit, soft drinks	$5,000
Western United States Agricultural Trade Assoc.	Liberty Orchards Co., Inc.	Canada	Snack Foods	$5,000
Western United States Agricultural Trade Assoc.	Liberty Orchards Co., Inc.	Germany	Snack Foods	$5,000
Western United States Agricultural Trade Assoc.	Liberty Orchards Co., Inc.	Mexico	Snack Foods	$5,000
Western United States Agricultural Trade Assoc.	Liberty Orchards Co., Inc.	United Kingdom	Snack Foods	$5,000
Western United States Agricultural Trade Assoc.	Lucks Food Decorating Co.	United Kingdom	processed foods	$5,000
Western United States Agricultural Trade Assoc.	Lundberg Family Farms	Czech Republic	Rice products	$5,000
Western United States Agricultural Trade Assoc.	Lundberg Family Farms	Germany	Rice products	$5,000
Western United States Agricultural Trade Assoc.	Lundberg Family Farms	Japan	Rice products	$5,000
Western United States Agricultural Trade Assoc.	MCVL de Arizona	Mexico	Milk, mayonaise, margarine, cooking oil	$5,000
Western United States Agricultural Trade Assoc.	Magic Miles Ltd., Inc.	Brazil	Potato flakes	$21,000
Western United States Agricultural Trade Assoc.	Magic Miles Ltd., Inc.	China	Potato flakes	$10,000
Western United States Agricultural Trade Assoc.	Magic Miles Ltd., Inc.	Costa Rica	Potato flakes	$4,000
Western United States Agricultural Trade Assoc.	Magic Miles Ltd., Inc.	Mexico	Potato flakes	$4,000
Western United States Agricultural Trade Assoc.	Marinelli Shellfish	China	Clams, Oysters, Mussels, Crabmet, Dungeness Crab	$5,000
Western United States Agricultural Trade Assoc.	Marinelli Shellfish	Hong Kong	Clams, Oysters, Mussels, Crabmet, Dungeness Crab	$5,000
Western United States Agricultural Trade Assoc.	Marinelli Shellfish	Indonesia	Clams, Oysters, Mussels, Crabmet, Dungeness Crab	$5,000
Western United States Agricultural Trade Assoc.	Marinelli Shellfish	Thailand	Clams, Oysters, Mussels, Crabmet, Dungeness Crab	$5,000
Western United States Agricultural Trade Assoc.	Mashuga Nuts, Inc.	Canada	Nut & Cookies	$13,000
Western United States Agricultural Trade Assoc.	Mashuga Nuts, Inc.	Japan	Nut & Cookies	$5,000
Western United States Agricultural Trade Assoc.	Mayacamas Fine Foods, Inc.	Canada	Pastas, Soups, Sauces	$5,000
Western United States Agricultural Trade Assoc.	McFarland's Foods, Inc.	Brazil	soup base (paste), chicken breast, chicken bacon	$5,000
Western United States Agricultural Trade Assoc.	McFarland's Foods, Inc.	France	soup base (paste), chicken breast, chicken bacon	$5,000
Western United States Agricultural Trade Assoc.	McFarland's Foods, Inc.	Germany	soup base (paste), chicken breast, chicken bacon	$5,000
Western United States Agricultural Trade Assoc.	McFarland's Foods, Inc.	South Africa	soup base (paste), chicken breast, chicken bacon	$5,000
Western United States Agricultural Trade Assoc.	McFarland's Foods, Inc.	Singapore	soup base (paste), chicken breast, chicken bacon	$5,000
Western United States Agricultural Trade Assoc.	Mooney Farms	Canada	sun dried tomato pesto, tomatoes, kiwi fruit	$40,000
Western United States Agricultural Trade Assoc.	Mooney Farms	France	sun dried tomato pesto, tomatoes, kiwi fruit	$5,000
Western United States Agricultural Trade Assoc.	Mrs. Leeper's, Inc.	Canada	Pasta	$5,000
Western United States Agricultural Trade Assoc.	Mrs. Leeper's, Inc.	Israel	Pasta	$5,000
Western United States Agricultural Trade Assoc.	Mrs. Leeper's, Inc.	United Kingdom	Pasta	$5,000
Western United States Agricultural Trade Assoc.	Nally's Fine Foods	Hong Kong	Snack Foods	$5,000
Western United States Agricultural Trade Assoc.	Nally's Fine Foods	Mexico	Snack Foods	$5,000
Western United States Agricultural Trade Assoc.	Nally's Fine Foods	Netherlands	Snack Foods	$5,000
Western United States Agricultural Trade Assoc.	Nally's Fine Foods	Russia	Snack Foods	$5,000
Western United States Agricultural Trade Assoc.	Nally's Fine Foods	Singapore	Snack Foods	$5,000
Western United States Agricultural Trade Assoc.	Nally's Fine Foods	United Arab Emirates	Snack Foods	$5,000
Western United States Agricultural Trade Assoc.	Nancy's Specialty Foods	Canada	quiche	$5,000

1998 MAP Budget Ceilings by Trade Organization, Brand Company, Product and Market

Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
Western United States Agricultural Trade Assoc.	Nancy's Specialty Foods	Japan	quiche	$5,000
Western United States Agricultural Trade Assoc.	Nancy's Specialty Foods	Mexico	quiche	$5,000
Western United States Agricultural Trade Assoc.	National Raisin Co.	China	raisins	$5,000
Western United States Agricultural Trade Assoc.	National Raisin Co.	Estonia	raisins	$5,000
Western United States Agricultural Trade Assoc.	National Raisin Co.	France	raisins	$5,000
Western United States Agricultural Trade Assoc.	National Raisin Co.	Hong Kong	raisins	$5,000
Western United States Agricultural Trade Assoc.	National Raisin Co.	Russia	raisins	$5,000
Western United States Agricultural Trade Assoc.	Naturipe Berry Growers, Inc.	Canada	Frozen Fruits	$5,000
Western United States Agricultural Trade Assoc.	Naturipe Berry Growers, Inc.	Hong Kong	Frozen Fruits	$5,000
Western United States Agricultural Trade Assoc.	Naturipe Berry Growers, Inc.	Japan	Frozen Fruits	$5,000
Western United States Agricultural Trade Assoc.	Naturipe Berry Growers, Inc.	Singapore	Frozen Fruits	$5,000
Western United States Agricultural Trade Assoc.	Naturipe Berry Growers, Inc.	United Kingdom	Frozen Fruits	$5,000
Western United States Agricultural Trade Assoc.	Navajo Agricultural Products Industry	Mexico	Beans, alfalfa pellets	$5,000
Western United States Agricultural Trade Assoc.	Norbest	Canada	Further process turkey and whole turkey	$5,000
Western United States Agricultural Trade Assoc.	Norbest	Hong Kong	Further process turkey and whole turkey	$5,000
Western United States Agricultural Trade Assoc.	Norbest	Japan	Further process turkey and whole turkey	$5,000
Western United States Agricultural Trade Assoc.	Norbest	Mexico	Further process turkey and whole turkey	$5,000
Western United States Agricultural Trade Assoc.	Norbest	Malaysia	Further process turkey and whole turkey	$5,000
Western United States Agricultural Trade Assoc.	Norbest	Singapore	Further process turkey and whole turkey	$5,000
Western United States Agricultural Trade Assoc.	Norpac Foods	Canada	Canned and Frozen Corn	$5,000
Western United States Agricultural Trade Assoc.	Norpac Foods	Japan	Canned and Frozen Corn	$5,000
Western United States Agricultural Trade Assoc.	Northwest Packing Company	Canada	Tomato Products, Canned, Cherries, Plums, & Pears	$5,000
Western United States Agricultural Trade Assoc.	Oceanica Trade & Investment, Inc.	Germany	seafood products	$5,000
Western United States Agricultural Trade Assoc.	Oceanica Trade & Investment, Inc.	Japan	seafood products	$5,000
Western United States Agricultural Trade Assoc.	Oregon Brewing Company, Inc.	Japan	Various beers	$5,000
Western United States Agricultural Trade Assoc.	Oregon Potato Company	Argentina	Potato Flakes	$5,000
Western United States Agricultural Trade Assoc.	Oregon Potato Company	Germany	Potato Flakes	$5,000
Western United States Agricultural Trade Assoc.	Oregon Potato Company	Mexico	Potato Flakes	$5,000
Western United States Agricultural Trade Assoc.	Oregon Potato Company	Russia	Potato Flakes	$5,000
Western United States Agricultural Trade Assoc.	Organic Ingredients, Inc.	Japan		$5,000
Western United States Agricultural Trade Assoc.	Organic Ingredients, Inc.	Singapore		$5,000
Western United States Agricultural Trade Assoc.	Otis McAllister, Inc.	China	Fruit Juices	$5,000
Western United States Agricultural Trade Assoc.	Otis McAllister, Inc.	Hong Kong	Fruit Juices	$5,000
Western United States Agricultural Trade Assoc.	Otis McAllister, Inc.	Indonesia	Fruit Juices	$5,000
Western United States Agricultural Trade Assoc.	Otis McAllister, Inc.	Italy	Fruit Juices	$5,000
Western United States Agricultural Trade Assoc.	Otis McAllister, Inc.	Saudi Arabia	Fruit Juices	$5,000
Western United States Agricultural Trade Assoc.	Pacific Grain Products, Inc.	Canada	Various flavored Chips and Crackers, Industrial Snacks.	$5,000
Western United States Agricultural Trade Assoc.	Pacific Grain Products, Inc.	Japan	Various flavored Chips and Crackers, Industrial Snacks.	$5,000
Western United States Agricultural Trade Assoc.	Pacific Grain Products, Inc.	Korea, South	Various flavored Chips and Crackers, Industrial Snacks.	$5,000
Western United States Agricultural Trade Assoc.	Pacific Grain Products, Inc.	Mexico	Various flavored Chips and Crackers, Industrial Snacks.	$5,000
Western United States Agricultural Trade Assoc.	Pacific Micro-Brews Distributing, Inc.	United Kingdom	Microbrewed ales	$5,000
Western United States Agricultural Trade Assoc.	Pacific Valley Foods	China	grocery products	$5,000
Western United States Agricultural Trade Assoc.	Pacific Valley Foods	Japan	grocery products	$5,000
Western United States Agricultural Trade Assoc.	Pacific Valley Foods	Russia	grocery products	$5,000
Western United States Agricultural Trade Assoc.	Pacific Valley Foods	Singapore	grocery products	$5,000
Western United States Agricultural Trade Assoc.	Pacific-Russia, Inc.	Russia	Canned meats, vegetables, fruit juices, soups etc.	$5,000
Western United States Agricultural Trade Assoc.	Piazza Pizza	Canada	Pizza	$5,000
Western United States Agricultural Trade Assoc.	Piazza Pizza	Mexico	Pizza	$5,000
Western United States Agricultural Trade Assoc.	Portland Brewing Company	Canada	Beer	$5,000
Western United States Agricultural Trade Assoc.	Portland Brewing Company	France	Beer	$5,000
Western United States Agricultural Trade Assoc.	Portland Brewing Company	Japan	Beer	$5,000
Western United States Agricultural Trade Assoc.	Portland Brewing Company	Russia	Beer	$5,000
Western United States Agricultural Trade Assoc.	Portland Brewing Company	United Kingdom	Beer	$5,000
Western United States Agricultural Trade Assoc.	Prince Of Peace Enterprises, Inc.	Canada	Beverages	$10,000
Western United States Agricultural Trade Assoc.	Prince Of Peace Enterprises, Inc.	China	Beverages	$18,000

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Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
Western United States Agricultural Trade Assoc.	Prince Of Peace Enterprises, Inc.	Hong Kong	Beverages	$100,000
Western United States Agricultural Trade Assoc.	Prince Of Peace Enterprises, Inc.	Malaysia	Beverages	$20,000
Western United States Agricultural Trade Assoc.	Prince Of Peace Enterprises, Inc.	Singapore	Beverages	$1,000
Western United States Agricultural Trade Assoc.	Prince Of Peace Enterprises, Inc.	Taiwan	Beverages	$1,000
Western United States Agricultural Trade Assoc.	ProPak Inc.	Canada	Onions	$5,000
Western United States Agricultural Trade Assoc.	ProPak Inc.	Japan	Onions	$5,000
Western United States Agricultural Trade Assoc.	ProPak Inc.	Mexico	Onions	$5,000
Western United States Agricultural Trade Assoc.	Purepak, Inc.	France	Sliced strawberries, organic; sorbet, soups, strawberries	$15,000
Western United States Agricultural Trade Assoc.	Purepak, Inc.	Japan	Sliced strawberries, organic; sorbet, soups, strawberries	$20,000
Western United States Agricultural Trade Assoc.	Purepak, Inc.	Taiwan	Sliced strawberries, organic; sorbet, soups, strawberries	$10,000
Western United States Agricultural Trade Assoc.	Purepak, Inc.	United Kingdom	Sliced strawberries, organic; sorbet, soups, strawberries	$20,000
Western United States Agricultural Trade Assoc.	R.W. Garcia Co., Inc.	Canada	Salad Estos-Flavored Chip Strips, Dips and Salsas, Tortil	$5,000
Western United States Agricultural Trade Assoc.	R.W. Garcia Co., Inc.	Italy	Salad Estos-Flavored Chip Strips, Dips and Salsas, Tortil	$2,000
Western United States Agricultural Trade Assoc.	R.W. Garcia Co., Inc.	United Kingdom	Salad Estos-Flavored Chip Strips, Dips and Salsas, Tortil	$3,000
Western United States Agricultural Trade Assoc.	Roma Exporting Company, Inc.	Mexico	Italian products, oil, cold-cuts, sauces, pasta	$5,000
Western United States Agricultural Trade Assoc.	Rosaha Enterprises, Inc.	Brazil	Blue-green algae products	$5,000
Western United States Agricultural Trade Assoc.	Rosaha Enterprises, Inc.	Japan	Blue-green algae products	$5,000
Western United States Agricultural Trade Assoc.	Rosaha Enterprises, Inc.	Korea, South	Blue-green algae products	$5,000
Western United States Agricultural Trade Assoc.	Rosaha Enterprises, Inc.	South Africa	Blue-green algae products	$5,000
Western United States Agricultural Trade Assoc.	Royal Pacific Foods	Australia	grocery products line	$10,000
Western United States Agricultural Trade Assoc.	Sahara Natural Foods, Inc.	Brazil	Soup, salad mixes, seasonings, rice, dips	$5,000
Western United States Agricultural Trade Assoc.	Sahara Natural Foods, Inc.	Canada	Soup, salad mixes, seasonings, rice, dips	$5,000
Western United States Agricultural Trade Assoc.	Sahara Natural Foods, Inc.	Chile	Soup, salad mixes, seasonings, rice, dips	$5,000
Western United States Agricultural Trade Assoc.	Sahara Natural Foods, Inc.	New Zealand	Soup, salad mixes, seasonings, rice, dips	$5,000
Western United States Agricultural Trade Assoc.	Sahara Natural Foods, Inc.	United Kingdom	Soup, salad mixes, seasonings, rice, dips	$5,000
Western United States Agricultural Trade Assoc.	Sato Agricultural Trading Company	Brazil	Fresh fruits	$5,000
Western United States Agricultural Trade Assoc.	Sea And Farmfresh Importing Company	Argentina	seafood	$5,000
Western United States Agricultural Trade Assoc.	Sea And Farmfresh Importing Company	Brazil	seafood	$5,000
Western United States Agricultural Trade Assoc.	Sea And Farmfresh Importing Company	China	seafood	$37,000
Western United States Agricultural Trade Assoc.	Sea And Farmfresh Importing Company	Philippines	seafood	$4,000
Western United States Agricultural Trade Assoc.	Sea And Farmfresh Importing Company	Taiwan	seafood	$5,000
Western United States Agricultural Trade Assoc.	Shoei Foods USA	Japan	Dried fruit & nuts	$48,000
Western United States Agricultural Trade Assoc.	Soltec Corporation	China	Cookies, candies, juices, condiments, sauces, cakes, vege	$5,000
Western United States Agricultural Trade Assoc.	Southwest Specialty Food, Inc.	Canada	Sauces, slaaas, oils, soups	$5,000
Western United States Agricultural Trade Assoc.	Southwest Specialty Food, Inc.	France	Sauces, slaaas, oils, soups	$5,000
Western United States Agricultural Trade Assoc.	Southwest Specialty Food, Inc.	United Kingdom	Sauces, slaaas, oils, soups	$5,000
Western United States Agricultural Trade Assoc.	Spring Tree Food Corporation	Argentina	Nuts!	$5,000
Western United States Agricultural Trade Assoc.	Spring Tree Food Corporation	France	Nuts!	$5,000
Western United States Agricultural Trade Assoc.	Spring Tree Food Corporation	Singapore	Nuts!	$5,000
Western United States Agricultural Trade Assoc.	St. George Spirits	Denmark	Brandies, desert wines, grappa	$5,000
Western United States Agricultural Trade Assoc.	St. George Spirits	Germany	Brandies, desert wines, grappa	$5,000
Western United States Agricultural Trade Assoc.	Stahmann Farms, Inc.	Japan	pecan nuts	$5,000
Western United States Agricultural Trade Assoc.	State Fish Company, Inc.	Belgium	seafood	$5,000
Western United States Agricultural Trade Assoc.	State Fish Company, Inc.	Bosnia-Hercegovina	seafood	$5,000
Western United States Agricultural Trade Assoc.	State Fish Company, Inc.	Spain	seafood	$5,000
Western United States Agricultural Trade Assoc.	Summerfield Foods, Inc.	France	Fat Free; Soup, Refried beans, Chili. Cookies; 'Car', 'C	$5,000
Western United States Agricultural Trade Assoc.	Summerfield Foods, Inc.	Germany	Fat Free; Soup, Refried beans, Chili. Cookies; 'Car', 'C	$5,000
Western United States Agricultural Trade Assoc.	Summerfield Foods, Inc.	Japan	Fat Free; Soup, Refried beans, Chili. Cookies; 'Car', 'C	$5,000
Western United States Agricultural Trade Assoc.	Traditional Medicinals Inc.	Canada	Natural & Health Foods	$5,000
Western United States Agricultural Trade Assoc.	Trans USA Corporation	Hong Kong	Vegetables, fruits, condiments	$5,000
Western United States Agricultural Trade Assoc.	Trans USA Corporation	Japan	Vegetables, fruits, condiments	$5,000
Western United States Agricultural Trade Assoc.	Trans USA Corporation	Korea, South	Vegetables, fruits, condiments	$5,000
Western United States Agricultural Trade Assoc.	Trans USA Corporation	Philippines	Vegetables, fruits, condiments	$5,000
Western United States Agricultural Trade Assoc.	Tree Top, Inc.	Canada	Fruit Juices, Apple Sauce	$5,000
Western United States Agricultural Trade Assoc.	Tree Top, Inc.	China	Fruit Juices, Apple Sauce	$5,000

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Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
Western United States Agricultural Trade Assoc.	Tree Top, Inc.	Hong Kong	Fruit Juices, Apple Sauce	$5,000
Western United States Agricultural Trade Assoc.	Tree Top, Inc.	Japan	Fruit Juices, Apple Sauce	$5,000
Western United States Agricultural Trade Assoc.	Tree Top, Inc.	Mexico	Fruit Juices, Apple Sauce	$5,000
Western United States Agricultural Trade Assoc.	Tree Top, Inc.	Russia	Fruit Juices, Apple Sauce	$5,000
Western United States Agricultural Trade Assoc.	Tree Top, Inc.	Taiwan	Fruit Juices, Apple Sauce	$5,000
Western United States Agricultural Trade Assoc.	Tri City Sales	Japan	Ethnic Foods	$5,000
Western United States Agricultural Trade Assoc.	Tri City Sales	Mexico	Ethnic Foods	$5,000
Western United States Agricultural Trade Assoc.	Tri City Sales	Malaysia	Ethnic Foods	$5,000
Western United States Agricultural Trade Assoc.	Tri City Sales	Spain	Ethnic Foods	$5,000
Western United States Agricultural Trade Assoc.	Tri-Valley Growers	China	Canned Vegetables, Popcorn	$41,000
Western United States Agricultural Trade Assoc.	Tri-Valley Growers	France	Canned Vegetables, Popcorn	$40,000
Western United States Agricultural Trade Assoc.	Tri-Valley Growers	Hong Kong	Canned Vegetables, Popcorn	$34,000
Western United States Agricultural Trade Assoc.	Tri-Valley Growers	Norway	Canned Vegetables, Popcorn	$27,000
Western United States Agricultural Trade Assoc.	Tri-Valley Growers	Panama	Canned Vegetables, Popcorn	$20,500
Western United States Agricultural Trade Assoc.	Tri-Valley Growers	Singapore	Canned Vegetables, Popcorn	$37,500
Western United States Agricultural Trade Assoc.	Tropical Sno	Colombia	Frozen yoghurt, ices, lemonade, syrups	$5,000
Western United States Agricultural Trade Assoc.	Turlock Fruit Company, Inc.	Japan	Melons	$5,000
Western United States Agricultural Trade Assoc.	Turtle Mountain, Inc.	Canada	Frozen deserts	$1,500
Western United States Agricultural Trade Assoc.	Turtle Mountain, Inc.	France	Frozen deserts	$2,000
Western United States Agricultural Trade Assoc.	Turtle Mountain, Inc.	Germany	Frozen deserts	$2,000
Western United States Agricultural Trade Assoc.	Turtle Mountain, Inc.	Hong Kong	Frozen deserts	$1,000
Western United States Agricultural Trade Assoc.	Turtle Mountain, Inc.	Japan	Frozen deserts	$1,500
Western United States Agricultural Trade Assoc.	Turtle Mountain, Inc.	Korea, South	Frozen deserts	$1,000
Western United States Agricultural Trade Assoc.	Turtle Mountain, Inc.	Netherlands	Frozen deserts	$1,000
Western United States Agricultural Trade Assoc.	Turtle Mountain, Inc.	Singapore	Frozen deserts	$1,000
Western United States Agricultural Trade Assoc.	Turtle Mountain, Inc.	Taiwan	Frozen deserts	$1,000
Western United States Agricultural Trade Assoc.	Turtle Mountain, Inc.	United Kingdom	Frozen deserts	$2,000
Western United States Agricultural Trade Assoc.	Valley Fig Growers	Canada	Dried Fruit	$5,000
Western United States Agricultural Trade Assoc.	Valley Fig Growers	China	Dried Fruit	$5,000
Western United States Agricultural Trade Assoc.	Valley Fig Growers	Indonesia	Dried Fruit	$5,000
Western United States Agricultural Trade Assoc.	Valley Fig Growers	Japan	Dried Fruit	$5,000
Western United States Agricultural Trade Assoc.	Valley Fig Growers	New Zealand	Dried Fruit	$5,000
Western United States Agricultural Trade Assoc.	Valley Fig Growers	Singapore	Dried Fruit	$5,000
Western United States Agricultural Trade Assoc.	Vancol Industries, Inc	Bahrain	Carbonated soft drinks, flavored water	$5,000
Western United States Agricultural Trade Assoc.	Vancol Industries, Inc	Canada	Carbonated soft drinks, flavored water	$5,000
Western United States Agricultural Trade Assoc.	Vancol Industries, Inc	Costa Rica	Carbonated soft drinks, flavored water	$5,000
Western United States Agricultural Trade Assoc.	Vancol Industries, Inc	Taiwan	Carbonated soft drinks, flavored water	$5,000
Western United States Agricultural Trade Assoc.	Vancol Industries, Inc	United Kingdom	Carbonated soft drinks, flavored water	$5,000
Western United States Agricultural Trade Assoc.	Vanguard Trading Services, Inc.	Hong Kong	grocery products	$5,000
Western United States Agricultural Trade Assoc.	Vanguard Trading Services, Inc.	Japan	grocery products	$5,000
Western United States Agricultural Trade Assoc.	Vanguard Trading Services, Inc.	Singapore	grocery products	$5,000
Western United States Agricultural Trade Assoc.	Vanguard Trading Services, Inc.	Switzerland	grocery products	$5,000
Western United States Agricultural Trade Assoc.	Vanguard Trading Services, Inc.	Taiwan	grocery products	$5,000
Western United States Agricultural Trade Assoc.	Welch Foods Inc., A Cooperative	Hong Kong	Welch's 100% Grape Juices	$5,000
Western United States Agricultural Trade Assoc.	Welch Foods Inc., A Cooperative	Taiwan	Welch's 100% Grape Juices	$5,000
Western United States Agricultural Trade Assoc.	Well-Pict, Inc.	Canada	Fresh Fruit	$5,000
Western United States Agricultural Trade Assoc.	Well-Pict, Inc.	Germany	Fresh Fruit	$5,000
Western United States Agricultural Trade Assoc.	Well-Pict, Inc.	Hong Kong	Fresh Fruit	$5,000
Western United States Agricultural Trade Assoc.	Well-Pict, Inc.	Japan	Fresh Fruit	$5,000
Western United States Agricultural Trade Assoc.	Well-Pict, Inc.	Taiwan	Fresh Fruit	$5,000
Western United States Agricultural Trade Assoc.	Well-Pict, Inc.	United Kingdom	Fresh Fruit	$5,000
Western United States Agricultural Trade Assoc.	Western Bagel Baking	Australia	Bagels	$5,000
Western United States Agricultural Trade Assoc.	Western Family Foods, Inc.	China	grocery products	$5,000
Western United States Agricultural Trade Assoc.	Western Family Foods, Inc.	Japan	grocery products	$5,000
Western United States Agricultural Trade Assoc.	Western Family Foods, Inc.	Panama	grocery products	$5,000

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Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
Western United States Agricultural Trade Assoc.	Western Family Foods, Inc.	Philippines	grocery products	$5,000
Western United States Agricultural Trade Assoc.	Western Family Foods, Inc.	Russia	grocery products	$5,000
Western United States Agricultural Trade Assoc.	Western Family Foods, Inc.	Venezuela	grocery products	$5,000
Western United States Agricultural Trade Assoc.	Wild Rice Exchange	Argentina	rice	$5,000
Western United States Agricultural Trade Assoc.	Wild Rice Exchange	Brazil	rice	$5,000
Western United States Agricultural Trade Assoc.	Wild Rice Exchange	France	rice	$5,000
Western United States Agricultural Trade Assoc.	Wild Rice Exchange	Germany	rice	$5,000
Western United States Agricultural Trade Assoc.	Wild Rice Exchange	Spain	rice	$5,000
Western United States Agricultural Trade Assoc.	Wild Rice Exchange	Switzerland	rice	$5,000
Western United States Agricultural Trade Assoc.	Wild Rice Exchange	United Kingdom	rice	$5,000
Western United States Agricultural Trade Assoc.	Will-Pak Foods, Inc.	Canada	Instanat side dishes, soups, chili, beans	$5,000
Western United States Agricultural Trade Assoc.	Willow Wind Organic Farms	Japan	Frozen vegetables	$12,000
Western United States Agricultural Trade Assoc.	Wines Of America, Ltd.	Czech Republic	Wine	$5,000
Western United States Agricultural Trade Assoc.	Wines Of America, Ltd.	Netherlands	Wine	$5,000
Western United States Agricultural Trade Assoc.	Wines Of America, Ltd.	Switzerland	Wine	$5,000
Western United States Agricultural Trade Assoc.	Young Pecan Company	France	Tree Nuts	$5,000
Western United States Agricultural Trade Assoc.	Young Pecan Company	Korea, South	Tree Nuts	$5,000
Western United States Agricultural Trade Assoc.	ZB Industries, Inc.	Canada	Frozen Seafood Entrees, Frozen Stir-Fry Vegetables	$5,000
Western United States Agricultural Trade Assoc.	ZB Industries, Inc.	Mexico	Frozen Seafood Entrees, Frozen Stir-Fry Vegetables	$5,000
Western United States Agricultural Trade Assoc.	ZB Industries, Inc.	United Kingdom	Frozen Seafood Entrees, Frozen Stir-Fry Vegetables	$5,000
Total				$3,288,000
Wine Institute	American Fine Wines	United Kingdom	wine	$6,000
Wine Institute	Arciero Winery	Canada	Wine	$1,500
Wine Institute	Arciero Winery	China	Wine	$1,500
Wine Institute	Arciero Winery	Germany	Wine	$3,000
Wine Institute	Arciero Winery	Switzerland	Wine	$3,000
Wine Institute	Arciero Winery	Taiwan	Wine	$13,400
Wine Institute	Arciero Winery	United Kingdom	Wine	$2,600
Wine Institute	Bargetto Winery	Canada	wine	$1,200
Wine Institute	Bargetto Winery	Hong Kong	wine	$1,700
Wine Institute	Bargetto Winery	Japan	wine	$1,700
Wine Institute	Bargetto Winery	Mexico	wine	$1,200
Wine Institute	Bargetto Winery	Singapore	wine	$700
Wine Institute	Bargetto Winery	Taiwan	wine	$1,200
Wine Institute	Cain Vineyard & Winery	Canada	Wine	$1,250
Wine Institute	Cain Vineyard & Winery	France	Wine	$2,500
Wine Institute	Cain Vineyard & Winery	Germany	Wine	$1,250
Wine Institute	Cain Vineyard & Winery	United Kingdom	Wine	$2,500
Wine Institute	Chalone Wine Estates	Canada	wine	$3,000
Wine Institute	Chalone Wine Estates	China	wine	$3,500
Wine Institute	Chalone Wine Estates	Germany	wine	$4,000
Wine Institute	Chalone Wine Estates	Japan	wine	$3,500
Wine Institute	Chalone Wine Estates	Singapore	wine	$1,500
Wine Institute	Chalone Wine Estates	Sweden	wine	$2,000
Wine Institute	Chalone Wine Estates	Switzerland	wine	$3,500
Wine Institute	Chalone Wine Estates	United Kingdom	wine	$4,000
Wine Institute	Chateau Julien Wine Estate	Canada	wine	$750
Wine Institute	Chateau Julien Wine Estate	France	wine	$2,019
Wine Institute	Chateau Julien Wine Estate	Germany	wine	$5,278
Wine Institute	Chateau Julien Wine Estate	United Kingdom	wine	$6,953
Wine Institute	Clos Du Val Wine Co. Ltd.	Canada	wine	$1,000
Wine Institute	Clos Du Val Wine Co. Ltd.	France	wine	$2,000
Wine Institute	Clos Du Val Wine Co. Ltd.	Germany	wine	$1,000
Wine Institute	Clos Du Val Wine Co. Ltd.	Japan	wine	$1,000

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Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
Wine Institute	Clos Du Val Wine Co. Ltd.	Singapore	wine	$1,000
Wine Institute	Clos Du Val Wine Co. Ltd.	United Kingdom	wine	$1,000
Wine Institute	Concannon Vineyard	France	wine	$11,000
Wine Institute	Concannon Vineyard	Switzerland	wine	$10,000
Wine Institute	Concannon Vineyard	Taiwan	wine	$0
Wine Institute	Concannon Vineyard	United Kingdom	wine	$4,000
Wine Institute	Crichton Hall Vineyard	Germany	wine	$2,000
Wine Institute	Crichton Hall Vineyard	Japan	wine	$2,700
Wine Institute	Crichton Hall Vineyard	Netherlands	wine	$500
Wine Institute	Crichton Hall Vineyard	United Kingdom	wine	$3,300
Wine Institute	Delicato Vineyards	Belgium	wine	$5,000
Wine Institute	Delicato Vineyards	Canada	wine	$25,000
Wine Institute	Delicato Vineyards	France	wine	$15,000
Wine Institute	Delicato Vineyards	Germany	wine	$25,000
Wine Institute	Delicato Vineyards	Netherlands	wine	$10,000
Wine Institute	Delicato Vineyards	Switzerland	wine	$10,000
Wine Institute	Delicato Vineyards	United Kingdom	wine	$30,000
Wine Institute	Deloach Vineyards, Inc.	France	wine	$20,000
Wine Institute	Deloach Vineyards, Inc.	Switzerland	wine	$5,000
Wine Institute	Dry Creek Vineyard	Canada	Wine	$888
Wine Institute	Dry Creek Vineyard	France	Wine	$6,712
Wine Institute	Dry Creek Vineyard	Japan	Wine	$1,650
Wine Institute	Dry Creek Vineyard	United Kingdom	Wine	$2,250
Wine Institute	Duckhorn Vineyards	France	wine	$1,500
Wine Institute	Duckhorn Vineyards	United Kingdom	wine	$1,700
Wine Institute	Far Niente	France	wine	$25,000
Wine Institute	Far Niente	United Kingdom	wine	$2,000
Wine Institute	Franciscan Vineyards	Canada	wine	$4,000
Wine Institute	Franciscan Vineyards	France	wine	$17,400
Wine Institute	Franciscan Vineyards	Germany	wine	$2,000
Wine Institute	Franciscan Vineyards	United Kingdom	wine	$4,100
Wine Institute	Geyser Peak	Austria	wine	$1,500
Wine Institute	Geyser Peak	Belgium	wine	$1,000
Wine Institute	Geyser Peak	Canada	wine	$4,300
Wine Institute	Geyser Peak	Ireland	wine	$1,000
Wine Institute	Geyser Peak	Germany	wine	$3,000
Wine Institute	Geyser Peak	Hong Kong	wine	$1,000
Wine Institute	Geyser Peak	Japan	wine	$2,000
Wine Institute	Geyser Peak	Singapore	wine	$2,600
Wine Institute	Geyser Peak	Switzerland	wine	$7,000
Wine Institute	Geyser Peak	United Kingdom	wine	$6,600
Wine Institute	Golden State Vintners	Canada	wine	$13,000
Wine Institute	Golden State Vintners	China	wine	$2,000
Wine Institute	Golden State Vintners	France	wine	$15,000
Wine Institute	Golden State Vintners	Taiwan	wine	$125,000
Wine Institute	Kautz Ironstone Vineyards	Canada	wine	$16,000
Wine Institute	Kautz Ironstone Vineyards	China	wine	$5,000
Wine Institute	Kautz Ironstone Vineyards	Ireland	wine	$10,000
Wine Institute	Kautz Ironstone Vineyards	France	wine	$10,000
Wine Institute	Kautz Ironstone Vineyards	Hong Kong	wine	$6,000
Wine Institute	Kautz Ironstone Vineyards	Japan	wine	$15,000
Wine Institute	Kautz Ironstone Vineyards	Taiwan	wine	$5,000
Wine Institute	Kenwood Vineyards	Germany	Wine	$4,500
Wine Institute	Kenwood Vineyards	Hong Kong	Wine	$1,500
Wine Institute	Kenwood Vineyards	Japan	Wine	$1,500

1998 MAP Budget Ceilings by Trade Organization, Brand Company, Product and Market

Trade Organizartion	Company_Name	market_code	Promoted_Product	Budget Ceiling
Wine Institute	Kenwood Vineyards	Switzerland	Wine	$4,000
Wine Institute	Kenwood Vineyards	United Kingdom	Wine	$4,500
Wine Institute	Korbel Brands	France	Wine / Brandy	$50,000
Wine Institute	Laurel Glen Vineyard	France	wine	$5,000
Wine Institute	Louis M. Martini Winery	Denmark	California Wine	$4,300
Wine Institute	Louis M. Martini Winery	Germany	California Wine	$4,700
Wine Institute	Louis M. Martini Winery	Hong Kong	California Wine	$3,000
Wine Institute	Louis M. Martini Winery	Netherlands	California Wine	$0
Wine Institute	Louis M. Martini Winery	Taiwan	California Wine	$3,000
Wine Institute	Louis M. Martini Winery	United Kingdom	California Wine	$0
Wine Institute	Merryvale Vineyards	Canada	wine	$3,000
Wine Institute	Merryvale Vineyards	China	wine	$3,500
Wine Institute	Merryvale Vineyards	France	wine	$10,500
Wine Institute	Merryvale Vineyards	Germany	wine	$3,500
Wine Institute	Merryvale Vineyards	Hong Kong	wine	$2,000
Wine Institute	Merryvale Vineyards	Japan	wine	$3,500
Wine Institute	Merryvale Vineyards	Singapore	wine	$2,000
Wine Institute	Merryvale Vineyards	Switzerland	wine	$21,000
Wine Institute	Merryvale Vineyards	Taiwan	wine	$2,500
Wine Institute	Merryvale Vineyards	United Kingdom	wine	$3,500
Wine Institute	Newton Vineyard	Austria	wine	$1,000
Wine Institute	Newton Vineyard	Denmark	wine	$1,000
Wine Institute	Newton Vineyard	Germany	wine	$2,500
Wine Institute	Newton Vineyard	Japan	wine	$700
Wine Institute	Newton Vineyard	Switzerland	wine	$3,000
Wine Institute	Quady Winery	Canada	wine	$1,050
Wine Institute	Quady Winery	France	wine	$4,250
Wine Institute	Quady Winery	Germany	wine	$1,800
Wine Institute	Quady Winery	United Kingdom	wine	$3,900
Wine Institute	R.H. Phillips	Austria	Wine	$0
Wine Institute	R.H. Phillips	Canada	Wine	$4,000
Wine Institute	R.H. Phillips	Germany	Wine	$1,600
Wine Institute	R.H. Phillips	Netherlands	Wine	$850
Wine Institute	R.H. Phillips	Switzerland	Wine	$0
Wine Institute	R.H. Phillips	United Kingdom	Wine	$3,550
Wine Institute	Renaissance Vineyard & Winery, Inc.	Denmark	wine	$1,250
Wine Institute	Renaissance Vineyard & Winery, Inc.	France	wine	$5,000
Wine Institute	Renaissance Vineyard & Winery, Inc.	Germany	wine	$1,500
Wine Institute	Renaissance Vineyard & Winery, Inc.	Japan	wine	$500
Wine Institute	Renaissance Vineyard & Winery, Inc.	United Kingdom	wine	$1,750
Wine Institute	Round Hill Winery	Hong Kong	wine	$5,000
Wine Institute	Round Hill Winery	Netherlands	wine	$1,000
Wine Institute	Round Hill Winery	Switzerland	wine	$10,000
Wine Institute	Rutherford Benchmarks, Inc.	Canada	wine	$3,000
Wine Institute	Rutherford Benchmarks, Inc.	China	wine	$0
Wine Institute	Rutherford Benchmarks, Inc.	Germany	wine	$1,000
Wine Institute	Rutherford Benchmarks, Inc.	Hong Kong	wine	$0
Wine Institute	Rutherford Benchmarks, Inc.	Japan	wine	$0
Wine Institute	Rutherford Benchmarks, Inc.	Netherlands	wine	$1,000
Wine Institute	Rutherford Benchmarks, Inc.	Switzerland	wine	$2,000
Wine Institute	Rutherford Benchmarks, Inc.	Taiwan	wine	$0
Wine Institute	Rutherford Benchmarks, Inc.	United Kingdom	wine	$3,000
Wine Institute	Schug Carneros Estate Winery	Austria	wine	$500
Wine Institute	Schug Carneros Estate Winery	Belgium	wine	$1,000
Wine Institute	Schug Carneros Estate Winery	Denmark	wine	$500

1998 MAP Budget Ceilings by Trade Organization, Brand Company, Product and Market

Trade Organization	Company_Name	market_code	Promoted_Product	Budget Ceiling
Wine Institute	Schug Carneros Estate Winery	Germany	wine	$13,500
Wine Institute	Schug Carneros Estate Winery	Japan	wine	$1,000
Wine Institute	Schug Carneros Estate Winery	Netherlands	wine	$500
Wine Institute	Schug Carneros Estate Winery	Switzerland	wine	$500
Wine Institute	Schug Carneros Estate Winery	United Kingdom	wine	$1,500
Wine Institute	Sequoia Grove Vineyards	France	wine	$2,000
Wine Institute	Shafer Vineyards	France	wine	$2,000
Wine Institute	Smith-Anderson Enterprises, Inc.	China	California Wine	$12,000
Wine Institute	Smith-Anderson Enterprises, Inc.	France	California Wine	$5,000
Wine Institute	Smith-Anderson Enterprises, Inc.	Japan	California Wine	$3,000
Wine Institute	Smith-Anderson Enterprises, Inc.	United Kingdom	California Wine	$5,000
Wine Institute	Sonoma Creek Winery	Canada	wine	$2,000
Wine Institute	Spring Mountain Vineyard	Belgium	wine	$2,500
Wine Institute	Spring Mountain Vineyard	Canada	wine	$2,500
Wine Institute	Spring Mountain Vineyard	United Kingdom	wine	$2,500
Wine Institute	The California Winery	Canada	wine	$7,000
Wine Institute	The California Winery	China	wine	$7,500
Wine Institute	The California Winery	France	wine	$11,000
Wine Institute	The California Winery	Hong Kong	wine	$12,500
Wine Institute	The California Winery	Singapore	wine	$11,000
Wine Institute	Ventana Vineyards	France	wine	$3,500
Wine Institute	Ventana Vineyards	Germany	wine	$3,500
Wine Institute	Ventana Vineyards	Taiwan	wine	$500
Wine Institute	Wente Vineyards	Belgium	wine	$8,000
Wine Institute	Wente Vineyards	Canada	wine	$7,000
Wine Institute	Wente Vineyards	Denmark	wine	$2,000
Wine Institute	Wente Vineyards	Ireland	wine	$5,000
Wine Institute	Wente Vineyards	France	wine	$60,000
Wine Institute	Wente Vineyards	Germany	wine	$20,000
Wine Institute	Wente Vineyards	Japan	wine	$30,000
Wine Institute	Wente Vineyards	Mexico	wine	$10,000
Wine Institute	Wente Vineyards	Netherlands	wine	$30,000
Wine Institute	Wente Vineyards	Singapore	wine	$3,000
Wine Institute	Wente Vineyards	Switzerland	wine	$60,000
Wine Institute	Wente Vineyards	United Kingdom	wine	$15,000
Total				$1,163,100

Question. Please provide for the record a list of the benefits of the Market Access Program to U. S. agriculture in each of the fiscal years 1997 and 1998.

Answer. The information is provided for the record.

[The information follows:]

1997 MAP BRAND EXPENSES BY STATE

Company	City	State	Zip	Promoted—Produce	Expenses
Green Connection, Inc	Anchorage	AK	99501	Potted Tropical foliage Plants and Flowers	$2,550
Transcon Trading Co., Inc	Bentonville	AR	72712	animal feed	51,222
American Eagle Beverages, Inc	Temple	AZ	85283	Beverages	204,410
Azmex Foods, Inc	Mesa	AZ	85202	Dairy Products	33,000
Black Mountain Brewing Co	Cave Creek	AZ	85331	Beer	.....
Chez De Prez Cheesecake, Inc	Phoenix	AZ	85017	cheese cake	110,000
Adams & Brooks, Inc	Los Angeles	CA	90007	Candy	1,658
Alta Genetics	Hughson	CA	95326	Bovine Genetics	18,310
America's Classic Foods	Sun Valley	CA	91352	Mixed & Processed: Bakery products, hard and soft ice cream	8,475
Apcal, Inc	Visalia	CA	93278	Natural & Processed Almonds, Shelled & Inshell Pistachios	4,439
Arciero Winery	Paso Robles	CA	93447	Wine	6,179
Ariel Vineyards	Napa	CA	94558	wine	1,043
Babe Farms	Santa Monica	CA	93456	vegetables	.....
Bay Pac Beverages	Pleaston	CA	94588	juice, sport drinks	40,009
Bell-Carter Foods, Inc	Visalia	CA	93291	Canned Ripe Olives	6,918
California Natural Products	Santa Barbara	CA	93121	Bard Valley Medjool Dates	10,000
California Grocer Inc	San Rafael	CA	94903	Salad Dressing, Mayonnaise, Jams	96,357
California Sun Dry Foods	San Mateo	CA	94404	tomatoes	.....
CenzoneTech Inc	San Marcos	CA	92069	enzymes, acid, lactose	11,351
Chains, Inc	Fremont	CA	94538	Fresh, frozen, canned, grocery product line	.....
Christopher Ranch	Gilroy	CA	95020	Condiments	.....
Concannon Vineyard	Livermore	CA	94550	wine	5,874
Craft Beers International	San Diego	CA	92122	beer	616
Crichton Hall Vineyard	Napa	CA	94573	wine	.....
Cuvaison Winery	Calistoga	CA	94515	wine	.....
Delicato Vineyards	Manteca	CA	95336	wine	13,588
Deloach Vineyards, Inc	Santa Rosa	CA	95401	wine	11,500
Dreyer's Grand Ice Cream	Oakland	CA	94618	Dairy Products	.....
Dry Creek Vineyard	Healdsburg	CA	95448	Wine	1,500
DXR International, Inc	Lafayette	CA	94549	grocery products	1,710

1997 MAP BRAND EXPENSES BY STATE—Continued

Company	City	State	Zip	Promoted—Produce	Expenses
Emilio Guglielmo Winery	Morgan Hill	CA	95037	wine	
Entertainment Foods, Inc	Calabasas	CA	91302	grocery products	30,000
Extraordinary Export	San Anselmo	CA	94960	Sauces, sodas, rice noodles, maple syrup & pancake mixes	1,784
Fantastic Foods, Inc	Petaluma	CA	94954	Natural & Health Foods	
Fernando's Foods Corporation	Los Angeles	CA	90040	Mexican, other burritos/wraps, appetizers	0
Four Seasons Farms	Ripon	CA	95366	almonds, roasted, flavored, candied	7,388
Franciscan Estate Selections	Rutherford	CA	94573	California Wine	2,577
Frontier Trading	San Diego	CA	92106	grocery products	200,000
Garden Of Eatin' Inc	Pismo Beach	CA	93449	Condiments	32,098
Garuda International, Inc	Santa Cruz	CA	95063	Natural & Health Foods	3,899
Geyser Peak	Geyserville	CA	95441	wine	15,513
Golden State Vintners	Cutler	CA	93615	wine	86,512
Golden West Nuts, Inc	Ripon	CA	95366	Almonds	44,957
Goods and Sevices Int'l	South El Monte	CA	91733	Non-Chocolate Soft Candy-Lemon, Lime, Cherry, orange flavor	60,000
Grand Export, Inc	Hayward	CA	94544	grocery products	
Great Crescent International Inc	Rolling Hills Est	CA	90274	crackers, cookies	12,480
Greater Pacific Foods	Pleasanton	CA	94566	grocery products	
Harris Ranch Beef Company	Selma	CA	93662	Beef	18,716
Herman Goelitz, Inc	Fairfield	CA	94533	Confectionery	105,508
Hill & Thoma Wines	Santa Rosa	CA	95404	California Wine	101
Hilltop Ranch	Ballico	CA	95303	Blanched Diced, sliced, whole Almonds, and Brown Almonds,	8,000
Hughson Nut Marketing, Inc	Hughson	CA	95326	Almonds	28,757
Imagine Foods, Inc	Palo Alto	CA	94306	ice cream, puddings, beverage	38,448
International Food Concepts	Calabasas	CA	91302	Breakfast Cereals/Fruit Juices	200,000
Isis Management, Inc	Carmel	CA	93921	Loaves of: Banana Nut, poppyseed, pumpkin, zucchini	
J. Lohr Winery	San Jose	CA	95126	wine	648
J.R. Wood, Inc	Atwater	CA	95301	Frozen Fruits & Vegetables, Smoothie Starters, Baby Food	18,900
Jewel Date Company	Palm Desert	CA	92260	processed products	35,685
Kashi Company	La Jolla	CA	92038	Cereals	2,641
Kautz Ironstone Vineyards	Murphys	CA	95247	wine	17,500

Kendall-Jackson Winery	Santa Rosa	CA	95403	wine	11,864
Kenwood Vineyards	Kenwood	CA	95452	Wine	7,072
La Tapatia Tortilleria, Inc	Fresno	CA	93701	Tex-mex Foods	
Lady-J, Inc	Menlo Park	CA	94025	Snack Foods	50,000
Louis M. Martini Winery	St. Helena	CA	94574	California Wine	1,188
Lyons Magnus	Fresno	CA	93702	juice, beverages, snack foods, syrups, flavored toppings	7,783
MCC Foods America, Inc	Carson	CA	90745	Soups; Chinese pasta, egg flower, hot & sour. Sauces, stir fry	
Merryvale Vineyards	St. Helena	CA	94574	wine	40,127
Nancy's Specialty Foods	Newark	CA	94560	quiche	57,487
National Raisin Co	Fowler	CA	93625	raisins	16,323
New Jamaican Gold, Inc	San Francisco	CA	94124	canned iced coffee	62,377
Newton Vineyard	St. Helena	CA	94574	wine	1,288
Ocean Breeze Export Inc	Exeter	CA	93221	Fresh California Broccoli Crowns, Cherries, Citrus, and T	2,075
Oceanica Trade Investment, Inc	Redondo Beach	CA	90277	seafood products	9,249
Otis McAllister, Inc	San Francisco	CA	94111	Fruit Juices	44,354
Pacific American Fish Co., Inc	Los Angeles	CA	90021	Squid	3,000
Pacific Grain Products, Inc	Woodland	CA	95776	Various flavored Chips and Crackers, Industrial Snacks	3,553
Pacific Trading Ventures	Walnut Creek	CA	94596	yogurt, ice cream, fruit juice, cookies, popcorn, salty s	1,880
Pamela's Products	So. San Francisco	CA	94080	Snack Foods	7,342
Pangburn Candy	Los Angeles	CA	90007	Lollipops, Butter Toffee Nuts, Coffee Candy	
Prince Of Peace Enterprises, Inc	San Francisco	CA	94124	Beverages	144,727
Purepak, Inc	Oxnard	CA	93032	Sliced strawberries, organic; sorbet, soups, strawberries	19,208
R.W. GarciaCo., Inc	San Jose	CA	95112	Salad Eatos-Flavored Chip Strips, Dips and Salsas, Tortilla	1,462
Renaissance Vineyard & Winery, Inc	Renaissance	CA	95962	wine	3,390
Rio Del Mar Foods, Inc	Orinda	CA	94563	almond, prune, raisin, cherries, date, apricot, tomato	65,712
Round Hill Winery	St. Helena	CA	94574	wine	979
Royal Pacific Foods	Pleasanton	CA	94566	grocery products line	13,892
Safeway Inc	Walnut Creek	CA	94598	Grocery Products Line	2,582
Samyang Foods USA	Los Angeles	CA	90026	Instant Cup/Package Noodles, Premixed Rice w/ nuts & dried	25,830
Schug Carneros Estate Winery	Sonoma	CA	95476	wine	11,196
Sea And Farmfresh Importing Company	Alhambra	CA	91803	seafood	31,474
Sierra Nut House, Inc	Fresno	CA	93721	Dried Soup Mixes, Organic Wheat Grains, Chocolate Covered	
Simon Home Foods Company	San Diego	CA	92110	Pretzels	6,180
Simonian Fruit Co	Fresno	CA	93711	fruit	
Smith-Anderson Enterprises, Inc	Huntington Park	CA	90255	California Wine	18,500
Spectrum Naturals Inc	Sebastopol	CA	95472	Condiments	

1997 MAP BRAND EXPENSES BY STATE—Continued

Company	City	State	Zip	Promoted—Produce	Expenses
State Fish Company, Inc	San Pedro	CA	90731	seafood	2,689
Summerfield Foods,Inc	Santa Rosa	CA	95401	Fat Free; Soup, Refried beans, Chili Cookies; 'Car', 'C	4,517
Sutter Home Winery, Inc	St. Helena	CA	94574	wine	56,477
The California Winery	Ceres	CA	95307	wine	45,765
Timber Crest Farms	Healdsburg	CA	95448	dried fruits & tomatoes & Condiments	1,113
Traditional Medicinals Inc	Sebastopol	CA	95472	Natural & Health Foods	185,520
Triad Worldwide, Inc	Clovis	CA	93613	nuts, raisins, canned goods, grocery products	149,529
Ventana Vineyards	Monterey	CA	93940	wine	1,354
Very Special Chocolates, Inc	Azusa	CA	91702	Candy	6,156
Well-Pict, Inc	Watsonville	CA	95076	Fresh Fruit	25,942
Wenix International Corp	Los Angeles	CA	90017	Seafood	10,000
Wente Bros	Livermore	CA	94550	wine	249,999
Western Sierra Packers, Inc	Terra Bella	CA	93270	Citrus/Oro Blanco/Melogold	
Wild Rice Exchange	Yuba City	CA	95993	rice	42,440
Wines Of America, Ltd	Larkspur	CA	94939	Wine	13,567
World Variety Produce, Inc	Vernon	CA	90021	fruit, vegetables	
Worldwide Sires, Inc	Hanford	CA	93230	Frozen Bovine Semen	51,018
Yorkville Cellars	Yorkville	CA	95494	wine	
ZB Industries, Inc	San Pedro	CA	90733	Frozen Seafood Entrees, Frozen Stir-Fry Vegetables	6,689
Great Western Tortilla Co	Denver	CO	80216	salsas, tortilla chips	15,056
Leprino Foods	Denver	CO	80211	Dairy Products	4,149
Western Export Services, Inc	Denver	CO	80202	grocery products, malt beverage, Beer	144,799
International Marketing Systems, Ltd.	Shelton	CT	06484	grocery products	
Lincoln Snacks Company	Stamford	CT	06905	Popcorn	60,578
Newman's Own Inc	Westport	CT	06880	salad dressing	24,534
Pepperidge Farm Incorporated	Norwalk	CT	06851	crackers, cookies, soup, croutons	17,477
Affair International, Inc	Miami Beach	FL	33140	Canned soft drinks	4,593
Arnet Pharmaceutical Corp	Hialeah	FL	33016	Vitamins	50,000
DLF International, Inc	Vero Beach	FL	32962	Fresh Grapefruit	13,658
Florida European Export-Import Co.,	Miami	FL	33158	Fresh Fruits and Vegetables	6,408

Garcia Canning Co., Inc	Tampa	FL	33164	boiled peanuts, white kidney beans, black beans, chili beans	
I.M.G. Enterprise Inc./Cherry Lake Fa	Groveland	FL	34736	Fresh Grapefruit	29,250
International Pet Products, Inc	New Port Richey	FL	34652	Pet food	192,357
Ital Florida Foods, Inc	Miami	FL	33167	Pasta, ziti, spaghetti, macaroni, fetuccini	
Perky's Food Service Concepts, Inc	Tampa	FL	33610	Dough, refrigerated dry mixes, Pizza products, various, P	1,892
Sunny Ridge Farm	Lake Hamilton	FL	33851	processed food	
Tropical Blossom Honey Co., Inc	Edgewater	FL	32132	Honey, Hot Sauces, Spice Mix, Fruit Drinks, Coconut Toast	4,763
Allied Foods, Inc	Atlanta	GA	30318	Pet foods	35,344
American Tanning & Leather Company	Griffen	GA	30223	Alligator Hides	3,061
Chihade International, Inc	Stone Mountain	GA	30083	Citrus Juices	176,851
The Matterhorn Company	Marietta	GA	30062	Ice Cream Sandwiches	
Equipment Team Hawaii	Honolulu	HI	96820	fruit	50,183
French Gourmet Inc	Honolulu	HI	96813	Bakery Products	96,893
Hawaiian Host, Inc	Honolulu	HI	96817	Chocolate Covered Macadamia nuts and Other Related Products	
Pleasanton Corporation	Waimanalo	HI	96795	Tropical Plants	
M. Miyamoto Orchids, Inc	Walanae	HI	96792	Various Orchid Genera	
American Pop Corn Company	Sioux City	IA	51102	popcorn	168,932
American Protein Corporation	Ames	IA	50010	Porcine/Bov. Immunoglobulin, Plasma & Alb	19,198
Ampc, Inc	Ames	IA	50010	80 Percent WPC	46,649
Burke Corp	Nevada	IA	50201	Meat Toppings	15,025
Elite Genetics	Waukon	IA	52172	Sheep Semen	19,843
Kemin Industries, Inc	Des Moines	IA	50301	Swine Feed, Dog Food-dry, Cat Food-dry	1,075
Maplehurst Genetics	Keota	IA	52248	Frozen Bovine Semen	3,000
Midamar Corporation	Cedar Rapids	IA	52406	poultry, processed meats	8,341
Triple F. Inc	Des Moines	IA	50322	Animal Feed Additives	4,154
Agri Beef Co	Boise	ID	83707	Beef	
Gering And Son	Nampa	ID	83687	Canned & Frozen Foods	
Idaho Pacific Corporation	Ririe	ID	83443	Seasoned & regular Potato Granules, Potato Flakes, Potato	8,399
Idahoan Foods	Lewisville	ID	83431	potato products	127,981
Market Makers, Inc	Boise	ID	83701	Further processed chicken	13,209
Beer Nuts Inc	Bloomington	IL	61701	peanuts, Cashews	5,630
Coffee Masters	Ingleside	IL	60041	instant cappuccino and cocoa	1,802
Eli's Chicago's Finest Cheasecake	Chicago	IL	60634	Baked Cheese Cake	3,620
Essen Nutrition Corp	Romeoville	IL	60446	sauces, syrup, mixes, salad dressings, mayonnaise	12,738
Ferrara Pan Candy Company	Forest Park	IL	60130	Confectionery	1,230
Lawrence Foods, Inc	Elk Grove Village	IL	60007	jellies & preserves, ice cream toppings, fillings	666

1997 MAP BRAND EXPENSES BY STATE—Continued

Company	City	State	Zip	Promoted—Produce	Expenses
Little Lady Foods, Inc	Elk Grove Village	IL	60007	French Bread Pizza, pizza products	7,703
LP International	Chicago	IL	60632	Salsas, Taco Shells	13,351
Milk Specialties Co	Dundee	IL	60118	Horse & Dairy Feed	2,80X
Park Foods L.P.	Barrington	IL	60010	Drink Mixes, Cake Mixes, Bakery Products & Ingredients	
Roney-Oatman	Aurora	IL	60506	ice cream, frozen shakes	8,084
Sahagian & Associates, Inc	Oak Park	IL	60302	Corn Sticks & popcorn kernels	2,424
The Bruss Company	Chicago	IL	60641	Beef	
TKI Foods, Inc	Springfield	IL	62708	Meal Replacement	7,068
Vienna Sausage Manufacturing Co.	Chicago	IL	60647	Value added meats	17,451
Dairy Chem Laboratories, Inc	Noblesville	IN	46060	Starter Distillates	3,609
Midwestern Pet Foods, Inc	Evansville	IN	47711	pet food (cat, dog)	85,864
B&H General Supply & Marketing Co	Leawood	KS	66211	Mayonnaise, Salad Dressing	154,522
Pines International	Lawrence	KS	66044	Wheat Powder, tabs	95,877
Thompson's Pet Pasta Products	Kansas City	KS	66105	Pet food	170,767
Age International, Inc	Frankfort	KY	40601	bourbon	
Heaven Hill Distilleries, Inc	Bardstown	KY	40004	wine	61,345
Korbel Brands	Louisville	KY	40201	Wine/Brandy	23,500
Bruce Foods Corporation	New Iberia	LA	70562	Ethnic Foods	79,643
Burris Mill & Feed, Inc	Franklinton	LA	70438	shrimp feed and tilapia feed	1,299
Chef Paul Prudhomme's Magic Season	Harahan	LA	70183	Sauces and Spices	19,209
Crown Products, Inc	Metairie	LA	70002	Alligator Hides	146,933
Crystal International Corporation	New Orleans	LA	70119	Trading Company General Groccry Line	260,000
KSM Seafood Corporation	Baton Rouge	LA	70821	Seafood and Aquaculture	35,069
M.B.A. International Company	Metairie	LA	70011	Trading Company General Grocery Line	5,000
McIlhenny Company	Avery Island	LA	70513	Sauces and Spices	171,674
Panola Pepper Corp	Lake Providence	LA	71254	Hot Sauce, Jalapeno Hot Sauce, Extra Hot Hot Sauce	5,580
Boston Beer Company	Boston	MA	02130	Beer	25,248
East Coast Seafood, Inc	Lynn	MA	01903	American Lobster, Skate, Monkfish, & Dogfish	106,677
Ethnic Gourmet Foods Inc	Farmingham	MA	01702	Dinners (Frozen Indian)	
Nasoya Foods, Inc	Ayer	MA	01432	Mayonnaise, salad dressing, tofu, seasoning mixes	493

Pishev CorporationInternational	Boston	MA	02109	Chum Salmon, Hake, Smelt, and Rockfish	51,253
U.S. Mills, Inc	Needham	MA	02194	Cereal	7,877
Chemgen	Gaithersburg	MD	20877	feed enzyme	8,531
PTC International	Baltimore	MD	21202	Chicken wings, cakes, pies, cheesecakes	2,265
Purdue Farms, Inc	Salisbury	MD	21801	Parts and further processed chicken	
S.E.W. Friel	Queenstown	MD	21658	Tomato Juice, Vegetable Juice, Corn, Succotash	
Sea Watch International, Ltd	Easton	MD	21601	seafood/processed foods	30,000
U.S. Grain Company	Towson	MD	21204	Pet food	28,626
Wilkins-Rogers, Inc	Ellicott City	MD	21043	Bakery Products	
Country Egg Farm	Turner	ME	04282	Shell Eggs	
Jasper Wyman & Son	Milbridge	ME	04658	Wild Blueberries, Pie filling	
The Lobster Co.	Kennebunkport	ME	04046	Lobster	2,043
American Soy Products	Saline	MI	48176	fruit and vegetable juice	653
Argo Associates, Inc	Bloomfield Hills	MI	48304	Beverage Concentrate	19,732
Awrey Bakeries, Inc.	Livonia	MI	48150	Bagels, Biscuits, Brownies, Cakes, Coffee Cakes, Cookies,	10,510
Cherrex Corporation	Okemos	MI	48864	Frozen Cherries, Cherry Concentrate	55,203
Groeb Farms, Inc	Onsted	MI	49265	honey	20,001
Honee Bear Canning	Lawton	MI	49065	Canned Cherries (Pitted Red Tart, Dark Sweet)	40,656
Kalsec Inc	Kalamazoo	MI	49005	extractives of paprika, hops and capsicum	20,982
Purity Foods International	Okemos	MI	48864	Microwave Popcorn	198,967
Advanced Nutritionals Corporation	Minneapolis	MN	55369	Health drink & Health Gel	55,298
Dahlgren & Company, Inc	Crookston	MN	56716	Dairy Products	20,824
Davisco Foods International, Inc	Le Sueur	MN	56058	Whey Protein concentrate WPC, Refined Edible Lactose	3,738
Grist Mill Co.	Lakeville	MN	55044	fruit snacks, granola bars	26,938
Knight Seed Co., Inc	Burnsville	MN	55337	Confection Sunflowers, Dry Edible Beans, Soybeans	13,768
Lamex Foods, Inc	Edina	MN	55435	chicken broth	21,066
Link Industries	Minong	MN	54859	kippered beef regular flavor, and black pepper	17,388
Northland Organic Foods	Saint Paul	MN	55105	Beans, Frozen Veggies, Pkg. Foods	34,271
Quali Tech, Inc	Chaska	MN	55318	Toasted Corn Germ, Flavor Particulates	6,544
Sigco Sun Products, Inc	Breckenridge	MN	56520	Sunflower Inshell	107,940
Ventures East, Inc	Excelsior	MN	55331	Beef	
Zinpro Corporation	Eden Prairie	MN	55944	Roasted Corn, Beans, Margarita Mix, Vinegars, Marinade	15,497
American Berkshire Association	Skidmore	MO	64487	Pork	
Bolinger Marketing Inc	California	MO	65018	potted meat	1,661
International Ingredient Corporation	St. Louis	MO	63116	feed ingredients	42,296
Raskas Foods, Inc	Clayton	MO	63105	Cream Cheese	35,000

1997 MAP BRAND EXPENSES BY STATE—Continued

Company	City	State	Zip	Promoted—Produce	Expenses
Vital-EX Company	Kansas City	MO	64190	athlete/men/women vitamins	
American Poultry International, Ltd	Jackson	MS	39236	Chicken parts	2,500
De Beukelaer Corporation	Madison	MS	39110	grocery products	34,498
Sussie's of Mississippi, Inc	Marks	MS	38646	Fruitcakes, Liqueur Cakes, Cheesecakes	9,172
Huckleberry Haven,Inc	Hungry Horse	MT	59919	Pancake mix, jams, toppings, fillings, flavored honey	2,951
I'tchik Herbs	Crow Agency	MT	59022	Herbal teas, Herbal tea mixes	825
Montana Genetics International, Inc	Bozeman	MT	59715	Montana Angus Genetics	5,974
Prickly Pear Ranch	Helena	MT	59601	Bovine Genetics	4,443
American Sales International	Charlotte	NC	28209	Shallowford Farms/Popcorn, Carolina's Best/ Popcorn	2,491
Beacon Sweets, Inc	Mooresville	NC	28115	Hard candy & Gummy candy in the shaped as watch/footprint	7,747
E. Boyd & Associates, Inc	Raleigh	NC	27624	corn, corn products	
Mr. B's Fun Foods	Connelly Springs	NC	28612	Cotton Candy, Caramel Popcorn	3,051
Pogue Industries, Inc	Raleigh	NC	27615	pasta, popcorn, sauces	102,469
The Original Log Cabin Homes, Ltd	Rocky Mount	NC	27802	log cabins	141,223
Triangle Products	Charlotte	NC	28247	Pet food, popcorn, snack foods	8,089
Harvest Fuel, Inc	Walhalla	ND	58282	Calf Feed	872
Minn-Dak Growers, Ltd	Grand Forks	ND	58208	Mustard; ground, dehydrated, flour, & Sunflower Kernels	8,950
Specialty Commodities, Inc	Fargo	ND	58106	Sunflower (in shell), Sunflower kernel	8,829
All NaturaULean Limousin Supreme	Kearney	NE	68848	All Natural Limousin Beef	
Brown's Best Foods	Lincoln	NE	68524	Beans; whole, dried, instant powdered, quick cooking flak	3,877
Excalibur Sires	Rochester	NE	59906	Bovine Genetics	2,350
Heartland Beef Sales, Inc	Omaha	NE	68106	Beef w/peppers and onions, Portioned sliced beef, poultry	27,963
Morrison Farms	Clearwater	NE	68726	microwave popcorn	20,377
Biosan Laboratories, Inc	Derry	NH	03038	Health/Diet	24,675
Seawise, Inc	Portsmouth	NH	03801	Conch, Sea Cucumber	2,705
American Standard Products, Inc	Hasbrouck Heights	NJ	07604	Shrimp Feed	16,126
Goody, Inc	East Brunswick	NJ	08816	pretzels	400,001
International American Supermarkets	Piscataway	NJ	08854	Processed Sweet Corn, Bakery, snacks, vegetables	474,615
Jersey Asparagus Farms, Inc	Pittsgove	NJ	08318	Asparagus Seed & Crowns	4,398
Kwik Enterprises	Oakhurst	NJ	07753	Snack Food	20,207

Lucille Farms	Montville	NJ	07045	Cheese	
Sovereign Trading Company	Englishtown	NJ	07726	cereal, fruit, juice, pet food, vegetables	
Trinidad Benham Co	Carlstadt	NJ	07072	Corn Oil	
TRT International	Elizabeth	NJ	07201	mayonnaise	50,000
Wakefern Food Corporation	Edison	NJ	08837	Fruit, Vegetables, Dairy, Juice, Cereal, Snack Food	662
World Finer Foods,Inc	Bloomfleld	NJ	07003	TexMex, Condiment, Veggies, Pet Food, Bakery, Health/Diet	199,126
Blue Sky Natural Beverage Co	Santa Fe	NM	87501	Beverages	2,947
Impact Confections, Inc	Roswell	NM	88202	Lollipops; various shapes and sizes	3,069
J–K Products International	Albuquerque	NM	87192	processed products	16,348
Stahmann Farms, Inc	San Miguel	NM	88058	pecan nuts	4,533
Alle Processing Corporation	Maspeth	NY	11378	cooked corned beef, pastrami, knockwurst, kosher hot dogs	
Amal Meat Corp	Jamaica	NY	11432	grocery products/condiments	50,000
Baldwin Vineyards	Pine Bush	NY	12566	Wine	5,710
Calico Cottage Candies,Inc	Mineola	NY	11501	Dry Fudge Candy Mix	14,175
Dr. Konstantin Frank	Hammondsport	NY	14840	Wine	
Export Trade Of America	New York	NY	10003	Canned Vegetables	137,035
Global Beverage Company	Rochester	NY	14625	beverages	
Global Export Marketing Company	New York	NY	10001	TexMex, Salad Dressing, condiments, Vegetable	88,453
Hansmann's Mills, Inc	Bainbridge	NY	13733	Bakery Products, Condiment	
Harry's Premium Snacks	Hicksville	NY	11801	potato chips, tortilla chips, pretzels	
Hunter & Hillsberg	Syracuse	NY	13207	maple syrup/candy/cream, wine	12,500
Interfrost	East Rochester	NY	14445	Frozen Corn	165,000
Koy Shack, Inc	Hicksville	NY	11802	dairy products, pudding	67,913
Lamoreaux Landing Wine Cellars	Lodi	NY	14424	Wine	1,723
Leosons Overseas Corp	Albany	NY	12205	Vegetables (Can/Frozen), Fruits (Can/Dry/Fresh), Cereals	
Northeast Group	Monsley	NY	10952	grocery products	
Ontario International, Inc	Syracuse	NY	13206	Fresh Vegetables	55,000
Certified Angus Beef	Wooster	OH	44691	Beef	28,644
Kahiki Foods, Inc	Columbus	OH	43213	Meals-Entrees	2,898
Lean Value Sires	New Carlisle	OH	45344	Lean Value Sires swine semen	5,250
Select Sires	Plain City	OH	43064	Frozen Bovine Semen	13,500
Smith Dairy Product Company	Orrville	OH	44667	yogurt, ice cream, dairy products	14,793
Woodbury Vineyards	Westlake	OH	44145	Wine	
King B Gourmet Foods	Enid	OK	73702	Miscellaneous processed foods	6,740
Oklahoma Joe's Smokers	Stillwater	OK	74075	Sweet & Spicy Seasoning (Dried, Steak Seasoning (Dry Meat	
Golden Temple Bakery, Inc	Eugene	OR	97402	Cereals	24,701

1997 MAP BRAND EXPENSES BY STATE—Continued

Company	City	State	Zip	Promoted—Produce	Expenses
Oregon Potato Company	Boardman	OR	97818	Potato Flakes	13,908
Piazza Pizza	Clackamas	OR	97015	Pizza	
Sabroso Company	Medford	OR	97501	Fruit Juice	4,621
Trailblazer Food Products	Portland	OR	97230	Chowder, Truffle Cakes, Sauces, Preserves, Syrups Pie Filling	300
Western Family Foods, Inc	Tigard	OR	97223	grocery products	19,578
Wholesome & Heany Foods, Inc	Portland	OR	97214	Natural & Health Foods	18,652
Yoshida Food Products	Portland	OR	97220	Condiments	37,986
Ag-Link International, Inc	Tunkhannock	PA	18657	Frozen Bovine Semen & Embryos	6,800
Anderson Bakery Company	Lancaster	PA	17602	Pretzels	
Better Baked Foods, Inc	North East	PA	16428	prepared foods	
Chenango Valley Pet Foods	Allentown	PA	18103	Pet Food	200,000
Goldenberg Candy Co	Philadelphia	PA	19140	Confectionery	147,500
Herr Foods Inc	Nottingham	PA	19362	Snack Food	3,025
Jack And Jill Ice Cream Company	Bensalem	PA	19020	Ice Cream	83,638
JDM Commodities	Berwyn	PA	19312	Beer	1,500
North American Pet Products, Inc	Lancaster	PA	17603	dog foods	201,754
S.B. Global Trading Co	Flourtown	PA	19031	TexMex, Bakery Products	57,026
Sire Power, Inc	Tunkhannock	PA	18657	Frozen Bovine Semen	9,000
Snyder's Of Hanover, Inc	Hanover	PA	17331	Snack Food	
Sweet Street Desserts, Inc	Reading	PA	19605	snack foods	11,466
York Import & Export, Inc	Lancaster	PA	17603	Vanilla Extract	1,226
Ziegler Brothers, Inc	Gardeners	PA	17324	Shrimp, larval, trout, tilapia, salmon and flake feeds	8,670
Sterling Merchandising, Inc	San Juan	PR	00922	Yogurt, Ice Cream	
Tropical Fruit, S.E	Guayanilla	PR	00656	fresh mangoes	
Commodity Specialists Company	E. Greenwich	RI	02818	Scallops	2,205
Deep Sea Fish	Wakefield	RI	02880	Seafood	4,821
Flynn Fisheries	Newport	RI	02840	Squid, American Eel, Atlantic Mackerel, Atlantic Herring	
SeaFresh USA Inc	Narrangansett	RI	02882	Dogfish, Monkfish, Squid, Skate, Northern Shrimp	15,312
International Industries Corporation	Spartanburg	SC	29302	Trading Company General Grocery Line	17,102
Southland Log Homes, Inc	Irmo	SC	29063	Pre-Fab Log Homes	

Young Pecan Company	Florence	SC	29502	Tree Nuts	14,147
Hesco, Inc	Watertown	SD	57201	Barley, Soy, and Oat Products	2,303
Flower City Nurseries	Smartt	TN	37378	trees and shrubs	3,476
Amy Foods, Inc	Houston	TX	77087	egg rolls, chicken, seafood	906
Biotics Research Corporation	Stafford	TX	77477	Food Supplement	20,000
Bodacious Trust DBA Bo Know's BBQ	Austin	TX	78750	Barbecue; sauce, brisket rub, beans. Seasoning; steak	
Bovine Elite, Inc	College Station	TX	77840	Bovine Genetics	4,078
Chung's Gourmet Foods	Houston	TX	77004	Egg Rolls/Entrees	
Collin Street Bakery	Corsicana	TX	75110	Bakery Products	50,000
Gulf Pacific Rice Co., Inc	Houston	TX	77024	long grain milled rice, parboiled milled rice	39,725
Hygeia Dairy Company	Harlingen	TX	78551	Dairy Products	
International Grocers, Inc	Houston	TX	77041	grocery products	32,140
Jardine Foods	Buda	TX	78610	Trading Company General Grocery Line	9,794
Kayla Foods	Carrollton	TX	75006	Yogurt, Ice Cream, Sherbet, Sorbet, Italian Ices	
Merrick Petfoods, Inc	Hereford	TX	79045	dog food and cat food, dog and cat treats	13,025
Progressive Laboratories, Inc	Irvine	TX	75038	Vitamins	3,485
Ricos Products	San Antonio	TX	78204	salsa, chips, cheese sauce	
Sunday House Foods, Inc	Fredericksburg	TX	78624	Further processed chicken/turkey	
Texas Coffe Company	Beaumont	TX	77705	All purpose seasoning	7,448
The El Paso Chile Company	EL Paso	TX	79901	Salsas, spicy dips, Margarita and Bloody Mary Mixes, Mustard	
United States Bilateral Trade Co	Ft. Worth	TX	76107	grocery	140,000
Agri-Products, Inc	Woods Cross	UT	84087	Steak, Steak Sauce	15,000
Clover Club Foods	Spanish Fork	UT	84660	potato and tortilla chips, asst. snacks	
Cookietree Bakeries	Salt Lake City	UT	84123	Snack Foods	48,983
Gossner Foods, Inc	Logan	UT	84321	grocery products	
McFarland's Foods, Inc	Riverton	UT	84065	soup base (paste), chicken breast, chicken bacon	6,358
Wilson Products Co	Salt Lake City	UT	84104	Premium Southwest Wraps	7,502
ASB Group International	Vienna	VA	22182	Snack Food	363,276
Basco	Disputanta	VA	23842	Seafood and Aquaculture	
Cheaspeak Bay Packing L.L.C	Newport News	VA	23607	Conch, Dogfish, Monkfish	6,979
CP Speciality Foods, Inc	Portsmouth	VA	23701	Sauces, Condiments, preserves, drink mixes, cheese dip	4,150
International Seafood Distributors	Hayes	VA	23072	Sea Scallops, Conch, Monkfsh, Crab, Dogfish, Eels	32,617
New Venture Developmcnt Corp	Vienna	VA	22182	yogurt, ice cream	
Sweet Mountain Magic	Reston	VA	20194	Sorbet Mix, soy based frzn dessert, roasted soynut butter	930
Virga's Pizza Crust Of Va, Inc	Portsmouth	VA	23701	Miscellaneous processed foods	4,625
Wanchese Fish Company	Hampton	VA	23663	Scallops	3,124

1997 MAP BRAND EXPENSES BY STATE—Continued

Company	City	State	Zip	Promoted—Produce	Expenses
Ben And Jerry's South	Burlington	VT	05403	ice cream, yogurt	16,250
Cabot Creamery, Inc	Cabot	VT	05647	cheddar cheese	
Holstein-Friesian Services, Inc	Brattleboro	VT	05302	Bovine Genetics	3,542
Rhino Foods, Inc	Burlington	VT	05401	Cheesecake	7,500
Agrisource, Inc	Bellevue	WA	98006	vegetables, chips, condiments	6,202
Airfresh Seafoods	Gig Harbor	WA	98335	Salmon, Salmon caviar	
Alaska Smokehouse	Woodinville	WA	98072	Smoked Salmon	6,000
American Country Gourmet, Inc	Steilacoom	WA	98388	Beef Jerky	
Ames International, Inc	Federal Way	WA	98003	Nuts & Nut Products	7,458
Arrowac Fisheries, Inc	Seattle	WA	98199	Squid, Dogfish	
Aspen International Export Inc	Seattle	WA	98101	grocery products	4,255
Brown & Haley	Tacoma	WA	98401	Confectionery, buttercrunch, boxed chocolate	71,126
Cascade Clear Water Co	Burlington	WA	98233	beverages	
Chukar Cherry Company	Prosser	WA	99350	Cherry & Berry Products	16,102
Crystal Ocean Seafood, Inc	Burlington	WA	98233	dairy products	
Da Vinci Gourmet, Ltd	Seattle	WA	98109	seafood	51,500
Draper Valley Farms	Mt. Vernon	WA	98273	Further Processed Chicken Products	
Dungeness Oyster House	Sequim	WA	98382	Clams, Oysters, Geoduck, Dungeness Crab	978
Dutch Delights, Inc	Othello	WA	99344	fresh onions	8,282
Excel Trade Limited	Seattle	WA	98105	Frozen Desserts	32,993
Firman-Pinkerton Co., Inc	Wenatchee	WA	98807	fresh potatoes end onions	450
Grigg & Sons	Quincy	WA	98848	Washington Fresh Onions	
International Market Brands	Kirkland	WA	98034	Canned & Frozen Vegetables/processed chicken	143,798
Interocean Seafoods Company	Seattle	WA	98134	frozen, canned & fresh seafood	14,000
Les Boulangers Associes, Inc (LBA)	Seattle	WA	98148	thaw, proof & bake serve bakery products	2,686
Liberty Orchards Co., Inc	Cashmere	WA	98815	Snack Foods	26,866
Lucks Food Decorating Co	Tacoma	WA	98409	processed foods	2,559
Marinelli Shellfish	Seattle	WA	98189	Clams, Oysters, Mussels, Crabmeat, Dungeness Crab	3,730
Molly's Foods, Inc	Bellingham	WA	98225	fruits	9,365
Northwest Packing Company	Vancouver	WA	98666	Tomato Products, Canned, Cherries, Plums, & Pears	14,501

Peninsula Seafoods, Inc	Port Angeles	WA	98362	Black Cod	
Phoenix Marketing	Bellevue	WA	98005	Grocery Products Line	31,140
Roman Meal Company	Tacoma	WA	98409	Grain Products	55,276
Seattle Chocolate Co	Seattle	WA	98134	Chocolate Truffles, Chocolate bars	0
Squamish Seafoods	Squamish	WA	98392	Clams, Oysters, Geoduck, Dungeness Crab	2,180
Staton Hills	Wapato	WA	98951	Wine	1,364
Stockpot Soups	Redmond	WA	98052	soup	4,529
Vanguard Trading Services, Inc	Issaquah	WA	98027	grocery products	36,176
21St Century Genetics	Shawano	WI	54166	Frozen Bovine Semen	26,000
ABS International	DeForest	WI	53532	Bovine Genetics	36,876
Allied Processors, Inc	Boyceville	WI	54725	Food Ingredients	
Beehive Botanicals	Hayward	WI	54843	Propolis Tincture; Propolis Throat Spray, Gourmet Honey	3,601
Cedar Crest Ice Cream	Cedarburg	WI	54220	Ice Cream, Reduced Fat Ice Cream	1,274
Century Foods International	Sparta	WI	54656	Dairy Products	
Cher-Make Sausage Co	Manitowoc	WI	54220	Kippered Teriyaki Beef, Mozzarella & Beef Stick	1,149
Cumberland Packing Corporation	Racine	WI	53403	Dairy Conc	40,843
Gardetto's	Milwaukee	WI	53221	Pretzels, Snak-ens	14,791
Honey Acres Inc	Ashippun	WI	53003	Fruit Flavored Honey Creme Spreads, Honeybears	l,139
Hsu's Ginseng Enterprises, Inc	Wausau	WI	54402	ginseng/roots, slices, tea, capsules	140,002
Jones Dairy Farm	Fort Atkinson	WI	53538	Pork sausage, bacon, hams	30,000
Kaytee Products, Inc	Chilton	WI	53014	Pet food	21,488
Merrick's, Inc	Middleton	WI	53562	animal plasma, milk replacements	10,038
New Generations Dairy Cattle	Brooklyn	WI	53521	Bovine Semen	9,292
Nueske's Hillcrest Farms Meats	Wittenberg	WI	54499	Smoked Pork Products	497
Old Fashioned Foods, Inc	Mayville	WI	53050	Cheese Sauces & Salsas	39,607
SHK Foods, Inc	Fitchburg	WI	53711	Fully Cooked Bacon	

1998 BRAND COMPANIES BY STATE

Company	City	State	Zip	Promoted—Produce	Expenses
Franciscan Vineyards	Rutherford	CA	94573	wine	$27,500
Frontier Trading	San Diego	CA	92106	grocery products	5,000
Geyser Peak	Geyserville	CA	95441	wine	30,000

1998 BRAND COMPANIES BY STATE—Continued

Company	City	State	Zip	Promoted—Produce	Expenses
Global Merchandising Corp	San Francisco	CA	94124	Spices, cookies, peanuts	15,000
Golden State Vintners	Cutler	CA	93615	wine	155,000
Golden West huts, Inc	Ripon	CA	95366	Almonds	95,000
Great Crescent International Inc	Rolling Hills Est	CA	90274	crackers, cookies	30,000
Green Foods Corporation	Oxnard	CA	93030	Barley pet and nutritional supplement	5,000
Hard-Shelled Int'l	Long Beach	CA	90813	Spiny Lobster	30,700
Helrazor, Inc	Saratoga	CA	95070	Condiments	15,000
Herman Goelitz, Inc	Fairfield	CA	94533	Confectionery	322,500
Hughson Nut Marketing, Inc	Hughson	CA	95326	Almonds	20,000
H.A. Williams International	Richmond	CA	94804	Cookies and biscuits	5,000
Imagine Foods, Inc	Palo Alto	CA	94306	ice cream, puddings, beverage	25,000
INI International	Richmond	CA	94804	Pasta, oils, sauces, condiments etc	20,000
Internationai Commodity Consultants, Inc	Sonoma	CA	95476	Processed, deli meats	10,000
Jewel Date Company	Palm Desert	CA	92260	processed products	25,000
Joseph Gallo Farms	Atwater	CA	95301	Cheeses/Dairy Products	10,000
Kashi Company	La Jolla	CA	92038	Cereals	10,000
Kautz Ironstone Vineyards	Murphys	CA	95247	wine	67,000
Kenwood Vineyards	Kenwood	CA	95452	Wine	16,000
Laurel Glen Vineyard	Glen Ellen	CA	95442	wine	5,000
Les Vins de' Amour	Huntington Beach	CA	92647	Juices, wine, cookies, canned fruit, soft drinks	10,000
Lion Enterprises	Fresno	CA	93702	raisins	37,500
Louis M. Martini Winery	St. Helena	CA	94574	California Wine	15,000
Lundberg Family Farms	Richvale	CA	95974	Rice products	15,000
Mashuga Nuts, Inc	San Rafael	CA	94903	Nut & Cookies	18,000
Mayacamas Fine Foods, Inc	Sonoma	CA	95476	Pastas, Soups, Sauces	5,000
Merryvale Vineyards	St. Helena	CA	94574	wine	55,000
Mooney Farms	Chico	CA	95973	sun dried tomato pesto, tomatoes, kiwi fruit	45,000
Mrs. Leeper's, Inc	San Diego	CA	92127	Pasta	15,000
Nancy's Specialty Foods	Newark	CA	94560	quiche	15,000
National Raisin Co	Fowler	CA	93625	raisins	37,500

Newton Vineyard	St. Helena	CA	94574	wine	8,200
Oceanica Trade S Investment, Inc	Redondo Beach	CA	90277	seafood products	10,000
Organic Ingredients, Inc	Aptos	CA	95003		10,000
Otis McAllister Inc	San Francisco	CA	94111	Fruit Juices	25,000
Pacific Grain Products, Inc	Woodland	CA	95776	Various flavored Chips and Crackers, Industrial Snacks	20,000
Pacific Micro-Brews Distributing, Inc	Walnut Creek	CA	94595	Microbrewed ales	5,000
Paramount Farms	Bakersfield	CA	93380	Pistachios	50,000
Prince Of Peace Enterprises, Inc	San Francisco	CA	94124	Beverages	150,000
Purepak, Inc	Oxnard	CA	93032	Sliced strawberries, organic; sorbet, soups, strawberries	65,000
Quady Winery	Madera	CA	93639	wine	11,000
Renaissance Vineyard & Winery, Inc	Renaissance	CA	95962	wine	10,000
Roma Exporting Company, Inc	San Diego	CA	92101	Italian products, oil, cold-cuts, sauces, pasta	5,000
Round Hill Winery	St. Helena	CA	94574	wine	16,000
Royal Pacific Foods	Pleasanton	CA	94566	grocery products line	10,000
Rutherford Benchmarks, Inc	St. Helena	CA	94574	wine	10,000
R.H. Phillips'		CA	95627	Wine	10,000
R.W. Garcia Co., Inc	San Jose	CA	95112	Salad Eatos-Flavored Chip Strips, Dips and Salsas, Tortillas	10,000
Sahara Natural Foods, Inc	San Leandro	CA	94577	Soup, salad mixes, seasonings, rice, dips	25,000
Sato Agricultural Trading Company	Fresno	CA	93710	Fresh fruits	5,000
Schug Carneros Estate Winery	Sonoma	CA	95476	wine	19,000
Sea And Farmfresh Importing Company	Alhambra	CA	91803	seafood	56,000
Sequoia Grove Vineyards	Napa	CA	94558	wine	2,000
Shafer Vineyards	Napa	CA	94558	wine	2,000
Shoei Foods USA	Marysville	CA	95901	Dried fruit & nuts	48,000
Smith-Anderson Enterprises, Inc	Huntington Park	CA	90255	California Wine	25,000
Soltec Corporation	San Fernando	CA	91341	Cookies, candies, juices, condiments, sauces, cakes, vege	5,000
Sonoma Creek Winery	Sonoma	CA	95476	wine	2,000
Spring Mountain Vineyard	St. Helena	CA	94574	wine	7,500
Spring Tree Food Corporation	Oakdale	CA	95361	Nuts	15,000
State Fish Company, Inc	San Pedro	CA	90731	seafood	15,000
St. George Spirits	Oakland	CA	94618	Brandies, dessert wines, grappa	10,000
Summerfield Foods, Inc	Santa Rosa	CA	95401	Fat Free Soup, Refried beans, Chili Cookies; 'Car','C	15,000
Sun Maid	Kingsburg	CA	93631	California Raisins	150,000
Sunkist Growers	Sherman Oaks	CA	91423	Fresh Citrus	2,531,247
Sunsweet Growers, Inc	Pleasanton	CA	94566	Prunes	641,000
The California Winery	Ceres	CA	95307	wine	49,000

1998 BRAND COMPANIES BY STATE—Continued

Company	City	State	Zip	Promoted—Produce	Expenses
Traditional Medicinals Inc	Sebastopol	CA	95472	Natural & Health Foods	5,000
Trans USA Corporation	Richmond	CA	94806	Vegetables, fruits, condiments	20,000
Tri-Valley Growers	San Ramon	CA	94583	Canned Vegetables, Popcorn	206,000
Turlock Fruit Company, Inc	Turlock	CA	95381	Melons	5,000
Valley Fig Growers	Pleasanton	CA	94588	Dried Fruit	30,000
Ventana Vineyards	Monterey	CA	93940	wine	7,500
Very Special Chocolates, Inc	Azusa	CA	91702	Candy	91,000
Well-Pict, Inc	Watsonville	CA	95076	Fresh Fruit	30,000
Wente Vineyards	Livermore	CA	94550	Owine	250,000
Western Bagel Baking	Van Nuys	CA	91405	Bagels	5,000
Wild Rice Exchange	Yuba City	CA	95993	rice	35,000
Will-Pak Foods, Inc	Harbor City	CA	90710	Instant side dishes, soups, chili, beans	5,000
Wines Of America, Ltd	Larkspur	CA	94939	Wine	15,000
Worldwide Sires, Inc	Hanford	CA	93230	Frozen Bovine Semen	47,000
ZB Industries, Inc	San Pedro	CA	90733	Frozen Seafood Entrees, Frozen Stir-Fry Vegetables	15,000
Colorado Came Tradin	Winter Park	CO	80482	Beef cattle, semen and embryos	4,000
Great Western Tortilla Co	Denver	CO	80216	salsas, tortilla chips	15,000
Lee Enterprises	Denver	CO	80222	Beef	12,000
My Favorite Jerky LLC	Boulder	CO	80302	Meat snacks	3,000
Rocky Mountain Chocolate Factory	Durango	CO	81301	Chocolate and non chocolate confectionery	26,000
Vancol Industries, Inc	Denver	CO	80229	Carbonated soft drinks, flavored water	25,000
Western Export Services, Inc	Denver	CO	80202	grocery products, malt beverage, Beer	2,000
American Popcorn Corp	Greenwich	CT	06830	Salted, Cheese, Caramel, Chocolate, Fruit Popcorn	15,000
Amoona Inc	Milford	CT	06460	Prepared Foods	50,000
International Marketing Systems, Ltd	Shelton	CT	06484	grocery products	.....
Newman's Own Inc	Westport	CT	06880	salad dressing	45,000
Donovan Brown & Associates	Lakeland	FL	33801	Fruit Juices	22,500
Edimar International	Miami	FL	33175	Condiments, Sauces, Pastas, Peanut Butter	10,000
Imperial Packers and Purveyors, Inc	Hialeah	FL	33010	Lugareno Superior Spanish Sausages	4,500
Perky's Food Service Concepts, Inc	Tampa	FL	33610	Dough, refrigerated dry mixes, Pizza products	7,000

Allied Foods, Inc	Atlanta	GA	30318	Pet foods	10,000
American Tanning & Leather Company	Griffen	GA	30223	Alligator Hides	12,000
Coffees of Hawaii, Inc	Kualapuu	HI	96757	Coffee	15,000
Equipment Team Hawaii	Honolulu	HI	96820	fruit	5,000
French Gourmet Inc	Honolulu	HI	96813	Bakery Products	105,000
Hawaiian Host, Inc	Honolulu	HI	96817	Chocolate Covered Macnuts and Other Related Products	44,000
Hawaiian Sun Products	Honolulu	HI	96819	Nut and Fruit Products	25,000
Naturipe Berry Growers, Inc	Pahoa	HI	96778	Frozen Fruits	25,000
American Pop Corn Company	Sioux City	IA	51102	popcorn	13,000
American Protein Corporation	Ames	IA	50010	Porcine/Bov. Immunoglobulin, Plasma & Alb	9,000
Ampc, Inc	Ames	IA	50010	80 percent WPC	7,000
Burke Corporation	Nevada	IA	50201	Beef/Pork Protein	2,000
Devansoy Farms, Inc	Carroll	IA	51401	Soy products	3,000
Diamond V Mills, Inc	Cedar Rapids	IA	52407	Feed	8,000
Maplehurst Genetics	Keota	IA	52248	Frozen Bovine Semen	3,000
Midamar Corporation	Cedar Rapids	IA	52406	poultry, processed meats	7,000
Midwestern Soybean International	Mason City	IA	50402	soybeans (dry, edible)	3,000
Mrs. Clark's Foods, Inc	Ankeny	IA	50211	Fruit drink concentrate, juices, salad dressing, condiments	3,000
Natural Products, Inc	Grinnell	IA	50112	Soy protein products, bakery ingredients, humanitarian	6,000
Nutra-Flo Company	Soiux City	IA	51106	Dry animal protein feed ingredient	7,000
Sioux Honey Association	Sioux City	IA	51101	Honey	49,000
Triple F. Inc	Des Moines	IA	50322	Animal Feed Additives	1,000
Idaho Pacific Corporation	Ririe	ID	83443	Seasoned & regular Potato Granules, Potato Flakes	25,000
Idahoan Foods	Lewisville	ID	83431	potatoe products	20,000
Magic Miles Ud., Inc	Nampa	ID	83651	Potato flakes	39,000
Universal Frozen Foods	Boise	ID	83706	Frozen Potato Products	8,500
American Food Service, U.S.A	Chicago	IL	60626	Spray oils, snack cakes, peanut bars, baking mixes, etc	4,000
Andrew Glueck	Chicago	IL	60614	Popcorn, microwave, popping	2,000
Berner Cheese Company	Dakota	IL	61018	Aerosol Cheese Sauce, Cheese Sauce, Cheese Topping	5,000
Clarkson Grain Co., Inc	Cerro Gordo	IL	61818	Food grade soybeans	6,000
Distributors International Ltd	Batavia	IL	60510	Assorted crackers, baking mixes, breakfast cereals etc	6,000
Eli's Chicago's Finest Cheasecake	Chicago	IL	60634	Baked Cheese Cake	3,000
Essen Nutrition Corp	Romeoville	IL	60446	sauces, syrup, mixes, salad dressings, mayonnaise	2,000
Ferrara Pan Candy Company	Forest Park	IL	60130	Confectionery	10,000
Foulds, Inc	Libertyville	IL	60048	macaroni and cheese mix	3,000
Global Marketing Ltd	Niles	IL	60714	Organic plant extract fertilizers	8,000

1998 BRAND COMPANIES BY STATE—Continued

Company	City	State	Zip	Promoted—Produce	Expenses
L P International	Chicago	IL	60632	BBQ Sauce, Cheese Dips, Taco Sauce, Flour Tortillas etc	7,000
Land O'Frost	Lansing	IL	60438	processed poultry, meats, entree meals	4,000
Little Lady Foods, Inc	Elk Grove Village	IL	60007	French Bread Pizza, pizza products	3,000
Milk Specialities Co	Dundee	IL	60118	Feed supplements for dairy cows	4,000
Roney-Oatman	Aurora	IL	60506	ice cream, frozen shakes	1,000
Sahagian & Associates, Inc	Oak Park	IL	60302	Corn Sticks & popcorn kernels	7,000
TKI Foods, Inc	Springfield	IL	62708	Meal Replacement	7,000
Vienna Sausage Manufacturing Co	Chicago	IL	60647	Value added meats	3,000
Jones Popcorninc.DBA Clark Snack	New Albany	IN	47150	Popcorn, microwave and unpopped	1,000
Midwestern Pet Foods, Inc	Evansville	IN	47711	pet food (cat, dog)	7,000
B & H General Supply	Leawood	KS	66211	Beans, Honey, Sauce, Salad Dressing, Mustard etc.	1,000
Pines International	Lawrence	KS	66044	Wheat Powder, tabs	6,000
Thompson's Pet Pasta Products	Kansas City	KS	66105	Pet food	4,000
Korbel Brands	Louisville	KY	40201	Wine/Brandy	50,000
Chef Paul Prudhomme's Magic Seasoning Bl	Harahan	LA	70183	Sauces and Spices	5,000
Crystal International Corporation	New Orleans	LA	70119	Trading Company General Grocery Line	270,000
J.T. Gibbons	New Orleans	LA	70150	Trading Company General Grocery Line	50,000
KSM Seafood Corporation	Baton Rouge	LA	70821	Seafood end Aquaculture	25,000
Annie's Homegrown, Inc	Chelsea	MA	02150	Macaroni/Cheese Dinners	20,000
Boston Beer Company	Boston	MA	02130	Beer	15,000
Cape Cod Potato Chip Co	Hyannis	MA	02601	SNKSL, Potato Chips	14,400
Decas Cranberry Sales, Inc	Wareham	MA	02571	fresh/frozen cranberries	50,000
East Coast Seafood, Inc	Lynn	MA	01903	American Lobster, Skate, Monkfish, & Dogfish	171,000
New England Natural Bakers, Inc	South Deerfield	MA	01373	Trail Mix, Dried Fruit, Nut Mix, Granola	9,000
Ocean Spray International, Inc	Lakeville-Middleboro	MA	02349	Cranberry Products	336,604
U.S. Mills, Inc	Needham	MA	02194	Cereal	3,000
Welch Foods Inc., A Cooperative	Concord	MA	01742	Welch's 100 percent Grape Juices	10,000
Welch Foods, Inc	Concord	MA	01742	Welch's Fruit Drinks, Fruit Juices	695,391
John T. Handy Company	Chrisfield	MD	21817	Seafood end Aquaculture	30,000
Maine Potato Growers, Inc	Presque Isle	ME	07469	Seed and Table Potatoes	5,000

American Health and Nutrition, Inc	Ann Arbor	MI	48108	Beans, buckwheat, wheat, sunflower seeds, rye, barley etc	3,000
Cherrex Corporation	Okemos	MI	48864	Frozen Cherries, Cherry Concentrate	2,000
Graceland Fruit Cooperative, Inc	Frankfort	MI	49635	dried carrot, peach, apple, blueberry, cherry, cranberry	6,000
Honee Bear Canning	Lawton	MI	49065	Canned Cherries (Pitted Red Tart, Dark Sweet)	2,000
House of Flavors Inc	Ludington	MI	49431	Ice cream	2,000
Kalsec Inc	Kalamazoo	MI	49005	extractives of paprika, hops and capsicum	2,000
Purity Foods International	Okemos	MI	48864	Microwave Popcorn	1,000
SunRich, Inc	Hope	MI	56046	Organic corn sweeteners, soy beverages, seed corn etc	6,000
A.G. Beverage Corporation	Minneapolis	MN	55439	Soft drink mixes, powder	5,000
Cafe Brenda Foods, Inc	Minneapolis	MN	55401	Cous Cous Vegetable, Buckwheat Potato, Wild Pecan Rice	2,000
Cerveza Caliente Brewing Company	St. Paul	MN	55104	Beer	1,000
Dahigren & Company, Inc	Crookston	MN	56716	Dairy Products	4,000
Davisco Foods International, Inc	Le Sueur	MN	56058	Whey Protein concentrate WPC, Refined Edible Lactose	6,000
Knight Seed Company	Burnsville	MN	55337	Dry edible beans, bird and small animal feed	3,000
Lamex Foods, Inc	Edina	MN	55435	chicken broth	40,000
Link Industries	Minong	MN	54859	kippered beef regular flavor, and black pepper	4,000
Northland Organics Food Corporation	St. Paul	MN	55102	Dairy feed, rice, prepared foods, soybean and grains	6,000
Quality Ingredients Corporation	Burnsville	MN	55306	Instant cappuccino, whip topping powder, non-dairy creamer	5,000
Ryt-Way Food Products	Northfield	MN	55057	Microwave popcorn	1,000
Sigco Sun Products, Inc	Breckenridge	MN	56520	Sunflower Inshell	4,000
Sno Pac Foods	Caledonia	MN	55921	Frozen fruits and vegetables	2,000
Zinpro Corporation	Eden Prairie	MN	55944	Roasted Corn, Beans, Margarita Mix, Vinegars, Marinade	7,000
Accelerated Genetics	Colombia	MO	65205	US animal breeders	11,800
Farmland Industries, Inc	Kansas City	MO	64116	Pet Foods	2,000
Gastineau Log Homes, Inc	New Bloomfield	MO	65063	Log homes (wood)	1,000
Hammons Products Company	Stockton	MO	65785	Shelled black walnuts, nutmeats	3,000
HS Trading Co	Manchester	MO	63021	Bagels, specialty cookie	53,000
International Dehydrated Foods, Inc	Springfield	MO	65809	Shelf stable broth, liquid fat, powdered meat, broth, fat	3,000
International Ingredient Corporation	St. Louis	MO	63116	feed ingredients	7,000
John Volpi & Company, Inc	St. Louis	MO	63110	Traditional Italian Prosciutto and Rotola	12,000
Lochhead Vanilla Company LLC	St. Louis	MO	63132	Vanilla powder, pure vanilla and other extracts, nutmeg	5,000
NeCo Seed Farms, Inc	Garden City	MO	64747	Soybeans	7,000
Par-Way/Tryson Company	St. Clair	MO	63077	Seasoned oil sprays, soybean oil	6,000
Raskas Foods, Inc	Clayton	MO	63105	Cream Cheese	3,000
RIBUS, Inc	St. Louis	MO	63105	Processing aid ingredient for foods	4,000
T.C. Jacoby & Company, Inc	St. Louis	MO	63127	Cheese and cream cheese	2,000

1998 BRAND COMPANIES BY STATE—Continued

Company	City	State	Zip	Promoted—Produce	Expenses
Prickly Pear Ranch	Helena	MT	59601	Bovine Genetics	4,880
Advanced Nutritionals Coporation	Maple Grove	NC	55369	Energy Drink Mixes	4,000
American Sales International	Charlotte	NC	28209	Shallowford Farms/Popcorn, Carolina's Best Popcorn	5,000
Beacon Sweets, Inc	Mooresville	NC	28115	Hard candy & Gummy candy in the shape of watch/footprint	17,000
Pogue Industries, Inc	Raleigh	NC	27615	pasta, popcorn, sauces	2,000
PS International	Durham	NC	27713	Wheat flour, rice, popcorn, lentils, peas	15,050
Agway Inc	Grandin	ND	58038	Hulled Millet, Confection Sunflower	23,000
Golden Valley Elk Ranch	Portland	ND	58274	Elk velvet	3,000
North American Bison Cooperative	New Rockford	ND	58356	Bison Meat & Products	2,000
SK Food International	Wahpeton	ND	58074	Salty Snacks	4,000
Specialty Commodities, Inc	Fargo	ND	58106	Sunflower(in shell), Sunflower kernel	4,000
Excalibur Sires	Rochester	NE	59906	Bovine Genetics	4,000
Heartland Beef Sales, Inc	Omaha	NE	68106	Beef w/peppers and onions, Portioned sliced beef, poultry	2,000
Mann Hay Co., Inc	Gothenburg	NE	69138	Dairy feed	2,000
Morrison Farms	Clearwater	NE	68726	microwave popcorn	6,000
Nebraska Bean, Inc	Clearwater	NE	68726	Packaged beans and grain products	4,000
Preferred Popcorn L.L.C	Chapman	NE	68827	Raw yellow popcorn	5,000
Biosan Laboratories, Inc	Derry	NH	03038	Health/Diet	60,000
American Caribbean Business, Inc	Roselle	NJ	07203	Grocery Prods—Veget, Canfr, Fruit, Snkfd, Snkcn, etc	12,500
American Snack Exports Co	Dayton	NJ	08810	Salty Snack Foods, SNKSL	15,000
American Standard Products, Inc	Hasbrouck Heights	NJ	07604	Shrimp Feed	6,000
Angostura International Ltd	Cranford	NJ	07016	FRTJU, CONDI-non-alcoholic mixers and sauces	24,800
Elbron Holding Co	Hackensack	NJ	07606	Grocery Prods-Condi, Juice, BkCer, Prodp, Snkpc, etc	25,000
Goody, Inc	East Brunswick	NJ	08816	pretzels	261,000
Jersey Asparagus Farms, Inc	Pittsgove	NJ	08318	Asparagus Seed & Crowns	5,000
Kwik Enterprises	Oakhurst	NJ	07753	Snack Food	25,500
Skaftafell International Grocery	Oak Ridge	NJ	07438	Grocery Products	12,500
Sovereign Trading Company	Englishtown	NJ	07726	cereal, fruit, juice, pet food, vegetables	35,000
S & A International	Linden	NJ	07036	vegetables, condiments, cereals, snacks	80,000
S & R Trading	Edison	NJ	08810	Grocery Products	12,500

TRT International	Elizabeth	NJ	07201	mayonnaise	60,000
Blue Sky Natural Beverage Co	Santa Fe	NM	87501	Beverages	5,000
J–K Products International	Albuquerque	NM	87192	processed products	5,000
Navajo Agricultural Products Industry	Las Cruces	NM	88003	Beans, alfalfa pellets	5,000
Stahmann Farms, Inc	San Miguel	NM	88058	pecan nuts	5,000
Flavor Consultants	Las Vegas	NV	89128	Soy proteins	5,000
Amal Meat Corp	Jamaica	NY	11432	grocery products/ condiments	
Anthony Road Wine Company	Penn Yan	NY	14527	Wine	2,000
Arcadian Estate Vineyards	Rock Stream	NY	14878	wine	1,000
Baldwin Vineyards	Pine Bush	NY	12566	Wine	7,000
Baycliff Co. Inc	New York	NY	10021	PREPF, RICE, prepared foods and rice	6,250
Calico Cottage Candies, Inc	Mineola	NY	11501	Dry Fudge Candy Mix	7,500
Camiz International	New York	NY	10001	Cd FT, Dairy Prod, Snack Bakery Prod, Condiments	80,000
Cayuga Ridge Estate Winery	Ovid	NY	14521	wine	4,000
Curtice Burns Foods	Rochester	NY	14625	fruit fillings, frz veg, proc. tomatoes, pop corn snack	15,000
Dr. Konstantin Frank	Hammondsport	NY	14840	Wine	4,000
Export Trade Of America	New York	NY	10003	Canned Vegetables	18,000
Glenora Wine Cellars, Inc	Dundee	NY	14837	N.Y. Wine	2,000
Global Beverage Company	Rochester	NY	14625	beverages	15,000
Global Export Marketing Company	New York	NY	10001	TexMex, Salad Dressing, condiments, Vegetable	75,000
Hansmann's Mills, Inc	Bainbridge	NY	13733	Bakery Products, Condiment	17,500
Hunt Country Vineyards	Branchport	NY	14418	wine	2,000
Hunter & Hillsberg	Syracuse	NY	13207	maple syrup/candy/cream, wine	9,000
Kozy Shack, Inc	Hicksville	NY	11802	dairy products, pudding	60,000
Lakewood Vineyards	Watkins Glen	NY	14891	wine	2,000
Lamoreaux Landing Wine Cellars	Lodi	NY	14424	Wine	4,000
Liberty Growers Inc	Valatie	NY	12184	mixed fruits promoted in a group, pears, peaches & others	50,000
Loriva Supreme Foods Inc	Ronkonkoma	NY	11779	Vegetable Oil	10,500
Mom 'n Pops	New Windsor	NY	12553	Chocolate confectionery	3,000
New Source Co	Brooklyn	NY	11230	Juices, CONDI, BKCER, VEGET, Cn Fruit, SNKPC, CnSfd	25,000
Northeast Group	Monsley	NY	10952	grocery products	50,000
Old London Foods	Bronx	NY	10461	SNKBK, PROCP	15,000
Ontario International, Inc	Syracuse	NY	13206	Fresh Vegetables	26,000
Romeo's Exotic Juice Inc	Brooklyn	NY	11205	Other dairy products	12,500
Unilink Inc./Interffost Inc	East Rochester	NY	14445	SCORN-nut corn, VEGET, OTVEG, SNKPC—popcorn	100,000
Wagner Vineyards	Lodi	NY	14860	N.Y. Wine	6,000

1998 BRAND COMPANIES BY STATE—Continued

Company	City	State	Zip	Promoted—Produce	Expenses
Candy Flowers, Inc	Mentor	OH	44060	Chocolate and non chocolate confectionery	24,000
Certified Angus Beef	Wooster	OH	44691	Beef	39,650
Four Comer Trading	Columbus	OH	43214	Dried soup mixes, dressings, flavored mustards, dried fr	6,000
Kahiki Foods, Inc	Columbus	OH	43213	Meals-Entrees	4,000
O Neil Foods, Inc	Garfield Heights	OH	44125	Soy protein concentrate	2,000
Select Sires	Plain City	OH	43064	Frozen Bovine Semen	20,000
Smith Dairy Product Company	Orrville	OH	44667	yogurt, ice cream, dairy products	4,000
Weaver Meats, Inc	Painesville	OH	44077	Snackfoods	5,000
Agripac, Inc	Salem	OR	97304	Vegetables-canned and frozen	30,000
Amos Ranch	Camos Valley	OR	97416	Simmental Semen	1,125
Golden Temple Bakery, Inc	Eugene	OR	97402	Cereals	30,000
Klamath Valley Botanicals, Ltd	Chiloquin	OR	80231	Organic products, juices, algae, cereals	5,000
Norpac Foods	Lake Oswego	OR	97035	Canned and Frozen Corn	10,000
Oregon Brewing Company, Inc	Newport	OR	97365	Various beers	5,000
Oregon Potato Company	Boardman	OR	97818	Potato Flakes	20,000
Piazza Pizza	Clackamas	OR	97015	Plzza	10,000
Portland Brewing Company	Portland	OR	97210	Beer	25,000
Rossha Enterprises, Inc	Keno	OR	97627	Blue-green algae products	20,000
Turtle Mountain, Inc	Junction City	OR	97448	Frozen deserts	14,000
Western Family Foods, Inc	Tigard	OR	87223	grocery products	30,000
Ag-Link International, Inc	Tunkhannock	PA	18657	Frozen Bovine Semen & Embryos	5,417
Amerifood Snacks	York	PA	17404	Snack foods	.....
Anderson Bakery Company	Lancaster	PA	17602	Pretzels	60,000
Bell Export Foods Group	Philadelphia	PA	19106	meat products, soups, cookies	15,000
Chenango Valley Pet Foods	Allentown	PA	18103	Pet Food	75,000
Esporonto Exports Inc	Langhorne	PA	19047	YOICE—yogurt and ice cream	50,000
Goldenberg Candy Co	Philadelphia	PA	19140	Confectionery	270,000
International Custom Products Inc	Dubois	PA	15801	food ingred's, cheese & othr dairy prods, CONDI, PROCP	25,000
Jack And Jill Ice Cream Company	Bensalem	PA	19020	Ice Cream	60,000
Jeremy's Microbatch Ice Cream	Philadelphia	PA	19104	ice cream and yogurt—YOICE	5,000

John Lustig Meats Inc	Quakertown	PA	18951	cold cuts-bologna, salami, rs bf, ht dogs, bf bkfst strip	15,000
LDI Inc. Vege Pretzel Co	Hanover	PA	17331	SNKSL-pretzels	12,500
North American Pet Products, Inc	Lancaster	PA	17603	dog foods	60,000
Omega Pet Professionals Inc	Lithe	PA	17543	PETFD	10,000
Premium Grocery Exports	Lancaster	PA	17604	Condiments	50,000
Sire Power, Inc	Tunkhannock	PA	18657	Frozen Bovine Semen	9,000
Sweet Street Desserts, Inc	Reading	PA	19605	snack foods	18,500
S.B. Global Trading Co	Flourtown	PA	19031	TexMex, Bakery Products	75,000
Ziegler Brothers, Inc	Gardeners	PA	17324	Shrimp, larval, trout, tilapia, salmon and flake feeds	15,000
Deep Sea Fish	Wakefieid	RI	02880	Seafood	16,500
SeaFresh USA Inc	Narranganset	RI	02882	Dogfish, Monkfish, Squid, Skate, Northern Shrimp	7,800
Young Pecan Company	Florence	SC	29502	Tree Nuts	10,000
International Brand Services, Inc	Somerville	TN	38068	Baked Goods	5,000
American Fine Wines	The Woodlands	TX	77380	wine	6,000
Billy Blues Food Corp.	San Antonio	TX	78209	Sauces and Spices	25,000
Blue Bell Creameries, L.P	Brenham	TX	77834	Ice Cream/Yogurt	5,000
Bovine Elite, Inc	College Station	TX	77840	Bovine Genetics	4,000
Elgin Breeding Service	Elgin	TX	78621	US Genetics-Bovine Semen	4,000
H & H Foods	Mercedes	TX	78570	Trading Company General Grocery Line	5,000
Jardine Foods	Buda	TX	78610	Trading Company General Grocery Line	15,000
Sunday House Foods, Inc	Fredericksburg,	TX	78624	Further processed chicken/turkey	5,000
The El Paso Chile Company	El Paso	TX	79901	Salsas, spicy dips, Margarita and Bloody Mary Mixes, must	94,000
Tri City Sales	El Paso	TX	79905	Ethnic Foods	20,000
Bear Creek Country Kitchens, Inc	Heber	UT	84032	Oils-organic	30,000
Cookietree Bakeries	Salt Lake City	UT	84123	Snack Foods	127,000
McFarland's Foods, Inc	Riverton	UT	84065	soup base (paste), chicken breast, chicken bacon	25,000
Norbest	Midvale	UT	84047	Further process turkey and whole turkey	32,500
Parker International, Inc	Salt City City	UT	84111	Beef Variety Meats	57,500
Tropical Sno	Draper	UT	84020	Frozen yogurt, Ices, lemonade, syrups	5,000
AMS Genetics	Richmond	VA	23233	Angus Embryo Promotion	4,000
ASB Group International	Vienna	VA	22182	Snack Food	100,000
Export Dairy Inc	Alexandria	VA	22304	Various Dairy Products-Butter, Cheese, YOICE, etc	7,000
International Seafood Distributors	Hayes	VA	23072	Sea Scallops, Conch, Monkfish, Crab, Dogfish, Eels	28,000
Annie's Naturals	North Calais	VT	05650	Condiments	5,000
Maple Grove Farms Of Vermont	St. Johnsbury	VT	5819	Bakery, Maple Product, Salad Dressing, Condiment, Sauce	12,500
Rhino Foods, Inc	Burlington	VT	05401	Cheesecake	5,000

1998 BRAND COMPANIES BY STATE—Continued

Company	City	State	Zip	Promoted—Produce	Expenses
2020 Development Co., LLC	Woodinville	WA	98072	Beverages	30,000
Alaska Smokehouse	Woodinville	WA	98072	Smoked Salmon	30,000
Ames International, Inc	Federal Way	WA	98003	Nuts & Nut Products	25,000
Aspen International Export Inc	Seattle	WA	98101	grocery products	15,000
Brown & Haley	Tacoma	WA	98401	Confectionery, buttercrunch, boxed chocolate	70,000
Buckeye Bean & Herbs, Inc	Spokane	WA	99217	Pastas, dry soup, bread, sauce mixes	10,000
Capilano Pacific, Inc	Spokane	WA	99217	Pasta & dry mixes	10,000
Cascade Clear Water Co	Burlington	WA	98233	beverages	30,000
Chief Wenatchee	Wenatchee	WA	98801	Fresh Fruit	5,000
Chukar Cherry Company	Prosser	WA	99350	Cherry & Berry Products	5,000
DaVinci Gourmet, Ltd	Seattle	WA	98108	Mochas, dessert sauces, lattes	26,000
Excel Trade Limited	Seattle	WA	98105	Frozen Desserts	5,000
Global Trading Resource	Bellevue	WA	98004	Condiments and vegetable oils, flour, turkey	10,000
International Market Brands	Kirkland	WA	98034	Canned & Frozen Vegetables/processed chicken	72,000
James Farrell & Company	Seattle	WA	98104	Dairy products	32,000
Jana Brands, Inc	Bellevue	WA	98007	Fish and squid	5,000
Les Boulangers Associes, Inc. (LBA)	Seattle	WA	98148	thaw, proof & bake serve bakery products	15,000
Liberty Orchards Co., Inc	Cashmere	WA	98815	Snack Foods	20,000
Lucks Food Decorating Co	Tacoma	WA	98409	processed foods	5,000
Marinelli Shellfish	Seattle	WA	98189	Clams, Oysters, Mussels, Crabmet, Dungeness Crab	37,000
Nally's Fine Foods	Tacoma	WA	98409	Snack Foods	30,000
Northwest Packing Company	Vancouver	WA	98666	Tomato Products, Canned, Cherries, Plums, & Pears	5,000
Pacific Valley Foods	Bellevue	WA	98005	grocery products	20,000
Pacific-Russia, Inc	Woodinville	WA	98072	Canned meats, vegetables, fruit juices, soups etc	5,000
ProPak Inc	Mattawa	WA	99349	Onions	15,000
Tree Top, Inc	Selah	WA	98942	Fruit Juices, Apple Sauce	35,000
Vanguard Trading Services, Inc	Issaquah	WA	98027	grocery products	25,000
Willow Wind Organic Farms	Ford	WA	99013	Frozen vegetables	12,000
ABS International	DeForest	WI	53532	Bovine Genetics	46,000
Ace Baking Company Ltd	Green Bay	WI	54306	Baked Goods	5,000

Beehive Botanicals, Inc	Hayward	WI	54843	Honey products	1,000
Butter Buds Food Ingredients	Racine	WI	53403	Dairy Concentrate	7,000
Century Foods International	Sparta	WI	54656	Dairy Products	1,000
CRI	Shawano	WI	54166	US Genetics-Bovine Semen	18,500
Gardetto's	Milwaukee	WI	53221	Pretzels, Snak-ons	8,000
Honey Acres Inc	Ashippin	WI	53003	Honeybears, gourmet honey, flavored honey creme spreads	7,000
Hsu's Ginseng Enterprises, Inc	Wausau	WI	54402	ginseng/roots, slices, tea, capsules	2,000
Jones Dairy Farm	Fort Atkinson	WI	53538	Pork sausage, bacon, hams	50,000
Lactoprot USA, INC	Blue Mounds	WI	53517	Processed cheese products	3,000
Merrick's, Inc	Middleton	WI	53562	animal plasma, milk replacements	7,000
Native Wisconsin Ginseng Coop	Wausau	WI	54402	Wisconsin ginseng products (tea, capsule, honey etc.)	3,000
NaturalAmerican Ginseng Inc	Wausau	WI	54401	Ginseng products	5,000
New Generations Dairy Cattle	Brooklyn	WI	53521	Bovine Semen	10,000
Old Fashioned Foods, Inc	Mayville	WI	53050	Cheese Sauses & Salsas	9,000
Palermo's Villa, Inc	Milwaukee	WI	53204	Pizza products	1,000
Terra Prima Inc	Hudson	WI	54016	Corn chips, soybeans	7,000
WCA Services, Inc	Monona	WI	53716	Ginseng capsules	2,000
Wisconsin GinsenglHerb Association	Marathon	WI	54448	Extract, capsules, aloe-cranberry juice drink	2,000
World Royale	Marathon	WI	54448	Ginseng capsules	2,000

Note: Total Participant allowable budgets of 24 Million, with 15.2M designated by company, with 203K awaiting company address information.

OVERSEAS OFFICES

Question. Provide a list of FAS overseas counselor/attache and trade offices for fiscal year 1998 and 1999, and proposed for fiscal year 2000, and the amount of funding and full-time equivalent staffing levels provided for each.

Answer. A list of FAS overseas counselor/attache and trade offices and the amount of funding and full-time equivalent staffing levels is provided.

[The information follows:]

[Dollars in Thousands]

Foreign Agricultural Affairs	Fiscal Year 1998		Fiscal Year 1999		Fiscal Year 2000	
	Funding	On-Board Employ.	Funding	On-Board Employ.	Funding	On-Board Employ.
EUROPE						
AUSTRIA	$697	4	$712	4	$712	4
BELGIUM, E	207	1	218	1	218	1
BELG.USEU	1,185	6	1,298	7	1,298	7
CZECH REP	40	1	40	1	40	I
DENMARK	170	2	183	2	183	2
FRANCE	899	7	905	7	905	7
GERMANY	727	6	832	7	832	7
GREECE	203	2	220	2	220	2
IRELAND	153	1	150	1	150	1
ISRAEL	149	1	143	1	143	1
ITALY, EMB	693	6	708	6	708	6
ITALY, FODAG	206	1	231	1	231	1
NETHERLANDS	775	4	778	5	778	5
PORTUGAL	147	1	157	2	157	2
SPAIN	788	6	792	6	792	6
SWEDEN	347	5	381	5	381	5
SWITZ, BERN	77	.....	27	.....	27	.....
SWITZ, GEN.	813	4	872	4	872	4
UNITED KINGDOM	810	5	780	6	780	6
TOTAL	9,086	63	9,427	68	9,427	68
WESTERN HEMISPHERE						
ARGENTINA	720	5	747	5	747	5
BRAZIL	466	4	491	4	491	4
CANADA	460	5	458	5	458	5
CHILE	343	3	337	3	337	3
COLOMBIA	390	4	440	4	440	4
COSTA RICA	380	3	407	3	407	3
DOM.REP.	340	2	380	2	380	2
ECUADOR	165	2	138	2	138	2
GUATEMALA	434	2	521	3	521	3
MEXICO	893	8	985	8	985	8
PERU	311	3	327	3	327	3
VENEZUELA	536	5	712	5	712	5
TOTAL	5,438	46	5,943	47	5,943	47
AFRICA						
ALGERIA	32	.....	35	.....	35	.....
BULGARIA	245	3	220	3	220	3
BANGLADESH	40	1	39	1	39	1
COTE D'IVOIRE	377	3	366	3	366	3
EGYPT	438	3	442	3	442	3
INDIA	340	8	365	7	365	8
KENYA	314	1	299	1	299	1
MOROCCO	246	2	250	3	250	3
NIGERIA	370	2	475	2	475	2
PAKISTAN	289	3	301	4	301	3
ROMANIA	32	1	35	1	35	1
SYRIA	52	1	54	1	54	1

[Dollars in Thousands]

Foreign Agricultural Affairs	Fiscal Year 1998		Fiscal Year 1999		Fiscal Year 2000	
	Funding	On-Board Employ.	Funding	On-Board Employ.	Funding	On-Board Employ.
SERBIA-MONT	37	1	38	1	38	1
SO.AFRICA	594	5	745	6	745	6
TUNISIA	75	2	77	2	77	2
TURKEY	505	4	460	4	460	4
TOTAL	3,986	40	4,201	42	4,201	42
ASIA						
AUSTRALIA	287	3	323	3	323	3
PRC	936	4	923	4	923	4
INDONESIA	529	5	501	5	501	5
JAPAN	1334	12	1,390	12	1,390	12
KOREA	501	5	528	5	528	5
MALAYSIA	235	3	288	3	288	3
NEW ZEALAND	186	2	201	3	201	3
PHILIPPINES	488	5	475	5	475	5
POLAND	489	4	589	4	589	4
RUSSIA	900	8	974	8	974	8
THAILAND	516	5	575	5	575	5
UKRAINE	250	2	256	2	256	1
VIETNAM	342	1	347	1	347	1
TOTAL	6,993	59	7,370	60	7,370	59
TOTAL, FAA	25,503	208	26,941	217	26,941	216
AGRIGULTURAL TRADE OFFICES						
SAO PAULO, Brazil	522	4	512	4	512	4
SHANGHAI, China	634	1	653	1	653	1
GUANGZHOU, China	403	1	419	1	419	1
HAMBURG, Germany	452	3	460	3	460	1
HONG KONG	997	4	1,017	4	1,017	4
JAKARTA, Indonesia	179	1	347	1	347	1
MILAN, Italy	349	2	345	2	345	1
TOKYO, Japan	1,879	6	1,977	6	1,977	6
OSAKA, Japan	446	3	476	3	476	3
SEOUL, Korea	882	4	915	4	915	4
MEXICO CITY	1,382	5	873	5	873	5
MOSCOW, Russia	199	1	217	1	217	1
JEDDAH. Saudi	90	1	93	1	.....	.....
RIYADH, Saudi Arabia	317	2	313	2	313	2
SINGAPORE	876	3	854	3	854	3
SOUTH AFRICA	.....	.....	.....	.....	370	1
DUBAI, U.A.	356	4	363	4	363	4
CARIBBEAN BASIN, USA	417	3	415	3	415	3
TOTAL, ATO	10,380	48	10,254	48	10,531	44
GRAND TOTAL	35,883	256	37,195	265	37,472	260

[1] Overseas managed on a head count basis, not PTk basis. Total includes FSN's as well as U.S. Foreign Service personnel.

INTERNATIONAL COOPERATIVE ADMINISTRATIVE SUPPORT SERVICES [1]

[In thousands of dollars]

	Fiscal year 1998 [2]	Fiscal year 1999	Fiscal year 2000
Foreign Agricultural Affairs	7,590	7,902	7,948
Agricultural Trade Offices	3,795	3,952	3,972

INTERNATIONAL COOPERATIVE ADMINISTRATIVE SUPPORT SERVICES [1]—Continued

[In thousands of dollars]

	Fiscal year 1998 [2]	Fiscal year 1999	Fiscal year 2000
TOTAL	11,38	11,854	11,920

[1] Reimbursement to State Department.
[2] Includes a $4.4 million base transfer.

EXPORT SUBSIDY PROGRAMS

Question. Provide the total amount of bonus awards to U.S. exporters under the Export Enhancement Program and the Dairy Export Incentive Program for fiscal year 1998 and for fiscal year 1999 to date.

Answer. Bonus awards under the Export Enhancement Program for fiscal year 1998 totaled $2,067,500. As of March 16, 1999, fiscal year 1999 awards totaled $27,762. For fiscal year 1998, Dairy Export Incentive Program bonus awards totaled $110,159,692. As of March 16, 1999, fiscal year 1999 awards totaled $70,450,425.

Question. What are the maximum volume and spending limits for each of these export subsidy programs consistent with U.S. World Trade Organization obligations for each of fiscal years 1998, 1999 and 2000?

Answer. Quantity commitments are based on a July through June year, while expenditure commitments are based on an October-September year. For the years 1998, 1999 and 2000 maximum subsidies under the Uruguay Round Agreement are provided for the record.

[The information follows:]

MAXIMUM VOLUME AND SPENDING LIMITS FOR EEP AND DEIP PROGRAMS

	Quantity July/June 1997–1998	Budget Oct/Sept 1997–1998	Quantity July/June 1998–1999	Budget Oct/Sept 1998–1999	Quantity July/June 1999–2000	Budget Oct/Sept 1999–2000	Quantity July/June 2000–2001	Budget Oct/Sept 2000–2001
Wheat	17,952	$604.8	16,809	$524.5	15,665	$444.2	14,522	$363.8
Feed Grain	1,768	59.1	1,699	54.8	1,630	50.4	1,561	46.1
Rice	178	10.4	132	7.7	85	5.0	39	2.4
Veg Oils	409	37.4	320	29.6	231	21.8	141	14.1
Beef	20	29.2	19	27.1	18	25.0	18	22.8
Pork	0.45	0.6	0.43	0.6	0.41	0.5	0.4	0.5
Poultry	32	18.6	30	17.3	29	15.9	28	14.6
Live Cattle (head)	12,490	15.2	12,001	14.1	11,513	13.0	11,024	11.9
Eggs (mil doz)	21	5.2	16	4.0	12	2.8	7	1.6
Total EEP	.....	780.5	.....	679.7	.....	578.6	.....	477.8
Butterfat	34	39.1	30	36.2	25	33.4	21	30.5
Nonfat Dry Milk	92	105.6	84	97.9	76	90.2	68	82.5
Cheese	4	4.6	3	4.3	3	4.0	3	3.6
Other Milk Prod	7	8.6	5	5.8	3	2.9	0	0.0
Total DEIP	.....	158	.....	144	.....	131	.....	117

Note: Quantities rounded to nearest 1,000 metric tons unless otherwise noted. Budget in ($mil).

CCC EXPORT CREDIT GUARANTEES

Question. Provide a listing of the activities supported under each of the four export credit guarantee activities in fiscal year 1998, and in fiscal year 1999 to date: Supplier Credit Guarantees, Facilities Guarantees, GSM–102, and GSM–103.

Answer. The attached report provides the requested information for the Supplier Credit, GSM–102 and GSM–103 programs. The Facilities Guarantees program availability is listed below; however, to date, no projects have been guaranteed under this program.

Fiscal Year 1998 Allocations Under the Facilities Guarantee Program

Caribbean Region.—$20,000,000. Includes: Jamaica and Trinidad and Tobago

Central America Region.—$30,000,000. Includes: Costa Rica, El Salvador, Guatemala, and Panama

Southeast Asia Region.—$40,000,000. Includes: Indonesia, Philippines, Malaysia and Thailand

Mexico.—$50,000,000

Peru.—$10,000,000

Russia.—$5,000,000

Fiscal Year 1999 Allocations Under the Facilities Guarantee Program

Baltic Region.—$10,000,000. Includes: Lithuania, Estonia and Latvia.

East Africa Region.—$10,000,000. Includes: Kenya, Uganda and Tanzania.

Southern Africa Region.—$30,000,000. Includes: Angola, Botswana, Burundi, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Rwanda, Seychelles, South Africa, Swaziland, Democratic Republic of the Congo (formerly Zaire), Zambia and Zimbabwe.

Caribbean Region.—$20,000,000. Includes: Jamaica, Trinidad and Tobago.

Central America Region.—$30,000,000. Includes: Costa Rica, El Salvador, Guatemala and Panama.

Southeast Asia Region.—$50,000,000. Includes: Indonesia, Philippines, Malaysia and Thailand

Mexico.—$50,000,000

Turkey.—$10,000,000

QUESTIONS SUBMITTED BY SENATOR BOND

FOREIGN AGRICULTURAL SERVICE

Question. Do you expect USAID to comply in fiscal year 1999 with the requirement (7 USC 1724(b)(1)) that 75 percent of non-emergency donations be in the form of processed, fortified, or bagged commodities? If not, why not and what is USDA doing to assure future compliance? In fiscal year 1998, USAID barely reached 50 percent in supplying value-added commodities, yet other requirements, such as monetization far exceeded requirements (15 percent statutory minimum versus nearly 50 percent actual). What steps is USDA taking to restore the balance required by law?

Answer. Based upon the approved level of fiscal year 1999 title II non-emergency activities to date, it is expected that 63.6 percent of the commodities will either be fortified, processed, or bagged. Part of the decline in the use of these value-added commodities is the result of an increase in the demand for bulk commodities that are suitable for monetization (sale). In addition, there has also been a decline in the number of direct feeding programs under title II which have traditionally emphasized the use of value-added commodities. USAID has been monitoring the decline in the use of value-added commodities and has initiated discussions with the cooperating sponsors, domestic commodity producer groups, and Congressional staff to emphasize the importance of adhering to this mandate. In addition, USAID will issue new guidance in the Federal Register explaining the importance of using value-added commodities in title II activities, including both direct distribution and monetization. It is the goal of USAID over the next two years to significantly increase the percentage of value-added commodities used in title II non-emergency activities when compared to the percentage achieved in fiscal year 1998.

CCC SECTION 11 FUNDING CAP

Question. It is our understanding that the limitation placed on CCC technical assistance funds is undermining NRCS efforts to provide technical assistance. If the Section 11 cap is modified, would that help enable greater delivery success?

Answer. Modifying the Section 11 cap would enable NRCS to continue to provide technical assistance for those programs that are funded by the Commodity Credit Corporation. Without these funds, NRCS will not be able to provide all of the technical assistance that is proposed in the fiscal year 2000 budget.

STAFFING REDUCTION IMPACT ON MISSION

Question. What reduction in force at NRCS does the budget envision and how will that impact NRCS mission performance?

Answer. The NRCS budget indicates a reduction of approximately 1,055 FTE would be necessary to stay within the amount of technical assistance funding. This reduction would come through a combination of furloughs, early and optional retirements, buy-outs, and reductions-in-force. The primary impact of these FTE reductions will occur at the field level. The result will be substantial reductions in the level of service provided to landowners and landusers in such areas as planning assistance, implementation of conservation practices, construction projects, resource inventories and reduced levels of implementation for some cost share programs.

BENEFITS OF WATERSHED STRUCTURE

Question. Many in our state suspect that OMB has never met a structure that they liked and fail to see the multiple benefits of the watershed program.

Answer. The annual benefits of both structural and non-structural practices are easily defended. Though NRCS assists project sponsors in the consideration of a wide array of alternatives, including structural, non-structural, land treatment and floodplain easements, there are many situations in which the use of structural measures are the only solution to address the problem.

The benefits of the existing flood projection projects became abundantly apparent during recent flooding events in Texas. In the fall of 1998, a band of severe thunderstorms swept along the Interstate 35 corridor. The San Antonio region, extending northward through the New Braunfels and into the Austin area, was hit especially hard. The heaviest rainfall fell in Bexar, Hays, Comal, Guadalupe, and Caldwell Counties. Rainfall in these areas totaled between 18 and 31 inches, with rain falling at a rate of 2–3 inches per hour for prolonged periods. This was the most rainfall recorded since records have been kept, beginning in 1885.

In spite of these conditions, the loss of life and property damage was greatly reduced in those watersheds protected by Public Law 566 floodwater retarding structures. In the Upper San Marcos River Watershed alone, the floodwater protection structures resulted in an estimated $20 million in benefits. These include flooding depths, which were reduced by 6–8 feet in the City of San Marcos. Had these structures not been in place, the likelihood of loss of life and tremendous property loss would have been a certainty.

FOOD AND AGRICULTURE POLICY RESEARCH INSTITUTE

Question. Mr. Collins, what is your knowledge of the Food and Agriculture Policy Research Institute (FAPRI) in the context of our nation's interests in economic intelligence and informing the public of economics and policy of agriculture and food?

Answer. I am very familiar with the work of the university consortium, FAPRI. They have an excellent record of collecting and reporting on global agricultural information, projecting long term trends in agricultural markets and analyzing key policy options. FAPRI makes their analysis available through publications and briefings, including frequent briefings to USDA staff and others in Washington, D.C.

Question. If the work of this consortium and potentially others is so important, can you tell me how much money your department is putting or wants to put into the support of these centers?

Answer. USDA provided $800,000 to FAPRI, specifically the University of Missouri and Iowa State University in fiscal year 1999. No funds have been requested in USDA's budget for fiscal year 2000.

Question. Apparently OMB is not supportive of funding the centers. Nevertheless, would you and others in the Department like to see these policy research centers supported.

Answer. I would like to see FAPRI continue its work and maintain a strong base of financial support. However, it is the policy of USDA that funds now used to support centers such as FAPRI should be used for competitively awarded, peer reviewed grants that meet National goals.

Question. In 1996 and in 1998 laws were passed at Congress's initiative which provided authority for policy research centers to be supported. What can be done to adequately overcome the obstacles so that we can ensure that these benefits continue being provided.

Funding for FAPRI has continued, even though not requested by USDA.

At USDA, funding decisions are complicated by limits on available funds and priorities of needs, FAPRI has done an outstanding job of communicating its contributions to parts of its rural constituents, USDA and Congress. But FAPRI's contributions are less well known and understood in the broader research and education community in which is exists. I understand that FAPRI will be making an effort to broaden its communications among the research and education community's leadership and with other parts of USDA. The best way for FAPRI to maintain funding is to continue to usefully serve the needs of rural people by providing unique, relevant, competent, and timely information and analysis.

QUESTIONS SUBMITTED BY SENATOR BURNS

CROP INSURANCE

Question. Why was there no funding included for crop insurance reform in the USDA fiscal year 2000 budget?

Answer. We wish first to come to agreement on the needed changes, then identify the costs and work with Congress in a responsible manner to find the required funding.

FARM AND FOREIGN AGRICULTURAL SERVICES BUDGET

Question. President Clinton promised to bring trade in line with agriculture. Yet, the Farm and Foreign Agricultural Services budget was decreased by nearly $6.5 billion. Two of the main programs for export, the Export Enhancement Program and the Food for Peace program, were reduced by $56 million and $772 million respectively. With 70 percent of Montana's grain being sent for export we cannot afford to lose these important programs. How will the Administration restore this money? Why has the funding currently in the Export Enhancement Program not been distributed to producers? How will USDA restore lost export opportunities to producers?

Answer. Although the budget shows a reduction in the overall program level for USDA international activities in 2000, this is primarily due to the sizeable increase in food aid programming during 1999 which results from extraordinary circumstances this year. For 2000, the budget assumes food aid programming will return to a more traditional level. On the other hand, the 2000 budget provides a total program level of $6.5 billion for USDA international activities; this is considerably higher than the actual level for 1998 of $5.7 billion.

COMMODITY CREDIT CORPORATION PROGRAMS

Question. Several programs important to export enhancement were cut. The Commodity Credit Corporation Program was cut by $5.8 billion, the Dairy Export Incentive Program by $15 million and the Food for Progress program by $24 million. With today's global market situation, producers cannot afford to have the few opportunities they have for export reduced. How will USDA restore lost export opportunities to producers?

Answer. During the past year, USDA has responded vigorously and creatively to developments in world financial and commodity markets. As a result, the level of programming for many of our export activities has increased substantially. For example, in response to the financial crisis in Asia, USDA expanded the level of CCC export credit guarantees made available. As a result, sales registrations under the guarantee programs were 40 percent higher during 1998 compared to the previous year. The expanded level of guarantee programming is expected to continue in both 1999 and 2000.

This fiscal year, USDA has greatly expanded the level of foreign food assistance programming, and the overall level of U.S. foreign food assistance will total as much as 10 million metric tons this year. This increase results from the President's Food Aid Initiative under which 5 million metric tons of wheat and wheat products will be made available to countries requiring assistance in meeting their food import needs. It also reflects a major package of food assistance for Russia which will total more than 3.1 million metric tons, including 1.5 million metric tons of wheat to be made available under the President's Food Aid Initiative.

Question. The CCC provides an important service for private negotiations with other countries. Agricultural producers have an increasing need for avenues to market their products through private entities. The budget cut to CCC makes them more dependent on the federal government, rather than giving them opportunities

to expand marketing channels. How does the USDA intend to provide producer assistance for marketing, private or otherwise?

Answer. There are currently only two USDA programs that are categorized as export promotion programs—the Market Access Program funded at $90 million and the Foreign Market Development Cooperator Program funded at $27.5 million. However, FAS administers various other agricultural export assistance programs including the Emerging Markets Program, Section 108, and the Cochran Fellowships.

Last fall, the FAS began a new initiative—known as the Unified Export Strategy (UES)—to more effectively coordinate strategic planning and resource allocation processes across these various agricultural export assistance programs. The UES was developed to streamline the application process for these programs and facilitate better use of complementary marketing tools and resources. Through the submission of a single proposal, organizations may apply for assistance under the Market Access Program, the Foreign Market Development Cooperator Program, the Emerging Markets Program, Section 108 and make recommendations for trade policy initiatives, Cochran Fellowships, or Export Credit Guarantee programs.

In addition, the fiscal year 2000 budget proposes a new program, Quality Samples Program (QSP). The QSP would use CCC funds to assist U.S. commodity organizations in providing commodity samples to foreign importers in order to promote a better understanding and appreciation for the high quality of U.S. agricultural commodities.

TRADE BARRIERS

Question. Trade inequities continue to be a major problem, especially with Canada, the European Union and China. When will the Foreign Agricultural Service step in to reduce trade barriers and resolve international trade disputes?

Answer. Unfortunately, U.S. agricultural exports are subject to import duties and non-tariff trade restrictions in nearly every foreign market. Many of these restrictions are permitted under international trade rules, just like U.S. tariffs and import requirements. FAS has worked diligently over the years to identify and seek the removal of barriers which are not consistent with international trade rules or which are particularly restrictive for U.S. exports. There are many examples of FAS activities which have helped to remove or prevent the imposition of barriers to U.S. exports. These include the use of the WTO Committee on Agriculture to obtain the removal of WTO inconsistent trade barriers, bilateral talks to open the Japanese market for U.S. wood products through deregulation of its housing sector, removal of Chilean and Brazilian restrictions on U.S. wheat, new access to Taiwan's market as part of its WTO accession, and many other specific cases.

Some trade restrictions are more difficult to resolve than others. The inequities with Canada, the EU and China that you mention are the best examples.

FAS, in cooperation with other USDA agencies and the U.S. Trade Representative continue to work on these issues, and we have made some progress. For example, the December 1998 Record of Understanding with Canada begins to address many of Canada's barriers to U.S. exports and the Veterinary Equivalency Agreement with the European Union is an important step towards resolving many of our differences on food safety issues with Europe. We also have had a number of market access gains in China, getting them to allow access for U.S. grapes and a number of livestock products. On other issues where we have not yet been able to reach agreement, the United States has vigorously pursued our rights under international agreements. We will continue to work with our trading partners on these issues, and will be prepared to take the necessary action if acceptable resolutions cannot be reached.

NATURAL RESOURCES CONSERVATION SERVICE

Question. Why was funding for the GLCI (Grazing Lands Conservation Initiative) held level under the NRCS budget rather than be increased? This program is invaluable to ecosystem management. This program provides education and technical assistance to agricultural producers.

Answer. NRCS utilized congressional recommendations to maintain level funding for GLCI. NRCS did provide technical assistance staffing to assist in the voluntary application of conservation on grazing lands, including GLCI, that exceeded $33 million in fiscal year 1998.

Question. Funding should be increased from $15 million to at least $20 million. How will USDA implement an increase for GLCI?

Answer. Should GLCI be earmarked at $20 million NRCS will continue to implement a program to provide for additional staffing, training, technical assistance,

public awareness and project activities in an attempt to meet increasing workload demands.

EMERGENCY APPROPRIATIONS

Question. Congress appropriated approximately $6 billion to come to the aid of farmers and ranchers, as an emergency supplemental appropriation. Many producers have seen none of this money due to deadlines and extensions. When will USDA be held accountable for this funding and disperse it to the people who desperately need it?

Answer. While RMA is responsible for only $400 million of this assistance, these funds have already impacted farmers by providing them with the assurance of risk protection on their 1999 crop at a reduction of 30 percent or more in premium costs. Some farmers have applied the savings toward the purchase of higher levels of coverage, others can look forward toward more cash flow, which could enhance their ability to obtain credit. As for the rest of the emergency funding, it is our understanding that the requirements for prorating the funds available, as well as the need to help farmers make informed decisions among the choices in assistance for multi-year losses, have challenged USDA's field staff. Significant staff reductions over the last several years have also contributed to the difficulty in being timely in providing assistance. However, we are confident that USDA will eventually receive high marks for carrying out this responsibility in a fiscally sound and fair manner.

QUESTIONS SUBMITTED BY SENATOR BYRD

FARM SERVICE AGENCY

Question. Once again, my questions concerning the Farm Service Agency (FSA) are targeted toward the issue of staff reductions. While I understand, and supported, necessary FSA staff reductions that occurred nationwide as a result of the USDA Reorganization Act of 1994 and the 1996 Farm Bill, I am puzzled about reports that West Virginia is again being requested to reduce staff. I am particularly puzzled by the recent reduction proposal in light of the fact that West Virginia implemented the previous rounds of required reductions, and that I understood that the Congress provided funds last year to avoid further staff reductions in FSA during fiscal year 1999. Can you please explain this situation to me in detail?

Answer. Yes, Congress did provide $40,000,000 in emergency funding included in the 1999 appropriations act which has allowed FSA to maintain about the same staffing levels in 1999 as in 1998, rather than separate additional personnel during the current crisis in production agriculture. That $40,000,000 did not provide funding for additional personnel to deal with greatly increased agency workload, however. West Virginia did reduce permanent full-time (PFT) staffing from fiscal year 1994 through fiscal year 1998 by about 21 percent; however, this trend was nationwide with Midwestern and Northwestern States reducing PFT staffing by over 25 percent. The average nationwide decrease for PFT employees was just over 23 percent from 1994 through 1998. West Virginia has used and continues to effectively use shared management, office collocations and consolidations since the streamlining process began in 1994. After significant office consolidations in 1995, employment has been evaluated and adjusted over the last 3 years to maximize service within available funding. Of the 377 FSA county offices closed in some 37 states, 15 of these offices were in West Virginia. In fiscal year 1999 FSA began addressing the imbalance of the number of FSA employees relative to existing National workload. FSA established temporary ceiling goals for each State to work toward. This has allowed State Executive Directors to manage more efficiently and position themselves for realistic permanent staffing levels. We emphasize that no State is under any mandate to reduce the number of "on board" employees nor will any State lose any monies allocated to date.

Question. Can you please provide me with a report on your views of the FSA's role in West Virginia?

Answer. Actual workload in West Virginia for fiscal year 1998 indicates that present staffing is very closely aligned with current workload conditions in comparison to many other States where emergency and disaster programs have generated an extensive backlog of workload. FSA continually monitors workload in States to determine areas of increased workload and moves both human and monetary resources to those areas based on availability to provide the most effective and efficient service to its customers. State Directors are using a variety of management

tools to ensure service to producers by initiating employee details, overtime, directed reassignments, shared management and office collocation and consolidation.

NATURAL RESOURCES CONSERVATION SERVICE

Question. I have long supported the important work of the Natural Resources Conservation Service (NRCS) in West Virginia. The state NRCS staff, including Bill Hartman and Paul Dunn, have done a fine job in implementing watershed and conservation programs in West Virginia that have made a positive impact to the state's rural communities, and I commend them for their efforts. My questions pertain to several West Virginia NRCS projects. Please provide a status report on the Potomac Headwaters Land Treatment Watershed Project, complete with pertinent timetables and participation rates.

Answer. This land treatment watershed project is entering the third year of operation. During the first two years, 212 long term contracts were executed with landowners who agreed to install needed animal waste storage facilities and mortality composters, relocate or treat animal feeding operations to prevent pollution, and follow an agreed to nutrient management plan. Planned in these contracts are 216 storage structures, 94 composters, 75 feedlot improvements, 15 feedlot relocations, and 35,600 acres of nutrient management. As of this date 84 storage structures, 25 composters, 18 feedlot improvements, and 6 feedlot relocations have been completed. Funding for new contracts in fiscal year 1999 is $2,000,000, which will allow about 52 additional farmers to enter the program, bring the total participation rate up to 83 percent. With these new contracts included (264 total) the estimated cost is $10,000,000. Of this amount, $5,350,000 is Federal cost, $1,070,000 a state cost, and the remaining $4,280,000 a landowner expense. Upon completion the Potomac Headwaters Project will yield the following benefits:

Potomac Headwaters Benefits

Total acres benefited	1,787,850
Monetary agriculture benefits	$1,131,100
Public facilities benefited (no.)	59
Farms benefited (no.)	264
Disadvantaged benefited (no.)	8,718
Direct beneficiaries (no.)	72,654
Incidental recreation (no. water bodies)	26
Erosion (tons)	8,200
Lakes/reservoirs protected (acres)	2,969
Animal waste (average annual tons)	90,733
Chemical and nutrient management (acres)	35,600
Domestic water supply (no.)	60
Sponsor costs (as reported in plan)	$10,700,000
Sponsor operation. Maintenance, and replacement (as reported in plan)	$294,400
Tons commercial fertilizer displaced by available litter	90,720

The long-term contracts with the landowners are 10 years in duration. All conservation practices will be installed during the first five years of the contract. The remaining years are an operation and maintenance period to assure compliance with program requirements.

FLOOD CONTROL STRUCTURES IN WEST VIRGINIA

Question. Please provide a full list of all flood control projects in West Virginia that are currently under construction, the cost associated with that construction, and a timetable for the completion of each project.

Answer. The following is a list of flood control projects under construction in West Virginia, including the Federal construction cost and the timetable for completion:

—Cranberry Creek Channel Improvement Project, Raleigh County, WV
  Federal Cost: $16,355,289
—Completion Date: May 1999—(completed except for landscaping, which will be completed May 1999)
—Little Whitestick Channel Improvement Project, Raleigh County, WV
  Federal Cost: $4,019,016
  Construction bids received on February 10, 1999
  Completion Date: August 2001
—Upper Mud Recreation Facilities, Lincoln County, WV
  Cost: $1,278,197.08
  Completion Date: June 1999

WEST VIRGINIA FLOOD CONTROL PROJECTS WITH FEASIBILITY STUDIES

Question. Please provide a full list of flood control projects in West Virginia for which feasibility studies have been completed.

Answer. The following is a list of flood control and other projects West Virginia that have completed feasibility studies or are in some phase of the planning process:

Plan Completed:

Inwood Watershed, Berkeley County.—The NRCS provided technical assistance to the Eastern Panhandle Soil Conservation District and a watershed group to develop a Local Implementation Plan (LIP). The LIP addresses flooding in a rapidly developing area of Berkeley County. This plan was completed in December 1998.

Plans Underway:

Deckers Creek Watershed, Preston and Monongalia Counties.—Water quality is the primary purpose of this plan. Eleven treatment systems are proposed to address acid mine drainage in Deckers Creek and tributaries. Installation of systems over a ten-year period will raise pH and improve water quality in 23.7 miles of stream. NRCS has extensive water quality data to aid in design of effective systems. The plan is 90 percent complete. Dunloup Creek Watershed, Fayette County—The purposes of this project are flood protection, water supply, and recreation. The NRCS is preparing a local implementation plan to address these problems. A local watershed group is providing input to the effort. The plan is about 95 percent complete.

Fayette County Water Resources Study.—This study is cooperatively funded by the NRCS and the WVSCA. The planning effort will result in a comprehensive water resources plan addressing water supply, water quality, flooding, sewage, and recreation. A county-wide steering committee is providing local input. The plan is about 98 percent complete.

Hardy County Resources Study.—The Hardy County Commission has requested a county-wide natural resources study. The county is anticipating expansion of land and water resource needs with the planned construction of Corridor H and associated economic development. Kings Creek Watershed, Hancock County—This local implementation plan evaluates and compares flood damage reduction alternatives. Non-structural measures and limited channel improvement appear to be the most economically feasible alternatives, based on planning studies. The plan is about 95 percent complete.

Logan/Mingo Counties Resources Study.—Local officials and the Pigeon Creek Watershed Association have requested NRCS assistance in conducting a study of natural resources concerns and potential solutions. The county is experiencing accelerated development with the recent construction of Corridor G.

North Fork South Branch Potomac River Watershed, Grant and Pendleton Counties.—Local citizens have formed a watershed association to work with NRCS and other agencies to solve watershed problems. The catalyst for the formation of the watershed association was two severe floods in January and May 1996. The watershed association obtained the sponsorship of the Potomac Valley Soil Conservation District and the County Commissions and requested NRCS planning assistance. NRCS is preparing a Watershed Management Plan utilizing the CBA planning concept. The area of focus, as agreed to by the North Fork Watershed Association and numerous involved agencies, interest groups, and other stakeholders are water quality, flooding, streambank erosion, water supply, grazing lands, wetlands, and forest management. The planning process is about 40 percent complete.

Pleasant Valley Watershed, Marion County.—The NRCS is providing technical assistance to the Monongahela Soil Conservation District and a local watershed advisory group in developing a Local Implementation Plan that will address flooding. This plan is 15 percent complete.

Upper Tygart Valley Watershed, Randolph County.—The NRCS is providing assistance to project sponsors and the Upper Tygart Valley Watershed Partnership in developing a Watershed Plan and NEPA compliance document. Project purposes include water supply, water quality, flood protection, fish and wildlife, and conservation land treatment. This project is 10 percent complete.

Projects Underway: Public Law–566

Upper Mud River Watershed, Lincoln and Boone Counties.—The current cost of the project is $23,800,000, including $13,300,000 Federal cost and $10,500,000 non-Federal cost. One multi-purpose dam for flood prevention and recreation was completed in 1994. Remaining work consists of construction of recreation facilities. The fishing part of these facilities was completed in 1996. The remaining recreation facilities are under construction as a local contract ($2,556,000) and are scheduled for completion in February 1999.

Little Whitestick—Cranberry Creeks Watershed, Raleigh County.—The current Federal cost is $25,500,000. The 2.1 miles of channel improvement on Cranberry Channel was completed in 1998. The 1.5 miles of channel on Little Whitestick is presently being advertised for construction bids, and the work is expected to begin in late April. Local sponsorship is very strong. Landscaping work will be done during this spring for the Cranberry Channel.

Mill Creek Watershed, Jackson and Roane Counties.—Six structures are planned and five have been completed. The Federal cost is $25,000,000. The final dam (No. 6) will be evaluated for feasibility.

Upper Buffalo Creek Watershed, Marion County.—Estimated Federal cost is $30,100,000. The project has been modified by supplement dated April 1994 to seven dams and 1.9 miles of channel improvement. All seven dams have been completed. The channel improvement was completed in October 1997 at a total cost of $5,109,228, and landscaping was completed in April 1998. The subchannel will be extended a total of 1200 linear feet in three areas of Upper Buffalo Creek downstream of the completed channel work. Bidding and contracting for the work will take place in August 1999, with construction scheduled to start in September. Estimated cost of the additional subchannel is $56,000.

Elk Twomile Creek Watershed, Kanawha County.—The project consists of six single purpose flood prevention dams. Four have been completed. The feasibility of proceeding with the remaining sites is being evaluated.

Projects Underway: Public Law 534

Lost River Watershed, Hardy County.—The total estimated cost is $37,700,000 of which $34,000,000 is Federal cost. The project includes 4 single purpose structures and 1 multipurpose structure. Dam No. 4 (single purpose FP) was completed in 1996. Dam No. 27 (single purpose FP) was completed in December 1998. The three remaining dams remain viable and are scheduled for construction over the next 5 years pending Congressional appropriations. Local sponsorship is strong.

New Creek Watershed, Grant and Mineral Counties.—Nine of twelve dams planned for this watershed have been completed. New measures needed to replace protection provided by the remaining three dams and to address other natural resources problems are being evaluated.

North and South Mill Creek Watershed, Grant and Pendleton Counties.—The total estimated cost is $15,999,999 of which $12,800,000 is Federal cost. The project includes 5 single purpose structures and 1 multi-purpose structure. Three of the single purpose structures have been installed with $5,300,000 Federal obligations through fiscal year 1990. Dam No. 7 (multipurpose dam—FP & Recreation) was completed in December 1993 at a cost of $6,350,000. The recreation facilities were completed in 1996. The two remaining dams are not feasible and will be deleted from the project through preparation of a supplement.

Patterson Creek, Grant and Mineral Counties.—The estimated Federal cost is $25,600,0000. The project includes 33 single purpose flood prevention dams and one multi-purpose structure for flood prevention and water supply. Thirty of the single purpose dams have been completed along with the single multi-purpose dam. The feasibility of proceeding with the two remaining dams is presently being evaluated.

South Fork Watershed, Pendleton and Hardy Counties, West Virginia and Highland County, Virginia.—Twenty-three of 24 single purpose flood preventiondams have been completed. One dam (No. 20) on the Upper South Fork remains to be built. The local sponsors are presently not interested in building this structure.

ENVIRONMENTAL QUALITY INCENTIVES PROGRAM

Question. Please provide a status report of the Environmental Quality Incentives Program in West Virginia.

Answer. The Environmental Quality Incentives Program in West Virginia has been very successful in the first 2 years of program implementation, as evidenced by the high demand being placed on the program by the State's farmers. The demand by farmers far exceeds available funds. In fiscal years fiscal year 1997 and 1998, there was a 6:1 and 4:1 ratio, respectively. It is expected to be similarly high in fiscal year 1999.

During fiscal year 1997 and 1998, $1,995,000 and $1,809,000, respectively, were allocated here. The NRCS State Conservationist, with the advice of the West Virginia State Technical Committee, including the Farm Service Agency (FSA), selected four priority areas where most of the funds would be used. These areas were over 250,000 acres in size with typically between 100,000 to 150,000 acres of agricultural land needing treatment. Ninety-five percent of funds were used to address livestock-related natural resource concerns.

In fiscal year 1997, approximately $1,600,000 of financial assistance were provided to 362 farmers for long-term contracts. These contracts provided assistance on: 5,856 acres of prescribed grazing; 6,848 acres of nutrient management; 4,080 acres of pesticide management; winter feeding areas and other conservation practices. In fiscal year 1998, approximately $1,400,000 were distributed to 265 farmers for contracts that will treat 18,233 acres.

Priority areas were revised in fiscal year 1999, based on watershed boundaries. There were a total of 24 priority areas identified throughout the State. The largest agricultural area to be treated in any priority area will be 50,000 acres, and 750 acres will be the smallest. This revised approach will allow NRCS to quickly and more thoroughly address the major natural resource concerns in a specific watershed. It is anticipated that an increase of environmental benefits will be attained with the watershed approach. Service center personnel have completed one-on-one visits with farmers and are determining contract costs for fiscal year 1999. Conservation plans and contracts will be developed and awarded within the next 2 months. Of the $1,584,000 allocated to the State, about $1,280,000 are available for financial assistance.

West Virginia's soil conservation districts have convened the local work groups for identification and prioritization of priority areas in fiscal year 2000. The local work groups consist of local farmers, conservation district supervisors, FSA county committeemen, and other local, State, and Federal agencies.

STATUS OF ALDERSON, WEST VIRGINIA PLANT MATERIALS CENTER

Question. Please provide a status report on construction of the Plant Materials Center in Alderson, West Virginia, and a flow chart illustrating the release and award of funds appropriated for the project.

Answer. The project is progressing well, and it should be completed by late fall of 1999. Sufficient funds were provided to the Plant Materials Center in the fiscal year 1999 budget to complete construction work.

Construction of the seed barn is complete, and the building is now being used as a temporary office. This building forms the hub for operations at the center. Work on the office is underway, and the building is now "under roof" with work proceeding on the interior. It is about 60 percent complete. The building should be completed by May and occupied by June. Specifications are due in April for the shop/storage building, and construction is expected to start on it in June. Construction on the final building, the greenhouse, is scheduled to begin in July.

In addition to construction activities, there is a parallel effort underway to bring field operations on-line. Weed control has been a problem in many fields, but active control measures are underway to eliminate it. Several of the fields have already been planted to grasses and/or herbaceous species. In the spring of 1999, the center will move part of the woody plant collection (50 clumps) from Quicksand, Kentucky to Alderson. In the fall, the remainder of the woody plants will be transferred.

With construction activities completed by fall and with field studies also in place, it is anticipated that a Plant Materials Center dedication can be held early in 2000.

Funds for the Plant Materials Center in fiscal year 1999 have been provided to: (1) conduct operations, and (2) complete construction for the project. A flow chart illustrating the release and award of funds for the project in fiscal year 1999 may be found in the table on the following page.

CAPITAL IMPROVEMENTS FLOW CHART, ALDERSON, WV PLANT MATERIALS CENTER

Description of Construction & Related Activity	Pre-Fiscal Year 1999 Funds	Fiscal Year 1999 Funds	Timeline Date
Allocation of Congressional earmarked funds	.....	433,000	10/98
Allocation of Plant Materials Program funds	.....	267,000	10/98
Total allocated	.....	700,000	
Plant Materials Center Buildings			
Seed barn & associated facilities 5,000 sq. ft. building, Pesticide building, Roads/parking areas for plant center, Sewage treatment system for plant center, Drainage system for plant center, Utility distribution system for plant center	469,498	.....	3/9

CAPITAL IMPROVEMENTS FLOW CHART, ALDERSON, WV PLANT MATERIALS CENTER—Continued

Description of Construction & Related Activity	Pre-Fiscal Year 1999 Funds	Fiscal Year 1999 Funds	Timeline Date
Specifications provided for office building	.....	.....	10/98
Construction initiated for office building	.....	.....	10/98
Construction completed for office building	.....	200,000	5/99
Specifications provided for shop/storage building	.....	.....	4/99
Construction initiated on shop/storage building	.....	.....	6/99
Construction completed on shop/storage building	.....	250,000	9/99
Specifications provided for greenhouse building	.....	.....	6/99
Construction initiated on greenhouse building	.....	.....	7/99
Construction completed on greenhouse building	.....	140,000	9/99
Other Physical Facility Developments			
Seed cooler	55,000	.....	3/99
Utility relocation	15,000	.....	2/99
Transport equipment & plant materials	80,000	.....	4/99
Transport equipment & plant materials	.....	67,000	12/99
Field irrigation system	.....	35,000	11/99
Drainage system repair	.....	8,000	9/99
Pre fiscal year 1999 Funds Spent on Capital Improvements	619,498	.....	.....
Total fiscal year 1999 Funds Spent/Estimated	.....	700,000	.....
Total funds provided for capital improvement	1,319,498	.....	.....
Project completed	12/99	.....	.....

QUESTIONS SUBMITTED BY SENATOR KOHL

FARM SAFETY NET/EMERGENCY ASSISTANCE

Question. Please provide an overview, to the extent possible by State and commodity, of the levels of emergency assistance provided to producers as a result of the $5.9 billion made available in the Omnibus Appropriations Act for fiscal year 1999.

Answer. We are able to provide data only on market loss assistance payments as of March 2, 1999.

[The information follows.]

MARKET LOSS ASSISTANCE PAYMENTS, FISCAL YEAR 1999

[As of March 2, 1999]

	Corn	Sorghum	Barley	Oats	Wheat	Upland	Rice	Total
Alabama	3,055,087	527,052	2,792	15,994	2,832,130	13,243,767	35	19,676,857
Alaska	.....	.....	74,813	609	487	.....	.....	75,909
Arizona	607,873	133,091	186,456	2,604	2,490,656	17,588,927	.....	21,009,607
Arkansas	947,769	4,602,759	150	25,893	14,717,235	21,427,665	91,555,927	133,277,398
California	4,277,254	153,685	1,754,401	27,261	13,477,508	33,365,517	46,464,170	99,519,796
Colorado	16,566,695	1,878,009	1,546,463	25,352	27,715,428	0	0	47,731,947
Connecticut	479,926	370	18	44	428	0	0	480,786
Delaware	1,628,162	50,513	159,242	93	476,605	0	0	2,314,615
Florida	1,303,271	127,815	2	8,424	498,414	1,920,085	186,713	4,044,724
Georgia	8,279,950	628,464	54,143	42,786	7,693,982	22,228,410	0	38,927,735
Idaho	1,111,108	6,843	6,426,883	20,669	26,997,389	0	0	34,562,892
Illinois	211,778,311	2,214,520	23,104	96,529	18,927,303	0	0	233,039,767
Indiana	104,850,882	121,653	15,958	28,790	9,789,595	0	0	114,806,878
Iowa	264,647,969	75,600	32,115	473,118	888,156	0	0	266,116,958
Kansas	31,513,153	44,597,344	1,004,991	119,947	120,570,938	20,191	0	197,826,564
Kentucky	22,937,515	436,701	127,618	3,868	5,351,049	1,679	8,219	28,866,649
Louisiana	2,851,914	1,873,284	83	10,045	2,807,770	25,741,976	37,006,642	70,291,714
Maine	372,089	0	41,319	18,574	4,668	0	0	436,650
Maryland	5,995,735	89,950	259,795	2,171	1,507,804	188	0	7,855,643
Massachusetts	309,473	139	35	117	385	0	0	310,149
Michigan	40,393,089	10,641	224,811	137,000	8,174,772	0	0	48,940,313
Minnesota	120,338,415	7,864	5,891,823	556,601	34,750,683	0	0	161,545,386
Mississippi	1,961,887	1,569,987	138	7,770	5,146,159	39,129,148	18,838,001	66,653,090
Missouri	38,807,188	10,190,214	64,232	37,410	23,807,205	7,017,915	7,949,699	87,873,863
Montana	895,361	7,211	11,033,044	93,899	51,647,661	0	0	63,677,176
Nebraska	146,817,977	23,318,821	434,601	241,745	28,243,814	37	0	199,056,995
Nevada	21,114	3,146	128,878	2,640	324,854	0	0	480,632
New Hampshire	219,880	210	151	5	0	0	0	220,246
New Jersey	1,111,363	5,349	36,147	1,471	238,504	0	0	1,392,834
New Mexico	1,831,672	2,523,702	148,609	2,452	3,494,988	1,979,982	0	9,981,405

New York	13,466,363	1,913	84,295	77,667	1,588,483	0	0	15,218,721
North Carolina	15,079,245	261,607	186,621	25,170	5,820,753	10,307,976	0	31,681,372
North Dakota	10,913,294	41,992	15,956,731	514,068	95,599,852	0	0	123,025,937
Ohio	63,455,436	14,364	26,026	86,608	14,592,680	0	0	78,175,114
Oklahoma	1,937,064	3,566,474	107,457	57,371	62,414,607	7,195,900	92,708	75,371,581
Oregon	490,221	7,037	1,524,044	32,143	16,259,803	.....	.....	18,313,248
Pennsylvania	10,626,350	37,510	167,882	73,948	937,725	.....	.....	11,843,415
Rhode Island	16,110	109	.....	.....	.....	.....	.....	16,219
South Carolina	5,179,954	121,042	68,335	23,362	3,711,968	5,694,969	28	14,799,658
South Dakota	42,133,538	2,908,611	3,401,315	733,147	31,178,259	.....	.....	80,354,870
Tennessee	8,810,127	919,535	27,499	2,933	5,265,082	12,817,016	71,776	27,913,968
Texas	27,959,935	38,267,920	216,912	156,518	45,341,714	95,595,806	35,336,426	242,875,231
Utah	557,115	9,019	732,476	5,398	2,439,269	.....	.....	3,743,277
Vermont	732,519	6	4,198	928	4,233	.....	.....	741,884
Virginia	6,553,040	154,783	429,629	6,359	2,772,059	916,683	.....	10,832,553
Washington	1,457,889	836	5,275,135	12,386	39,833,089	.....	.....	46,579,335
West Virginia	994,825	3,158	19,444	2,758	85,859	.....	.....	1,106,044
Wisconsin	59,833,540	14,223	455,612	399,266	1,708,404	.....	.....	62,411,045
Wyoming	1,153,385	2,131	724,578	21,215	2,368,116	.....	.....	4,269,425
Totol	1,307,262,032	141,487,207	59,081,004	4,235,126	744,498,525	316,193,837	237,510,344	2,810,268,075

TIMING AND EFFECT OF ASSISTANCE

Question. Please include any timetables available to indicate when producers may expect to receive assistance plus an analysis of the degree to which the assistance made available by the aforementioned Act will remedy shortfalls in farm income due to either production or market losses in 1999.

Answer. Within 10 working days of the omnibus bill's enactment, USDA began making income loss assistance payments. By November 21, 1998, USDA had paid 1.4 million farmers more than $2.8 billion.

On November 12, 1998, USDA announced the Livestock Assistance Program (LAP) and began taking applications on November 23, 1998. To accommodate the extremely high demand for LAP, USDA extended the signup for this program and now plans to close enrollment on March 25, 1999. USDA will issue payments shortly thereafter. We estimate that the $200 million Congress appropriated for livestock assistance will be heavily over-subscribed, and USDA, consequently, will be able to pay only a portion of the total request.

On March 15, 1999, the sales closing date for the 1999 crop insurance program, USDA will have disbursed the $400 million dedicated to lowering crop insurance premiums—the Administration's down payment on its commitment to strengthening the farm safety net by reforming and improving crop insurance.

USDA has implemented the honey and mohair loan programs included in the bill.

In the near future USDA's plans for the $200 million dairy assistance program will be announced.

USDA now expects to make CLDAP payments in June, following a 6-month signup program, the same length of time USDA ran the signup for the 1988 disaster assistance program, the last time USDA had to implement a major, new crop loss assistance program. While USDA was able to use the 1988 program as a template for subsequent programs, we could not do so for this year's program.

The additional resources sought by the Administration and approved by Congress have been instrumental in keeping thousands of farmers and ranchers in business during tough times. USDA is at your disposal to provide any additional information about implementation of these programs.

STATE OF THE FARM ECONOMY

Question. Please provide any information available about the state of health of the farm economy at present and the extent to which producers may not be able to continue viable farming or ranching operations this coming year even with the assistance provided in the fiscal year 1999 Act.

Answer. The farm economic outlook for 1999 is not favorable. In 1998, the farm economy took a sharp downturn when bad weather devastated many production regions from California to Florida, while grain and oilseed prices nosedived as a result of large global supplies, the deepening Asian financial crisis, and weak export demand. Livestock prices also dropped due to large supplies, and hog prices went into a free fall late in the year. Unfortunately, exports and commodity prices likely will be even lower in 1999, causing increased farm financial stress, particularly in grain and oilseed producing areas, such as the Corn Belt States, that up to now have weathered the economic downturn.

U.S. farm exports, for example, are expected to drop to $49 billion in fiscal year 1999—down $4.6 billion from fiscal year 1998 and nearly $11 billion from the peak in 1996. Net farm income is expected to drop to $44.6 billion for 1999, a 7-percent decline from 1998 and a 16-percent drop from 1996. Net income just for key field crops (wheat, corn, soybeans, upland cotton and rice) will be 17 percent below the average for the past 5 crop years for the 1998 crops, and for the 1999 crops, net income is projected to be 27 percent below the previous 5-year average. USDA's revised baseline projections for the next 10 years indicate that economic recovery will occur at a very gradual pace.

The nearly $6 billion in government assistance enacted last year is helping to maintain farm income and ease financial hardship for many producers. Direct government payments to producers reached nearly $13 billion in calendar year 1998 and will probably total at least $11 billion in 1999. Also, lower interest rates and fuel costs have helped reduce production costs, offsetting some of the decline in cash receipts for many producers.

However, aggregate measures of the health of the farm economy mask a marked erosion in market income in many regions and commodity sectors, and all signs now point to greater farm financial stress in 1999. Net cash income is currently projected to decline $3–4 billion. Land values began declining in a number of Midwestern States during the last half of 1998, after years of steady increases. The drop in income, coupled with declining asset values for many producers, means many will

have difficulty obtaining credit, and those who do will use it for variable cash expenses, not investment, and will find themselves squeezed trying to repay debt out of current income. For the many producers who struggled with cash flow in 1998 because of adverse weather and low prices, problems likely will worsen in 1999.

As a result of increased financial stress in farm country, demand for USDA farm loans in fiscal year 1999 has been extremely strong. Many farm families who have been financing their business operations through their own resources or with a minimum of commercial bank debt are now seeking farm loan assistance. Commercial lenders are utilizing Farm Service Agency loan guarantees to restructure the short-term indebtedness of their customers into more favorable long-term rates so that they can continue to provide financing. FSA is using all servicing authorities, including rescheduling and reamortizing, deferring installments, and debt writedowns to assist FSA borrowers.

However, funds are exhausted or will soon be exhausted for key credit programs: all emergency loan funds and non-targeted direct farm ownership loan funds have been obligated already; non-targeted interest-assisted guaranteed loans and direct farm ownership loans will be exhausted in March; funding for direct farm operating loans will last into April, and guaranteed operating loan funding will be gone by August. Credit is no substitute for income, but adequate credit is essential to maintaining any farm operation.

For many farmers and ranchers the key to weathering the farm crisis is duration: how long the period of low commodity prices will last. According to a 1998 Iowa State University study of 1,200 Iowa farmers, those in basically strong or stable financial condition can withstand a year of low prices, but if these conditions were to continue for several years, one-third of the farmers in the study would face restructuring or liquidation.

There are many uncertainties that could affect market demand and prices, and, hence, farmers' well-being over the next 1 to 2 years. Weather is always key; so is the world economy for a farm sector as export-dependent as American agriculture.

DAIRY POLICY REFORM

Question. Would you please provide your observations or suggestions relating to changes in USDA programs to help move toward a more rational and fair dairy policy through either regulatory action or legislation? In particular, would you address steps that might be taken to help find a policy of comity among all regions to eliminate the otherwise unavoidable conflict and turmoil that would result from regional compacts or other tools of geographic disparity?

Answer. On or before April 4th, the U.S. Department of Agriculture (USDA) will issue its final decision on consolidation and reform of Federal Milk Marketing Orders as mandated by the Federal Agriculture Improvement and Reform Act of 1996 (1996 Act), as amended. In the nearly 3 years since enactment of the 1996 Act, USDA has requested information from all segments of the dairy industry and received nearly 4,500 comments on Federal order reform and consolidation. In addition, USDA established agreements with dairy industry experts in the academic community to analyze specific issues, including the Class I price structure and replacement of the Basic Formula Price (BFP) for milk, and conducted several listening sessions around the country before and after release of USDA's proposed rule in January 1998. We believe this meticulous approach in informing the public and obtaining input from interested parties will yield a final decision that is in the best interests of all segments of the dairy industry and be fair to all areas of the country.

EMERGENCY PRECEDENTS

Question. USDA recently announced the granting of $50 million to hog producers to help offset the dramatic reduction in price. How does the Department intend to address similar requests from producers of other commodities (e.g. beef cattle, aquaculture, minor crops, etc.) now that a precedent appears to have been established?

Answer. Hog producers were hit with the lowest prices in 5 decades, and we made every effort to find a way to help producers. We would hope to be able to help other producers in similar circumstances and are working hard to shore up the safety net for all farmers and ranchers.

RISK MANAGEMENT REFORM

Question. It has been suggested that approximately $1 billion should be directed to reform crop insurance, including an expansion of revenue insurance. To what extent should the availability of any funds be used to expand new programs rather than improve existing programs? For example, during debate of the disaster assistance package last Fall, certain Senators complained that there should be no "crop

insurance requirements" tied to assistance eligibility due to the fact that existing programs in their state were not economically viable. Should our commitment to make sure that existing crop insurance programs work in all states be any less than to create new programs?

Answer. The Administration agrees that continual review of existing crop insurance programs is as essential as developing new insurance products and insuring new crops. Poorly designed or administered programs that fail to meet the producers' needs are counterproductive to the Administration's goal of strengthening the safety net for agriculture.

As you note, some Senators stated last Fall, that the current insurance program was not viewed as attractive for certain crops in their states. Reasons vary, but dissatisfaction with premium costs are a major factor. RMA develops premium rates from the experience in each county and state. In some cases, the experience is poor, resulting in high premium rates. Cotton is such a crop. RMA has undertaken an extensive review of its experience for cotton in the states east of Oklahoma and Texas. Participation in the cotton crop insurance program at buyup levels in these states ranges from essentially nothing to over 50 percent of planted acres. The intent of this review is to understand the causes of the poor experience that resulted in high rates in certain of these states. Once this review is completed, adjustments to premium rates for crop year 2000 can be considered. Similar reviews will be undertaken for other crops in other areas as resources permit. We are also initiating a pilot review of our methodology with the goal to publish new rates in a test area in 2000.

EFFECTS OF CLIMATE CHANGE

Question. To what extent is climate change having an impact of USDA policies? Recent weather events lead to a conclusion that adverse conditions are affecting agriculture more severely and more significantly than in earlier decades, resulting in more volatile markets, reduced farm income, and disruption of consumer expectations. How is USDA responding to these changes in terms of long-term policy and what recommendations would you make for Congressional action in this regard?

Answer. Temperature increases can have both positive and negative effects on crop and forest yields, with the difference depending on location and on the magnitude of the increase. And, agricultural and forestry systems are most sensitive to extreme climatic events such as floods, wind storms, and droughts, and to seasonal variability. Climate change could alter the frequency and magnitude of extreme events and change seasonal patterns. Increases in rainfall intensity pose a threat to agriculture and forestry and the environment because heavy rainfall is primarily responsible for soil erosion, leaching of agricultural chemicals, and runoff that carries livestock waste and nutrients into water bodies. Adjustment costs are likely to be higher with greater rates of change. While climate change is not expected to seriously threaten the U.S. ability to produce enough food to feed itself through the next century, regional production patterns are likely to be affected.

Strategies such as changing planting and harvest dates, rotating crops, selecting varieties for cultivation, changing irrigation practices, using fertilizers and pesticides, and choosing cultivation and forest management practices can lessen potential yield losses from climate change and improve yields in regions where climate change has beneficial effects.

We need to improve our understanding of how extreme events could affect agriculture and forestry and develop appropriate management systems for coping with these events. And, we need more research to explain and predict how agriculture and forestry will be affected by climate change. USDA investment in additional research on the adaptation of appropriate strategies is needed to gain a better understanding of the climatic factors that affect enterprise level adoption such as information flow, access to capital, and the role of global change public programs and policies.

We need Congressional support for our fiscal year 2000 research and climate change technology programs so we can conduct this vital research and demonstrate alternative management practices that not only address the climate challenge but provide significant co-benefits in the form of improved productive capacity of our soils, improved water quality, and habitat protection. We would also welcome your ideas on how USDA's programs can be augmented to include greenhouse gas abatement and carbon sequestration. And, we look forward to working with you to address the international challenge of reducing the atmospheric concentrations of greenhouse gases in the most cost-effective way.

FARM CREDIT

Question. Reduced farm income increases the difficulty of obtaining commercial credit. In many cases, commercial lenders are restricted by State and Federal banking requirements in a manner that will adversely affect farmers when cash flow, debt-to-assets ratios, or other financial conditions cannot be met. What role is USDA taking with the financial industry (including Federal and State regulators) to help farmers overcome banking regulatory burdens?

Answer. FSA is increasing interest in the guaranteed program by making the program more accessible and easier to understand for both lenders and loan applicants. A Preferred Lender Program (PLP) has been developed for lenders experienced with the FSA guaranteed loan programs. Under the PLP, FSA will approve the lender's system of credit management up front, and the lender will then be able to obtain a guarantee under a simplified process tailored to each lender's own policies. The application will consist of a one-page signed form supplemented by a lender narrative addressing certain credit criteria. Furthermore, the guarantee will be automatically approved if we do not take any action within 14 days.

Question. Does USDA intend to seek additional levels of direct farm credit for Farm Service Agency programs to help offset the growing difficulty of farmers to obtain operating capital from commercial lenders?

Answer. Improvements being made to the guaranteed program, along with the higher level of available guaranteed loan funds, will sufficiently supplement direct loan funds in fiscal year 2000 so that the credit needs of family farmers can be fulfilled.

Question. Does USDA intend to seek additional farm credit funding budget authority for fiscal year 1999?

Answer. A request for additional fiscal year 1999 FSA farm loan funding of $1.1 billion was submitted to Congress by President Clinton on February 26, 1999.

LOAN DEFICIENCY PAYMENT CALCULATIONS

Question. It has come to my attention that differences in points of delivery for certain commodities in Wisconsin and Minnesota are working to the detriment of Wisconsin farmers in the calculation of Loan Deficiency Payments (LDP's). In other States it has been determined that the existing system for LDP calculations based on posted county prices did not accurately reflect prices received by producers. Please review the situation in Wisconsin and report your findings and actions taken to ensure fair and equitable treatment for Wisconsin producers.

Answer. LDP's are calculated using county loan rates that are established once a year and Posted County Prices (PCP's) that may change daily. There is a common misconception that the PCP pricing system was designed to ensure that all producers of a commodity have the potential of earning the same marketing loan gain or LDP. In actuality, the primary objective of the PCP system is to determine a value as close as possible to the local cash market price in any given area. The PCP system was designed to provide producers with equitable, but not necessarily equal, value for their commodities.

The Kansas City Commodity Office (KCCO) conducts weekly surveys of 187 counties in major production areas throughout the nation to determine if PCP's accurately reflect local market prices. The most recent surveys for corn and soybeans were conducted on March 9 and included four counties in Wisconsin. In general, the results indicate that PCP's in Wisconsin accurately reflect local market conditions for these commodities.

If you have specific questions concerning the PCP for a specific commodity or region of Wisconsin, I encourage you to submit your comments to the Farm Service Agency for further review.

STUDY OF DAIRY PRICES AND THE WTO

Question. Section 151 of the Federal Agricultural Improvement Act of 1996 calls for a study and report regarding the United States' membership in the World Trade Organization and the potential impact of such membership on domestic dairy prices, federal dairy programs, and other related items. This report was to be provided to the House and Senate Agriculture Committees no later than July 1, 1997. Please provide information on the status of this report and, if complete, would you please provide a copy to this subcommittee?

Answer. The study referred to was assigned to the Economic Research Service (ERS). Unfortunately, the same staff that was working on this report was also needed to do economic analysis related to the reform of the Milk Marketing Order system. This slowed the progress on the study considerably. The analysis for the sec-

tion 151 study has been completed and the report is currently being cleared within USDA. We plan to have the report available within the next six months.

FSIS USER FEES AND FARM INCOME

Question. Please explain if you disagree that any FSIS user fees imposed on meat and poultry companies would not be passed on to producers. Do you believe the major meat and poultry companies act more competitively in their relationship with consumers than with producers? If so, please explain? If so, why is there so much concern expressed by the Department and elsewhere about concentration within the agricultural industry, especially in regard to the livestock sector and the effect of concentration on farm prices?

Answer. We estimate that the impact of the user fees on producers in the form of lower prices received would be minimal. We estimate that most of the fees will be passed on to consumers in the form of higher retail prices. We estimate that the cost will be passed onto consumers and consumer demand for meat and poultry is relatively inelastic, so this proposal would not have much impact on the market. The overall impact on retail prices is estimated to be less than one cent per pound of inspected and passed product.

EMERGENCY FORESTRY ASSISTANCE

Question. The fiscal year 1999 Appropriations Act included $10 million in emergency funding through the Forestry Incentives Program (FIP) related to forest fires in Florida and disasters in other states, including Wisconsin. What is the status of providing this assistance and what plans for distribution of benefits do you intend to use? Additionally, what timetable do you envision for delivery of this assistance? Since the identified need for Wisconsin is nearly $1.3 million for disasters in 1998, and since the $10 million provided nationally will not cover all identified needs, will the Department reflect these shortfalls in emergency funding when making any allocation to states based on an appropriation of FIP funding in fiscal year 2000?

Answer. On February 16, 1999, $9 million in Forestry Incentives Program (FIP) funds were allocated to 17 States to address reforestation needs caused by wildfires and other natural disasters in 1998. A $1 million reserve is being retained for future assistance, primarily tree planting needs, in Florida. USDA's Natural Resources Conservation Service (NRCS) and Forest Service, along with State foresters, carried out a thorough assessment of needs, which far exceed available funds. NRCS intends to closely monitor the use of these emergency funds. The Administration's fiscal year 2000 budget currently does not request funding for the FIP program in fiscal year 2000.

SANCTIONS

Question. Please provide an update on U.S. negotiations regarding the lifting of sanctions against countries such as Cuba and Iran in terms of the implications for agriculture. Please provide any information relating to the effect the lifting of such sanctions would have for U.S. producers.

Answer. With respect to Cuba, on January 5, 1999, the President announced an initiative to enhance U.S. support of the Cuban people and to promote a peaceful transition to democracy. As part of this initiative, the U.S. is implementing certain "new measures" including allowing exports of food and certain agricultural commodities to Cuba. Exports are limited to non-governmental entities in Cuba so that eligible recipients are effectively small "mom and pop" shops, private farmers and restaurants. While this represents an important first step, the immediate impact on the level of exports of agriculture products to Cuba is likely not to be great. USDA will continue to work with the Commerce Department in drafting the regulations that will govern these sales.

If sanctions on Cuba were lifted, the U.S. could reasonably expect to supply about half of Cuba's agricultural imports or about $350 million, if trade were resumed. According to some analysis, Cuba has the potential to become a $1 billion market for U.S. agricultural exports (only after substantial investments), making Cuba our second largest market in Latin America.

Regarding Iran, in December the Treasury Department received a request for approval of a license to broker a sale of approximately $500 million in agriculture exports to Iran. While a sale of this kind is currently prohibited under the terms of the comprehensive embargo against Iran, the request is being given serious consideration by the Administration. USDA is working to ensure that all points of view are represented in the decision-making process.

If sanctions on Iran were lifted, despite heavy competition from Australia, Canada and South America, it is not unreasonable to expect that U.S. agricultural exports

to Iran could reach $300 million per year in a relatively short period of time and perhaps twice as much within five years. Principle gains for U.S. exports would be in grains and oilseed products.

ASSISTANCE TO RUSSIA

Question. There have been recent claims that Russia has executed sales of wheat to Iraq. Although there appears to be no evidence that these sales involved the conveyance of commodities originating in the U.S. (notwithstanding the fungibility of commodities such as wheat) these allegations do raise serious questions about the role of U.S. assistance to Russia. Please provide information that outlines the steps the U.S. is taking to ensure that food assistance to Russia is actually being delivered to the populations intended.

Answer. In the agreements with the United States, the Government of the Russian Federation agreed to export restrictions on commodities and related products supplied as food aid. On January 29, 1999, the Government of the Russian Federation published an official decree formalizing this agreement. During recent meetings with senior USDA officials, Russian Government officials at the highest levels denied that Russia sold wheat to Iraq. If further claims surface, the Russian Government is committed to addressing the problem or face suspension of the food aid programs.

USDA is mounting an unprecedented real-time monitoring effort to ensure that the food assistance provided to Russia is delivered to the intended populations and to investigate any irregularities that arise, including Russian food exports. As part of the original food aid agreements, the Government of the Russian Federation was required to submit work plans that provide detailed information about the handling and distribution of food aid imports from the United States. These documents provide the foundation for the U.S. monitoring effort.

A working group has been established in Moscow to review the work plans, facilitate the operation of the programs and provide a forum to address monitoring issues. In addition to the U.S. Government, representatives of the key Russian ministries and commercial agents are included in monitoring activities.

Finally, four USDA monitors have been detailed to Moscow and one to Vladivostok to ensure, to the extent possible, that the agreements between the Governments of the United States and the Russian Federation are fulfilled. The team will be headed by the Agricultural Trade Officer at the U.S. Embassy. In addition, a "country team" approach has been adopted by the U.S. Embassy in Moscow so that all U.S. Government agencies represented in Russia can support the monitoring effort. The USDA monitors will coordinate with the Russian Ministry of the Interior in its independent monitoring effort.

An additional key part of the USDA monitoring plan is to provide widespread publicity about the arrival and distribution of food aid in the areas where it is destined. By building a grass roots network with local government officials, civic organizations and the press, USDA will be able to multiply its monitoring effort considerably.

PAKISTAN

Question. Last year, Congress took action relating to sanctions against Pakistan in order to help protect U.S. agricultural interests in that country. Now, we hear an opportunity exists to provide an additional 200,000 tons of wheat to Pakistan, but since that nation is in default on GSM loans, that sale (or any other) is in jeopardy. What is USDA doing to help protect markets such as this?

Answer. On March 5, the Government of Pakistan paid a portion of their arrears under the GSM–102 program and the program was reactivated. However, on March 8 Pakistan purchased 300,000 metric tons of Australian white wheat and U.S. exporters were unable to capture any business. Although GSM credit has been available for two of the last three tenders (including this one), Australia's surprisingly large freight advantage this year has put its wheat just under U.S. offers, on a landed basis. To assist in protecting our market in Pakistan, USDA has donated a total of 300,000 metric tons of wheat under the Section 416(b) program to Pakistan. The wheat will be shipped this spring. In addition, USDA is providing to Pakistan $15 million worth of additional wheat and $10 million worth of soybeans under the title I concessional sales program.

Question. To what extent is the Pakistan problem related to the general financial pressures in that part of the world?

Answer. The Asian financial crisis is a contributing factor to Pakistan's current financial woes, along with the economic sanctions imposed after the nuclear tests in May, and Pakistan's own difficulties (lawlessness, corruption) in mobilizing its

economy effectively. The extent to which financial problems in Asia have affected Pakistan's finances in general and its ability to buy U.S. wheat in particular is difficult to quantify.

For example, the value of cotton and textile exports, which constitute about two-thirds of Pakistan's $7.5 billion export earnings, is down about 15 percent this year compared to last (partly due to reduced exports to Far Eastern markets as a result of the economic downturn there and partly due to depressed prices in general as a result of the global economic situation). At the same time, worker remittances (a major source of foreign exchange) have virtually dried up since the Government of Pakistan's hard currency bank accounts were frozen last May following the nuclear tests.

Question. How many other trading partners, or potential trading partners, are in similar situations?

Answer. In addition to Pakistan, Russia is also in arrears on GSM payments, and, as a result, the GSM program in that country is currently not operative. The GSM program in Ecuador was also recently closed due to the major financial crisis there. Although GSM credit guarantees are currently not available in Russia and Ecuador, USDA has maintained a presence in both of these markets by providing extensive food aid in fiscal year 1999. As with Pakistan, we will continuously review the financial situation in Russia and Ecuador. Should there be an improvement in the financial situation in these countries, USDA will be prepared to reconsider the availability of GSM.

DAIRY EXPORT INCENTIVE PROGRAM

Question. The fiscal year 2000 budget reflects a decrease in this program. Please provide information relating to this program's use in fiscal year 1999 and reasons for the projected reduction in 2000.

Answer. The President's budget assumes that bonus awards under the Dairy Export Incentive Program will reach $99 million in 2000, which is just slightly below the level of $102 million projected for 1999. However, these numbers are only projections of program activity. The actual level of DEIP bonus awards in both 1999 and 2000 will be determined by market conditions and the Uruguay Round Agreement subsidy reduction commitments.

BANANA REGIME ISSUES

Question. A February 3rd article in the Journal of Commerce discusses the relationship of the current Banana Regime issue with the overall economies in the Caribbean Basin and suggests that a U.S. victory at the WTO may ultimately cause the U.S. more harm than good. Would you please comment on that statement and provide an overview of the implications of the Banana Regime issue on U.S. agricultural trade?

Answer. The issues in the EU Banana regime case ultimately test whether the EU will provide access to its market on a fair and non-discriminatory basis. While the Banana case does not present a situation in which U.S. agricultural products are being denied access, it does present a situation in which U.S. businesses that supply or service agriculture (U.S. farm equipment manufacturers, fertilizer producers, marketing firms, etc.) have suffered injury because of discriminatory practices. Maintaining the principles of fair access to the EU market is an important issue for U.S. agriculture in general.

The Banana case also tests whether the EU will comply with its obligations under the WTO or will ignore the Dispute Settlement Body (DSB) Panel rulings. If it ignores the DSB rulings, the benefits of the Uruguay Round will be put at risk for all members.

The United States, and U.S. agriculture in particular, has a strong interest in an effective WTO dispute settlement mechanism. Since the WTO was established in 1995, the United States has received favorable decisions in three agricultural cases and has three other cases pending where preliminary findings have supported our positions. In addition, the United States has resolved a number of agricultural issues through the WTO consultation mechanism without going to a panel.

BIOTERRORISM

Question. Please explain the steps USDA is taking, along with other federal agencies, regarding the threat of intentional contamination of our food supply as either part of an international terrorism threat or any other means.

Answer. USDA is actively involved in the Administration's overall policy initiatives to counter bioterrorism as required under Presidential Decision directives 39, 62, 63, and 67. These initiatives address prevention, consequence management plan-

ning and coordination. Currently, the Under Secretary for Food Safety co-chairs the USDA task force charged to develop the Department's Continuity of Operations Plan (COOP), which is expected to be completed and tested by October of this year.

USDA has organized an intra-departmental Food Emergency Rapid Response and Evaluation team to respond to food emergencies, which may include some bioterrorism emergencies. This team, headed by the Under Secretary for Food Safety at USDA, is a coordinating mechanism for strong ties with CDC, FDA, and the state and local public health departments working together on the Foodborne Outbreak Response Coordination Group. This group has developed a white paper describing foodborne outbreak response coordination.

APHIS has requested $1.2 million in the fiscal year 2000 President's Budget to develop a national emergency management system to meet the needs of emergency disease outbreaks and emerging animal health issues including microbiological residues, manure management, transmissible spongiform encephalopathies, and biological terrorism. Components of the system would include prevention activities such as surveillance and a national disease reporting system; preparedness activities such as training and the development of response plans; and response and-recovery activities. Of the $1.2 million, approximately $700,000 would be used to survey for significant animal health events including biological terrorism. APHIS would also conduct 4 training sessions for Agency and State employees and industry representatives regarding biological terrorism, decontamination procedures, and other animal health events. The remaining $500,000 would be used to complete a master plan for the new system and to develop a National Animal Disease Reporting System and Geographical Information System.

Question. To what extent does the President's Food Safety Initiative address this issue?

Answer. The President's Food Safety Initiative does not include any funds for bioterrorism activities. However, the Initiative's emphasis on strengthening the public health surveillance infrastructure for foodborne diseases would also be important for early detection and response to bioterrorist attacks on the food supply. For example, the Initiative funds the development of FoodNet active disease surveillance efforts and the PulseNet information system to enable Federal and State laboratories to rapidly identify and link outbreak cases. This system is proving to be an invaluable asset to the early detection of naturally caused foodborne outbreaks, and it would also be important in detection of an intentional contamination induced outbreak.

HACCP IMPLEMENTATION IN SMALL PLANTS

Question. Please provide information regarding the effect HACCP implementation is having on small firms. Since implementation of HACCP at the small firm level is very recent, have there been any unanticipated problems that should be considered by the Appropriations Committee that might not have been known at the time the fiscal year 2000 budget request was being developed?

Answer. Approximately 2,200 small establishments were required to implement Hazard Analysis and Critical Control Point (HACCP) systems by January of this year. At this time we have not encountered any serious problems. As of February 24 of this year, only 13 out of 2,211 small plants have had FSIS take enforcement action against them for failure to fully meet HACCP requirements. All of these plants have provided FSIS with corrective action plans and have been approved to continue operating. Eight other plants have voluntarily requested that inspection be suspended or withdrawn.

One of the vehicles FSIS uses to monitor HACCP implementation is the HACCP Hotline, which is managed by the agency's Technical Service Center at Omaha, NE. The HACCP Hotline has identified the following items as the principal concerns expressed by owners and operators of small plants.

[The information follows:]

Inclusion of critical control points for identified food hazards.

The use of control programs/good manufacturing practices in lieu of critical control points.

The process for completing the pre-shipment review for plants supplying products to hotels, restaurants, and institutions

PESTICIDE DATA PROGRAM

Question. Please provide information explaining the role of the Pesticide Date Program (PDP) within the context of food safety. Also, please provide information that directly links the PDP to the availability of pesticides for producers, especially for producers of minor crops.

Answer. During fiscal year 1998, EPA used PDP data for the re-registration of iprodione, thiodicarb and methomyll. During this process, EPA reassessed approximately 160 separate toleranes, of which, about 60 were tolerances for minor crop uses. In addition, EPA is using all available PDP data for the re-registration of organophosphate pesticides. For example, EPA is preparing preliminary risk assessments for azinphos methyl, methidathion, chlorphyrifos, malathion, diasinon, dihlorvos, acephate, dimethoate, disulfoton, ethion, fenamiphos, fonofos, ethdamidophos, oxydemeton methyl, parathion, parathion methyl, phorate, phosalone, phosphamidon, and tetrahlorvinphos usine PDP data. There are approximately 179 food uses covered by these data.

PDP provides data EPA needs to re-examine pesticide residues in food to determine whether a tolerance i.e., maximum allowable concentration) is "safe." The term "safe" refers to a toxicologically determined average daily intake to assure there is a reasonable certainty of no harm from dietary exposure to a pesticide. EPA gives consideration to the special susceptibilities and food consumption patterns of infants and children, and uses available and reliable data when making risk determinations. EPA uses PDP data to make "best" (refined) exposure estimates resulting from pesticide residues in foods. Furthermore, because PDP places emphasis on food items highly consumed by infants and children, EPA uses PDP data to address the special needs of this vulnerable population subgroup.

PDP also conducts studies (single serving-size portions) specifically designed to evaluate acute (short term) exposure to organophosphate and N-methylcarbamate pesticides. Data from these studies are critical for the re-registration of these chemicals needed to sustain minor crops. These data will be used in Monte-Carlo analyses, a newly developed technique which has the capability to use more realistic data.

In a related effort, EPA is testing statistical methods using PDP single-servicing size data generated for specific high consumption foods. These methods will be used to maximize use of PDP data on composite (more than one unit in a sample) in order to project acute dietary risk for other foods.

Approximately 88 percent of PDP data collected to date are for pesticide residues on minor crops. PDP data are extremely useful in retaining pesticide uses for minor crops. PDP data are being extensively used in the re-registration of organophosphate pesticides needed to sustain minor crops. EPA uses PDP data to replace previously used "worst case" residue values (e.g., toleranes or farm-date field trails to more accurately reflect residues in food near the time of consumption.

INVASIVE SPECIES

Question. Please provide information relating to potential cost to the national economy due to the existing and potential introduction of alien species for which USDA has regulatory jurisdiction. In what areas of the nation are these problems the most serious?

Answer. On February 3, 1999, the President announced an Executive Order to expand the effort to address the growing environmental and economic threat of invasive species. This order establishes an interagency Invasive Species Council with the Department's of Agriculture, Commerce, and Interior with the Secretaries as co-chairs. Experts estimate that invasive species already infest over 100 million acres of the United States and is growing at a rate of 3 million acres annually. The costs to the U.S. economy are about $123 billion annually.

Question. Is there any way to better protect areas into which these species may migrate in the immediate future?

Answer. The Council will develop a comprehensive plan to minimize the economic, ecological, and human health impacts of invasive species and determine further steps to prevent the introduction and spread of invasive species.

Question. From a budgetary perspective, keeping in mind the constrains on this subcommittee, what are the best strategies to control the threat from these pests?

Answer. The USDA budget includes an increase of $16 million for programs to combat invasive species by preventing entry, improving monitoring and detection, providing rapid assessment and eradication, increasing crosscutting research and technology, and developing partnerships directed at education and outreach.

Question. Please provide information relating to potential cost to the national economy due to the existing and potential introduction of alien species for which USDA has regulatory jurisdiction. In what areas of the nation are these problems the most serious? Is there any way to better protect areas into which these species may migrate in the immediate future? From a budgetary perspective, keeping in mind the constrains on this subcommittee, what are the best strategies to control the threat from these pests?

ORGANIC CERTIFICATION

Question. Please provide information regarding finalization of the Organic Certification program. In which areas of the nation do you believe this program will be the most important from both a producer and consumer perspective?

Answer. ASM is in the final stages of issuing another proposed rule for organizally-grown food. There were more than 275,000 comments on USDA's previous proposed organic standard. We are revising our proposed standards, and plan to issue another proposal later this year with another public comment. While some areas of the country produce more organic product than other, both producers and consumers nationwide will benefit from the universal standard that this program will ensure.

WETLANDS RESERVE PROGRAM

Question. Will the expected enrollments in the Wetlands Reserve Program (WRP) in fiscal year 2000 bring total enrollments to the fully authorized level? In the event the WRP enrollment authorization is met, does USDA intend to request additional authorization? If so when and to what levels?

Answer. The requested WRP acreage enrollment level for fiscal year 2000 will bring the total enrollment to the fully authorized level. USDA does intend to request additional authorization once the present acreage cap is reached. The request will be contained in the fiscal year 2001 budget. The exact level is still under consideration but will likely range from up to 200,000 to 250,000 acres per year for the period fiscal year 2001 through fiscal year 2006.

Question. Since many watershed structures are reaching their life expectancy, what does USDA plan to do to help avoid continuing deterioration of these structures beyond educational activities? To what extent does the current status of these structures present a threat to public safety? Please explain if you believe the level of activity needed to correct the problem of deteriorating infrastructure does not rise above the normal maintenance requirement, and thereby places the burden of repair solely on local watershed organizations.

Answer. The issue of the aging watershed infrastructure is a growing concern because of potential safety and health risks to the public. Between the 1940's and 1960's, local sponsors with the assistance of USDA, constructed over 10,000 flood control dams that were designed to last 50 years. Many of these dams and others of newer design are in a higher hazard classification due downstream development and will also require major construction.

It is our opinion that the sponsors of dams built under the Small Watershed Program are responsible for the operations, maintenance, rehabilitation as well as compliance with all state and federal laws involving dam safety and environmental permits. USDA presently has no statutory authority to provide financial assistance for rehabilitation. USDA is assessing ideas on how to assist in addressing the problem within current authorities.

USDA/NRCS is currently completing a "Rapid Assessment of Known Rehabilitation Needs" of dams built under the Small Watershed Program in the states of Arkansas, Alabama, Colorado, Georgia, Iowa, Illinois, Indiana, Kansas, Kentucky, Missouri, Mississippi, Nebraska, New Mexico, New York, Ohio, Oklahoma, Pennsylvania, Tennessee, Texas, Virginia, West Virginia and Wisconsin. While this assessment is strictly a compilation of known rehabilitation needs, it will provide stakeholders valuable information on future direction. Early findings of this assessment are being provided for the record.

RAPID ASSESSMENT OF KNOWN DAM REHABILITATION NEEDS

[Includes only dams built under PL–534, PL–566, Pilot Projects, and Resource Conservation and Development authorities of USDA]

State [1]	Number of Dams Needing Immediate Rehabilitation	Estimated Cost [2]
Alabama	71	$24,000,000
Arkansas	77	21,000,000
Colorado	49	28,000,000
Georgia	129	85,000,000
Illinois	36	11,000,000
Indiana	41	14,000,000

RAPID ASSESSMENT OF KNOWN DAM REHABILITATION NEEDS—Continued

[Includes only dams built under PL–534, PL–566, Pilot Projects, and Resource Conservation and Development authorities of USDA]

State [1]	Number of Dams Needing Immediate Rehabilitation	Estimated Cost [2]
Iowa	284	20,000,000
Kansas	97	19,000,000
Kentuky	105	20,000,000
Mississippi	84	31,000,000
Missouri	244	21,000,000
Nebraksa	294	4,000,000
New Mexico	17	23,000,000
New York	49	2,000,000
Ohio	46	7,000,000
Oklahoma	190	53,000,000
Pennsylvania	7	1,000,000
Tennessee	43	12,000,000
Texas	283	84,000,000
Virginia	16	10,000,000
West Virginia	24	54,000,000
Wisconsin	42	3,000,000
Totals for these states only	2,238	547,000,000

[1] These 22 states have 10,188 of project dams.
[2] Does not include Operations and Maintenance costs.
[3] Caution Preliminary Estimates: Subject to change upon detailed on-site assessment.

RESOURCE CONSERVATION AND DEVELOPMENT

Question. Do you believe Resource Conservation and Development (RC&D) districts should be expanded in number or should the areas be expanded geographically? Should the RC&D program contain a "graduation" requirement which would allow new districts to come into the program as others leave due to either completion of RC&D goals or inactivity?

Answer. At current funding levels, we do not believe Resource Conservation and Development (RC&D) Areas should be expanded either in number or geographically. Even at these levels, NRCS is finding it difficult to meet the basic support needs of the 315 authorized RC&D areas. There are 37 areas with applications currently requesting designation by the Secretary of Agriculture with an additional 20 councils being formed.

Expansion.—RC&D Areas are typically multi-county, many being made up of three or more counties. There may be locations where sufficient similarities in issues, action priorities and other interests exist such that designated areas could be expanded to incorporate all or portions of adjacent applicant areas. This would be contingent upon local Councils' willingness to adjust their boundaries, council membership, priorities, etc., to accommodate the additional counties. This will not work everywhere due to geographic distances or other similar limiting factors. NRCS State Conservationists will be requested to work with their State Associations and RC&D Councils to assess where expansion can work and make the necessary adjustments. We expect this will be viable in a few locations.

Graduation.—The RC&D program should only contain a "graduation" requirement for those RC&D Councils found to be inactive or performing below a minimum level. This would be a 'de-designation' of an RC&D area. USDA, in consultation with the National Association of RC&D Councils, Inc. has developed minimum performance criteria for RC&D Councils. The 315 existing designated area councils will be requested to assess their performance using this criteria this fiscal year and identify actions to improve where needed. Inactive or limited performance councils would be provided the opportunity to revise their area plan and strengthen results. USDA could then determine to withdraw assistance if insufficient progress occurs. We think this would be rare.

The concept of "Graduation" is inconsistent with the program objectives, and the needs of rural communities. Currently, there are not any agreed upon measures of

"self sufficiency" in the professional field of rural development, let alone measures that also include conservation of natural resources. This is not unique to USDA. It is an issue that is endemic to the whole discipline of economic development. USDA no longer provides RC&D financial assistance to councils as the number of designated areas has increased. In recent years, congressional appropriations for the program have declined in real dollars. Some councils, no longer receiving financial assistance due to budgetary constraints, characterize this as a form of graduation. Complete "Graduation" would sever the basic partnership of the USDA with Councils, providing a disincentive for councils.

In addition, local partners would be less likely to participate if they felt their much of their energy and resources had to go toward overhead and administrative costs rather than producing results for their communities. One of the key attributes of the RC&D Program is that participating organizations see their financial and "in kind" contributions put to work in local projects.

The idea of "graduation" does not recognize the need of poor rural areas to sustain the program over the long term. The strength of the program rests in the experienced local delivery network working in partnership with USDA to address local, regional, and national interests. USDA's technical assistance is viewed as the catalyst for providing access to information and technical expertise, leveraging other support, and providing continuity for the Council in addressing new issues facing their communities.

A letter has been sent to the Appropriations Committee in response to language in the fiscal year 1999 Agriculture Appropriations Bill. The letter will provide further information and discussion of actions USDA is undertaking to improve the efficiency and effectiveness of the RC&D Program.

RURAL HOUSING RENTAL ASSISTANCE

Question. The budget request for 2000 would reduce the amount available for Rental Assistance, in part by deferring a portion of the funds until October 1, 2000. What effect would this action have on current tenants of eligible housing facilities and on the USDA housing programs generally?

Answer. This proposal should have no effect on the tenants of our rental units. The rental assistance contracts cover a five-year period and requesting the funds over a two-year period will have no effect either on the owners of the projects or the tenants. Nor should this approach have any effect on the housing programs in general.

FORMULA RESEARCH FUNDING

Question. Formula Research Funding. For the first time in many years, Congress in fiscal year 1999 appropriated funding level increases for many of the Formula Funded Research Programs, such as the Hatch Act, Smith-Lever, and other programs important to states and rural areas. However, the fiscal year 2000 budget request, again, calls for a significant reduction in these accounts. Please explain the rationale for these reductions, the anticipated affect it will have on state and county based research and extension activities, and the extent to which USDA consulted with its state and local partners in this decision.

Answer. As you know, the Administration supports a balanced portfolio of funding for university-based agricultural research including formula programs, competitive grants, special grants and projects, and other programs such as Smith-Level 3(d).

Competitive grants are an important mechanism for achieving accountability to taxpayers. The Agricultural Research, Extension and Education Reform Act of 1998 sets specific standards for federally funded agricultural research activities, including activities resulting from formula funding programs. Section 101(a) requires that agricultural research, extension or education activities address priority concerns that are of national, multi-state or regional in significance. The legislation also requires the Secretary of Agriculture to set research priorities after consulting with persons who conduct or use agricultural, research, extension or education and that entities receiving formula funds also develop a procedure for receiving such input into program development. Competitive grant programs provide an opportunity for the Administration to meet that statutory obligation to taxpayers. Following extensive consultation with stakeholders including the National Research, Extension and Education Advisory Board, the land grant university system, and producer representatives, the Administration developed a list of national agricultural research priorities for fiscal year 2000, including food safety, methyl bromide alternatives, small farms, Food Quality Protection Act implementation and water quality. Through the competitive grants process, the Cooperative State Research, Education, and Extension (CSREES) can ensure that scarce federal resources are used to address these high

priority concerns. States and localities may still choose to invest the funds they receive through formula programs or other sources to address issues of immediate state and local concern as identified through their own stakeholder input process. Since they are free to use those funds, as well as the funds they receive from formula programs in the manner they choose, the impact of the proposed fiscal year 2000 budget will vary from state to state.

The Administration does not believe that redirecting funds to competitive grant programs is at the expense of our land grant partners. In fiscal year 1998, land grant colleges and universities received approximately 75 percent of the funds awarded under CSREES competitive grant programs. If past percentages hold true, the proposed $81 million increase in the National Research Initiative in fiscal year 2000 may result in $61 million in additional research to land grant colleges and universities more than offsetting the proposed decrease in formula funds and ensuring that federal research, extension and education programs meet national priorities. The Administration also believes focusing on competitive programs will allow USDA to leverage research dollars from other agencies such as NSF, Environment Protection Agency, and National Institutes of Health to agricultural problems, thereby increasing the funding opportunities for land grant partners. A broadly competitive grant program will also ensure that scientific expertise from outside the land grant system will be brought to bear on agricultural problems, thereby increasing the potential return to taxpayers. Through this approach to research funding, the Administration believes more resources can be devoted to agricultural problems and we can continue to provide our farmers, ranchers and consumers with world-class cutting edge research to meet the ever increasing array of production, processing and nutritional challenges that face them.

Question. Methyl Bromide. Please provide information regarding USDA activities in fiscal year 1999 and in the fiscal year 2000 budget relating to methyl bromide alternatives, including your expectations on finding an acceptable alternative in the near term, and please note any changes in program activities that may have resulted from last year's extension of production phase-out from 2000 until 2005.

Answer. In fiscal year 1999, the Agricultural Research Service (ARS) has nearly $14.4 million appropriated for research on methyl bromide alternatives. The funds currently are distributed among 20 ARS locations (see table below). About half of the funds are in the two states that are most impacted by the impending loss of methyl bromide—California ($4,373,900) and Florida ($3,029,400). The Honolulu, HI, and Weslaco, TX, locations, where research on methyl bromide alternatives for quarantine purposes is conducted, account for an additional 25 percent of the funding ($3,167,600). ARS sponsors field-scale validations of the most promising alternatives identified in experimental plots. Parallel programs are proceeding in Florida and California ($250,000 each annually) will emphasis on tomatoes in Florida and strawberries in California. Research teams that include ARS and university scientists, extension personnel, and grower representatives meet periodically to evaluate research results and plan future trials. To help transfer the technology to growers, many of the field-scale validations are done with active grower participation on commercial farms. Such alternatives are being tested at seven strawberry sites in California, scattered from just north of San Diego to Watsonville and with one site in the Central Valley, to test alternatives under a range of growing conditions. There are five sites devoted to perennials. In Florida, there are five sites each for tomatoes and strawberries. $50,000 of the Florida funds supports extension efforts to facilitate adoption of alternatives.

ARS Funding for Methyl Bromide Alternatives Research—Fiscal Year 1999

Location:	
Davis, CA	$226,000
Fresno, CA	3,485,400
Riverside, CA	126,600
Salinas, CA	535,900
Washington, DC	241,200
Gainesville, FL	213,000
Miami, FL	1,219,300
Orlando, FL	1,597,100
Byron, GA	83,900
Tifton, GA	462,200
Honolulu, HI	1,684,700
Manhattan, KS	70,800
Beltsville, MD	1,048,200
Stoneville, MS	182,200
Corvallis, OR	487,400

Charleston, SC	330,600
Weslaco, TX	1,482,900
Wenatchee, WA	209,200
Yakima, WA	258,000
Kearneysville, WV	435,000
Total	14,379,600

Current budget projections for fiscal year 2000 are similar to fiscal year 1999.

Other USDA agencies with methyl bromide alternatives research projects are the Forest Service (FS) and CSREES. In fiscal year 2000, an increase of $5 million is provided in the CSREES budget for a new integrated competitive grants program to support the discovery and implementation of pest management alternatives for commodities most affected by the methyl bromide phase-out. The new program will focus on short and intermediate-term solutions for commodities at risk. Special emphasis will be placed on activities targeting technology transfer of research into practical management alternatives. The Forest Service has reestablished nursery programs at Athens, Georgia, and St. Paul, Minnesota, with the goal of developing integrated pest management programs that will ensure high quality seedlings. In the post harvest area, the Forest Service, together with the Foreign Agricultural Service and the Animal and Plant Health Inspection Service, has been successful in negotiations to get U.S. heat-treated coniferous wood accepted into Europe and kiln-dried lumber into Korea in lieu of fumigation with methyl bromide. The Cooperative State Research, Education, and Extension Service, which administers the National Research Initiative Competitive Grants Program, has funded research on biological control of soil borne disease organisms. ERS is analyzing the economic tradeoffs associated with the methyl bromide phase-out, which will augment USDA's effort to prioritize an alternatives research program.

An acceptable alternative must allow growers to raise a profitable crop reliably from year to year. In the short term, it is clear that acceptable alternatives will have to come from among those already under development and testing. Because methyl bromide is effective over a wide range of soil types, climates, and crops, no single alternative is available to replace all the uses. The most likely short-time alternatives will be replacement fumigants that are already registered but they may have to be augmented with other pesticides such as herbicides. Other kinds of alternatives, such as resistant varieties, biological control, and cultural improvements, show promise; but there is not enough time to develop and adapt them to acceptable cropping systems before the phase-out. Even for replacement fumigants, results are mixed and not as consistent as methyl bromide—probably why the replacements have not been widely adopted as long as methyl bromide is available.

In summary, although there are likely to be short-term replacements for some uses of methyl bromide, in most cases, the alternative is likely to cost more and be less effective. Among the soil fumigation uses, some of the more severe impacts will occur to the production of strawberries in California and Florida, orchard crops and nurseries in California, and vegetable crops in Florida. Serious economic consequences and shifts in agriculture within states and among foreign countries are expected.

The strategy for finding alternatives is not expected to change because of the extension of the phase-out; there will just be more time to look for solutions. The strategy remains to identify and develop alternatives in laboratories and small plots, then test the most promising in larger plots under a variety of conditions, and finally to select the most effective and validate their effectiveness in commercial field-scale settings. The final stages are done with the cooperation of the agriculture industries and growers, many times on grower land.

Question. Also, please compare USDA activities in methyl bromide research to those of other federal departments or agencies in terms of total expenditures and interims of a percentage of the total agency budget.

Answer. Methyl bromide is primarily an agriculture chemical and as such the USDA has primary responsibility for finding alternatives for those uses. The Agricultural Research Service, the intramural research arm of the USDA, has the primary lead within the USDA. The Cooperative State Research, Education and Extension Service and the Forest Service have small research efforts on methyl bromide alternatives. The Economic Research Service conducts research on the impact of the methyl bromide phase-out. Research expenditures by agency are summarized in the following table.

Agency	Fiscal Year	Amount	Percent
ARS	1999	$14,379,600	1.83
ARS	2000	14,379,600	1.72
FS	1999	518,000	([1])
FS	2000	508,000	([1])
ERS	1999	200,000	([1])
ERS	2000	200,000	([1])
CSREES	1999	306,000	([1])
CSREES	2000	5,306,000	([1])

[1] Less than 1 percent.

The Environmental Protection Agency and the National Oceanic and Atmospheric Administration have methyl bromide research programs, although the focus of those programs relate to atmospheric ozone depletion and the role of methyl bromide in that phenomenon.

Question. To what extent is USDA working with other departments or agencies on methyl bromide research?

Answer. The USDA and EPA co-sponsor with Methyl Bromide Alternatives Outreach, the International Methyl Bromide Alternatives Research Conference each year where scientists, growers, exporters and other members of the impacted agricultural community discuss the latest methyl bromide alternatives technology. Also, the USDA is working closely with the EPA Office of Pesticide Programs to identify and resolve registration issues that impact the availability of potential chemical alternatives to farmers. EPA has agreed to give high priority to the registration of methyl bromide alternatives.

USDA AGENCY ADMINISTRATION

Question. Section 754 of the fiscal year 1999 Appropriations Act directed that any submission of unauthorized user fees in the fiscal year 2000 budget request before this subcommittee would have to include certain additional information if the revenue for those fees was necessary to meet the President's budget authority requirements. While the budget authority request for FSIS appears to include the full amount necessary for inspection and related activities in fiscal year 2000, the table found on page 379 of the Budget reflects a total discretionary requirement for this subcommittee that assumes the $504 million in proposed revenues from unauthorized user fees for FSIS activities. Please list by USDA agency and by amount any assumptions of revenues from unauthorized user fees used to achieve the discretionary spending total found on page 379 and, consistent with Section 754 please note the funding levels currently in the budget request recommended for reduction in the event the fees in question are not authorized prior to the convening of a committee of conference for the fiscal year 2000 appropriations bill.

Answer. For fiscal year 2000 the budget is presented on a current law basis and this is the amount that is shown on page 379 of the Budget which lists discretionary proposals by appropriations subcommittees. Last year the budget was presented on a net basis.

In addition, the President's statement when he signed the fiscal year 1999 appropriations bill said, "Section 754 of the Agriculture/Rural Development appropriations section constrains my ability to make a particular type of budget recommendation to the Congress. This provision would interfere with my constitutional duty under the Recommendation Clause, and I will treat it as advisory."

COUNTY AND STATE OFFICE STREAMLINING

Question. To what extent are total agency costs in office consolidations considered? For example, would USDA require relocation of a State office for one agency in order for all State agencies to be in a single location if the cost for the relocation exceeded the costs of current locations?

Answer. FSA with NRCS and RD will be establishing a working group comprised of representatives from management and the unions to develop a plan for implementing office consolidations where these are not already in place. The working group will be looking at every aspect of plans to achieve savings under current budget resources. It is possible that the benefits to producers and field offices of a common State office location could outweigh a somewhat higher cost.

EMPLOYEE REDUCTIONS AND OFFICE CLOSURES

Question. Since budget constraints are resulting in lower service levels in field offices due to increased workload and a reduced workforce, has USDA conducted an evaluation to determine when the continuation of a county office in a given location is of less importance to the customer than the maintenance of "service" in the area? At what point does the presence of a workforce in an area become more important than the existence of a field office regardless of whether that office can meet workload requirements?

Answer. The Agency is continually monitoring workload in States to determine areas of increased workload and moves both human and monetary resources to those areas based on availability to provide the most effective and efficient service to its customers. State Executive Directors have been charged to use all management tools available to ensure that producers are served as expeditiously as possible using details, directed reassignments of employees, shared management and office collocation and consolidation to get the work accomplished. When the cost of keeping a service center in operation exceeds the benefit of service provided at the counter, States consider closure and consolidation of operations to improve efficiency but only with Congressional concurrence.

FARM SERVICE AGENCY FEDERAL AND COUNTY EMPLOYMENT STATUS

Question. Please provide an update on activities relating to the conversion of Farm Service Agency (FSA) county personnel to Federal status.

Answer. No further discussion or action has been taken in converting FSA county employees to Federal status. Currently, the Secretary is on record as being in favor of this conversion. No Congressional action has been taken to enact this proposal. However, on October 21, 1998, the President signed Public Law 105–277, which contains a section to provide permanent FSA county office committee employees with Federal civil service status for only the purpose of applying for USDA civil service vacancies.

FARM SERVICE AGENCY SALARIES AND EXPENSES

Question. The fiscal year 2000 request for FSA Salaries and Expenses includes an $80 million increase, although that increase does not take into account the additional $40 million provided as emergency spending in fiscal year 1999 which reduces the actual increase to $40 million. To what extent has the FSA Salaries and Expenses account been supplemented by carryover balances in past years and how much will be available in fiscal year 2000?

Answer. FSA has both Federal offices and non-Federal county offices, and the ability to obligate administrative funds for carryover workload is authorized by a general provision in each year's appropriation act, which is only applicable to the non-Federal county offices. Funds obligated for carryover workload expenses are normally kept at a minimum. Funds made available to county committees in a fiscal year are based on actual and estimated workload and staff year requirements according to the FSA County Office Work Measurement and Funding Allocation System. Requirements are updated during the year to take into account changing conditions. Programs administered by county committees are highly volatile in nature and subject to rapid changes. Such changes include weather conditions, domestic market prices, export sales, legislative and policy changes. Many emergency programs end up being quickly administered at mid-fiscal year or late in the fiscal year. In a disaster situation the top priority is to furnish a check to a farmer or rancher as quickly as possible, so most county offices must end up delaying or completing the process of all necessary paperwork according to required procedures in order to comply with Agency procedures as well as satisfy general and specific audits by OIG and/or GAO.

Obligated carryover in fiscal year 1997 amounted to $63.8 million of which $50.8 million was designated for use in fiscal year 1998 and $13 million for use in fiscal year 1999. The ending obligated carryover for fiscal year 1998 was actually $32.1 million which includes the $13 million brought forward from fiscal year 1998 and programmed for fiscal year 1999. The $32.1 million is for carryover workload expenses to be completed in fiscal year 1999. There is currently no expected carryover estimate for fiscal year 2000, given 1999 funding enacted.

Question. To what extent will the $80 million increase described in the fiscal year 2000 budget request actually reflect an increase in funding available to maintain personnel?

Answer. The increase is actually $40.5 million. The 1999 funding level includes the additional $40 million provided by the emergency appropriations title of the

1999 Act. This funding identified as administrative support for the emergency programs allowed FSA to maintain fiscal year 1998 staffing levels into fiscal year 1999. An increase of approximately $40.5 million over the fiscal year 1999 enacted level is required to sustain critical program delivery, including pay costs at a reduced staffing level, offset by some decreased operating costs. After adjusting fiscal year 1999 for $32.1 million in obligated carryover funding, the actual net increase for fiscal year 2000 amounts to only $8.4 million. Therefore, the small increase in total availability actually requires a decrease in staffing because of pay and related costs.

Question. In what manner does the agency expect to reduce the staffing levels to those included in the budget documents by the end of fiscal year 2000?

Answer. Fiscal year 2000 Explanatory Notes reflect a decrease of 752 staff years in the Federal and non-Federal staffing level, from fiscal year 1999 staffing of 16,545 FTE's to fiscal year 2000 staffing of 15,793. FSA has no buyouts or RIF's planned for fiscal year 2000. The Agency hopes to achieve the 752 decrease in staff years through attrition.

Question. What effect will this have on the administration of programs and the level of service afforded customers?

Answer. Because workload, particularly for marketing assistance loans, loan deficiency payments and farm loans, is expected to increase in fiscal year 2000, the proposed reduction of 752 staff-years proposed will pose a formidable challenge to FSA. The Agency will strive for maximum efficiency in program delivery as it continues with its re-engineering efforts for program and administrative services. But ultimately, these reductions will negatively impact program delivery in terms of delays in delivering payments to farmers, and in implementing emergency and disaster programs across the nation, particularly in locations already minimally staffed as a result of previous agency downsizing.

CONSERVATION TECHNICAL ASSISTANCE

Question. To what extent will the restrictions on Commodity Credit Corporation (CCC) Section 11 reimbursements affect the administration of conservation programs in fiscal year 2000?

Answer. Section 161 of the 1996 farm bill amended Section 11 of the CCC Charter Act to limit the uses of CCC funds for reimbursable agreements and transfers and allotments of funds to State and Federal agencies. In fiscal year 2000, after adjusting the cap to remove the Emerging Markets Program from the base, the total expenditure of CCC funds for such uses may not exceed $36.2 million. The budget projects obligations under the revised cap for reimbursable agreements will total $36.2 million in fiscal year 2000, excluding funding for technical assistance for the Wetlands Reserve Program (WRP) and the Conservation Reserve Program (CRP). Technical assistance needs in fiscal year 2000 for the WRP are estimated to total $18.3 million, with $2.0 million provided from unobligated prior year appropriations and $9.8 million from funds available under the Section 11 cap, leaving a shortfall of $6.5 million. Technical assistance needs in fiscal year 2000 for the CRP are estimated to total $18.1 million.

Question. Does USDA plan any action, either administratively or through requests to Congress, to correct any serious problem posed by the Section 11 limitation?

Answer. No funds for CRP technical assistance in fiscal year 2000 are available from unobligated prior year appropriations, no CCC funding has been provided for, and we are therefore attempting to determine appropriate actions to resolve the funding shortfall.

FOOD GLEANING SAVINGS

Question. Food gleaning savings. As efforts at food gleaning become more successful, will there be any anticipated future savings for USDA feeding programs? If so, when might these be realized and to what levels might they reach?

Answer. It is highly unlikely that even a large-scale increase in food recovery and gleaning could significantly reduce the need for funding for other USDA nutrition assistance programs in the near future, particularly given that emergency feeding organizations throughout the country are now reporting that they are struggling to keep up with a dramatically rising demand for food from families at risk of hunger—particularly from working poor families who may not be eligible for food stamps.

A 1998 report by the Second Harvest Food Bank Network indicated that approximately 21 million Americans rely on emergency food through that network—and many food banks are currently reporting that the number of people they are serving is growing, even under the optimal economic conditions that now exist. If USDA obtains the $15 million in funds requested and reaches the ambitious goal of increas-

ing the amount of food recovered and gleaned each year by 33 percent, that would provide approximately 500 million additional pounds of food a year, which equals roughly three meals a day for 450,000 people. While this would be a significant number of people served, it would be less than 3 percent of the estimated 21 million people served by the current emergency feeding system. Thus, USDA anticipates that most of the additional food provided under such a scenario would help nonprofit feeding organizations meet their increasing need, rather than reducing the burden of Federal nutrition assistance programs.

ADVISORY COMMITTEES

Question. Please provide an update on the status of nominations to the USDA Agricultural Policy Advisory Committee (APAC). Wisconsin has a candidate that represents the small and medium-sized family dairies that are prevalent in the Midwest. What is the Department's status on completing those nominations?

Answer. The charters for the Agricultural Policy Advisory Committee for Trade expires April 3, 1999. To ensure continued operations of both the committees, it is the Department's intention to recharter all of the committees and make the membership appointments no later than the end of March, 1999.

QUESTIONS SUBMITTED BY SENATOR DURBIN

FOOD AID PROGRAMS

Question. Under Secretary Schumacher, you mentioned using the Food Aid Initiative to reduce U.S. wheat surpluses. Beyond what you have already done using pork in aid programs to Russia, are there other avenues the Department can explore to increase the use of pork and other commodities in foreign food aid programs? Possibly to Nicaragua or Honduras? Are there any plans for the near future? What tangible benefits would this type of aid have on U.S. pork producers?

Answer. The Department is always vigilant to the possibility of helping U.S. pork producers through our food aid programs, as evidenced by our donations of pork to Russia. In the case of Nicaragua, Honduras, and other Central American countries hit by Hurricane Mitch, we did closely examine the possibility of donating live hogs or pork to those countries. However, due to a combination of serious logistical problems with delivery of these kinds of products to Central America following the hurricane, and, for some of the countries, a lack of interest in receiving such products, no food aid donations of live hogs or pork have been made to those countries this year. Small donations of hogs or pork products such as the one that was considered but later rejected for Central America could not be expected to have any significant impact on U.S. hog or pork prices.

CONSERVATION RESERVE PROGRAM

Question. The Natural Resources Conservation Service is expected to provide an estimated $55–70 million in technical assistance for the Conservation Reserve Program, and $11.8 million for the Wetlands Reserve Program. Yet, the NRCS could see a shortfall of $50–60 million in fiscal year 1999 because of the Section 11 cap in the 1996 Farm Bill. Is the Department concerned about the shortfall in funding? What is the Department doing to alleviate the shortfall?

Answer. Yes, the Department is concerned about the shortfall in funding because of the impact this would have upon producers accepted in the general signup (signup 18), the continuous signup, and the Conservation Reserve Enhancement Program. The Department is working to resolve the issue.

QUESTIONS SUBMITTED BY SENATOR KYL

KARNAL BUNT

Question. As you know, the report accompanying last years appropriations bill directed APHIS to work with the Arizona wheat industry and Arizona regulatory agencies to develop a plan for de-regulation of Karnal bunt in Arizona. The plan was to be submitted to the Committee on Appropriations no later than November 15, 1998. I have been informed, however, that the plan is still in draft form and is not expected to be released until April of this year. This is unacceptable, especially in light of the fact that the 1998–99 growing season for wheat began at the end of November. Because of this delay, our growers are essentially operating in the dark; without a set protocol, growers risk planting wheat in a potentially regulated area.

Arizona wheat growers wish to operate with some certainty and comply with the rules and regulations set forth by APHIS, but this is a most difficult task when growers haven't even been informed as to what those rules will entail. Arizona growers need to know what regulatory actions will be taken by APHIS for Karnal bunt prior to the beginning of each growing season. Is APHIS willing to publish the planting rules for the 1999–2000 growing season by no later than December 1, 1999?

Answer. Yes, we are willing to publish the planting rules for the 1999–2000 growing season prior to December 1, 1999, and we will strive to meet that deadline.

Question. Pursuant to the fiscal year 1999 appropriations bill, did you meet with the representatives of the Arizona wheat industry and Arizona regulatory agencies to develop a plan for deregulation? Why or why not?

Answer. Yes, we have met on several occasions with representatives of the Arizona wheat industry and Arizona regulatory agencies to develop a de-regulation plan. We will meet with them again this spring. For the 1999 harvest season, we have published a proposal in the Federal Register in which we would greatly reduce the size of the existing regulated areas with 3 years of negative survey and allow the planting of wheat in plowdown, traceback, and bunted kernel fields. We intend for the final rules to be published in time to provide relief for the crop that will be harvested in May, June, and July.

Question. When will this joint plan be submitted to the Committee?

Answer. We published a proposed rule on our plan on March 9, 1999. It became effective upon signature on April 28, 1999, and was published as a final rule on May 4, 1999.

Question. I have also learned that the compensation package for the 1997–98 growing season was finally published on December 17, 1998, long after the wheat harvest had been completed last spring. I have also been informed that this package compensates growers at 60 cents per bushel and handlers at $1.80 per bushel. Why did it take USDA so long to publish this package?

Answer. We realize that compensation rules have been delayed each crop year, and we are trying to improve our timeliness. The delays have been in part because we have been attempting to issue a longer term compensation package. We were analyzing the benefits of developing a longer-term proposal concurrent to our 1997–98 package that would provide growers with the information they need well in advance of when they must make planting and contracting decisions. In July, we decided to table the longer-term proposal for future consideration and propose the 1997–98 package by itself. The 1997–98 proposal was published on December 17, 1998.

Question. Why are growers being compensated at only 60 cents per bushel when the actual loss per bushel is estimated at $2.00 per bushel?

Answer. Growers and handlers with wheat from the same regulated areas are given equivalent compensation rates. The difference in compensation rates reflects the fact that affected entities in areas under the first regulated crop season would not have known that their area was to become regulated for KB when they made planting and contracting decisions. Therefore, they would not have considered the risk of loss in value of their wheat due to KB. Conversely, growers and handlers in previously regulated areas knew they were in a regulated area when they made planting and contracting decisions for the 1997–98 crop season. With this knowledge, growers and handlers could have chosen to alter planting or contract decisions to avoid experiencing potential losses due to KB.

Question. The proposed compensation package states that growers and handlers could have chosen to alter planting or contract decisions to avoid experiencing potential losses due to Karnal bunt. In light of the fact that USDA failed to publish the planting rules for the 1998 crop in time for the growers to alter planting or contract decision, what is the justification behind this statement?

Answer. Growers and handlers were aware of the regulatory boundaries from the rules we published in fiscal year 1996 for the 1995–96 crop season. Therefore, they were aware of the risks they may encounter. In addition, our compensation package for the 1997–98 crop season did not increase the regulated area, so growers and handlers were not faced with any additional risk. As you know, the report accompanying last year's appropriations bill directed APHIS to "work with the Arizona wheat industry and Arizona regulatory agencies to develop a plan for de-regulation of karnal bunt in Arizona." The plan was to be submitted to the Committee on Appropriations no later than November 15, 1998. I have been informed, however, that the plan is still in draft form and is not expected to be released until April of this year. This is unacceptable, especially in light of the fact that the 1998–99 growing season for wheat began at the end of November. Because of this delay, our growers are essentially operating in the dark; without a set protocol, growers risk planting

wheat in a potentially regulated area. Arizona wheat growers wish to operate with some certainty and comply with the rules and regulations set forth by APHIS, but this is a most difficult task when growers haven't even been informed as to what those rules will entail.

SUBCOMMITTEE RECESS

Senator COCHRAN. This concludes today's hearing. I want to thank you all for appearing before us and providing us with answers to our questions and statements that will help us understand the budget request and the implications for the programs that are administered under these agencies.

Our next hearing will be on Tuesday, March 16, at 9:30 a.m. in this same room, 138 of the Dirksen Senate Office Building. At that time, we will hear from witnesses from the Departments of Agriculture and Health and Human Services on the topic of food safety.

Until then, this Subcommittee stands in recess.

[Whereupon, at 11:07 a.m., Tuesday, March 2, the Subcommittee was recessed, to reconvene at 9:30 a.m., Tuesday, March 16.]

AGRICULTURAL, RURAL DEVELOPMENT, AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 2000

TUESDAY, MARCH 16, 1999

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met, at 9:35 a.m., in room SD–138, Dirksen Senate Office Building, Hon. Thad Cochran (chairman) presiding.

Present: Senators Cochran, Kohl, Durbin, Harkin, and Dorgan.

DEPARTMENT OF HEALTH AND HUMAN SERVICES

CENTERS FOR DISEASE CONTROL AND PREVENTION

STATEMENT OF JEFFREY P. KOPLAN, M.D., DIRECTOR

OPENING REMARKS

Senator COCHRAN. The subcommittee will please come to order. This morning we continue to review the President's budget request for programs and activities that come under the jurisdiction of our subcommittee. This morning we are considering the budget request as it relates to food safety activities of the Department of Agriculture and the Department of Health and Human Services.

The witnesses this morning represent the agencies responsible for monitoring food preparation and processing to make sure that the United States and its citizens continue to have the safest food supply in the world.

One observation at the outset is that the so-called Food Safety Initiative has received funding over the past 2 fiscal years of $508 million. One issue that I hope we will consider is whether or not those funds are being well used, how they are being used and coordinated as a part of the Food Safety Initiative.

I hope the witnesses will discuss with us their efforts to reduce threats to the public health and to increase the safety of our nation's food supply through the implementation of inspection systems and the use of technologies and education to help promote food safety procedures and safe food handling.

We welcome this morning Dr. Catherine Woteki, Under Secretary for Food Safety at the Department of Agriculture; Dr. Jane Henney, Commissioner of the Food and Drug Administration; and Dr. Jeffrey Koplan, Director of the Department of Health and Human Services' Centers for Disease Control and Prevention.

Before proceeding to hear your comments, I will be happy to yield to my distinguished friend from Wisconsin, the ranking Democrat on our subcommittee, Senator Kohl.

STATEMENT OF SENATOR KOHL

Senator KOHL. Thank you, Senator Cochran.

Our hearing today looks at what is one of the most basic responsibilities of government, namely ensuring that the food we eat is safe. There is no single constituency for today's hearing for everyone eats and everyone expects a healthy and a safe food supply.

We will hear today from agencies, not all of which are directly funded through this subcommittee. Secretary Woteki, it is good to have you back, and I want to welcome Commissioner Henney and wish for you the best in your new role with the Food and Drug Administration. Dr. Koplan, I want to especially thank you for appearing today. Although the Centers for Disease Control and Prevention is funded through the Labor, Health and Human Services Subcommittee, your agency plays an important role, along with USDA and FDA, in the Food Safety Initiative.

As is often the case when governmental missions cross agency lines, there is the potential for overlap, duplication and inefficiencies. One suggested solution is to consolidate all food safety activities into a single agency. I find the idea of a single agency intriguing, but thoughtful consideration needs to be given to consolidating agency missions in order to avoid harm.

The President has proposed a substantial increase for the Food Safety Initiative in fiscal year 2000. Providing that full increase will not be easy, especially if the money available to this subcommittee continues to be reduced. That said, the fact that we are dedicating an entire hearing to this topic is evidence of our commitment to make certain that federal policy priorities and funding for food safety receives proper attention.

We hope today to gain a better understanding of the working relationships of the several different agencies at USDA and HHS tasked with protection of the food supply. Our end goal is to fund a Food Safety Initiative that, in the most efficient and effective manner possible, maintains the United States promise of providing not only the most abundant food supply in the world, but also the safest, for in fact we can afford no less.

Thank you, Mr. Chairman.

Senator COCHRAN. Thank you, Senator. We appreciate your remarks. I also ask that a statement from Senator Burns be inserted in the hearing record at this point.

[The statements follow:]

PREPARED STATEMENT OF SENATOR BURNS

Thank you Mr. Chairman: I look forward to working with this committee and other members of Congress, as well as industry groups to improve food safety and ultimately improve consumer perception of the safety of agricultural products. American producers carry the distinction of producing and distributing the world's safest food supply. That they are not recognized as such by our own consumers is a situation that must be changed.

Interagency cooperation will be vital to the development of this goal. The National Academy of Sciences (NAS) has found that successful integrated operation of a food safety system requires that officials at all levels of government work together in

support of common goals of a science-based system. I believe this is mandatory, as well as complete cooperation of industry groups and agricultural producers.

Additionally, a strong science base is vital to the Food Safety Initiative proclaimed by the President. The well-being of consumers and American farmers and ranchers alike depends on it. It is of paramount importance that science is used as a basis for all reports of outbreaks. Countless unfounded reports have leaked into the press and hurt agricultural producers immensely.

E. coli, salmonella and listeria are buzz words for consumers. Although numbers of incidences are down, public perception of meat and meat products do not appear to have improved significantly. I urge the FSIS to work closely with consumer groups, agricultural producers and industry groups to reduce consumer distrust of meat products and eventually eliminate the threat of food-borne illness.

This session I have introduced a bill, S251, along with Senators Craig, Thomas and Enzi for country-of-origin labeling. Country-of-origin labeling will assure consumers of the safety of American agricultural products. Labeling will protect both the American producer and the American consumer. Currently, foreign meat that comes into the U.S. is rolled with the USDA grade stamp. This is grossly unfair to the producer and consumer alike.

The USDA stamp on foreign product is a detriment to the producer because foreign countries get the benefit of the grade stamp, without having to pay for it. America's producers need the protection of country of origin labeling to assure that the USDA label really means just that—-produced in the U.S. It is a detriment to the consumer because they deserve to know that they are buying American. They deserve to know that they are buying absolutely the safest food supply in the world, which is grown by American farmers and ranchers.

Furthermore, other countries already require labeling of meat and meat products. Argentina, Australia, Brazil, Canada and Mexico currently require country of origin labeling. The European Union plans to do the same by the year 2000. If we are to compete in an international market, the U.S. must require the country-of-origin label.

Again, American agriculture provides the American consumer with the safest, most reliable source of food and fiber in the world. Consumers have proven they want to know where their food comes from. With this in mind we then should be informing the American consumer that they really are purchasing American product.

I congratulate you on your timely address of the Y2K issue. I urge you to continue to raise awareness of the Y2K problem and the threat it may pose to our nation's food supply, as well as to plan to address any problems that may occur within the food safety industry. Y2K holds special interest to me and I am proud that the state of Montana is well ahead of the game in preparing for the potential disaster.

I am gravely concerned about the issue of imposing user fees for inspection of meat, egg and poultry programs. User fees, or a food safety tax, such as the one proposed, could hurt the 500,000 workers who depend on the economic well- being of the agriculture industry. It would lead to a loss of jobs and damage businesses, large and small, that depend on the economy of rural America. Agricultural producers are struggling to make ends meet. They cannot afford the effects new user fees will have on the already depressed market.

I am also concerned about the implementation of HACCP in the state of Montana. HACCP inspections for very small plants are scheduled for January 25, 2000. There are about 40 state inspected plants in Montana; all of them considered very small by the HACCP inspection standards. Most are already above federally inspected standards. Under the FSIS (HACCP) program, state inspected plants must meet standards greater than or equal to federal standards.

I am concerned that many of these plants may be put out of business if they are subjected to unreasonable regulations that are there only for the sake of regulations being in place. I am certainly not advocating unsafe practices or creating a potential for contamination. What I am advocating is the use of common sense and consideration of the livestock folks in Montana, when reviewing HACCP proposals submitted by producers subject to the HACCP program.

I would like to reiterate that we must all work together for an effective food safety program. Administrative agencies must learn to work more closely and effectively with industry groups, as well as producers and consumers, in order to provide effective food safety service.

I would also like to submit for the record questions from the Food Marketing Institute and Olson, Frank and Weeda, representatives for many food retail establishments

STATEMENT OF DR. KOPLAN

Senator COCHRAN. We have the witnesses' written statements, which we appreciate receiving. We will make them all a part of the record in full and urge you to make such summary comments or other remarks that you think are appropriate.

We want to start this morning with Dr. Jeffrey Koplan, who is the Director of the Centers for Disease Control and Prevention.

Dr. Koplan.

Dr. KOPLAN. Thank you, Senator Cochran. Thank you, Senator Kohl.

Good morning and thank you for the opportunity to speak with you.

CDC monitors the occurrence of human foodborne illness in the United States. We work with State and local health departments to conduct surveillance of cases of foodborne illness and to investigate disease outbreaks. We then use these data to identify the factors responsible for illness, so that immediate control measures can be taken and longer term prevention strategies can be developed in concert with our regulatory agencies.

There are different ways to measure whether these strategies have been successful. Others measure success via reductions in food contamination. CDC's role in measuring the success of interventions is to see whether they translate into reductions in the incidence of human cases of foodborne illness.

Although the United States has one of the safest food supplies in the world, we continue to face challenges to the safety of our foods. New foodborne pathogens are emerging. The eating habits of Americans have changed. An increasing proportion of our food is imported. New products and processing methods are being used, and mass production and distribution of foods have the potential to produce diffuse outbreaks. In addition, there are more people in groups at high risk for foodborne illnesses.

New challenges require new ways to do our job. Foodborne disease is a target area in CDC's recently released plan, "Preventing Emerging Infectious Diseases: A strategy for the 21st century." CDC has also been an active partner in the National Food Safety Initiative primarily to harness information and laboratory technology to propel our nation's foodborne disease surveillance system into the 21st century.

I will provide two examples of CDC's progress in this area. First is the foodborne diseases active surveillance network called FoodNet, which is a joint effort by CDC, FDA, USDA and State health departments, to capture a more accurate picture of trends in the occurrence of illness. FoodNet sites canvas laboratories and other data sources for illnesses caused by nine foodborne pathogens on an active, ongoing basis, using standardized data collection methods.

FoodNet gives high quality data never before available and allows determination that any differences across sites are real and not due to differing surveillance intensity or methodologies. Provisional 1998 data were released last week, and the results are encouraging.

The overall incidence of Salmonella infections decreased 14 percent between 1996 and 1998. The incidence of the specific Salmonella subtype associated with egg contamination declined by 44 percent.

For Camplobacter, the most common bacterial foodborne pathogen in the United States, there was an increase of incidence between 1996 and 1997, but now we have documented a 15 percent decline from 1997 to 1998.

The incidence of infection with the parasite Cyclospora decreased to virtually zero after the importation of raspberries from Guatemala was suspended.

Although there may be other explanations for these declines, the fact that they were seen across sites suggests that we may be seeing a beneficial impact of our prevention measures.

A second system to highlight is PulseNet, a network of molecular fingerprinting laboratories at State health departments, FDA, USDA and CDC, which enhances the ability of laboratory-based surveillance to rapidly identify clusters of related foodborne infections of certain pathogens. This system uses a methodology known as pulsed-field gel electrophoresis (PFGE), where each bacteria and its offspring have a unique pattern.

In 1998, CDC created a national computer database of these electrophoresis patterns. Participating labs submit their patterns to CDC over the Internet. The computer automatically scans previously submitted patterns searching for matches. If a match is found, a signal is given to the submitter to initiate an investigation to look for a common source. All of this happens in real time, allowing the early warning system that we all desire.

The impact of this system, PulseNet, has been enormous, both in identifying outbreaks that otherwise would have gone undetected and allowing us to better focus our investigations. For example, in late 1998, an increased number of cases of listeriosis was noticed.

Using PulseNet technology, CDC tested the strains from several States and determined that many had the same electrophoresis pattern.

Epidemiologic investigations found a strong association with hot dog consumption in patients with the outbreak strain, leading to the recalls which occurred just before Christmas. Some strains which were tested were different from the outbreak strain but similar to each other, indicating a separate outbreak. Investigations found that they were linked to a specific imported cheese.

Other small clusters of cases have been identified and are under investigation. If not for the ability to do subtyping, these outbreaks would never have been discovered and investigated, and prevention measures would never have been undertaken.

CDC plans to devote fiscal year 2000 food safety resources to continue to build the national network of labs capable of performing this PFGE technology and participating in the PulseNet system and to expand the number of different pathogens we can identify.

Other funds will go to expanding the FoodNet system and to support our web-based system called DPDx, which harnesses telemedicine technology to transmit images of parasites to CDC for proper diagnosis from state laboratories. In concert, CDC will continue to

use emerging infections resources to build State health department capacity to conduct appropriate epidemiologic investigations.

In conclusion, these activities represent a small sample of how CDC supports its State and local partners and other Federal agencies in monitoring, controlling and preventing foodborne illness. Foodborne diseases remain a challenge for public health.

To address this challenge will require continued investment in our public health infrastructure and strong partnership among State and local health departments and Federal agencies.

I have been away from government and from CDC for the last 5 years and have just returned. One of the things that has been most striking to me is the level of cooperation and the increased capabilities that we have in this particular area.

The level of interchange that my colleagues at USDA and the Food and Drug Administration and CDC have on a daily basis is much greater than what it was 5 years ago. It is really gratifying to see this level of cooperation and partnership.

PREPARED STATEMENT

Thank you for your attention, and I will be happy to answer any questions when you have them.

Senator COCHRAN. Thank you, Dr. Koplan.

[The statement follows:]

PREPARED STATEMENT OF JEFFREY P. KOPLAN

I am Dr. Jeffrey Koplan, Director of the Centers for Disease Control and Prevention (CDC). I am accompanied by Dr. Stephen Ostroff of the National Center for Infectious Diseases, which is the organizational component with lead responsibility for food safety issues at CDC. I would like to thank the Committee for the opportunity to be here today with my colleagues from the U.S. Department of Agriculture (USDA) and the Food and Drug Administration (FDA) to describe our Nation's food safety activities.

Today I will discuss CDC's role in the area of foodborne diseases and food safety, including how CDC has used resources obtained through the National Food Safety Initiative to strengthen the Nation's ability to detect and respond to emerging foodborne disease threats. I will also use examples from surveillance reports and from recent outbreak investigations to demonstrate how these resources are being applied to today's public health practice.

At its most fundamental level, CDC is the agency that keeps its finger on the pulse of the Nation's health. CDC is the cornerstone Federal agency for identifying and monitoring foodborne and other illness and for documenting the effectiveness of prevention and control efforts, including both voluntary and regulatory measures. Using this information, we then work to develop ways to improve disease control and prevention actions. CDC collaborates with partners ranging from State and local health departments, clinical medicine, academic centers, industry, other countries, and international organizations. In food safety, CDC works in very close coordination with the other agencies represented in today's hearing.

Foodborne and waterborne diseases is a target area in CDC's recently released plan, Preventing Emerging Infectious Diseases: A Strategy for the 21st Century. Public health priorities in the plan are organized under four broad, interdependent goals, each of which can be applied specifically to the prevention of foodborne illness: improving surveillance and response capacity, addressing applied research priorities, repairing the Nation's public health infrastructure and training programs, and strengthening prevention and control programs required to control emerging, reemerging, and drug-resistant infectious diseases. Copies of CDC's plan have been provided to the Subcommittee.

CDC'S ROLE IN FOODBORNE DISEASES AND FOOD SAFETY

CDC plays a critical and unique role as a monitoring, investigative, and advisory agency that is separate from regulatory agencies, but that works closely with them. CDC monitors the occurrence of human foodborne disease in the United States. This

includes not only traditional public health concerns, such as illness caused by pathogens such as Salmonella, but also newer foodborne threats such as E. coli O157:H7 and Cyclospora parasites. CDC works with State and local health departments to conduct ongoing surveillance of cases of foodborne illness and to investigate disease outbreaks, which often provide the first clue of new or different threats to the food supply. CDC uses both surveillance data and results of outbreak investigations to identify the factors responsible for illness so that immediate control measures can be taken and longer term prevention strategies can be developed. While other agencies measure success of interventions via reductions in food contamination, CDC's role in measuring the success of interventions is to see whether they translate into reductions in the incidence of human cases of foodborne illness. The ultimate test of all prevention efforts is whether they prevent human illness.

Once an outbreak is detected, the first response is usually from the State or local health department. Due to limited resources at State and local levels, not all outbreaks can be adequately investigated and reported. CDC will often be invited by the State health departments to participate in the investigation if an outbreak is very large or significant, is thought to involve an unusual pathogen or unexpected food vehicle, affects multiple states or countries, or when preliminary investigations do not reveal a source. When investigating an outbreak of a foodborne illness, public health officials must combine laboratory diagnostic techniques and epidemiologic investigative methods to determine the causative agent of the illness, the food vehicle responsible for transmission, and the environmental factors that contributed to the outbreak. If a food is identified as the source of illness, CDC collaborates with FDA or USDA on the investigation and control of the outbreak, based upon which agency regulates the suspected food.

In addition to our surveillance and response activities, CDC also conducts applied foodborne illness research. Some examples include developing laboratory diagnostic tests where none currently exist, such as detection of hepatitis A virus in food and detection of Norwalk-like viruses or Cyclospora in clinical specimens and foods; developing methods to subtype, or "fingerprint", bacteria, viruses, and parasites causing foodborne illness; conducting risk factor studies for foodborne illness in special populations, such as the immunocompromised; and performing cost-effectiveness studies of potential prevention measures such as routine use of hepatitis A vaccine in food workers.

The public health infrastructure is the underlying foundation that supports the planning, delivery, and evaluation of public health activities and practices. CDC's ongoing effort to rebuild the U.S. public health infrastructure that addresses infectious diseases is critical to improve the capacity of health departments, health care delivery organizations, and clinical and public health laboratories to detect and report cases of foodborne and other illness and to implement prevention and control strategies. Part of this effort includes enhancing capacity to respond to disease outbreaks and training public health professionals to be able to respond to emerging threats now and in the future.

CDC also engages in educational activities targeted to health care professionals and the public. Some examples include producing videos on laboratory methods to diagnose foodborne pathogens and materials on how to avoid foodborne illness among immunocompromised, high-risk persons. CDC actively participates with FDA, USDA, and other Federal agencies, industry, and consumer organizations in the Partnership for Food Safety Education, an ambitious public-private partnership created to reduce the incidence of foodborne illness by educating Americans about safe food-handling practices through many activities, including the national Fight BAC!TM Campaign. The purpose of the Fight BAC!TM Campaign is to help educate consumers about the problem of foodborne illness and motivate them to take basic sanitation and food-handling steps that will reduce the risk of foodborne illness.

THE CHALLENGES OF FOOD SAFETY

Although the United States has one of the safest food supplies in the world, the public health burden of foodborne diseases is still substantial, and we continue to face challenges to the safety of our foods. New foodborne pathogens are emerging, old foodborne pathogens are showing up in new foods, and antimicrobial resistance in foods is increasing. The eating habits of Americans have changed. We now consume more fresh produce and seafood and demand a constant supply throughout the year. Changing food habits can result in a changing pattern of foodborne illness. To meet the demand, an ever increasing proportion of our food is imported, especially from developing parts of the world. As a result, we are being exposed to pathogens not commonly found in the United States, as demonstrated by the Cyclospora outbreaks associated with raspberries imported from Guatemala. The array of new

products and processing methods, such as pre-packaged salad mixes, presents another challenge, as does mass production and distribution of foods, which has the potential to produce diffuse, nationwide illness outbreaks of unprecedented scale.

New challenges require new, creative ways to do our job more effectively and efficiently. The President's National Food Safety Initiative, launched in 1997, recognizes this need and is moving our food safety system forward. CDC has been an active partner in the development and implementation of the Food Safety Initiative. Our resources under this initiative have primarily been targeted to harnessing the information and laboratory technology revolution to propel our Nation's foodborne disease surveillance system into the 21st century.

FOODNET

I will provide two examples of CDC's progress in this area. First is the Foodborne Diseases Active Surveillance Network (FoodNet). The FoodNet system is a joint effort by CDC, FDA, USDA, and State health departments to capture a more accurate and complete picture of trends in the occurrence of illness caused by priority foodborne pathogens. It is built on the foundation of CDC's emerging infectious disease activities, which provides the basic infrastructure to conduct active disease surveillance. Before 1996, the Nation's foodborne disease surveillance system was based on passive reports of illness from clinicians and laboratories which were submitted to local health departments and then onward to the State health department and from the State to CDC. Such information lacks timeliness, is often incomplete, and is highly variable from one place to the next depending on the resources invested at the state and local level.

FoodNet is part of CDC's Emerging Infections Programs (EIP's). CDC funds EIP cooperative agreements with State and local health departments to conduct population-based surveillance and research that go beyond the routine functions of health departments. In these sites, the program, which usually involves a partnership between the State health department and an academic center, canvasses laboratories and other data sources for illnesses caused by seven different pathogens on an active, ongoing basis using standardized data collection methods, standard definitions, and standard techniques. Each case is reviewed and strains are collected and analyzed. Special case-control studies are conducted across FoodNet sites in order to identify the major risk factors for sporadic illness, and community surveys are conducted to help determine the overall burden of foodborne illness, which include mild illnesses which do not come to medical attention or patients who do not have diagnostic testing performed. Data are electronically submitted to CDC for collation with rapid turnaround. FoodNet gives high quality data never before available and also allows determination that any differences across sites are real and not due to differing surveillance intensity or methodology.

As a demonstration of how rapidly these data can be analyzed and disseminated, provisional 1998 data was released on March 11, 1999, in CDC's Morbidity and Mortality Weekly Report. The results are very encouraging. For the five original FoodNet sites which have been collecting data since 1996, the incidence of Salmonella infections declined 13 percent between 1996 and 1998. For Salmonella Enteritidis (SE), the Salmonella subtype associated with egg contamination which became a major problem in the 1980s, the decline was especially pronounced. Between 1996 and 1998, the incidence of SE in FoodNet sites declined by 44 percent. For Campylobacter, the most common bacterial foodborne pathogen in the United States, there was an increase in incidence between 1996 and 1997, but now we have documented a 15 percent decline from 1997 to 1998. The incidence of infection with the parasite Cyclospora decreased to virtually zero after the importation of raspberries from Guatemala was suspended. These provisional data use 1997 census estimates. When 1998 census estimates are available later this year, these 1998 rates will be recalculated and are likely to be slightly lower due to population increases. Although there may be other explanations for these impressive declines, the fact that they were seen across sites suggests they are not surveillance artifacts and may be an indication that prevention measures being implemented by USDA and FDA are working.

PULSENET

A second system to highlight is PulseNet, a system developed in partnership with State health departments and the Association of Public Health Laboratories. PulseNet is a network of molecular subtyping (fingerprinting) laboratories at State health departments, FDA, USDA, and CDC, which enhances the ability of laboratory-based surveillance to rapidly identify clusters of related foodborne infections of certain pathogens, sometimes scattered over large geographic areas. This system

uses a methodology known as Pulsed Field Gel Electrophoresis (PFGE) to digest bacterial DNA into fragments which can be run on gels to produce unique patterns. Like human fingerprints, each bacteria and its offspring have a unique PFGE pattern. If two bacteria are found with an indistinguishable pattern, it is likely that they have a common source, meaning they may be part of an outbreak of many similar cases. CDC has standardized PFGE methodology for E. coli O157:H7 and for Salmonella. Last fall CDC standardized PFGE methodology for Listeria, not long before there was a multi-state outbreak of listeriosis associated with contaminated hot dogs. Using funds from CDC's Epidemiology and Laboratory Capacity (ELC) cooperative agreements and from the Food Safety Initiative, state health laboratories have obtained PFGE equipment, and CDC has provided training and standardized methodology to them to test for foodborne pathogens. USDA and FDA laboratories also participate in the network to allow comparison between animal, food, and human isolates. By the end of 1999, 33 laboratories will be linked into this network. Eventually, CDC hopes to include all state laboratories.

To enhance the power of the PulseNet system, in 1998, CDC created a national computer database of PFGE patterns that is housed at CDC. Now states can submit PFGE patterns to the database over the Internet. The computer then automatically scans previously submitted patterns searching for matches. If a match is found, a signal is given to the submitter that duplicate patterns are present and where they came from, so that an investigation can begin to look for a common source. All of this happens in real time, allowing the early warning system for nascent outbreaks that we all desire.

The impact of PulseNet has been enormous, both in identifying outbreaks that would otherwise have gone unnoticed, and in allowing us to focus our investigations to determine the true source and extent of an outbreak. For example in late 1998, an increased number of cases of listeriosis were noticed. Using PulseNet technology, CDC tested the strains from several states and determined that many had the same PFGE pattern. Epidemiologic investigations found a strong association with hot dog consumption in patients with the outbreak strain, leading to recalls which occurred just before Christmas. Since then, CDC has continued to work with states to test all available Listeria isolates from patients since last summer, in order to determine how many cases and deaths occurred as part of the outbreak and to confirm that the outbreak is over. As of late February, a total of 97 outbreak-associated cases have been identified in 22 states with 14 fatalities and 6 still births.

Some of the strains which were tested were different from the outbreak strain. Among these a second cluster of strains with a common PFGE pattern was found. Investigation of these cases found they were linked to consumption of a specific imported cheese. Other small clusters of cases have been identified and are under investigation. If not for the ability to do the subtyping, these outbreaks never would have been discovered and investigated, and prevention measures would not have been undertaken.

Another PulseNet example involves Shigella, a bacterial pathogen that can be foodborne but most often is not. The Minnesota Department of Health, a FoodNet site, routinely fingerprints its Shigella isolates, and last summer they identified a cluster of strains with a similar pattern. Epidemiologic investigations found that illness was linked to eating chopped parsley in two different restaurants. By informing other states and searching databases for places with an increased number of cases, similar outbreaks were identified in five other states and Canada. The Shigella from these outbreaks also had the same PFGE fingerprint. All of the outbreaks were parsley associated. Working with FDA, the implicated parsley was traced to production fields in Mexico. Again, if not for routine utilization of PFGE, the links between the outbreaks would have been missed, the source would not have been identified, and the outbreak would have spread much further.

PFGE is a powerful tool. It allows us to detect widely dispersed outbreaks and small clusters that would have previously been missed. This illustrates a central tenet of epidemiology: better surveillance leads to better and more accurate disease detection, which in turn leads to more investigations. This causes increased burdens, not only on CDC and other Federal agencies, but also on state and local partners.

Therefore, as surveillance improves, more outbreaks, not fewer, will be detected. However, this should not be interpreted as a failure. Rather, it represents success, because only by finding and investigating the outbreaks can we define risks, develop and implement interventions, and over the long term target and ultimately eliminate the risk.

NATIONAL FOOD SAFETY INITIATIVE AT CDC IN FISCAL YEAR 2000

CDC is committed to continuing to build a sensitive, timely, and accurate public health infrastructure for the Nation. To this end, the President's request for CDC for fiscal year 2000 National Food Safety Initiative is $10,000,000 above the fiscal year 1999 appropriation of $19,476,000. CDC plans to devote these resources to continue to build the national network of labs capable of performing PFGE technology and participating in the PulseNet system. We will increase the number of pathogens monitored in the system in order to detect additional outbreaks. Other funds will go to expanding the FoodNet system and adding surveillance components for viral gastroenteritis. In the future, we hope to expand and incorporate subtyping methods for viral agents and to support the development of subtyping methods for Cyclospora and Cryptosporidium, parasitic agents for which subtyping is not sufficiently developed. And finally we will continue to support a system known as DPDx, which harnesses telemedicine technology to transmit images of parasites under the microscope to our experts at CDC for appropriate diagnosis. In concert, CDC will continue to use emerging infections resources to build State health department capacity to conduct appropriate epidemiologic investigations.

CONCLUSIONS

In conclusion, these activities represent a small sample of how CDC supports its state and local partners and other Federal agencies in monitoring, controlling, and preventing foodborne illness. Foodborne diseases remain a challenge for public health. To address this challenge will require continued investments in our public health infrastructure and strong partnerships among State and local health departments and Federal agencies.

Thank you for the opportunity to discuss the surveillance of foodborne disease. We will be happy to answer questions you or other members of the Subcommittee may have.

FOOD AND DRUG ADMINISTRATION

STATEMENT OF DR. JANE HENNEY, COMMISSIONER

Senator COCHRAN. Dr. Henney, we will now hear from you.

Dr. HENNEY. Good morning, Mr. Chairman, members of the committee. I appreciate the opportunity to address you today, and thank you for your interest in this very important area of food safety.

The Food and Drug Administration has been entrusted with ensuring the safety of the majority of the food supply since the passage of the first Food and Drug Act of 1906. Throughout the 20th century, we have fulfilled our obligation to protect the public from unsafe foods by relying on a strong scientific basis for our regulatory approach.

As our scientific knowledge has developed, so, too, have our regulations evolved to reflect the current state of knowledge. As we move toward the 21st century, we must remain dedicated to strengthening the science base throughout the agency. It is my strong conviction that through the development and application of sound scientific principles, we will solve the numerous public health threats posed by an ever-changing world.

This is particularly true in the area of food safety. While our food supply is, in general, safe, our citizens are more at risk from food today than they have been in many years.

First, the food we eat in this country has changed drastically from a diet of meat, potatoes and locally grown seasonal produce, to today when we are eating a much greater variety of food, such as seafood, fresh fruits and vegetables. And these foods are often transported over long distances, both domestically and internationally. And they are available to us throughout the year. The combination of the new sources and wide distribution of food poses new safety challenges for the public.

Second, we are eating more food prepared by others. We have gone from the past, when most meals were prepared in the home, to today, when 50 cents of every food dollar is spent on food prepared outside the home. This food includes ready-to-eat foods from restaurants and supermarkets.

There are also a large number of Americans who have their meals prepared and served in hospitals, nursing homes, day care and senior centers.

Third, there has been an increase in the number of people considered to be at-risk for foodborne illness. Today nearly 25 percent of people in the United States fall in this category: the elderly, children, pregnant women, the immuno-compromised.

Moreover, the size of the vulnerable population is growing, particularly with our senior population being the fastest-growing sector of our society.

Last and most important, more resistant old and more deadly new pathogens have emerged in our food supply. With respect to the latter, we are aware of five times the number of foodborne pathogens in 1999 than we were just 50 years ago, the most notorious of which is E. Coli O157:H7.

As a result of these changes, outbreaks of foodborne illness are now all too prevalent. They seem to occur every day, everywhere, in almost any food. And we are identifying more and more outbreaks associated with FDA-regulated products: apple juice, eggs, sprouts, raspberries, even toasted oat cereal, a product not generally regarded as high risk.

While the number of deaths and illnesses associated with food have been the source of great debate, virtually all experts believe that many foodborne illnesses are preventable. Therefore, we have a public health responsibility to do what we can to minimize them.

The Administration's Food Safety Initiative was first announced in January 1997 and further enhanced in October 1998 to provide special emphasis to help ensure the safety of imported and domestic fruits and vegetables. The goal set forth in this initiative could not be accomplished without additional resources. And your support through prior years' appropriations has been crucial to our success.

We have completed virtually all of the activities funded by the $24 million you provided in the first year of the initiative and are well along toward meeting our goals for this year's funding.

We are now asking you for $30 million for fiscal year 2000 that can make a real difference in building the infrastructure the Nation needs to effectively combat foodborne illness.

My written submission for the record contains details of those accomplishments and plans, Mr. Chairman. But let me give you just a few highlights today.

In the area of prevention, we have implemented state-of-the-art HACCP controls for seafood that will ensure its safe processing. We have developed agricultural and manufacturing guidance for fresh fruits and vegetables that gives farmers and processors the latest information on how to protect those foods from contamination.

And we have established a national anti-microbial resistance monitoring system that is intended to give us the ability to detect emerging pathogens that threaten human health.

Moreover, we are rapidly improving our ability to identify foodborne illness when it does occur, track it to its source and prevent further illness. For imported foods, we are increasing our surveillance at the border and helping foreign producers better understand how they can prevent contaminated food from being sent to us.

With the additional funding that we are requesting for next year, we will begin, for the first time in many, many years, to inspect high-risk food processors at least once a year. We will increase our collaborations with States who share with us the responsibility to inspect these firms.

We will utilize the new DNA technology that promises to revolutionize our ability to respond to foodborne illness. And we will launch a serious effort to improve the safety of food at the retail level.

In closing, let me just say that our food safety efforts to date have taught us many lessons. One of the most important is that FDA cannot solve this problem on its own. We must work together with other Federal agencies, such as CDC, USDA, EPA, as well as our important counterparts in the States to accomplish our goal of a truly coordinated and effective food safety net based in sound science.

In our efforts, we must remember our public health responsibility. As we continue to work with States and other Federal agencies, the standard for food safety in this country must remain a high one. The public demands it. The science is developing to allow it. And we must keep pace, or we will have failed to meet our public duty.

Although we cannot anticipate every food safety problem before it happens, we must make sure that we have a strong science-based food safety system in place that can minimize the harm to public health. Our budget request for fiscal year 2000 will give us the resources we need to meet the challenge we will face into the next century.

PREPARED STATEMENT

I thank you for your time, and I will be pleased to answer any questions you may have.

[The statement follows:]

PREPARED STATEMENT OF JANE HENNEY

Mr. Chairman, senators, ladies and gentlemen, I appeared before the Senate last year to ask you to consider me for a position in public service. Today I am honored to address you as the Commissioner of the Food and Drug Administration. I thank you and your colleagues who saw fit to entrust me with this office.

During that process, I promised the Senate that I would make food safety a high priority if I was confirmed as FDA Commissioner. It is my privilege today to begin to deliver on that promise by presenting the highlights of the Agency's food safety accomplishments for fiscal 1998, the plans for fiscal year 1999, and the expectations for food safety as reflected in the Administration's proposed budget for fiscal year 2000.

FOOD SAFETY PROBLEM

The Food and Drug Administration began as a science-based consumer protection agency nearly 100 years ago with a food safety issue. A chemist in the Bureau of Chemistry at the Department of Agriculture, Harvey Wiley, was concerned that chemical additives used as preservatives in a time when refrigeration was in its infancy were a danger to the public health. Called the "crusading chemist," his experiments on additives such as borax and formaldehyde found his original concerns to be valid and culminated in passage of the Pure Food and Drugs Act in 1906. Harvey Wiley, as you may know, was ultimately designated the first Commissioner of the Food and Drug Administration.

The food safety challenges that face FDA and other food safety agencies today may be different that those that Harvey Wiley confronted but they are no less challenging or compelling.

What people eat has changed. We are no longer a nation of meat and potato eaters only, but a people who are eating a greater variety of foods, particularly seafood and fresh fruit and vegetables. This is great for our nutrition but offers greater food safety challenges. When consumers are demanding these foods year round, safety issues surrounding transportation and refrigeration become an increasing problem. And as trade barriers break down, new challenges for ensuring the safety of the imported food arise.

Where people eat has changed. People are eating more of their meals away from home. In fact, fifty cents of every food dollar is spent on food prepared outside the home. This food is purchased not only from grocery stores and restaurants, but also

is consumed in institutional settings such as hospitals, nursing homes and day care centers. The result is that as more food workers become involved in preparing our meals, both the chances for disease-producing errors and the regulatory responsibility of assuring food safety increases.

Who's eating is also changing. Nearly a quarter of the population is at higher risk for foodborne illness. This includes pregnant women, children, the elderly, and the immunocompromised. The size of the vulnerable population is growing, with aging babyboomers and increased longevity.

All are important—different foods, more foods prepared outside the home, and increased vulnerable populations—but there's another important element in our changing world, the emergence of many new foodborne pathogens. We are aware of more than five times the number of foodborne pathogens in 1999 than we were in 1942. Many of these pathogens can be deadly, especially for people at highest risk.

As a result, outbreaks of foodborne illness are now all too prevalent. They happen frequently, in all regions of the country, and in every type of food. And we are identifying more and more outbreaks associated with FDA regulated products. Therefore, as the world of food changes, we must be sure that the food safety system changes along with it, identifying new solutions to today's problems.

THE PRESIDENT'S FOOD SAFETY INITIATIVE

Recognizing the increasing risks to the food safety system, on January 25, 1997, the President announced a Food Safety Initiative to reduce the incidence of foodborne illness to the greatest extent possible. Four months later, recommendations for the President were delivered in a report entitled "Food Safety: From Farm to Table." This report outlined the steps the federal government would take in the short and long term to achieve that goal. The Food Safety Initiative was enhanced by President Clinton on October 2, 1998 to provide special emphasis on ensuring the safety of imported and domestic fruits and vegetables. FDA has a central role in the Administration's efforts.

A Strong Science Base Is Critical

As critical as it was in Harvey Wiley's time, it is just as critical today to the food safety system that it be grounded in a strong scientific foundation. Equally important is that we have a strong, scientifically skilled workforce to conduct the President's Food Safety Initiative. We rely on and therefore must support the scientific work of those entrusted with carrying out FSI responsibilities at every step along the farm to table continuum. We must invest in enhancing and maintaining scientific excellence to ensure that we have the best possible data for decision-making at both the policy and implementation level.

A recent outbreak of Salmonella Agona in breakfast cereal illustrates the importance of a scientific basis to public health. In the spring of 1998, 20 states reported an increase in Salmonella Agona infections. There were 409 cases of illnesses reported. Over 102 people were hospitalized and one person died. Through molecular fingerprinting (DNA) technology we were able to link the bacteria from the food and from the patients. The bacteria was subsequently traced to one manufacturer who produced the cereal under a variety of labels. Ultimately 2 million pounds of Toasted Oat cereal was recalled.

Already, FDA has made the following scientific contributions under the FSI:

Prevention Programs

Developed a science-based hazard analysis critical control point (HACCP) regulatory program for seafood to prevent foodborne illness. This includes extensive training for our inspectors so they provide a knowledgeable oversight role.

Developed technology to eliminate or inactivate microbial contaminates by the use of high hydrostatic pressure techniques. This technique has been shown to inactivate a number of different pathogens in packages of fluid products while retaining the products' sensory characteristics, and provides an alternative pastuerizing technology in some situations for which thermal pasteurization and irradiation are less desirable.

Initiated research to prevent contamination of unpasteurized juice by assessing the effectiveness of different antimicrobial technologies in an actual cider mill.

Initiated research on safe sprout production at sprout production facilities constructed at the National Center for Food Safety and Technology (Moffett Center) in Chicago, operated in partnership with Illinois Institute of Technology. This research will evaluate the effectiveness of intervention strategies such as sanitizing agents to prevent contamination of sprouts with pathogens.

Surveillance and Outbreak Response

Developed a comprehensive, coordinated national foodborne illness outbreak response system in collaboration with CDC and USDA among federal, state and local agencies.

The National Antimicrobial Resistance Monitoring System (NARMS) has allowed us to increase our ability to detect emerging pathogens and identify relationships between animal and human foodborne isolates. NARMS isolates provide a pool of organisms to research for rapid tests for identification of foodborne pathogens for salmonella type.

Detection Methods

Developed through a collaboration between federal, state, and local agencies, an improved technique to detect directly and quantify harmful Escherichia coli within 30 minutes, compared to 24 to 48 hours using conventional techniques. This pathogen was responsible for outbreaks of food-related illness in young children after they drank unpasteurized apple juice.

Developed a rapid, sensitive and reliable method capable of detecting low levels of Norwalk viruses in contaminated shellfish.

I would endeavor to have a strong science base throughout the Food Safety Initiative.

Federal Partnerships

As you can see, many of these programs have joined FDA and its Federal partners in successful collaboration to protect the public health. Further examples include: development of an interagency Risk Assessment Consortium to coordinate priorities of risk-assessment research, such as the Listeria risk assessment currently underway that involves both USDA and FDA regulated products; the signing of a memorandum of understanding to create the Foodborne Outbreak Response Coordinating Group (FORC-G) to enhance coordination of resources and expertise during an outbreak and prepare for new and emerging threats to the food supply; collaboration between FDA and USDA with CDC on funding, protocol development, and priority setting for FoodNet; multiagency collaborations on the National Advisory Committee on Microbiological Criteria for Foods to achieve food safety advice of the highest scientific standards for all federal agencies involved in food safety; and the development of a Joint Institute for Food Safety Research (JIFSR) which allows for the joint funding and coordination of priority research projects.

Federal-State Partnerships

An integrated federal-state partnership makes sense as well from an effective use of resources perspective and provides the greatest level of public health protection. I strongly support such partnerships. For this approach to work, we need: strong federal standards; training and certification for all inspectors; shared databases; federal oversight of state activities; and effective enforcement and surveillance. The need for increased inspection coverage is sufficiently large that we will need an increased federal inspection force, and also need more qualified state and local counterparts.

Our work and cooperation with the States is central to our success in these endeavors. Currently, FDA is leading an effort to integrate federal, state and local food safety systems for FDA-regulated products. This work began in September 1998 in Kansas City with an FDA-hosted meeting of food safety and agriculture officials from all 50 states, Puerto Rico, and the District of Columbia, epidemiologists from state and local health departments, and colleagues from CDC and USDA. The focus of the meeting was to find a way for local, state, and federal food safety and public health agencies to share resources and work together to make the U.S. food supply safer than ever. Discussions centered around joint planning opportunities for increased inspections, linking data and communication systems, and improving government response to outbreaks.

Tasks of integrating the nation's food safety systems has now been divided into working groups of local, state and federal health officials. The reports from these working groups will be made available for public comment later this spring. We estimate that it will take 5–10 years to build this national system and it will require resources to enhance state and local capabilities.

FISCAL YEAR 1998 ACHIEVEMENTS

In fiscal year 1998, FDA received its first additional appropriation of $24 million under the initiative. The Agency used these funds to begin to set the foundation for creating a state-of-the-art science-based food safety system.

This system focuses on combating foodborne illness on two major strategic fronts. The first is the development of prevention strategies, programs that will keep bacteria out of the food, throughout the food chain, from farm to table. These prevention programs are supported by education and verification—by educating producers, processors, food preparers, and consumers in how to use prevention techniques correctly, and by verifying, through inspections at business establishments, that the prevention techniques are, indeed, being applied properly. The second front is the early detection and containment of foodborne hazards during an outbreak. In addition to limiting the extent of the outbreak, we must seek the cause and provide a "feedback loop" of information that helps strengthen our prevention programs.

Virtually all the goals promised for the first year in the May 1997 Farm-to-Table Report were achieved. I would like to highlight some of them for you.

Prevention, Education, and Verification

Prevention is the key to reducing foodborne illness. A major focus of our prevention strategy for food safety was the implementation of a HACCP (Hazard Analysis Critical Control Points) program for seafood. HACCP is a science-based system in which a food producer identifies the hazards associated with its particular product, and then puts appropriate controls in place to prevent, reduce, or eliminate the hazard. Through a combination of FDA inspection and state contracts, all domestic seafood processors and importers were inspected to verify implementation of HACCP by the end of calendar year 1998.

We have expanded our prevention strategies by proposing HACCP regulations for juice. We also are working with small juice and cider producers to further our juice safety goals. And, together with USDA, we have launched a multi-pronged initiative to prevent illness caused by Salmonella contamination of raw eggs.

We have worked on prevention strategies involving produce as well. FDA and USDA held a series of public meetings with the agricultural community and conducted site visits to growing and packing areas to elicit detailed information on common problems involved in the production of safe produce. These meetings were held as background for the development of a guidance document for growers, packers and shippers of fresh fruits and vegetables, which provides information on agricultural and management practices that may enhance the safety of fresh produce. We were very pleased with the way the final guidance was accepted by industry. In fact, the final guidance won the endorsement of United Fresh Fruits and Vegetable Association, a large national trade organization.

In recent months, we approved the use of chlorine dioxide as an antimicrobial agent for use in produce processing, and published a policy under which we will expedite the review of food additives that would make predictable contributions to preventing or reducing pathogen contamination of foods.

Food safety education campaigns, soundly based in science, can reach large numbers of commercial and home food preparers with information on safe food handling practices that can prevent food contamination and reduce pathogen growth. Food safety education is another part of FDA's strategy to protect consumers from foodborne hazards. These activities, often sponsored in conjunction with other federal agencies, states and professional associations, provide a cost-effective means to preventing processing, preparation, handling and storage practices that could cause food to become contaminated with dangerous levels of microorganisms or other substances that could cause illnesses.

Education activities in fiscal year 1998 included work in conjunction with USDA and CDC with the Partnership for Food Safety Education's "FIGHT BAC!" campaign. Extensive educational efforts were undertaken through the media and through community-based education programs for food handlers both in retail settings and in the home. FDA field offices across the country also launched educational efforts to help average citizens prevent food-related illnesses.

An education program was also started for health professionals. FDA and CDC signed an agreement with the American Medical Association to develop a program to educate physicians and their patients on foodborne disease.

EARLY DETECTION AND CONTAINMENT OF HAZARDS

Responding to emerging pathogens in the food supply quickly and effectively is essential to preventing widespread illness. FDA scientists in the Center for Veterinary Medicine and the National Center for Toxicological Research are adapting for use in the United States an assay for detecting bovine DNA in feed to protect us against occurrence of imported "Mad Cow" disease in the United States.

We are convinced that this focus on detection and containment has had a significant, beneficial public health impact. For example, information gathered through field investigations supported by the Administration's Food Safety Initiative linked

Guatemalan raspberries to cyclosporiasis; outbreaks in 1996 and 1997 caused about 2,500 cases of cyclosporiasis in this country. This past year, no Guatemalan raspberries were imported to the U.S., and no cases of cyclosporiasis were linked to raspberries. In contrast, Canada imported Guatemalan raspberries last summer and continued to suffer raspberry- associated outbreaks of Cyclospora infections. We estimate that our preventive actions avoided 1,200–1,500 Cyclospora infections for the American public and saved $2.8 to $3.5 million in health- care costs. We are continuing to work with Guatemala to permit future importation of raspberries without importing foodborne hazards.

I would also like to raise with you a food safety issue that is likely to have major public health implications: antibiotic resistance. We know that antimicrobial resistance (the resistance of disease-causing bacteria to drug treatment) can develop in some organisms when food animals are treated with certain drugs. We also know that this resistant pathogen can be transferred on food and infect humans. This drug resistant infection may cause disease in people consuming the animal derived food product and result in infections that are resistant to treatment potentially increasing the costs and risks associated with the infection. Increasing antibiotic resistance and loss of the effectiveness of antimicrobials is an emerging public health threat world-wide. We are taking several actions to combat this threat. FDA and USDA have established a nationwide surveillance system to identify and track developing antimicrobial drug resistance in food-producing animals. FDA is also collaborating with CDC and USDA to study resistance by tracking the emergence of resistant pathogens and developing scientifically sound mitigation and intervention strategies to prevent the development of resistance. FDA also plans to conduct research into the mechanisms of resistance, their dissemination and the risk factors associated with resistant human infections. We must continue to develop our scientific understanding of antibiotic resistance and take action to ensure that effective drugs remain available to treat infections in humans and animals.

I have only touched on the many FDA accomplishments for fiscal year 1998. A more complete listing is available in a First Year Report, FDA's Accomplishments on the President's Food Safety Initiative, which I will submit for the record.

FISCAL YEAR 1999 PLANS

Added funds for fiscal year 1999 allow FDA to focus on imports as well as on domestic and international education and outreach on the good agricultural practices guidance. In fiscal year 1999 we will also give further emphasis to seafood HACCP and antibiotic resistance monitoring.

Imports

On the premise that the safety of imported foods can be better enhanced where the foods are produced rather than at the U.S. border, FDA has undertaken not only to strengthen our border surveillance activities, but also to design new programs to prevent contamination in countries that export to the U.S. We are assessing foreign controls over food products exported to the U.S. and are providing technical assistance to foreign countries. We also will conduct foreign inspections of food establishments that produce food products at high risk for microbial contamination and conventional surveillance of imported food products at our borders will be increased. When foodborne illness outbreaks associated with imported foods occur, we will conduct follow up investigations in the exporting countries. I will submit for the record a more detailed plan of our fiscal year 1999 food safety import plan.

Last year, as you are aware, the Administration put forward a bill that would have expanded FDA's authority over imported foods (S.1707/H.R.3052). That bill raised many questions and concerns in Congress and as you know, ultimately did not succeed. The President recently reaffirmed his commitment to providing FDA with enhanced authority over imported foods. I want to assure you that the Agency heard and understands the questions and concerns, and I want to work with you to find the right solution to provide FDA with the tools necessary to improve the safety of imported foods.

Good Agricultural Practices Guidance

FDA will work with USDA to provide information and education on the Good Agricultural Practices guidance developed in 1998. Fresh fruit and vegetable growers may use this guidance to reduce the risk that their products will become contaminated with pathogens. Technical assistance and education programs are now under development for the domestic and international produce industry to improve the safety of fresh produce available to U.S. consumers.

Seafood HACCP

FDA continues to implement seafood HACCP during fiscal year 1999 by conducting the second year of annual inspections of domestic seafood processors. The first year's inspections focused on providing processors with clear feedback on the status of their new HACCP systems. They were designed to be educational as long as a critical public health hazard was not found. In the last year, FDA found a range of problems with HACCP implementation that needed to be addressed by seafood facilities. Our goal is to see that HACCP is being more fully implemented in a larger proportion of the industry by the end of calendar year 1999. I will submit for the record our plan for strengthening the safety of seafood in this, our second year, of seafood HACCP implementation.

Antimicrobial Resistance

In order to assure detection of emerging resistance trends in pathogenic bacteria, we are planning to expand our program to increase the information in the National Antimicrobial Resistance Monitoring System. The collection and analysis of this data will improve our ability to detect changes in antimicrobial resistance patterns and identify trends at the local level. The identification of trends helps us target our research. For example, we are now looking at how the use of multiple drugs and multiple exposure to the drugs affect the development of antimicrobial resistance. We are also looking at how drugs are administered to determine if the route of administration affects the development of antimicrobial resistance.

FISCAL YEAR 2000 BUDGET REQUEST

As a result of funding provided in fiscal year 1998 and fiscal year 1999, a solid, science-based infrastructure is being developed to improve food safety and reduce the risk of foodborne illness, for both domestic and imported foods.

The President's fiscal year 2000 budget request for FSI includes a $30 million increase for FDA that further builds this science base and expands capabilities in surveillance and containment of foodborne outbreaks. The additional resources will be targeted to develop further a nationally integrated food safety system, and provide greater emphasis on the control of foodborne hazards in the post-harvest phase of the farm-to-table continuum.

Expand Inspections

In fiscal year 2000 we will focus on increasing our domestic inspection coverage. Inspection and compliance efforts will be expanded during fiscal year 2000 with additional emphasis on the frequency of inspection of domestic firms producing food that is at high risk of microbiological contamination or high risk of causing severe disease. There are a total of 6250 such firms. Inspection of these firms will increase to a schedule of once per year by 2001. By "high risk" we mean, in addition to seafood: infant formula, certain ready-to-eat foods that are not processed or only minimally processed—e.g., by heating, freezing, washing—before consumption; heat and serve products; and low-acid canned foods and acidified foods. fiscal year 2000 resources would be applied both to increasing Federal FDA inspections as well as increasing inspections by our state and local partners according to federal standards. We also will more than double the number of foreign inspections we conduct for these same types of products.

Enhance Surveillance and Investigation to Improve Outbreak Response

Funding in fiscal year 1998 and fiscal year 1999 expanded public health surveillance efforts, resulting in improved outbreak detection. Since it is anticipated that there will be an increase in the number of outbreaks detected, FDA must continue expansion of foodborne outbreak response and traceback activities. To that end, we need a rapid response capability directed to foodborne outbreaks. We need to increase the links between CDC surveillance and epidemiology and FDA response team, as well as between FDA laboratories and CDC's PulseNet pathogen subtyping system. This rapid response team will enable early containment of hazards, and will provide a feedback tool on new causes of outbreaks to promote development of new preventive controls.

Food Safety at the Retail Level

An additional focus for fiscal year 2000 will be on strengthening Federal and State partnerships regarding retail food safety. I mentioned at the beginning of my statement that American consumers are increasingly eating food prepared outside their homes. That factor in itself may not seem significant. CDC data, however, clearly demonstrate the substantial occurrence of foodborne disease outbreaks in retail settings. FDA will work with its state partners to lower that risk. Reducing out-

breaks associated with food service operations is a significant challenge. To appreciate the magnitude of the problem, I should point out that there are approximately 750,000 restaurants and 37,000 institutional food service operations in the U.S.

FDA will work with states and the food industry to develop and implement food production and preventive control systems. In particular, FDA will encourage the states to adopt the 1999 Food Code, a model code developed by FDA in collaboration with state officials. FDA will provide training to state and local officials as well as education to the private sector regarding safe food handling practices.

Accelerate Food Safety Research

Research will be conducted to expand methods development and prevention technology research during fiscal year 2000. FDA will collaborate with other agencies and the private sector to translate preventive technologies and techniques into appropriate versions for use by small industry and consumers. FDA, along with CDC and USDA, will expand mechanisms to transfer technologies to States, small and large industry, foreign governments, consumers, and others.

The National Center for Food Safety and Technology (Moffett Center) and the Joint Institute for Food Safety and Applied Nutrition (JIFSAN) are key components of FDA's efforts to achieve established food safety objectives. These partnerships with academia and industry allow for more efficient use of public and private research resources and enhance the quality of food safety and public health policy. The additional resources requested for fiscal year 2000 will permit FDA to expand risk assessment efforts at JIFSAN and the Moffett Center to fill the critical gaps in exposure assessment of foodborne hazards. This expanded risk assessment research effort will enhance FDA's ability to characterize more rapidly and accurately the nature and size of the risk to human health associated with foodborne hazards, as well as the effects of intervention. More rapid and accurate risk assessment techniques are critical to providing consumers greater protection against potential hazards posed by foodborne pathogens. This research compliments efforts underway at CFSAN, CVM, and the National Center for Toxicological Research (NCTR).

Antimicrobial Resistance

In fiscal year 2000, we will continue to improve and expand our National Antimicrobial Resistance Monitoring System including expanding the geographical scope and supporting international efforts to develop a global resistance database. We will conduct epidemiology studies to evaluate management, production and drug use practices in food animals to determine how such practices influence the development of antimicrobial resistance. We will get additional information from collaborative efforts with other government agencies, academic institutions, and producer groups in order to develop education material related to proper drug use. We will work with State and local authorities to develop effective educational program.

CONCLUSION

Mr. Chairman, all of us testifying today—FDA, the U.S. Department of Agriculture and the Centers for Disease Control and Prevention—as well as other federal agencies, state and local government officials, and agriculture, industry and consumer representatives, have key roles to play in the effort to reduce the incidence of foodborne illness. This effort has been a highlight of the President's Food Safety Initiative. All the partnering agencies' and organizations' programs need a base in science and a focus on public health. We also need open communication between federal, state, and local governments, the industry, and consumers. Working together, we can ensure the safety of the nation's food supply.

SUBMITTED QUESTIONS

Senator COCHRAN. Thank you, Dr. Henney.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED BY SENATOR COCHRAN

Question. What is the incidence of foodborne illness in the United States? Has it increased over the last 10 years? Over the last five years? Over the last year?

USDA answer. Estimates of the magnitude of foodborne illness in the United States have been imprecise. To quantify, better understand, and more precisely monitor foodborne illness, since 1996 the Foodborne Diseases Active Surveillance Network (FoodNet) has collected data to monitor nine foodborne diseases in selected

U.S. sites. The overall incidence of the foodborne illnesses under surveillance from 1996 to 1998 declined, particularly for salmonelllosis and campylobacteriosis, and the data continued to demonstrate regional and seasonal differences in the reported incidence of diseases. Over this 3-year period, the largest decrease in bacterial pathogen-specific rates occurred in cases of infection caused by Salmonella (14.5 per 100,000 population in 1996 to 12.4 per 100,000 population in 1998, a 14 per cent decline).

Each year, millions of persons experience foodborne illness, though only a fraction seeks medical care and an even smaller number submit laboratory specimens. FoodNet provides a precise measure of the laboratory-diagnosed cases of specific foodborne illnesses and performs additional surveys and studies to interpret trends over time. The 1998 Food Net data indicate a decline in several of the major bacterial and parasitic causes of foodborne illness. These declines might in part reflect annual fluctuations in the incidence of foodborne illnesses and temporal variations in diagnostic practices. The trends also may reflect implementation of disease prevention efforts. The declines in salmonellosis and campylobacteriosis may reflect changes in meat and poultry processing plants in the United States mandated by the Pathogen reduction and Hazard Analysis and Critical control Points (HACCP) final rule. The decline from 1996 to 1998 in the incidence of salmonellosis parallels the reported decline in the percentage of meat and poultry products tested at large, federally inspected processing plants that were positive for Salmonella.

FDA answer. Estimates of foodborne illness are wide-ranging, and the true magnitude of foodborne illness remains illusive. In 1994, the Council for Agricultural Science and Technology (CAST) estimated the incidence of symptomatic illness at 6.5 million cases annually, with about 9,000 related deaths. CDC has undertaken a broad-based, multi-disciplinary effort to update estimates of foodborne illness using the best available information. CDC anticipates that the revised estimates will be available for public review within the next few months. Substantial future efforts will be required to further improve estimates of the burden of illness caused by certain bacterial, parasitic, and viral foodborne pathogens.

Question. What percent of foodborne illness is attributed to the processing of foods versus consumer food handling?

FDA answer. CDC and FDA do not know of reliable data to determine the percent of foodborne illness attributed to the processing of foods versus consumer handling of food. However, the current data indicate that we need to do more to prevent foodborne disease, both by making food safer and by improving commercial and home food preparation practices. To reduce the frequency of foodborne diseases, improvements need to be made throughout the food supply—reduce the prevalence of pathogens on farms, decrease the contamination of foods during processing, and improve food handling practices in restaurants and homes.Most food-borne illness have traditionally been attributed to food prepared in the home, although, most outbreaks have been reported from food prepared at the retail level. This apparent inconsistency is the result of bias in traditional foodborne illness surveillance program. The Foodborne Diseases Active Surveillance Network, FoodNet, established under the Food Safety Initiative, was developed in part to provide a more accurate estimate of where, contamination and other food preparation errors that lead to food-borne illnesses are occurring.

Question. With the use of HACCP, USDA officials have noted a sharp decline in Salmonella contamination of meat and poultry. However, more than a third of ground turkey is still tainted. Why?

USDA answer. The prevalence of Salmonella in the FSIS nationwide raw ground turkey microbiological survey—conducted during January through March 1995 and September through November 1995—was 49.9 percent. The Post-HACCP implementation, January 26, 1998—January 25, 1999, Salmonella prevalence for raw ground turkey produced in large plants was 36.4 percent. Thus, there has been a decline in Salmonella contamination on raw ground turkey since the implementation of HACCP. Ground meat and poultry products tend to have a higher Salmonella prevalence than carcasses, because they are prepared from numerous carcasses.

Question. There have been increasing numbers of recalls in the United States involving cooked, ready-to-eat products and Listeria. What are the concerns about this and what is being done about this problem?

USDA answer. FSIS has undertaken an aggressive strategy to decrease the risks from Listeria on ready-to-eat products. This strategy includes: developing guidance to industry on "best practices" that can help to reduce the potential of product contamination; targeting consumer education for high-risk groups; initiating a study to address developing policy guidance on industry responsibility to address Listeria under HACCP in ready-to-eat product at retail; and, conducting a quantitative risk assessment for Listeria that will determine the foods that pose the greatest risk to

consumers and specific subpopulations at increased risk of contracting listeriosis. We have also improved the sensitivity of test methods to better detect contaminated product.

FDA answer. The public health concern is that processed meats and ready-to-eat products continue to contain Listeria, and as a result are a persistent source of infection and death among susceptible persons. CDC is developing new molecular subtyping systems for Listeria monocytogenes, conducting foodborne disease surveillance, and studying listeriosis in several states to help measure the impact of prevention activities and recognize trends in disease occurrence. Early detection and reporting of outbreaks of listeriosis to local and state health departments can help identify sources of infection and prevent more cases of the disease. Thus, CDC assists State health departments in investigating outbreaks. CDC is working to educate consumers, especially those in high risk groups, about listeriosis risk associated with certain foods. In addition, CDC is working with regulatory agencies on prevention strategies, such as post-packaging pasteurization of high risk foods.

FDA has contributed to efforts to decrease response time to outbreaks of listeriosis and other harmful pathogens. Specifically, FDA has helped fund the CDC, surveillance for listeriosis for many years. Since 1995, FDA, CDC, and the U.S. Department of Agriculture, or USDA, have been working with cooperating state and local health departments on active surveillance for foodborne illness, including listeriosis, through the Foodborne Diseases Active Surveillance Network, which is commonly referred to as FoodNet. Additional funding through the Food Safety Initiative has increased FoodNet effort, by including more active sites and additional pathogens, and has allowed more case control studies for outbreaks of listeriosis to be included. Such studies are important in determining which are the most at-risk individuals, actual incidence, foods implicated, and numbers of Listeria monocytogenes organisms in implicated foods.

FDA and CDC cooperate with USDA and public health laboratories in PulseNet, the National Molecular Subtyping Network for Foodborne Disease Surveillance, to perform "fingerprint" comparisons on bacteria that may be foodborne. Such analyses help identify molecular subtypes of bacteria and identify common food source outbreaks. PulseNet is now operational for E. coli O157: H7. Salmonella serotype Typhimurium was added in 1998. PulseNet techniques are used for some outbreaks and clusters of listeriosis. The next proposed organism for 50 state harmonization is Listeria monocytogenes.

In May 1997, the President announced the comprehensive Food Safety Initiative to improve the safety of the nation's food Supply. Prominently included in this initiative are measures to improve surveillance and outbreak response. Following the announcement, The Foodborne Outbreak Response Coordinating Group, also known as FORC-G, was formed, bringing together FDA with other federal, state, and local agencies to develop a comprehensive, coordinated, national foodborne illness outbreak response system. Early detection and reporting of outbreaks of listeriosis to local and state health departments can help identify sources or infection and prevent more cases of the disease.

In the summer of 1998, FDA began developing a charge to a task force to perform a risk assessment of the public health impact of foodborne Listeria monocytogenes. The risk assessment formally began in 1999. The objectives of the risk assessment are to identify low vs. high risk foods, the characteristics high risk food have in common, and the role of shelf life; the numbers of Listeria monocytogenes organisms consumed, both routinely and when illness results; and knowledge of dose-response relationship, especially in the at-risk populations. The goal is to provide as complete a description as possible of current knowledge of the sources and quantity of Listeria monocytogenes consumed and of the health consequences to the populations that consume these microorganisms. Information from the risk assessment should help to both decrease response time and help to educate consumers, industry, and health professionals.

FDA has also contributed to the prevention of future outbreaks. Listeriamonocytogenes education has been directed especially to the most at-risk populations such as pregnant women and people with AIDS, and distributed through brochures placed in physicians' offices and by FDA Public Affairs Specialists and through educational videos on foodborne illness prevention, including Listeria monocytogenes and listeriosis. The target population also includes food service managers and workers and nursing home medical directors and administrators. The general public has been targeted through periodic news releases from FDA's press office; articles published in the FDA Consumer in 1987, 1988, and 1991 and through the FDA web site, with additional links to related web sites including the USDA Food Safety and Inspection Service and the CDC. "Research on Listeria

monocytogenes" was published in the FDA Drug Bulletin I 1987 and distributed to over one million health professionals.

The Foodborne Pathogenic Microorganisms and Natural Toxins Handbook, also known as the "Bad Bug Book", has been publicly available since 1994 through the CFSAN web site. This handbook contains information on Listeria monocytogenes and listeriosis that is supplemented with up-to-date information through links to current research articles and surveillance reports. The "Bad Bug Book" is one of the most popular sites at the CFSAN web site, and is consulted by consumers, industry, and other government agencies, both here and abroad.

The most recently available data on cases of listeriosis reported to CDC, included in the Healthy People Review, 1998–1999 National Center for Health Statistics, show a reduction and leveling off in the numbers of cases of listeriosis. This includes sporadic and outbreak cases. Reduction achievements between 1989 and 1993 were attributed to industry, regulatory and educational efforts.

I will be happy to provide a chart with this data for the record.

[The information follows:]

Cases of Listeriosis reported to CDC

1Year	*Cases per 1 million U.S. Population*
1987	7.0
1990	7.7
1991	6.1
1992	4.5
1993	4.4
1994	4.2
1996	[1]5.0
1997	[1]5.0

[1] FoodNet data based on Active Surveillance at selected sites

Question. In late February of this year, the press reported that USDA and FDA agreed to share information about inspections, recalls, and outbreaks of foodborne diseases. Was this report accurate, that the agencies had not been sharing such information before this time? If true, why?

USDA answer. The press reports on the recently agreed upon memorandum of understanding (MOU) between FSIS and FDA may not have been completely accurate. The MOU deals mainly with sharing information about inspections and findings at dual jurisdiction establishments. FSIS historically has shared, and continues to share, data about recalls and outbreaks of foodborne illness with FDA. Neither FDA nor FSIS will disclose to each other confidential or trade secret information.

FDA answer. No, the press report was not accurate. The two agencies have been sharing information for some time now. On August 8, 1979, FDA and USDA entered into a Memorandum of Understand, or MOU, that formalized the exchange of information on inspections. In June of 1981, this MOU was amended in order to take into consideration the provisions of the Infant Formula Act. In 1983, a revised MOU outlined several expanded areas of cooperation and sharing of inspection information.

In February of this year, the agencies reevaluated the previous MOU, updated that agreement, and entered into a newly signed agreement on coordination of inspectional efforts. The new agreement will facilitate the exchange of information at the field level about food establishments and operations that are subject to the jurisdiction of both agencies. Field offices will notify their counterparts of food safety recalls, instances of product contamination and mislabeling, and conditions at facilities that could result in unsafe or unwholesome food.

In a May 1997 Report to the President entitled "Food Safety From Farm to Table-A National Food-Safety Initiative," the agencies primarily responsible for food safety, made several recommendations to improve public health protection from foodborne illness, including increasing cooperation among agencies, and more specifically, of ensuring that FDA and USDA/FSIS use the resources and experience of as efficiently as possible to avoid duplication of efforts. The President accepted the report and directed the Agencies to implement the report's recommendations to improve the efficiency and effectiveness of the food safety system in this country.

Question. Do organic foods pose any greater risk than other foods?

USDA answer. We are not aware of any scientific evidence comparing the relative health risks of organic foods versus non-organic foods that would indicate that organic foods pose a greater health risk to the consumer.

FDA answer. FDA has no data to suggest that foods identified as organic pose a greater or lesser risk than foods that are conventionally grown or manufactured. To a large degree, potential microbial food safety hazards, and their control, apply

to both organic and non-organic food operations. In the production of fresh fruits and vegetables, for example, all growers need to ensure agricultural water quality is adequate and take appropriate steps such as run-off controls to maintain water quality. Most factors, such as available water source, are more likely to be dictated by regional or other factors than by whether a grower is organic. Likewise, sanitary facilities need to be clean and easily accessible. Workers in the field and packing-house need to be aware of and follow appropriate sanitary and hygienic practices. Some practices, such as the use of manure as a fertilizer, have been identified as practices that need to be closely monitored to reduce the risk of microbial contamination. To the extent that organic and non-organic producers employ such practices, appropriate Good Agricultural or GAPs and Good Manufacturing Practices or GMPs should be followed to limit the potential for contamination.

Question. Is the expansion of FoodNet complete?

USDA answer. No, several states plan to add counties to the catchment area in fiscal year 2000. A ninth site may be considered in the future to enhance geographic representation. In 1998, the FoodNet catchment area included 20.5 million persons, based on 1997 estimates, which represents 7.7 percent of the U.S. population. In 1999, the catchment area will include approximately 30 million persons based on 1997 estimates, with Georgia initiating statewide surveillance and New York adding counties to its catchment area.

FDA answer. CDC does not anticipate adding additional states as FoodNet sites at this time. However, CDC does intend to enhance surveillance and expand the number of pathogens actively tracked in FoodNet sites, with the purpose of expanding knowledge of foodborne illness through precise monitoring of the burden of foodborne illness over time. The population currently participating in FoodNet is sufficiently large to address many food safety questions and to provide data that can be generalized to the nation as a whole.

Question. What is your goal for expansion of PulseNet?

FDA answer. PulseNet, CDC's national molecular subtyping network for foodborne disease surveillance, has demonstrated the utility of real-time routine fingerprinting of pathogenic bacteria by state health departments. The broad goal of PulseNet is to be a national early warning system to identify and track nationwide trends of foodborne illness. In fiscal year 1999 and 2000, CDC will expand the national network of laboratories performing molecular subtyping and increase the number of pathogens monitored though standard, molecular subtyping methods.

State (and city) public health laboratories participating in PulseNet have been able to facilitate outbreak investigations by helping to better interpret epidemiologic data on outbreaks, identify clusters of disease that would not have been otherwise identified, and link cases in distant locations with outbreaks occurring in a specific region the country. This will allow earlier detection of outbreaks of contaminated foods that are nationally distributed.

For PulseNet to be fully successful, the state public health laboratories must have adequate resources and capability to perform routine subtyping of foodborne pathogenic bacteria in a timely fashion, complete analysis of the data without delay, provide the subtyping data and interpretations to state epidemiologists, and send the DNA patterns to CDC (or upload the patterns to the PulseNet server located at CDC) so that the patterns could be compared with the national database and shared with other PulseNet laboratories. Presently 33 states participate in PulseNet; additional states will be added over time.

FDA working through the CDC will expand its access to PulseNet and increase outbreak response and associated traceback activities. FDA will begin initial development of electronic communication and data sharing systems for use in Federal-State monitoring and traceback activities. Working with CDC, FDA will also expand and increase the overall capacity of the National Antimicrobial Resistance Monitoring System or NARMS and the number of states covered to assure a higher probability of detecting emerging resistant pathogens capable of animal to human transmission and to minimize the occurrence of foodborne outbreaks including those from outside of the United States.

As of December 1998, FDA's Center for Food Safety and Applied Nutrition or CFSAN, USDA, 25 State Health Departments and two County Health Departments were connected to a central server at the CDC. All E. coli O157:H7 isolated at these sites are being reported to CDC for comparisons; other pathogens analyzed on a case-by-case basis include Listeriamonocytogenes and various Salmonella and Shigella species.

In fiscal year 1999, two FDA regional FDA field laboratories will be equipped and trained to participate in PulseNet. FDA's Center for Veterinary Medicine or CVM may also participate, initially using CFSAN as a gateway, on pathogens of mutual interest such as Salmonella Typhimurium DT104. This strain is multi-drug resist-

ant and is rapidly becoming one of the most prevalent Salmonella species encountered. A parallel effort conducted through field labs will subject all Salmonella isolated from food to antibiotic resistance screening. Those exhibiting multi-resistance will be submitted for PulseNet analyses.

The other three FDA field labs identified as mega-centers will be equipped and trained for PulseNet as resources become available. This will minimize the time between the isolation of a pathogen from a food sample and the reporting of its DNA fingerprint to the PulseNet system.

Once the system is refined, other foodborne pathogens of public health significance will be included for 100 percent reporting. By analyzing pathogens from outbreaks and apparently sporadic cases, the system will detect those diffuse clusters that currently often get erroneously classified as sporadic cases. Identifying the foods involved in these many-mini diffuse outbreaks will help better focus surveillance activities of the FDA field operations. In the future, the network will be linked to a similar network in the European Union so as to share outbreak data and spot emerging pathogens that may have pandemic potential.

Question. The National Academy of Sciences indicated in its report that "Surveillance efforts currently in place (such as FoodNet) have been designed to provide data representative of national trends with regard to seven indicator foodborne pathogens yet are not designed to identify trends within smaller geographic areas of communities." To what extent is this true?

USDA answer. Yes, as indicated in the National Academy of Sciences' report, surveillance efforts currently in place, such as FoodNet, have been designed to provide data representative of national trends, yet are not designed to identify trends within smaller geographic areas of communities. However, it is important to note that FoodNet data are used by each of the FoodNet sites to determine the most important foodborne illness prevention programs that should be undertaken by that site.

FDA answer. FoodNet—the Foodborne Diseases Active Surveillance Network—consists of active surveillance for foodborne diseases and related epidemiologic studies designed to help public health officials better understand the epidemiology of foodborne diseases in the United States. FoodNet is designed to provide accurate and precise national estimates and interpretation of the burden of foodborne diseases over time. FoodNet provides a network for responding to new and emerging foodborne diseases of national importance, monitoring the burden of foodborne disease, and identifying the source of specific foodborne diseases. Specifically, the goals of FoodNet are to describe the epidemiology of new and emerging bacterial, parasitic and viral foodborne pathogens; to estimate the frequency and severity of foodborne diseases that occur in the United States each year; and to determine how much foodborne illness results from eating specific foods, such as meat, poultry, and eggs.

Through other "passive" disease surveillance systems, the states and localities are able to detect outbreaks in geographic areas of the communities.

Question. Testimony was presented to the Committee that "Food Safety Initiative" includes funding for any program or activity mentioned in the May 1997 report to the President entitled "Food Safety from Farm to Table: A National Food Safety Initiative". Provide a list of the "Food Safety Initiative" expenditures. List each by federal agency, appropriations account, and activity and show the fiscal year 1997, 1998, 1999, and 2000 budget request levels.

USDA answer. For the record, the following table presents by federal agency, appropriations account and activity funds budgeted for the "Food Safety Initiative", which focuses on the reduction of microbial pathogens in the Food Supply, in fiscal years 1997, 1998, 1999, and 2000.

[The information follows:]

PRESIDENT'S FOOD SAFETY INITIATIVES—FISCAL YEAR 2000 BUDGET

[In thousands of dollars]

	1997	1998	1999	2000 Budget	Increase Over 1999
SURVEILLANCE					
USDA:					
Food Safety and Inspection Research Service	1,000	1,500	1,500	1,500	.....
Economic Research Service	32	32	282	285	3

PRESIDENT'S FOOD SAFETY INITIATIVES—FISCAL YEAR 2000 BUDGET—Continued

[In thousands of dollars]

	1997	1998	1999	2000 Budget	Increase Over 1999
Subtotal, USDA	1,032	1,532	1,782	1,785	3
HHS:					
Food and Drug Administration	737	3,837	4,637	11,037	6,400
Centers for Disease Control and Prevention	4,500	14,500	19,000	29,000	10,000
Subtotal, HHS	5,237	18,337	23,637	40,037	16,400
Subtotal, Surveillance	6,269	19,869	25,419	41,822	16,403
COORDINATION					
USDA: Food Safety and Inspection Service	.....	.....	.....	500	500
HHS: Food and Drug Administration	7,173	7,673	7,873	7,873	.....
Subtotal, Coordination	7,173	7,673	7,873	8,373	500
INSPECTIONS					
USDA: Food Safety and Inspection Service	.....	565	10,113	12,513	2,400
HHS: Food and Drug Administration	73,244	82,244	103,344	120,244	16,900
Subtotal Inspections	73,244	82,809	113,457	132,757	19,300
RISK ASSESSMENT					
USDA: Agricultural Research Service	5,461	4,498	4,909	7,309	2,400
Cooperative State Research Education, and Extension Service	145	150	2,612	3,702	1,090
Food Safety and Inspection Service	.....	.....	3,260	3,260	.....
Economic Research Service	33	36	236	686	450
National Agricultural Statistics Service	.....	.....	.....	2,500	2,500
Office of the Chief Economist	62	60	158	158	.....
Subtotal, USDA	5,701	4,741	11.175	17,615	6,440
HHS: Food and Drug Administration	2,589	6,189	7,189	8,689	1,500
Subtotal, Administration	8,290	10,930	18,364	26,304	7,940
EDUCATION					
USDA:					
Cooperative State Research, Education, and Extension Service	2,365	2,365	7,365	8,287	922
Food Safety and Inspection Service	.....	.....	3,659	3,659	.....
Food And Nutrition Service	.....	.....	2,000	2,000	.....
Office of the Chief Economist	27	38	38	38	.....
Economic Research Service	420	420	420	420	.....
Subtotal, USDA	2,812	2,823	13,482	14,404	922
HHS:					
Food and Drug Administration	4,800	6,600	7,100	8,600	1,500

PRESIDENT'S FOOD SAFETY INITIATIVES—FISCAL YEAR 2000 BUDGET—Continued

[In thousands of dollars]

	1997	1998	1999	2000 Budget	Increase Over 1999
Centers for Disease Control and Prevention	.....	.....	476	476	.....
Subtotal, HHS	4,800	6,600	7,576	9,076	1,500
Subtotal, Education	7,612	9,423	21,058	23,480	2,422
RESEARCH					
USDA:					
Agricultural Research Service	44,186	50,351	64,959	74,279	9,329
Cooperative State Research, Education, and Extension Service	3,724	6,250	14,788	23,799	9,011
Agricultural Marketing Service	.....	.....	112	6,297	6,185
Subtotal, USDA	47,910	56,601	79,859	104,375	24,516
HHS: Food and Drug Administration	20,793	26,793	28,193	31,893	3,700
Subtotal, Research	68,703	83,394	108,052	136,268	28,216
Total, Initiative	171,291	214,098	294,223	369,004	74,781

PRESIDENT'S FOOD SAFETY INITIATIVE FISCAL YEAR 2000 PROPOSAL

[In thousands of dollars]

	1997	1998	1999	2000 Budget	Increase Over 1999
USDA:					
Agricultural Research Service	49,647	54,849	69,868	81,588	11,720
Cooperative State Research, Education, and Extension Service	6,234	8,765	24,765	35,788	11,023
Agricultural Marketing Service	.....	.....	112	6,297	6,185
Food Safety and Inspection Service	1,000	2,065	18,532	21,432	2,900
Economic Research Service	485	485	938	1,391	453
Office of the Chief Economics	89	98	196	196	.....
National Agricultural Statistics Service	.....	.....	.....	2,500	2,500
Food and Consumer Service	.....	.....	2,000	2,000	.....
Subtotal, USDA	57,455	66,262	116,411	151,192	34,781
HHS:					
Food and Drug Administration	109,336	133,336	158,336	188,336	30,000
Centers for Disease Control and Prevention	4,500	14,500	19,476	29,476	10,000
Subtotal, HHS	113,836	147,836	177,812	217,812	40,000
Total, Initiative	171,291	214,098	294,223	369,004	74,781

FDA answer. CDC is as follows:

PRESIDENT'S FOOD SAFETY INITIATIVES—FISCAL YEAR 2000 BUDGET

[In millions of dollars]

	Fiscal years—			
	1997	1998	1999	2000
Surveillance	4.500	14.290	19.000	29.000
Education	.....	.....	.476	.476
Total	4.500	14.290	19.476	29.476

A list of the "Food Safety Initiative" expenditures for fiscal year 1997, 1998, 1999, and 2000 budget request is provided for the record.

[The information follows:]

PRESIDENT'S FOOD SAFETY INITIATIVES—FISCAL YEAR 2000 BUDGET

[In thousands of dollars]

	1997	1998	1999	2000 Budget	Increase Over 1999
SURVEILLANCE					
USDA:					
Food Safety and Inspection Research Service	1,000	1,500	1,500	1,500	.....
Economic Research Service	32	32	282	285	3
Subtotal, USDA	1,032	1,532	1,782	1,785	3
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PRESIDENT'S FOOD SAFETY INITIATIVES—FISCAL YEAR 2000 BUDGET—Continued

[In thousands of dollars]

	1997	1998	1999	2000 Budget	Increase Over 1999
Subtotal, USDA	5,701	4,741	11.175	17,615	6,440
HHS: Food and Drug Administration	2,589	6,189	7,189	8,689	1,500
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PRESIDENT'S FOOD SAFETY INITIATIVE FISCAL YEAR 2000 PROPOSAL

[In thousands of dollars]

	1997	1998	1999	2000 Budget	Increase Over 1999
USDA:					
Agricultural Research Service	49,647	54,849	69,868	81,588	11,720
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PRESIDENT'S FOOD SAFETY INITIATIVE FISCAL YEAR 2000 PROPOSAL—Continued

[In thousands of dollars]

	1997	1998	1999	2000 Budget	Increase Over 1999
Economic Research Service	485	485	938	1,391	453
Office of the Chief Economics	89	98	196	196	.....
National Agricultural Statistics Service	.....	.....	.....	2,500	2,500
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Subtotal, USDA	57,455	66,262	116,411	151,192	34,781
HHS:					
Food and Drug Administration	109,336	133,336	158,336	188,336	30,000
Centers for Disease Control and Prevention	4,500	14,500	19,476	29,476	10,000
Subtotal, HHS	113,836	147,836	177,812	217,812	40,000
Total, Initiative	171,291	214,098	294,223	369,004	74,781

Question. Provide a list by federal agency, appropriations account, and activity of the food safety related expenditures not counted as part of the "Food Safety Initiative" for each of fiscal years 1997, 1998, 1999, and requested for fiscal year 2000.

USDA answer. For the record, the following table presents the remaining balance of the Food Safety and Inspection Service's budgetary resources from fiscal year 1997 to 2000 after subtracting resources devoted to the President's Food Safety Initiative. All of the remaining funding for the Food Safety and Inspection Service (FSIS) is for food safety related activity. The President's Council on Food Safety will be developing a comprehensive strategic plan identifying all Food Safety activities for 5 core Food Safety hazards: microbial hazards, chemical contaminants, regulated/pre-market approved substances, physical hazards, and water used in food production and processing.

[The information follows:]

FOOD SAFETY RELATED EXPENDITURES

[Dollars in thousands]

Activity	1997	1998	1999	2000 Budget
Food Safety and Inspection Service (FSIS)				
Food Inspection	478,012	492,836	503,543	533,744
Import/Export Inspection	11,300	11,612	11,857	12,315
Laboratory Services	33,918	33,763	34,376	35,740
Field Automation	8,525	8,023	8,023	8,023
Grants-to-States	41,528	40,552	40,655	41,701
Special Assistance to State Programs Unobligated Balance Lapsing	26	374	.....	.....
Subtotal FSIS Available	573,309	587,160	598,454	631,523
Reimbursements /Trust Funds	85,673	89,083	89,302	89,274
Subtotal FSIS	658,982	676,243	687,756	720,797
President's Food Safety Initiative	1,000	2,065	18,532	21,432
Total	659,982	678,308	706,288	742,229

Research, Education, and Economics

All ARS food safety related expenditures are included in the "Food Safety Initiative". The funding provided for the Food Safety Initiative was $49,647,300 in fiscal year 1997; $54,949,400 in fiscal year 1998; $69,867,600 in fiscal year 1999; and $81,587,600 is requested for fiscal year 2000. The Appropriations Accounts for fiscal years 1997 to 1999 were 1271400, 1281400, and 1291400. The fiscal year 2000 Appropriations Account will be 1201400.

CSREES Hatch Act, Evans-Allen Program, Animal Health and Disease Research, and Special Research Grant funds support the food safety research activities in addition to funding for the "Food Safety Initiative". The total estimated funding provided for Food Safety research was $5,961,000 in fiscal year 1997; $5,962,000 in fiscal year 1998; $6,123,000 in fiscal year 1999; and $3,748,000 is requested in fiscal year 2000. The CSREES Appropriation accounts for fiscal years 1997 through 1999 were 1271500, 1281500, 1291500 for these research activities. The fiscal year 2000 Appropriations account will be 1201500.

A table showing the funding by activity for food safety related expenditures not counted as part of the Food Safety Initiative follows.

COOPERATIVE STATE RESEARCH, EDUCATION, AND EXTENSION SERVICE

[Food safety]

Program	Fiscal year 1997	1998	1999	2000 Budget
Hatch	1,726	1,726	1,846	1,571
Evans-Allen	516	516	552	514
Animal Health	70	70	75	69
Special Research Grants	3,649	3,650	3,650	1,594
Totals	5,961	5,962	6,123	3,748

FDA answer. We would be happy to provide that information for the record.

[The information follows:]

FOOD SAFETY RELATED EXPENDITURES

[Dollars in millions]

Program/Activity	Fiscal year 1997		Fiscal year 1998		Fiscal year 1999		Fiscal year 2000	
	Dollars	FTE	Dollars	FTE	Dollars	FTE	Dollars	FTE
FOODS—Center for Food Safety & Applied Nutrition	43.0	451	42.2	44.3	41.8	391	[1] 60.3	448
Chemical Safety of Foods	28.1	295	30.2	325	29.9	279	48.4	336
Nutrient Quality & Food Labeling	14.9	156	12.0	118	11.9	112	11.9	112
FOODS—Field	41.5	514	40.3	508	38.6	444	38.6	484
Chemical Safety of Foods	26.0	322	16.8	212	16.9	194	18.4	230
Nutrient Quality & Food Labeling	4.8	59	4.1	51	3.5	41	3.2	41
Microbiological Safety of Foods	10.7	133	19.4	245	18.2	209	17.0	213
ANIMAL DRUGS AND FEEDS—Center for Veterinary Medicine	19.5	197	19.6	187	20.2	194	22.9	211
Approval Process	11.5	117	9.7	100	9.9	102	11.2	120
Research	3.1	31	4.3	33	4.5	35	4.2	38
Monitoring/Compliance	4.9	49	5.6	54	5.8	57	7.5	53
ANIMAL DRUGS AND FEEDS—Field	9.4	108	10.2	112	10.1	127	12.9	140
Approval Process	1.3	15	1.7	19	1.7	22	2.3	26
Research	1.0	12	.8	8	0.7	9	.8	8
Monitoring/Compliance	7.1	81	7.7	85	7.7	96	9.8	106
NATIONAL CENTERS FOR TOXICOLOGICAL RESEARCH	1.1	20	1.4	25	2.2	25	2.2	25
Microbiological & Analytical Methods to identify chemical contaminants and toxins	.1	5	.1	5	.6	6	.6	6
Improve sensitivity of techniques to measure harmful effects of toxicants in foods and cosmetics	1.0	15	1.3	20	1.6	19	1.6	19
TOTAL FDA, NON-FSI	114.5	1,290	113.7	1,275	112.9	1,181	136.9	1,308

[1] Includes proposed additive user fees ($10 million).

Question. What is the status of USDA's plans to expand the number of products that would be considered adulterants if they contain E. coli O157:H7?

USDA answer. FSIS is evaluating the comments submitted on the January 19, 1999, Federal Register Notice (64 FR 2803), as well as the statements presented at the March 8, 1999, public meeting. In addition, a risk assessment for Escherichia coli O157:H7 in beef and ground beef, announced in an August 18, 1998, Federal Register Notice (63 FR 44232), is expected to be completed by September 1999. Furthermore, an industry coalition has stated that it will submit a protocol for a carcass testing study in early April 1999. FSIS does not expect to begin to act on the January 19 policy statement until it has had sufficient opportunity to assess the comments received.

Question. FSIS has been testing beef for E. coli O157:H7 since 1996. Out of 26,088 samples, only 25 positives have been found, none of which were connected to an outbreak or illness.

(A) What are the current expenditures for this testing program?

USDA answer. The Food Safety and Inspection Service (FSIS) spends approximately $10.4 million per year on testing meat and poultry products for 9 pathogens, including E. coli O157:H7, Salmonella, Campylobacter, and Listeria.

(B) If, in nearly three years of testing, none of the positive results have been associated with an outbreak or illness, what is the justification for continuing this program?

USDA answer. The testing program for E. coli O157:H7 began after the tragic outbreak of foodborne illness associated with this pathogen in the State of Washington. USDA estimates that over 10,000 illnesses per year result from consuming foods contaminated with E. coli O157:H7.

As the Washington outbreak demonstrated, those most susceptible to this pathogen include children, the elderly, and the immune compromised. Testing programs like that for E. coli O157:H7 assist FSIS in controlling deadly pathogens by identifying contaminated product in time to remove it from the market before it can cause foodborne illness. The justification for continuing this program is that the agency believes this testing program is reducing the risk of illnesses/outbreaks caused by E. coli O157:H7 in raw ground beef. The FSIS program of random sampling at federal, State, and import establishments and at the retail level, as well as the implications of a positive finding, encourage the meat industry to use good manufacturing practices, good sanitation procedures, antimicrobial interventions, microbial testing, and other measures to eliminate this serious pathogen from the nation's meat supply.

Question. Although this year the President's budget recognizes that enabling legislation must be enacted into law, it again assumes savings in appropriations from its proposal to implement user fees to pay the cost of meat and poultry inspection. Why does the Administration believe that meat inspection is a benefit to industry, rather than a public health service which is provided for the benefit of the public?

USDA answer. Both the public and industry benefit from our inspection services. However, industry is the direct beneficiary of Federal inspection, which enables businesses to engage in commerce and earn profits. Industry also directly benefits from the consumer's confidence in inspected meat, poultry, and egg products. The consuming public benefits from the public health protections that Federal inspection provides.

Question. I understand that a relationship has been found between bacteria in food supplies where close, crowded conditions for animals exist. Is this true? What is being done about this ?

USDA answer. No relationship has been found between bacteria in food supplies where close crowded conditions for animals exist. FSIS has sponsored a pair of recent studies of dairy animals reared in close quarters, most of which are "cull cows". Bacterial samples were collected from cattle at the farms, through transport (under crowded conditions), and from the carcasses. There was no correlation between results from live cattle and finished carcasses. Similar work done with poultry indicates the same is true for these intensively reared animals.

Question. HACCP in large plants was implemented a year ago. What improvements have been made with respect to the incidence of Salmonella, E coli, and other food-borne pathogens?

USDA answer. Preliminary findings show that this science-based, prevention-oriented system has contributed to reducing the prevalence of Salmonella in some raw meat and poultry. As the following chart illustrates, based on the one-year of data collection in the approximately 200 large plants that implemented HACCP in January 1998 and produced product subject to the Salmonella testing requirement, the prevalence of Salmonella has significantly fallen.

In ground beef, for example, 7.5 percent of the national baseline samples tested positive for Salmonella prior to January 1998; only 4.8 percent tested positive after HACCP implementation; a decline of 36 percent. Of broiler carcasses, 20.0 percent tested positive for Salmonella before HACCP implementation, compared to 10.9 percent after implementation, a decline of over 45 percent. On swine carcasses, 8.7 percent of the samples tested positive prior to HACCP versus 6.5 percent after HACCP implementation, a decrease of more than 25 percent. And, 49.9 percent of ground turkey tested positive prior to HACCP versus 36.4 percent after HACCP implementation, a 27 percent decrease.

The data also indicates that 88 percent of HACCP plants for which there are adequate data meet or exceed our Salmonella performance standards. Plants that do not meet the standards are required to take immediate corrective measures, and also undergo targeted testing.

[The information follows:]

TABLE 1.—PREVALENCE OF SALMONELLA IN MEAT AND POULTRY PRODUCTS: POST-HACCP IMPLEMENTATION RESULTS FROM LARGE PLANTS JANUARY 26, 1998, THROUGH JANUARY 25, 1999 [1]

Class of Product	Pre-HACCP Baseline Studies [2]	Post-HACCP implementation
Broilers	[3] 20	[3] 10.9 (n=5697)
Swine	[3] 8.7	[3] 6.5 (n=1532)
Ground Beef	[3] 7.5	[3] 4.8 (n=1184)
Ground Turkey	[3] 49.9	[3] 36.4 (n=748)

[1] Reflects testing results from products with 10 or more completed sample sets.
[2] Corresponds to Salmonella performance standards, 9 CFR § 310.25(b) and 381.94(b).
[3] Percentage of Salmonella Prevalence (n=number of samples).

Class of Product	Number of Plants	Number of Plants with Complete Data Sets	Percent (Number) Meeting almonell a Performance Standard [1]
Broilers	124	76	91 (69)
Swine	33	17	71 (12)
Ground Beef	25	10	90 (9)
Ground Turkey	17	11	91 (10)
Total	199	114	88 (100)

[1] Reflects testing results from products with 10 or more completed sample sets.

Question. What challenges has FSIS had to overcome in implementing the HACCP program?

USDA answer. For the record, here are a few examples of challenges.

The establishment and delivery of a cost effective HACCP Technical Training Program for field inspection and compliance personnel was a major challenge. Inspection personnel are located in over 2,500 different, often geographically remote, locations across the United States. The majority of our workforce is tied to the production schedules of the meat and poultry industries. Plant operating schedules had to be taken into account and replacement inspectors brought into plants where assigned personnel were being training during plant operating hours.

After decades of performing inspection from a command and control perspective, gaining the acceptance of the field workforce of the new regulatory approach—established by the Pathogen Reduction and HACCP rule—proved to be a challenge.

Some members of the meat and poultry industry had the view that the PR/HACCCP rule provided increased authority to in-plant inspection personnel and were apprehensive that inspection personnel would use it in an adverse way.

Question. When HACCP was implemented a year ago, there was concern about layering the new HACCP system over the old, outdated organoleptic system. Even USDA expressed concern and committed to conducting an internal regulatory review to take these old rules off the books. Can you give the committee the status of that review? How many of those old rules have been removed from the books? And, what is your time line for completing this regulatory review?

USDA answer. On December 29, 1995, FSIS published an advance notice of proposed rulemaking (ANPR) in the Federal Register describing the FSIS regulatory review agenda (60 FR 67469). Several command-and-control type regulations were identified as being appropriate for conversion to performance standard-based regulations, while other regulations were identified as being obsolete in the HACCP regulatory environment. Of the regulations identified as candidates for revision or removal prior to HACCP implementation, FSIS issued one final rule prior to the January 1998 HACCP implementation for large establishments; "Eliminating of Prior Approval Requirements for Establishment Drawings and Specifications, Equipment, and Certain Partial Quality Control Programs," published on August 25, 1997 (62 FR 45016).

FSIS and FDA jointly published an advance notice of proposed rulemaking on "Transportation and Storage Requirements for Potentially Hazardous Foods" in the Federal Register on November 22, 1996 (61 FR 59372). The comments have been evaluated and a performance standard-based proposed rule is being developed. The first in a series of process performance standards for ready-to-eat products—"Performance Standards for the Production of Certain Meat and Poultry Product"—was published as a final rule in the Federal Register on January 6, 1999 (64 FR 732). Meanwhile, several proposed rules published in the Federal Register and are now in the process of being finalized, including the following: "Sanitation Requirements for Official Meat and Poultry Establishments," publishing on August 25, 1997 (62 FR 45045); "Rules of Practice," publishing on January 12, 1998 (63 FR 1797); and "Meat Produced by Advanced Meat/Bone Separation Machinery and Recovery Systems," published on April 13, 1998 (63 FR 17959).

FSIS has a number of dockets under development for replacing other prescriptive requirements with performance standards, including water retention in poultry, chilling requirements for slaughtered poultry, and processing/handling temperature requirements for livestock and poultry. In addition, a proposed rule for the elimination of most of the remaining partial quality control requirements is expected to be published this spring. FSIS expects that final action on many current regulatory reform efforts will be completed prior to the beginning of 2001.

Question. With respect to the Administration's commitment to food safety research and your request for funding for fiscal year 2000, can you tell the committee what, if any, efforts are planned to eliminate E. coli O157:H7 in beef, and Listeriamonocytogenes in ready-to-eat meat and poultry products other than enforcing a zero tolerance standard for these pathogens and overseeing product recalls?

USDA answer. We are continuing to work with ARS concerning research that could lead to procedures to control or eliminate E. coli O157:H7 in beef. ARS research is providing valuable information into the etiology of this organism. It is too early to predict if it will be possible to eliminate this organism as a potential contaminant of the cattle slaughtering process.

The industry procedures used to process ready-to-eat products will kill Listeria monocytogenes. However, product can become recontaminated during packaging and distribution if cooked products are not distributed in the containers in which they were cooked.

Since this is a hazard that is likely to occur, the industry is studying procedures to control the hazard. For example, one producer has started distributing hot dogs in the plastic casing in which they where cooked. Another possibility is packaging in special clean rooms where precautions such as airlocks, special air filters, and limited access are used.

ARS carries out research programs to help eliminate E. coli O157:H7 from beef including pathogen identification, pre and postharvest ecology, and pathogenesis. The preharvest ARS research programs to control E. coli O157:H7 and related organisms in cattle seek to understand the carrier state of E. coli O157:H7 in calves; to describe the epidemiology and occurrence of this pathogen in the production environment of food producing animals, and to discern the relationship of preslaughter feeding and production factors, including transportation to post slaughter contamination. Research on control of E. coli and other pathogens in animal manure is being initiated which will further help achieve pathogen control. ARS postharvest research improves slaughter and dressing procedures to minimize contamination on carcasses; develops predictive models for the growth of the pathogen on meat products; and develops more rapid and user friendly detection methods using biotechnology approaches. This research can provide the means to greatly lower the incidence of toxigenic E. coli, but because of environmental occurrence, including wild animals, insects and water supplies, it is unlikely that all toxigenic E. coli can be eliminated from food-producing animals.

ARS has research programs directed to the development of intervention strategies for Listeria that may be incorporated into HACCP programs to eliminate the patho-

gen. A rapid gene based assay has been developed that can readily identify and differentiate Listeria species in various ready-to-eat foods, allowing for molecular fingerprinting and trace-back. A program has been initiated, specifically aimed at developing technology to surface pasteurize food products, including hot dogs, which economically reduces microbial contamination without significant loss of product quality. A major research program continues in an effort to determine the effect of various food components, and parameters (pH, water activity, salt, process and storage temperature) on the inactivation, survival and growth of Listeria in ready to eat products. L. monocytogenes is a highly unusual and difficult pathogen to eliminate in that it possesses the ability to adapt and grow under conditions of high salt, high osmolarity, and low temperature, all at the same time. Research is specifically aimed at understanding, at cellular and molecular level, how this adaptation and growth occurs. Research is also aimed at identifying new generally recognized as safe (GRAS) compounds that can be incorporated into foods as a antimicrobial agents to protect against Listeria and other pathogens.

Question. Does FSIS have any data or other scientific evidence to support the provision of additional oversight or inspection resources to "in-distribution" facilities ?

USDA answer. Since the publication of the proposed Pathogen Reduction/HACCP regulation on February 3, 1995, FSIS has indicated its concern about the possibility that food safety hazards can be introduced into meat and poultry products at virtually any point in the farm-to-table continuum, but agency resources were heavily concentrated in official slaughtering and processing establishments. Commenters supported the more equitable distribution of agency resources. In the preamble to the final rule, FSIS stated, "A large number of commenters requested that HACCP be required throughout all phases of food production from the farm to the consumer." The final PR/HACCP regulations did not include transport temperature requirements which would have directed agency resources toward in-distribution locations, but this was more a matter of technical feasibility, and not a reflection on lack of public interest. The agency has retained its interest in this area and has been continuing its work: jointly with FDA, it published an ANPR and held a public meeting. The agency expects that these efforts will culminate in regulatory proposals setting one or more performance standards for the handling of meat and poultry products during transport and storage.

FSIS knows that there are segments of the public which are very concerned about the inequities which have arisen under the current system of exemptions. FSIS also believes that consumers are concerned that the protections provided by regulatory requirements that apply, for instance, to grinding hamburger in official establishments, are not provided by similar regulatory requirements applicable to the same operations when they are conducted by retail stores.

FSIS is proposing the conversion of 638 inspection personnel to Consumer Safety Office rs positions in fiscal year 2000.

Question. How many traditional inspection personnel will be available after this conversion? Is this sufficient to meet slaughter and processing facility needs?

USDA answer. For fiscal year 2000, FSIS plans to stabilize the workforce at approximately 7,500 employees who will be involved in direct inspection activities. This resource level is adequate to meet the needs of the regulated industry. The workforce includes food inspectors, veterinarians, consumer safety officers, and consumer safety inspectors. The introduction of the Consumer Safety Officer classification series will enhance the level of resources committed to direct inspection activities at regulated establishments. This series is part of the Agency's strategy to improve the skills and qualifications of its workforce involved in direct inspection activities in regulated establishments as well as to take full advantage of these skills to meet its goal of reducing foodborne illness and to provide appropriate regulatory oversight within its statutory authorities along the farm-to-table continuum.

Question. How will the role of an inspector differ from the role of a Consumer Safety Officer?

USDA answer. The roles of inspectors, veterinarians, and consumer safety officers do not differ. Each functions as the FSIS regulatory agent in an establishment under Federal inspection. Each occupation brings a different set of qualifications and knowledge to bear on making regulatory determinations. The individual assignments and work methodologies carried out by various FSIS employees will differ based on the need to draw upon different types of scientific knowledge to make appropriate regulatory determinations about the compliance of industry operations with USDA regulatory requirements.

Current work methods for food inspectors are "cookbook" in nature and generally prescribed through central assignment scheduling systems. Work methods for Consumer Safety Officers will require the exercise and application of scientific knowledge in making regulatory determinations about the adequacy of industry HACCP

systems, other process control systems, and pathogen testing systems. FSIS expects to introduce Consumer Safety Officers into the inplant workforce in assignments where there is the greatest opportunity to apply scientific, professional knowledge in making regulatory determinations about industry compliance. This will likely be in locations with a sizeable number of plants having a wide diversity of HACCP process categories and products, and sophisticated food production technologies and pathogen testing systems.

Question. Will current inspectors require additional training to perform their duties as Consumer Safety Officers?

USDA answer. Yes, additional training will be required. In order to qualify for Consumer Safety Officer (CSO) positions, inspectors must have obtained an educational background to meet the scientific and technical requirements of the position. Although current inspectors who are eligible for the CSO series have the appropriate educational background, they will have to be trained to operate within a new work methodology and with considerably more latitude for making scientific judgments than they have in their current inspection positions. The CSO position brings additional scientific expertise and decision-making to the plant level to assess and verify if plant control systems are adequately controlling for food safety hazards.

Question. If so, what funding is required for this additional training? Does the budget request include this funding?

USDA answer. FSIS plans to use a great deal of the $3.5 million in available funds to train 638 newly converted or hired CSO's and their supervisors in new work methods. These funds, which are included in the total FSIS budget request, will be available for CSO training because only a few hundred inspection personnel will require training to prepare for implementation of HACCP in the very small plants. The Agency is currently in the process of assessing the projected cost of CSO training for fiscal year 2000.

Question. What merits a pay raise for these personnel for performing a job integral with the HACCP inspection system for which they are already being compensated?

USDA answer. Consumer Safety Officers will be expected and required to apply scientific and professional knowledge in making regulatory determinations about industry compliance. The work methodologies and job requirements for positions filled by Consumer Safety Officers will require the exercise and application of scientific knowledge in an evaluative capacity to verify the adequacy of HACCP systems. The salary differential compensates individuals for the required application of professional judgment in rendering regulatory determinations about industry operations that is not currently expected or required of food inspectors.

Question. What additional costs will be associated with these new Consumer Safety Officers (ie. travel, vehicle costs)?

USDA answer. We anticipate that the travel and operating expenses of Consumer Safety Officers will be similar to those expenses incurred by processing food inspectors, which are higher than those for slaughter inspectors.

Question. Why not put these inspectors where there is a need rather than where you may be duplicating the efforts of the Food and Drug Administration and local health inspectors?

USDA answer. The presence of Consumer Safety Officers (CSO's) within the FSIS workforce and assigned to Federally inspected plants does not duplicate the efforts of FDA or State and local authorities. CSO's will be assigned to Federally inspected establishments where they will be applying scientific, professional judgment in making determinations about industry compliance with HACCP and other regulatory requirements. FSIS has determined that there is a need for inspection program personnel who possess a different set of skills and knowledge, having both an academic background and experience in making regulatory decisions. With a flexible, more highly educated work force, FSIS will be able to assign personnel to any type of industry operation within FSIS' jurisdiction. The future workforce will include a variety of scientific disciplines, among which is the professional level position of CSO now under development.

In the long-term, FSIS envisions using the CSO series to employ much of the regulatory workforce of the future. Increasing the number of inspection personnel in this series will better enable the Agency to meet its goal of reducing foodborne illness and provide the appropriate regulatory oversight within its statutory authorities along the food safety continuum. In order to effect conversion to this series, there will be a transition process in which two additional occupational series will be used. Line slaughter work in plants that are not part of the HACCP-based in-

spection models project[1] will continue to be classified in the Food Inspector, GS–1863 series. HACCP work now being performed will be classified in the Consumer Safety Inspector (CSI), GS–1862 series. This is a more appropriate classification series to describe this work and it is a series that other Federal agencies have used as a companion series to the CSO, GS–696 series, thereby facilitating the transition for the long-term. CSI's will perform technician level work that involves making judgments using a limited range of principles and an extensive body of facts accumulated from long-term or in-depth experience in a limited range of work. CSO's will make judgments by selecting and using principles and facts from a body of knowledge commonly inherent in one or more professional occupations. CSO's will be employed in HACCP plants primarily in fiscal year 2000 due to the highly complex nature of the work in that environment.

The presence of food safety hazards after product leaves Federally inspected establishments has prompted the Agency to pilot test the use of a small number of FSIS resources in the in-distribution sector in accordance with the farm-to-table strategy. Under this pilot test FSIS will redeploy some inspectors currently assigned within plants to verify the safety and wholesomeness of meat and poultry products as they move to consumers. This project focuses on developing new inspection models that will permit FSIS to deploy inspection resources more effectively within plants and between in-plant and in-distribution sites, consistent with farm-to-table food safety goals and FSIS current statutory obligations in the in-plant and in-distribution sectors. The CSI series will be used in the in-distribution pilot of the HACCP-based Inspection Models Project. After gaining experience through the Models Project, FSIS expects to employ the CSO series in in-distribution.

FSIS is aware that State and local authorities have primary responsibility for food safety regulation and oversight at retail levels and are active in other areas as well. Rather, through the limited in-distribution pilot and the broader initiatives to create a seamless food safety system, FSIS plans to work in partnership with State and local food safety agencies. The pilot is expected—and in fact designed—to raise questions about coordination with State and local agencies, and these will be addressed as the pilot proceeds.

Question. Do you have any data to show that grocery stores need more inspection than imported foods?

USDA answer. FSIS is not proposing more inspection for grocery stores but better control on the integrity of meat and poultry product as it moves through transportation, distribution and marketing channels to consumers.

For example, in response to the proposed Pathogen Reduction/HACCP regulation, FSIS received many comments supporting the more equitable distribution of meat and poultry inspection resources throughout the farm-to-table continuum. The proposed rule included temperature controls for meat and poultry products during transportation and storage; FSIS did not finalize this feature of the proposal, but stated: "FSIS has concluded that its food safety objectives may be achieved more effectively by regulatory means other than those proposed . . . . FSIS agrees with those commenters who stated that keeping raw products cooled after they leave the establishment, during transportation, storage, distribution, and sale to consumers is essential if growth of pathogenic microorganisms on raw products is to be prevented. This is consistent with FSIS's farm-to-table strategy."

FSIS intends to develop performance standards for products being shipped into commerce. These standards would be applicable to all persons who handle such product before the product reaches the consumer (61 FR 38856–57, July 25,1996). In addition to a handling performance standard for the farm-to-table continuum, FSIS believes that there is benefit to be gained by conducting certain retail sampling of meat and poultry products just before they reach the consumer. Product leaving inspected establishments goes through an often lengthy distribution process that involves many transporters, storers and other handlers. So, at some future time, FSIS may determine that a greater portion of its sampling and subsequent analytic work may need to be directed at meat and poultry products in the final stages of distribution. With respect to imported products, FSIS believes that its current system for control of imported meat and poultry products provides an appropriate level of control and is an efficient use of current resources.

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[1] Under the slaughter models component of the HACCP-based Inspection Models Project, FSIS is exploring alternative ways in which slaughter inspection might be accomplished in establishments that have already implemented HACCP systems and that exclusively slaughter certain market classes of animals. These market classes are young poultry, steers and heifers, and market hogs. In all cases, these are young, healthy animals that do not exhibit the same disease and public health concerns that may be present in older animals.

Question. What will the Consumer Safety Officer's role be in the farm-to-table food safety initiative, especially in food retail and the farm?

USDA answer. To carry out the farm to table food safety strategy FSIS needs to have a flexible, more highly educated workforce that can be assigned at any time, and to any industry operation, to perform inspection and determine regulatory compliance. FSIS has assessed the current deployment of the inspection workforce and determined that changes are needed to optimize inspection coverage while maintaining our continuous presence in plants. Through this assessment FSIS identified the need to establish a new Consumer Safety Officer position. The position of Consumer Safety Officer, currently under development, will be at a professional level in terms of educational requirements and responsibilities. FSIS has focused on introducing the Consumer Safety Officer occupation to conduct a broad range of regulatory activities, including:

—participating in special projects such as nationwide initiatives requiring application of professional qualifications, e.g., implementation of a significant new procedure;

—serving as a member of a team with other professionals in conducting assessments in plants with sensitive compliance issues where previous industry and/or FSIS personnel have been unsuccessful in identifying causes and developing effective corrective actions;

—visiting Custom Exempt establishments, evaluating them for compliance with applicable regulations;

—visiting warehouses in order to verify that they are keeping food safe; and

—fact-finding visits to State-inspected plants to obtain information for FSIS personnel responsible for assuring the "equal to" status of such plants.

To transition the workforce to the CSO position, FSIS plans to establish the Consumer Safety Inspector (CSI) position. FSIS plans to use CSI's for positions to be established in both the in-plant and in-distribution pilot test that are part of the HACCP-based Inspection Models Project. Consumer Safety Inspectors will be working at both in-plant and in-distribution sites.

Under the farm to table strategy FSIS will be using Consumer Safety Inspectors to carry out its regulatory responsibilities in verifying the safety and wholesomeness of meat and poultry products as they move from the plant to the consumer. Under the FSIS's pilot project for Consumer Safety Inspectors, the inspector will carry out the following in-distribution activities:

—Conduct scheduled as well as unscheduled reviews of a wide range of diverse commercial operations.

—Observe meat and poultry products in commerce and control those that are believed to be adulterated, misbranded, or otherwise in violation of the laws and regulations.

—Conduct recall effectiveness checks.

—Conduct sampling to verify compliance with FSIS requirements.

—Conduct follow-up inquiries on consumer complaints.

The following are examples of verification activities that consumer safety inspectors might perform at various commercial locations:

—At a warehouse, the consumer safety inspector would check inspected meat and poultry products to ensure that labeling meets all Federal requirements and that the products are not being held under conditions that may cause them to become adulterated. For example, the inspector would check to ensure that the products are not being contaminated by a leaky ceiling.

—At a rendering operation, the consumer safety inspector would ensure that product labeling meets Federal requirements for transporting and handling condemned and inedible products.

—At a retail location, the consumer safety inspector would ensure that any meat or poultry product that has been recalled is no longer being offered for sale and would ensure that retail operations are complying with retail exemptions from inspection.

—Ultimately, FSIS intends that CSO's will cover the full range of regulatory activities described for both the CSI and the CSO positions. The transition from Food Inspector to CSI to CSO is intended to accomplish the transformation of the inspection workforce in the most effective manner.

Question. What is the role of the Joint Institute for Food Safety Research? What authority does this body have to prioritize the research efforts of member agencies? Does this institute have its own staff? If so, how much and from what agency and what account does the Institute receive its funding?

USDA answer. The role of the Joint Institute for Food Safety Research, as defined in the Presidential directive of July 3, 1998, is "to develop a strategic plan for conducting food safety research activities consistent with the President's National Food

Safety Initiative and efficiently coordinate all Federal food safety research, including with the private sector and academia".

By agreement between the U.S. Department of Agriculture (USDA) and the Department of Health and Human Services (DHHS), the Institute would serve as a coordinating body to ensure that research needs of the regulatory agencies, the affected industries, and the general public are met in a coordinated and most cost effective manner.

The Institute, as described in an October 1, 1998 report to the President, and responded to in a public hearing on December 1, 1998, would have an Executive Director and a small staff. The Executive Director would report to an Executive Research Committee which in turn reports to the President's Council on Food Safety. An advisory committee consisting of 16 stakeholder members will report to the Executive Director. At the present time, the amount of the funding for support of the small Institute staff and operations has not been determined. It is proposed that staff and funding will be provided from the Food Safety Research Agencies of USDA and DHHS.

FDA answer. In 1998, the President instructed the Department of Health and Human Services and the Department of Agriculture to establish the Joint Institute for Food Safety Research or JIFSR to serve as a mechanism for coordinating the federal research related to food safety. The goals of the JIFSR are to optimize the current food safety research investment and infrastructure through coordination of planning, budget development, and prioritization, provide enhanced scientific support to food safety regulatory agencies in their efforts to protect public health, enhance communication among all Federal agencies with food safety research responsibility, and encourage the development of public and private partnerships with industry and academia to efficiently develop and transfer new food safety information and technologies.

JIFSR will be funded jointly through the two Departments. At this time, the details of the funding arrangements and the amounts, as well as the staffing, have not been worked out by the group tasked with developing a plan to fund and staff JIFSR.

Multi-agency task forces will be the foundation upon which the JIFSR will operate. Working through those entities, the Federal food safety research agencies will work with food safety and public health agencies to identify and prioritize research needs, minimize unplanned research redundancies, foster opportunities for multidisciplinary research programs, facilitate the transfer of research accomplishments, and promote strategic planning for future food safety research needs and initiatives. The establishment of the JIFSR will institutionalize and enhance the already considerable coordination among the Federal agencies.

The JIFSR will be a virtual office, with a purposefully limited full-time staff. The majority of the work of that staff will be to support the multi-agency task forces formed for limited durations to address specific assignments and needs. While the details of the staffing requirements will not be finalized until May 1999, it is anticipated that the full-time staff of the JIFSR will be limited to five to six individuals drawn from the member agencies. The exception is the Director of the JIFSR. This individual will be an internationally recognized food safety researcher recruited for this position. The specific mechanisms for funding the JIFSR are still being finalized, but will be based on an equitable sharing among the agencies conducting research.

Question. Please distinguish between the pesticide residue data programs operated by the Food and Drug Administration and USDA. Please also outline funding requirements as proposed in the President's budget for each of these programs.

USDA answer. USDA's Pesticide Data Program (PDP) and the Food and Drug Administration's (FDA) Regulatory Monitoring Program have different missions. PDP is a statistically-reliable program that provides pesticide residue data to evaluate population-based actual exposures. The data are used by the Environmental Protection Agency (EPA) to conduct realistic dietary risk assessments as required by the Food Quality Protection Act of 1996. PDP is used to support the export of U.S. commodities in the expanding global environment. FDA's Regulatory Monitoring Program is oriented towards enforcement of tolerances (maximum allowable pesticide residues in or on food crops) and is not statistically representative of the overall residue situation for a given crop, pesticide or region.

One program cannot accomplish both missions because of differences in sampling rationales and testing requirements. Sampling for enforcement programs over-represent suspected violators, and require rapid turn around time for sample analysis. Risk assessment programs take into account the general population and can take longer to analyze samples to verify extremely low-level results.

The following is a comparative analysis of both programs:

Sampling:

FDA generally uses targeted, non-random sampling of products oriented primarily towards the enforcement of tolerances. Under these conditions, sampling bias may be incurred because sample weighting is done to include factors such as commodity or place of origin with a history of violations. In addition, the total number of samples of a given commodity analyzed for a particular pesticide each year is often not sufficient to draw conclusions about pesticide residues in the whole volume of that commodity in commerce.

PDP uses statistically-reliable, unbiased random sampling procedures to provide objective comprehensive residue data to produce national estimates of pesticide residues. State population figures are used to assign the number of samples collected per month. This number is constant for each commodity if the commodity is available in the marketplace. In general, at least 600 samples of a commodity are obtained each year.

Sampling Locations:

FDA's monitoring program collects samples of domestic products close to the point of production and imported products are collected at the point of entry into U.S. commerce.

PDP collects samples as close to the consumer as possible at locations such as terminal markets and chain store distribution centers. Domestic and imported samples are collected based on availability in the marketplace. Probability of site selection is based on annual product volumes.

Commodities:

FDA's monitoring program covers a wide range of commodities and collects approximately equal numbers of domestic and imported products. Commodities tested by FDA include fruit and vegetables, grain and grain products, milk and dairy products, fish and shellfish, various nuts and spices, and miscellaneous processed products.

PDP focuses on high consumption items with emphasis on foods highly consumed by infants and children. Products collected by PDP include fresh and processed fruits and vegetables, selected grains, and milk.

Laboratory Methodology:

FDA primarily uses traditional, multi-residue methods with some single, selective methods capable of detecting residues at or below tolerance levels. No verification of residues is required unless a tolerance violation is suspected.

PDP uses refined multi-residue methods capable of detecting residue levels much lower than tolerances. These methods require additional steps to allow for detection of residues at trace levels, and verification of positive results is required. All data are supported by rigorous quality assurance and quality control procedures. PDP also conducts an extensive proficiency check sample program to determine consistency of results among the participating State and federal laboratories.

FDA answer. FDA's pesticide program entails regulatory monitoring designed to enforce the pesticide tolerances established by EPA. Domestic samples are collected as close as possible to the point of production in the distribution system; import samples are collected at the point of entry into U.S. commerce. FDA's pesticide program places considerable emphasis on imported products, where experience has shown more violations occur. In general, a very low violation rate has occurred over the years in both domestic and imported commodities. Although processed products are also included in sampling, the emphasis is on raw, agricultural products. Raw products are analyzed in the unwashed, whole, unpeeled, and raw state. This type of sampling provides FDA with a broad view of the entire food supply. In addition to monitoring pesticide levels in the food supply, work under the pesticide program includes research to develop analytical methods, enforcement activities, and cooperative efforts with foreign countries to decrease violation rates.

FDA also conducts its annual market basket survey, the Total Diet Study, or TDS, to estimate intakes in representative diets of 14 different age or sex groups. Because the study has been under way for over 30 years, trends can be discerned, such as the decrease in dietary levels of DDT and other banned pesticide residues. It also helps to identify potential public health issues that warrant changes in agricultural practices. FDA has also collected and analyzed a number of baby foods in addition to those already covered in the TDS. This TDS adjunct survey includes 23 different food items in each market basket survey.

USDA's Pesticide Data Program, or PDP, collects data on pesticide residues in foods. The data are used by EPA for its dietary risk assessment process and pesticide registration process. It includes a limited number of commodities each year

and monitors fewer pesticide residues at much lower levels than those included in the FDA's regulatory program. The samples are collected as close to the point of consumption as possible. Most samples tested are domestic. For example, approximately 86 percent of samples tested in 1997 were domestic.

The FQPA legislation authorizes an appropriation of $12 million for increased FDA monitoring of pesticide residues in foods for the period fiscal year 1997 through fiscal year 1999. However, no additional funds have been appropriated. FDA currently utilizes about 117 FTE at a cost of $8.6 million.

Question. This Administration and some of my colleagues have advocated giving the Federal Government mandatory recall authority. What powers does the Federal government now have to recall food products?

USDA answer. FSIS does not have mandatory recall authority. The recall system coordinated by FSIS is voluntary on the part of the recalling firm. The voluntary nature of the recall gives the recalling firm some discretion as to the exact timing of the recall which could compromise the effectiveness of the recall action. FSIS may detain or seize adulterated or misbranded product that is in commerce with the cooperation of the U.S. attorney's office and the Federal Courts. If a firm refuses to recall adulterated or misbranded product after asked to do so by FSIS, the Agency may act unilaterally to protect the public health by withdrawing inspection, which would shut down the firm's operation.

FDA answer. The only food for which the Agency has explicit statutory recall authority is infant formula. Under this authority, FDA can request an infant formula recall only in situations that pose a hazard to health.

FDA does not have explicit statutory authority to order the recall of other food products. However, the Agency promulgated regulations for voluntary recalls in June 1978. Among other things, these regulations provide criteria for the health hazard evaluation, the recall classification, the need for public warning, and the effectiveness of the recall. At the present time, when a firm is not willing to voluntarily recall a hazardous product, FDA's alternative is to issue a press release and pursue a court injunction to require the firm to recall and to stop the violative practice.

FDA has no statutory recall authority for veterinary or animal drugs or feeds. However, we can and do request that firms conduct recalls of products that are in violation of the FD&C Act. We also have the authority to take enforcement action, or seizure, if no recall action is taken.

It is my understanding that DNA testing has been increasingly used to link outbreaks in foodborne pathogens.

Question. The Detroit Free Press reports that USDA chose not to actively publicize its most serious recalls 39 percent of the time. How does FSIS decide which food recalls are to be publicized?

USDA answer. FSIS does provide public notification of all recalls by posting a recall notification report (RNR) on its website for all recalls it coordinates. The report provides specific information regarding the recalled products such as, recalling firm, reason for recall, identifying product codes, company contacts, geographic distribution, quantity recalled, and classification. The main purpose of the RNR is to alert State and local public health officials and other responsible parties working in the public health area about product that may be hazardous to health.

FSIS does not issue press releases in all cases. The purpose of Agency recall press releases is to quickly alert the public about product that may present a serious health hazard that they may have in their possession and can identify. Through this tool, the public is alerted to the potential problem and advised to return the product to the point of purchase.

In general, FSIS issues press releases for all Class I Recalls dealing with products that may be in the hands of the consuming public. A Class I Recall may involve only product that is packaged and marketed for food service. In these cases, FSIS would not normally issue press releases since the product is not in the public's possession, nor is it readily identifiable by the public. In fact, issuing press releases in many of these cases may be counter-productive by causing confusion among consumers. FSIS does conduct recall effectiveness checks to verify that the recalling firms, and any subsequent distributors, contact any potential holders of the recalled product with instructions to immediately stop serving it and to dispose of it appropriately. FSIS is currently considering whether it should modify its policy on when it will issue a press release.

Question. An increase of $1 million is requested for FSIS civil rights training and programs. Please explain in more detail how this funding would be spent.

USDA answer. Of the $1 million requested, $500 thousand is for conducting civil rights training that is mandated by USDA for all employees in the areas of disability awareness, sexual harassment, and complaint processing procedures. Train-

ing the inspection workforce, which is dispersed across the nation, necessarily involves travel costs and overtime pay for other inspectors to cover trainees' inspection assignments. These costs exceed the direct cost of training and require additional resources to ensure that mandated training is delivered.

The remaining $500 thousand will be used by FSIS to improve its own civil rights program delivery by addressing the unique environment and needs of the FSIS workforce. FSIS, using this additional funding, plans to fully implement the Alternative Dispute Resolution (ADR) Program, which will provide a process for solving problems at an informal level rather than letting them escalate to the stage where a costly investigation is required. These funds will also be used for improving the civil rights program through training for FSIS managers that is geared to the inspection work setting and its inherent stresses.

Question. Statistics show that the percentage of Salmonella present in broilers, swine, ground beef, and ground turkey is lower since the implementation of HACCP. What does FSIS attribute to this success?

USDA answer. As FSIS has consistently maintained, these are limited data, and care should be taken in interpreting these statistics. The completed sample sets are from the large establishments, and although they produce the significant majority of product, they are fewer in number than either the small or very small category of establishments and their experience may not be typical of the set of all establishments. Furthermore, the data analyzed to date reflect accomplishments during the first year of HACCP implementation and therefore, may not be representative of long run performance.

Nevertheless, FSIS believes these data indicate that the regulatory approach embodied in the PR/HACCP final rule is effective. FSIS believes that HACCP provides incentives for establishments to take frontline responsibility for the production of safe and wholesome meat and poultry products. Establishments which take that responsibility seriously and implement HACCP successfully appear to have the capacity to significantly improve the microbial characteristics of the raw products they produce.

Question. Twenty-six State inspection programs for meat and poultry are overseen and supported by FSIS. These cooperative programs permit States to inspect product for distribution within their own boundaries. Should a State elect to not participate in this program, does FSIS fully fund the inspection for that State? If yes, what is the cost to FSIS for each State not in the program?

USDA answer. FSIS fully funds the cost of mandatory federal inspection in States that do not operate cooperative programs. For the record, the following table displays the estimated cost by State of the federal inspection program for fiscal years 1998 through 2000 under the FSIS appropriation, excluding federal matching funds to those States operating cooperative inspection programs.

[The information follows:]

COST OF THE FEDERAL INSPECTION PROGRAM BY STATE

[Dollars in thousands]

	Fiscal year 1998	Fiscal year 1999	Fiscal year 2000
ALABAMA [1]	$21,661	$22,808	$24,167
ALASKA [1]	.....	.....	.....
ARIZONA [1]	1,232	1,290	1,386
ARKANSAS	32,126	33,671	35,623
CALIFORNIA	30,518	31,987	33,840
COLORADO	9,072	9,508	10,059
CONNECTICUT	1,439	1,508	1,596
DELAWARE [1]	5,224	5,500	5,826
FLORIDA [1]	6,558	7,360	7,787
GEORGIA [1]	34,619	36,572	38,769
HAWAII	1,432	1 ,501	1,588
IDAHO	2,769	2,902	3,071
ILLINOIS [1]	10,941	11,568	12,376
INDIANA [1]	6,532	6,901	7,353
IOWA [1]	20,329	21,352	22,624
KANSAS [1]	11,205	11,523	12,248
KENTUCKY	7,170	7,515	7,951
LOUISIANA [1]	4,385	4,658	4,993

COST OF THE FEDERAL INSPECTION PROGRAM BY STATE—Continued

[Dollars in thousands]

	Fiscal year 1998	Fiscal year 1999	Fiscal year 2000
MAINE	1,198	1,255	1,328
MARYLAND	8,104	8,494	8,986
MASSACHUSETTS	3,662	3,838	4,061
MICHIGAN	9,092	9,530	10,082
MINNESOTA [1]	17,091	17,649	18,680
MISSISSIPPI [1]	15,953	16,736	17,742
MISSOURI	20,784	21,784	23,047
MONTANA	1,325	1,408	1,503
NEBRASKA	22,110	23,173	24,516
NEVADA	393	412	436
NEW HAMPSHIRE	514	539	570
NEW JERSEY	6,395	6,703	7,092
NEW MEXICO [1]	1,019	1,069	1,145
NEW YORK	13,344	13,986	14,796
NORTH CAROLINA [1]	20,003	21,200	22,534
NORTH DAKOTA	1,293	1,355	1,434
OHIO [1]	7,589	8,100	8,726
OKLAHOMA [1]	5,918	6,283	6,702
OREGON	4,313	4,521	4,783
PENNSYLVANIA	21,788	22,836	24,160
RHODE ISLAND	545	571	604
SOUTH CAROLINA [1]	6,940	7,318	7,787
SOUTH DAKOTA [1]	3,225	3,387	3,600
TENNESSEE	7,502	7,863	8,319
TEXAS [1]	33,960	35,932	38,168
UTAH [1]	2,473	2,649	2,831
VERMONT	629	573	619
VIRGINIA [1]	11,647	12,303	13,057
WASHINGTON	6,269	6,571	6,952
WEST VIRGINIA [1]	1,895	2,003	2,139
WISCONSIN [1]	8,490	8,998	9,616
WYOMING [1]	3	9	18
DISTRICT OF COLUMBIA	72,190	75,663	80,048
PUERTO RICO	3,166	3,319	3,509
VIRGIN ISLANDS	55	58	61
GUAM	54	57	60
AMERICAN SAMOA	54	57	60
N. MARIANA ISLANDS			
MICRONESUA			
OTHER COUNTRIES	198	208	218
TOTAL	548,299	576,531	611,254

[1] Identifies those 26 States with a State Meat and Poultry Inspection Program.

Question. What motivates a State to participate in the cooperative program?

USDA answer. States have the potential to provide the optimum response to the unique needs of their local small or very small packers while also responding responsibly to the public health needs of their citizens. State programs may have the potential to provide the most responsive "user friendly" technical guidance as well as regulatory control to very small packers. These local small businesses often lack the technical know-how of larger packers which have experts on staff to address such issues. The cooperative program is a means to support small business in addition to protecting consumers. States may also have pride in maintaining their own programs. When these factors fit in place, sufficient support may exist to fund such a program.

Question. The production of animals on the farm is a quality control issue that is being addressed by the Animal Production Food Safety Staff in FSIS. Please ex-

plain what this staff is doing to encourage the implementation of this quality control program.

USDA answer. The Animal Production Food Safety Staff (APFSS) works with farm and consumer groups, the agri-business industry, state authorities and other USDA agencies to promote the voluntary adoption of producer practices that will result in safer animals. APFSS helps ensure that research is being conducted to identify practices which reduce or prevent human pathogens and residues in or on animals and eggs submitted for processing. The APPSS staff also conducts risk management outreach activities by focusing on the practical application of hazard prevention practices from farm to slaughter.

The Animal Production Food Safety Staff is FSIS's liaison with the animal production community. At the state and local levels, the Animal Production Food Safety Staff works with the 50 State Departments of Agriculture and State Public Health Departments; academia; practicing veterinarians; professional and industry associations and consumer groups. The objective is to reach the one million food animal producers, the thousands of livestock markets, and satellite industries to educate them on the impact of in-plant HACCP systems on animal production practices and the importance of quality assurance practices. The quality assurance standards adopted by industry will provide HACCP plants with information necessary to assess the risks presented by animals submitted to slaughterhouses.

To encourage the adoption of HACCP-compatible quality assurance practices, the Animal Production Food Safety Staff provides funds to State animal and public health agencies to develop animal production food safety local partnerships. Currently 11 states have food safety partnership groups addressing how they can best educate producers on quality assurance practices and HACCP concepts. These states are Colorado, Louisiana, Michigan, Nebraska, New York, Ohio, Oregon, South Dakota, Texas, Vermont, and Wisconsin. The Animal Production Food Safety Staff also is overseeing demonstration projects evaluating pathogen risk reduction practices for non-fed beef (culled dairy beef), pork, lamb and broiler commodities and is working closely with Tuskegee University (Alabama) to determine the educational needs of small and disadvantaged producers.

Question. Are plants that are operating under HACCP advocating changes in the marketing of animals? If yes, which livestock industries are being targeted by these plants?

USDA answer. According to the Final Rule, meat and poultry plants must consider hazards reasonably likely to occur before, during and after entry into official establishments. With regard to plants that are operating under HACCP, some are requiring producers to be educated on certain quality assurance practices. Some producers of branded products also inspect their suppliers for appropriate records for animal drug use and other certified practices assuring the quality of their animals. While FSIS does not have specific knowledge of plant purchasing activities, we are aware that large pork processing facilities are requiring that their suppliers be certified on the Pork Quality Assurance Program, Level III, an educational program in the production of safe /quality animals. At this stage in the development of HACCP, however, this is an exception. In a related matter, we are aware that some plants are having producers sign letters of guarantee regarding the residue safety of the animals supplied.

Question. What role does FSIS play in the National Antimicrobial Resistance Monitoring System (NARMS)? How much does the fiscal year 2000 budget request contain for this?

USDA answer. FSIS believes that slaughter origin Salmonella isolates are critical to assessing the extent of human exposure to antibiotic resistant bacteria in foods of animal origin. Under HACCP, FSIS conducts Salmonella testing of raw products in order to monitor plant compliance with pathogen reduction standards. These results are reported as positive or negative for Salmonella. Other Agency activities, such as participation in PulseNet make additional use of Salmonella isolates. These additional uses require that the Salmonella isolates be serotyped. FSIS pays for a percentage of its total Salmonella isolates to be serotyped at the USDA, Animal and Plant Health Inspection Service, National Veterinary Services Laboratory (NVSL), in Ames, Iowa. For fiscal year 2000, the Agency estimates $100,000 will be required for this and related testing at NVSL.

To support NARMS, FSIS forwards these serotyped Salmonella isolates from each of our field laboratories to the USDA-ARS research laboratory in Athens, Georgia, that conducts the antimicrobial resistance testing for the veterinary portion of the NARMS program. Beginning in fiscal year 1999, FSIS began a baseline sampling program for Campylobacter in broilers. The FDA's Center for Veterinary Medicine requested, and FSIS agreed, to forward those isolates to the same USDA-ARS research laboratory in Athens, Georgia. Agency databases contain the most complete

information about the establishment and product source of these serotyped isolates. Accordingly, the Agency provides NARMS with technical support in order to correctly interpret the slaughter origin Salmonella and Campylobacter data.

Question. In January, the inspector's union met with Congressional staff and argued that the old system needed to be maintained in its entirety in conjunction with HACCP. This is at complete odds with the commitments the Secretary of Agriculture, and FSIS have made to Congress. How are you working with the union to resolve this dispute, and do you anticipate the union's position will slow FSIS' timetable or force a policy change?

USDA answer. In the early 1990's, FSIS' thinking about HACCP and its relationship to the existing inspection system was quite different than it is today. FSIS believed that HACCP could be implemented as a supplement, not a replacement, to the existing inspection system. HACCP was viewed as a mandatory industry process control system intended as an enhancement to the current inspection system. In fact, the Agency signed a memorandum of understanding with the union that confirmed the thinking of that time.

[The information follows:]

MEMORANDUM OF UNDERSTANDING

In an effort to improve relations and communications with respect to the HACCP initiative, the National Joint Council (NJC) and Food Safety and Insection Service management are committed to the following:

(1) HACCP is viewed as a mandator industry process control system, not as a system of inspection.

(2) The implementation of HACCP is intended to be an enhancement to the current inspection system and not a substitute for inspection.

(3) FSIS plans to make HACCP mandatory so that the industry can improve food safety, not to reduce the number of inspectors.

(4) FSIS will support any unit employee when their action causes a reduction in plant production due to HACCP non-compliance if the action is in accordance with established regulations, directives and guidance.

(5) To the extent that disagreements arise between the parties concerning any aspect of the HACCP initiative, the undersigned will first use internal mechanisms to address their concerns. If those mechanisms fail, then the parties are free to use alternative methods.

(6) The parties recognize that circumstances, both those that currently exist and those unforeseen, may impact on the commitments made above. The parties, therefore, recognize the importance of maintaining continued communication concerning HACCP so that changes in circumstances can be dealt with in the spirit of a good faith labor management relationship.

Subsequent development of the HACCP regulatory framework and the public process through which the Pathogen Reduction and HACCP (PR/HACCP) final rule was developed led to a different conclusion. That is, that the HACCP system must be implemented in a way that would focus industry efforts on production of safe products and that would focus FSIS regulatory efforts on verifying the effectiveness of the industry's HACCP system. Through the public process, it became clear that the implementation of HACCP needed to do more than supplement the existing inspection system. It must also result in no layering of additional regulatory requirements on top of existing regulations. FSIS' regulatory reform efforts over the past few years since promulgation of the PR/HACCP final rule have focused on eliminating such layering.

The next steps in that process are to determine whether the existing inspection system can be further modernized based on the existence of industry HACCP systems. In particular, this means determining whether traditional slaughter inspection procedures for certain market classes of animals can be modernized by industry assumption of principal responsibility for food safety concerns at slaughter. The HACCP-based inspection models project is focused in part on this question.

The Agency has engaged in an open, public process for the development of alternative methods of conducting regulatory activities in certain types of slaughter plants. Federal register notices have been issued periodically to share Agency thinking and three public meetings have been held to date. A new design for inspection work has been developed and was the subject of extensive negotiations with the union January 5–14 and February 23–25, 1999. The parties were assisted by a mediator from the Federal Mediation and Conciliation Service at the latter session. Following mediation the parties jointly submitted the outstanding issues to the Federal Service Impasses Panel for resolution.

The existence of litigation has not affected FSIS' resolve to seek alternative inspection methods that work more effectively in the HACCP-based production environments of regulated plants. While litigation is pending, the Agency is continuing work on developing new inspection systems. As progress is made, consultations and negotiations with the union are conducted. It is anticipated that the continuing dialogue between the Agency and the union throughout all appropriate venues will facilitate resolution of differences and permit the introduction of new food safety strategies in a timely manner.

Question. FSIS has initiated HACCP pilot programs in several meat and poultry plants to see if new inspection strategies could help in the fight against foodborne pathogens. We understand the inspector's union is suing the agency over the pilots and that the pilot program thus cannot move forward. Has FSIS' commitment to the pilots wavered, and how does FSIS propose to resolve the problem so we can begin taking advantage of these new food safety strategies?

USDA answer. No, the Agency's commitment to the pilots has not wavered and it anticipates resolution of the outstanding issues with the inspectors' union through the Federal Service Impasses Panel. Dialogue between the FSIS and the union continues throughout all appropriate channels, which will facilitate the resolution of differences and permit the timely introduction of new food safety strategies.

Question. Regardless of this impasse, many pilot plants still are seeking to implement new technologies in fighting pathogens. We understand FSIS is requiring testing protocols before these new technologies can be implemented. This flies in the face of FSIS' commitment last year to Congress to fast-track technological innovations that reduce pathogens. Why does FSIS need to approve protocols for the pilot plants when it already has conducted baseline microbial testing and can determine by the results of subsequent pathogen testing whether the new technology is yielding beneficial results?

USDA answer. Before implementation of the Pathogen Reduction; HACCP final rule (PR/HACCP), FSIS approval of protocols for in-plant trials of new technologies was required. Under PR/HACCP, FSIS approval is no longer required and a plant generally is free to innovate and experiment without FSIS prior approval. If requested, FSIS will provide technical advice and conduct a review of protocols for in-plant trials of new technologies.

Under the PR/HACCP final rule, the Food Safety and Inspection Service's strategy to improve food safety encourages the use of innovative technologies to reduce or eliminate pathogens from food. In fact, this strategy calls for FSIS to establish food safety standards that provide incentives for the food manufacturing and allied industries to develop and implement innovations that lead to improved food safety. The design of an experiment to test an innovation in-plant is the plant's decisions. If a plant decides to conduct an in-plant trial, it must accept responsibility for its workers, its products, and for providing the information necessary for FSIS to examine the impact on inspection procedures and inspector safety. The plant also is responsible for ensuring that it conducts the in-plant trial in accordance with any applicable regulatory requirements (e.g., OSHA, FDA, EPA, requirements). The Agency's role under PR/HACCP is to provide regulatory oversight, not approval, of the in-plant trial or the innovation. The main purpose of such oversight is to verify that the trial or introduction of a new technology will not interfere with FSIS inspection personnel's ability to verify that the food is safe or compromise the safety of FSIS inspection personnel. This is accomplished through the review and clearance of protocols for in-plant trials when there is reasonable expectation that inspection procedures will be affected or the safety of FSIS inspection personnel is in question.

The only other circumstance in which FSIS has required testing of a new technology is if implementation of the technology will require a change in FSIS' regulations, for example, use of trisodium phosphate for on-line reprocessing has required testing. This testing is necessary to provide a basis for a change in FSIS' regulations, which do not permit on-line reprocessing of poultry.

Question. You recently told the House Agriculture Appropriations Subcommittee that some meat and poultry plants are resisting the effort to remove unnecessary layers of the old inspection system. Could you please provide the committee with more complete detail about the types of plants that are resisting de-layering and a list of specific regulations that plants have told the agency they want to retain?

USDA answer. A number of establishments have strongly opposed FSIS regulatory reform efforts regarding certain regulations. The elimination of prior approval for proprietary substances and nonfood compounds included within the proposed rule on "Sanitation Requirements for Official Meat and Poultry Establishments" (62 FR 45045); the conversion of the historically prescriptive thermal processing (canning) requirements into performance standards (9 CFR 318.300 and 381.300); and the elimination of prior approval for equipment included within the final rule on

"Eliminating of Prior Approval Requirements for Establishment Drawings and Specifications, Equipment, and Certain Partial Quality Control Programs" (62 FR 45016) are among those reforms opposed by certain segments of the industry.

Question. We have heard concerns about FSIS conducting inspections in warehouses and at the retail level. Obviously, no one wants to see duplication of state and local efforts, but you seem to feel FSIS has an appropriate role to play in such inspections. Please describe for us the role you envision for federal inspectors and the ways you think it could enhance the safety of the food supply?

USDA answer. The In-Distribution portion of the HACCP-Based Inspection Models Project is designed to redeploy some inspectors currently assigned within plants to verify the safety and wholesomeness of meat and poultry products as they move to consumers. FSIS envisions one fully integrated program that will permit movement of personnel between in-plant and in-distribution sites, consistent with farm-to-table food safety goals. Thus, the in-plant and in-distribution models are being developed concurrently and are both essential components of the HACCP-Based Inspection Models Project.

FSIS' goal is to reduce the risk of foodborne illness associated with the consumption of meat and poultry products to the extent possible. To achieve this goal, FSIS is carrying out a farm-to-table strategy that recognizes the need to take steps at each segment of the farm-to-table chain to improve food safety. The need to adopt a farm-to-table strategy was articulated in the Agency's February 3, 1995, proposed rule on Pathogen Reduction and Hazard Analysis and Critical Control Point (HACCP) Systems. In that document, FSIS stated that as a major element of its food safety regulatory strategy:

> "FSIS must approach its food safety mission broadly, and address potential hazards that arise throughout the food production and delivery system, including before animals enter FSIS-inspected facilities and after meat and poultry products leave those establishments."

A significant problem with the current inspection system is that it does not fully permit FSIS to allocate resources according to public health risk. Thus, where gaps in public health protection are identified, the Agency may not be able to respond. For example, there are indications that risks to consumers associated with inspected products often stem from hazards associated with the handling of products during transportation, storage, or retail sale (commonly referred to as "in-distribution."). It is important that FSIS have the ability to focus its resources as appropriate to address the risks identified. This flexibility will enhance the overall safety of the food supply by addressing hazards that occur after product leaves the plant on the way to consumers.

Question. It is my understanding that DNA testing has been increasingly used to link outbreaks in foodborne pathogens.

(1) Can DNA fingerprinting alone definitively link a food product to a human illness"?

USDA answer. FSIS uses pulsed-field gel electrophoresis (PFGE) for "genetic fingerprinting" of E. coli O157:H7, Salmonella spp. and Listeria monocytogenes. This technique is highly discriminative and reliable compared to other molecular subtyping methods used for foodborne pathogens. FSIS laboratories employ methodology that has been approved and standardized by the Centers for Disease Control and Prevention (CDC). The CDC standardized methodology is used not only by FSIS laboratories, but CDC and participating State public health department laboratories as well.

FSIS actively shares PFGE data with CDC and participates in PulseNet, a network of federal and State health department laboratories dedicated to the early detection of incipient outbreaks. This collective effort has already proven invaluable for protecting the public health. Laboratory intercommunication of PFGE data played a vital role in implicating ground beef produced by Hudson Foods for a cluster of foodborne illness cases in Colorado and other states in the summer of 1997.

(2) Is the Department willing to share pathogenic isolets with the food processing industry?

Answer. It is FSIS policy not to share evidentiary cultures. Cultures that are potentially associated with samples pending regulatory and/or legal action are considered evidentiary.

FDA answer. No. DNA "fingerprinting" has greatly facilitated rapid recognition of foodborne disease outbreaks and identification of the sources of outbreak by permitting comparison of bacteria isolated from humans and from suspected food using standardized equipment and methods. However, DNA "fingerprinting" results must be considered along with epidemiologic investigation data in making links between

a food source and human illness. In the absence of epidemiologic data, DNA "fingerprinting" alone cannot definitively link a food product to human illness.

Bacteria are "fingerprinted" by their unique DNA composition through a method known as pulsed-field gel electrophoresis (PFGE). DNA is extracted from the bacteria and treated with an enzyme that cuts the DNA at specific places called restriction sites. The location of these restriction sites is unique to each strain of bacteria. The resulting pieces of DNA are then separated in an electrical field, resulting in a "DNA fingerprint" resembling a bar code.

FDA answer. Yes. Once an outbreak investigation is completed and a final report has been issued, CDC shares outbreak-associated isolates with the company whose product was involved or with an appropriate industry trade association. CDC requires the company or the trade association to submit an official written request for the isolate(s) and certify that it has access to laboratory resources for appropriate handling of pathogenic bacteria under recommended biosafety guidelines. FDA shares resistant strains with whomever requests them.

Question. It is my understanding that there have been several errors made by FSIS in relation to its testing program and recalls. For example, there was a recall that may have actually been a mistake since the laboratory in Florida could not "find" the E. coli O157:H7 after the laboratory said it was in the meat; in another case, FSIS issued a press release listing the wrong products, telling consumers to return to their grocery stores products that were not even contaminated. What are your plans for addressing these problems?

USDA answer. In the Florida case mentioned, FSIS requested the firm voluntarily recall about 359,000 pounds of its ground beef based on the following factors: 1) official notice from the Florida State Department of Agriculture and Consumer Services that an intact sample of ground beef produced at an FSIS inspected plant confirmed positive for Escherichia coli O157:H7; 2) the Agency's review of the laboratory methods used by the State; and 3) the fact that E. coli O157:H7 is a dangerous pathogen.

The Florida food laboratory made subcultures from the original culture and sent them to the Florida health laboratory and the FSIS Special Projects and Outbreaks Laboratory. In the course of examining the isolates, the FSIS lab did not detect E. coli O157:H7 in the subcultures, which are samples of the samples. However, failure by other labs to reconfirm original results does not invalidate the original confirmed results. Based upon our review of the Florida Laboratories method, there is no reason to doubt the accuracy and reliability of the original testing procedures that confirmed the pathogen in a product sample.

Although not common, it is possible to "lose" E. coli O157:H7 during the transfer from original culture to subculture. One possible explanation is that the original culture contained other organisms that outgrew (out-competed) E. coli O157:H7. Because the original culture is not available to retest, it is impossible to determine that this occurred. However, even if faulty transfer had occurred, this finding would not invalidate the original confirmation.

To address the concerns raised by your question, FSIS has instituted a policy of not formally requesting recalls by firms based solely on laboratory results from other than FSIS laboratories.

In cases when third party laboratories report positive pathogen findings to us, FSIS makes a diligent effort to collect samples of the same "lots" of product tested by the reporting laboratory and acts on the results of its official samples. In the question you raise about a press release that may have listed products incorrectly, the Agency is not aware of the specific case referred to. FSIS relies on product and coding information provided by the recalling establishments. As you are aware, FSIS is also engaged in a public process of reviewing its general recall policies and practices. The Agency is currently evaluating comments on its proposals from all stakeholders. When the analysis is completed, policy decisions will be considered by the Department.

Question. As you are well aware, the General Accounting Office, the National Academy of Sciences, and others have concluded that the nation's food safety system is "bureaucratically fragmented", being implemented by over 12 agencies and overseen by 28 different congressional committees, and should be reorganized under a single food safety authority. Do you agree?

USDA answer. Recently, the President's Council on Food Safety reviewed and responded to the National Academy of Sciences Report (NAS). Although the NAS report indicates that many of the NAS committee members believe that a single, unified agency headed by a single administrator is the most viable structure for implementing the "single" voice concept, the Council response recognizes that there may be many other models that would be workable.

The Council agreed with the goal of the NAS recommendation—that there should be a fully integrated food safety system in the U.S. The food safety agencies are

committed to this goal, and the President's Council is confident that its comprehensive strategic plan will be a major step toward creating a seamless food safety system. To ensure that the strategic plan achieves this goal, the Council will conduct an assessment of structural models and other mechanisms that could strengthen the federal food safety system through better coordination, planning and resource allocation.

While the Council recognized that certain models of reorganization may improve coordination and allow for better allocation of resources, any reorganization of food safety activities must consider the non-food-safety-related responsibilities of each agency and how these relate to the food safety responsibilities. Reorganization must not be done at the expense of these other responsibilities and activities. The Council is concerned that if not done carefully, separating food safety from non-food safety activities in each agency could act to weaken consumer and environmental protection overall.

FDA answer. We are aware of the numerous reports over the years that have recommended a single food agency or recommended that all food safety activities are located together or in one or another existing agency. The NAS report recommended a new statute that would establish a unified framework for food safety programs with a single official with control over all federal food safety resources. The report went on to acknowledge that there may be several organizational approaches to achieving the goal of a single voice for federal food safety activities, with a single agency being only one possibility. The President's Council on Food Safety, of which DHHS is a co-chair, responded to the NAS report, by voicing the commitment of the food safety agencies to achieving a fully integrated food safety system in the U.S. In formulating a strategic plan to achieve this goal, the Council will evaluate various models of reorganization that may improve coordination of food safety activities to be more effective and efficient. The Council, echoing concerns expressed in the NAS report, pointed out that reorganizations must avoid interfering with the public health framework established to identify and respond to infectious and non-infectious public health threats whether they are foodborne or not, since many of the major foodborne pathogens also produce non-foodborne disease. FDA is committed to working within the structure of the Council on Food Safety to develop a more coordinated, effective and efficient U.S. food safety system.

Question. Dr. Woteki, you indicate in your prepared statement that the Administration has been actively engaged in organizational and program changes to improve coordination and eliminate conflicts, enhance coordination of responses to public health issues and emergencies, and coordinate research planning and prioritization.

What conflicts and areas for improved coordination have been identified? What organizational and program changes have been made by the Administration to address these?

USDA answer. Much has been said about the need for organizational and structural change in the intergovernmental system as well as the need for more coordination within an improved food safety system. The Administration has been actively engaged in organizational and program changes to eliminate conflicts, enhance coordination of responses to public health issues and emergencies, and coordinate research planning and prioritization.

In 1994, the Congress and Administration cooperated in enacting a major reorganization of food safety within USDA, creating the new mission area and Office of the Under Secretary for Food Safety, which oversees the Food Safety and Inspection Service (FSIS) and the U.S. Manager of Codex Alimentarius. Under that legislation, a mission area dedicated to public health was created within USDA, and the legislation mandated that this office be occupied by an individual with a proven background in public health and safety.

The Food Safety and Inspection Service (FSIS), the USDA regulatory agency under the Under Secretary for Food Safety that is responsible for the safety of meat, poultry, and egg products, also underwent a major reorganization. Among its most significant features were the establishment of a more efficient field organizational structure and the establishment of a new Office of Public Health and Science to provide scientific focus, leadership, and expertise to address the most important public health risks related to meat, poultry, and egg products.

Research is also a key component of the President's Food Safety Initiative. There have been a number of actions taken by the Administration and the Department in the past few years that have provided an expanded role for coordinating research in the U.S. food safety system.

The 1994 reorganization of USDA centralized research activities in the newly created mission area and the Office of the Under Secretary for Research, Education and Economics (REE). Food safety research is largely funded through two USDA agencies—the Agricultural Research Service (ARS) and the Cooperative State Re-

search, Education and Extension Service (CSREES). Together in fiscal year 1998 these agencies conducted and funded in excess of $56 million in food safety research. The centralized research focus enables the Department to better leverage existing funds.

The REE research activities, both intramural and extramural, are intended to meet the need of the regulatory agencies to achieve improved food safety via HACCP implementation and other initiatives. To that end, ARS, the intramural research arm of USDA, and FSIS have yearly food safety and research budget and planning sessions. These sessions provide one mechanism to ensure that proposed research initiatives address the specific priorities of FSIS. In addition, FSIS consults closely with other USDA agencies to ensure that its critical research and information needs are being met.

CSREES supports food safety research via several funding mechanisms that include formula funds, National Research Initiative competitive grants, special research grants awarded by a competitive process and special site-specific grants that are appropriated by Congress. The priorities for competitive grants are based on stakeholder input, including government agencies in support of their public health mission.

The Administration has also been actively engaged in other coordinated research planning and prioritization. In 1998, an Interagency Working Group (IWG) on Food Safety Research was created. The IWG, co-chaired by USDA and the Department of Health and Human Services (HHS), is charged with developing a government-wide coordinated strategy for food safety research, including the identification of information gaps and priorities for future research. The IWG provides a forum for coordination, collaboration, and communication in setting and reviewing the Federal research agenda.

In July 1998, the President directed the Secretary of Agriculture and Secretary of Health and Human Services to develop a Joint Institute on Food Safety Research (JIFSR). The JIFSR concept provides a mechanism for coordinated planning of food safety research among the various parts of government and the private sector, as well as fostering effective translation of research results into practice. The JIFSR, operationally located in REE at USDA, expects to optimize food safety research investments, channel Federal resources to research that is needed to minimize the impact of current and emerging food safety problems, and avoid research redundancies. The JIFSR is currently being developed jointly by USDA, HHS, and Office of Science and Technology Policy. The program is expected to be fully developed by late 1999. FSIS and FDA are in the process of implementing a Memorandum of Understanding (MOU) to facilitate appropriate sharing of information among senior agency field personnel regarding safe food production in these plants. FSIS has a trained inspection force in every Federally inspected meat and poultry slaughter and processing plant in the United States. In some cases, products are being processed in the same plants that fall under the jurisdiction of FDA because they are food products that do not contain meat or poultry.

USDA is also working more closely with its counterparts at the Federal, State, and local level to encourage national uniformity in food safety standards through support and endorsement of the Food Code. Because world trade in agricultural commodities continues to grow, USDA is working through the Codex Alimentarius Commission to encourage international uniformity in food safety standards. Responsibility for oversight of the U.S. manager of Codex is in the Office of Food Safety.

There are several other areas that are contributing to enhanced coordination of public health issues and emergencies that are worthy of note including voluntary quality control programs, surveillance, outbreak response, and education.

Voluntary Quality Control Programs.

The Animal Production Food Safety Staff in FSIS is an excellent example of developing partnership with states to encourage the voluntary implementation of quality control programs at the animal production level. The education of small producers is of particular concern as we move forward with HACCP implementation in small plants.

Surveillance

In July 1995, USDA began a collaborative project with HHS, through its Centers for Disease Control and Prevention (CDC) and Food and Drug Administration (FDA), to collect more precise information on the incidence of foodborne disease in the United States. The FoodNet Surveillance Network has been expanded under the President's Food Safety Initiative, and it is providing valuable information on trends in foodborne illness and on the association between cases of illness and the types of foods consumed.

USDA also conducts farm-level surveillance through the Animal and Plant Health Inspection Service (APHIS). APHIS has a field force of veterinarians who work cooperatively at the state and local level to ensure the health of poultry and livestock populations. APHIS' National Animal Health Monitoring System has conducted nine science-based studies addressing information gaps in the areas of animal health, welfare, and production; product wholesomeness; and the environment in the cattle, swine, and layer industries.

The National Antibiotic Resistance Monitoring System was established in 1996 as an interagency cooperative activity to monitor emerging resistance in foodborne pathogens, beginning with Salmonella. The effort is coordinated and directed through HHS by the Food and Drug Administration's Center for Veterinary Medicine (CVM) and includes CDC and three USDA agencies, ARS, APHIS, and FSIS. Both APHIS and FSIS play an integral role in system design and the acquisition of isolates.

Outbreak Response

In 1998, the Foodborne Outbreak Response Coordinating Group (FORC G), a partnership of Federal and State agencies, was established to better respond to foodborne illness outbreaks. The role of this interagency group, co-chaired by the Under Secretary for Food Safety and the Assistant Secretary for Health, is to coordinate and develop procedures for managing outbreaks, share information on potential sources of outbreaks and pathogens, and coordinate interdepartmental action on those issues when necessary.

Within USDA, the Secretary asked the Under Secretary for Food Safety to form and chair an internal Food Emergency Rapid Response and Evaluation Team (FERRET), designed to enable USDA to be prepared to respond to such emergencies as outbreaks involving foods purchased by USDA feeding programs, and formulate plans across mission areas to diminish those possibilities in the future.

PulseNet, the national database of molecular fingerprints of pathogens, developed through partnerships involving CDC, FSIS, FDA, and State governments, allows a comparison of strains of bacteria to determine whether or not there is a single source for outbreaks or sporadic cases.

Education

Improving research, inspection, and surveillance alone will not ensure safe food. Education and training for all those involved in producing, processing, and distributing food are essential to the goal of providing the public with safe food products.

The President's Food Safety Initiative has spurred new consumer education programs within USDA as well as expanded cooperative ventures with public and private partners, including other Federal agencies. One example is the "Fight BAC!" campaign sponsored by the Partnership for Food Safety Education, a public-private partnership, with participation of both USDA and HHS. In addition, USDA is working through organizations such as the Association of Food and Drug Officials (AFDO) to provide education to those who handle food at the retail level and is carrying out extensive HACCP education for its own and State employees involved in inspection.

USDA is also working with industry to develop science-based food safety assurance programs for fresh-cut fruit and vegetable processing facilities. USDA is basing its safe food handling education on science. Epidemiology information from FoodNet and other sources is helping to identify types of foods associated with illness, behaviors that can contribute to disease, and populations who are more vulnerable. In addition, USDA is increasingly using risk assessments and research data to develop accurate and high-priority consumer messages. An example is an ARS/FSIS study on the premature browning of ground beef, which led to a nationwide education campaign to promote the use of food thermometers when cooking hamburger.

CSREES administers a food safety education program, called the National Food Safety and Quality Initiative, in partnership with land-grant institutions across the United States. This program supports food safety education initiatives at all land-grant institutions as well as specific education initiatives that reach animal and food handlers along the entire farm-to-table chain. In addition, science-based programs in HACCP training for the meat and poultry industry are funded by CSREES through Fund for Rural America grants and special research grants. The scope and focus of these educational programs are developed in consultation with stakeholders, including other Federal agencies involved in food safety education.

Question. When will the Administration's report on the proposal to consolidate the rules and agencies dealing with food safety be complete?

USDA answer. The President's Council on Food Safety has completed its review of the National Academy of Sciences report "Ensuring Safe Food from Production

to Consumption." The Council submitted a response to the President in March and the report is provided for the record.

[The information follows:]

PRESIDENT'S COUNCIL ON FOOD SAFETY ASSESSMENT OF THE NAS REPORT: ENSURING SAFE FOOD FROM PRODUCTION TO CONSUMPTION

Executive Summary

At the request of Congress, the National Academy of Sciences (NAS) conducted a study of the current food safety system to: (1) determine the scientific basis of an effective food safety system; (2) assess the effectiveness of the current system; (3) identify scientific and organizational needs and gaps at the federal level; and (4) provide recommendations on scientific and organizational changes needed to ensure an effective food safety system. To conduct this study, the NAS established a committee and obtained input from federal agencies and other stakeholders of the federal food safety system. The NAS issued its report on August 20, 1998.

On August 25, 1998, through Executive Order 13100, the President established the Council on Food Safety and charged it to develop a comprehensive strategic plan for federal food safety activities and to make recommendations to the President on how to implement the plan. Also on August 25, 1998, the President directed the Council to provide him with an assessment of the NAS report in 180 days. Specifically, the President directed:

> ". . . the Council to review and respond to this report as one of its first orders of business. After providing opportunity for public comment, including public meetings, the Council shall report back to me within 180 days with its views on the NAS's recommendations. In developing its report, the Council should take into account the comprehensive strategic federal food safety plan that it will be developing."

In response to the President's directive, the Council established a task force consisting of representatives from the following departments and agencies: Departments of Agriculture (USDA), Health and Human Services (HHS), and Commerce (DOC), Environmental Protection Agency (EPA), Office of Science and Technology Policy (OSTP), and Office of Management and Budget (OMB). The task force benefited from valuable input obtained at four public meetings (Arlington, VA; Sacramento, CA; Chicago, IL; and Dallas, TX) and from public comment dockets maintained by EPA, USDA/Food Safety and Inspection Service (FSIS), and the HHS/Food and Drug Administration (FDA).

In general, the Council finds the NAS report a constructive contribution to efforts to improve the effectiveness of the federal food safety system through strengthening science and risk assessment, strategic planning, and better federal integration with state and local governments. In particular, the NAS places appropriate weight throughout its report on applying science to the management of government food safety efforts. Science must be advanced within the context of these competing interests. The NAS report recommends that priorities of the nation's food safety system should be based on risk. The Council agrees with the report's thesis that a food safety system that includes regulation, research and development, education, inspection and enforcement, and surveillance should be based on science and should use various risk analyses including quantitative and qualitative risk assessments and risk management principles to achieve such a system.

The Council recognizes that a food safety system comprised of multiple agencies with differing missions and statutory authority may increase the potential for uneven adoption and inconsistent application of science-based regulatory philosophies. While different applications may provide useful information to policy makers relative to the effectiveness of various approaches, the Council's strategic plan (including its assessment of existing statutes and structures) will result in more consistent regulatory measures and philosophies. The Council is committed to identifying further improvements that would result in a seamless, science-based food safety system.

RECOMMENDATION I—BASE THE FOOD SAFETY SYSTEM ON SCIENCE

The NAS report recognizes that the United States has enjoyed notable successes in improving food safety and that with increasing knowledge, many rational, science-based regulatory philosophies have been adopted. The report suggests, however, that adoption of these regulatory philosophies has been uneven given the fragmentation of food safety activities, and the differing missions of the various agencies responsible for specific components of food safety. The greatest strides in ensuring future food safety from production to consumption, the NAS argued, can be made

through a scientific, risk-based system that ensures surveillance, regulatory, research, and educational resources are allocated to maximize effectiveness.

Council Assessment

The Council strongly endorses this recommendation. Many federal food safety programs are already, or are being modified to be, science-based. The Council recognizes that scientifically robust programs will result in better identification of public health needs, and determination of the most effective means of reducing public health risk, including the most cost-effective opportunities for improvement, and improved priority setting.

The scientific information generated through surveillance, research, and risk assessment efforts will result in improved food safety only if there is a commensurate strong effort to translate that scientific information into practical, usable information at the working level, e.g., through guidance or education. This means there must be education for all those involved in producing, manufacturing, transporting, and preparing food as well as for those persons involved in government food safety regulatory activities.

The Council's goal is to ensure that science-and risk-based decision making are central to the Administration's on-going efforts and its strategic plan. Considerable improvements have been made over the past several years. The strong scientific underpinnings of the President's Food Safety Initiative, enactment of the Food Quality Protection Act (FQPA), restructuring of food safety agencies within USDA, and many individual agency activities such as implementation of Hazard Analysis and Critical Control Points (HACCP) programs for meat, poultry, and seafood, have strengthened the overall science base of the food safety system.

The Council believes that the necessary elements of a science-based program—surveillance, outbreak response, risk assessment, research, regulation, inspection, and education—are largely in place, and that improvements planned for the next 5–10 years will enhance food safety significantly. The Council will consider in its strategic plan the following elements of a science-based food safety system:

Surveillance.—Food safety agencies will continue to develop more effective ways to achieve surveillance goals and to monitor the safety of the food supply. Although FoodNet (foodborne disease surveillance system), PulseNet (foodborne pathogen DNA fingerprinting system), and the National Antibiotic Resistance Monitoring System (NARMS) provide information never before available in the United States on foodborne illnesses and the occurrence of antibiotic resistant pathogens, enhanced quantitative data on the entire range of infectious and non-infectious foodborne hazards will require additional efforts.

Risk Assessment.—Risk assessment is a valuable tool for setting priorities, allocating resources, and making regulatory decisions and must be continually improved. For example, EPA will continue to refine its risk assessment methods to determine acceptable levels of pesticides residues. Under FQPA, this approach has been strengthened to further protect all consumers, especially children, from the risks of pesticides in their diet. As currently is done for chemical hazards, the federal government needs to create and use a national microbial risk assessment capability as a means of identifying hazards and quantifying risk and assist in creating similar capacities internationally.

Research.—Through the Joint Institute for Food Safety Research, a research infrastructure has been established to improve and coordinate food safety research activities across the federal government. The Institute will continue a critical review of the federally supported food safety research that was begun through the National

Science and Technology Council.—Future goals in the area of research include: coordination of research planning; budget development and prioritization; scientific support of food safety guidance, policy, and regulation; enhanced communication and links among federal agencies; and enhanced communication and links with industry and academic partners through use of public-private partnerships and technology transfer mechanisms.

Education.—Food safety agencies will expand science-based education and training programs for producers, processors, distributors, food service and public health workers, health care providers, food scientists, and consumers as well as those involved in regulatory activities. It is essential to include in these programs new scientific information on foodborne hazards and their control and effective food safety management strategies.

Inspection/Preventive Controls.—FSIS and FDA will further improve and evaluate the effectiveness of inspections of domestically and internationally produced food and will continue to develop and implement science-based preventive controls such as HACCP systems and the Good Agricultural Practices. Where necessary, regulatory requirements will be established, such as additional performance standards

for pathogen reduction that can be developed as more monitoring and surveillance data become available.

Consistency of Science-Based Standards.—FSIS, FDA, and EPA will work toward clear food safety standards nationally and internationally. The Conference for Food Protection brings together all 50 states for purposes of regulating retail establishments, and the model Food Code is gaining wider adoption among the states. Internationally, the Codex Alimentarius Commission (CAC) is the primary mechanism through which these activities will take place. U.S. food safety agencies should also become more active in providing technical assistance to developing countries.

Private Sector Incentives.—The federal and state regulatory agencies will work with the private sector to develop new technologies to further food safety and to encourage commercial scale-up applicable in large and small companies, and industry adoption. Research efforts with industry, consumer, academic, and government participation could develop and validate new technologies.

Evaluation.—Evaluating the effectiveness of science based regulatory programs continues to be critical. For example, Salmonella data from the first year of HACCP implementation in poultry facilities show a trend toward fewer contaminated products. Also, by providing important information on trends in the incidence of infections with foodborne pathogens, FoodNet assists in the evaluation of the effect of preventive controls. The effect of preventive controls implemented by the processed food industry on the reduction of the number of cases of listeriosis was readily apparent in the Centers for Disease Control and Prevention (HHS/CDC)-conducted surveillance effort that was a forerunner of FoodNet.

A general challenge for the food safety agencies is that while they must be guided primarily by science, the agencies must also consider other factors such as technical limitations, statutory mandates, policy considerations, budget constraints, practicality, and consumer and societal preferences.

Scientific Challenges

The Council faces a number of challenges in improving the scientific base of the food safety system. The following are a few examples of challenges that must be met to strengthen the scientific underpinnings of federal food safety efforts:

—New data are required to address the occurrence of emerging pathogens, changes in domestic food habits, a global food supply, and changes in demographics. Specific data needs are difficult to predict and obtain in a timely way. An example is the impact of E. coli O157:H7, which was unknown as a foodborne pathogen 20 years ago, but has been responsible for major outbreaks of foodborne illness in recent years.

—Gaps exist in our knowledge of microbial pathogens and in our ability to measure their impact on human health. For example, there are gaps in knowledge about the pathogens associated with fresh fruits and vegetables and the routes of contamination.

—Assessment of the total impact on health of multiple chemicals from multiple sources presents a major scientific challenge. Implementation of the new FQPA standards for pesticide residues requires EPA to assess aggregate risk from food, water, and residential exposure to a single pesticide as well as cumulative risk from multiple pesticides.

—Gaps exist in our knowledge of effective interventions, prevention, and alternatives that minimize contamination of food. For example, the existing limited body of knowledge about microbial contamination limits the ability to develop on-farm preventive controls and systems of testing. Similarly, with the advent of FQPA, more research is also needed to develop safer pesticide alternatives or crop production techniques in order to promote transition from older pest control techniques that may pose risks to newer, safer ones.

—Insufficient data exist on the entire range of infectious and non-infectious foodborne hazards. Even with the improvements made through FoodNet and PulseNet, enhancement of quantitative data on the entire range of infectious and non-infectious foodborne hazards will strengthen monitoring and surveillance programs for prevention, early identification, and prediction of emerging food safety problems.

RECENT CHANGES THAT STRENGTHEN THE FEDERAL FOOD SAFETY SYSTEM SCIENTIFIC BASE

USDA 1994 reorganization (separated public health from marketing functions)
HACCP implementation (12/97 seafood and 1/98 meat and poultry)
FQPA enactment and implementation
FoodNet/PulseNet established
FDA Fresh Produce Guidelines released
Joint Institute for Food Safety Research created
Research funding increased
Food Safety Research Database initiated
Annual Food Safety Research Conference held
Interagency Risk Assessment Consortium established

Congress should change federal statutes so that inspection, enforcement, and research efforts can be based on scientifically supportable assessments of risks to public health.

The NAS report identifies a need for a "national food law that is clear, rational, and comprehensive, as well as scientifically based on risk" as a major component of a model food safety system. The report concludes it is necessary to revise the current statutes on food safety to create a comprehensive national food law under which:

—Inspection, enforcement, and research efforts can be based on a scientifically supportable assessment of risks to public health. This means eliminating the continuous inspection system for meat and poultry and replacing it with a science-based approach that is capable of detecting hazards of concern.
—There is a single set of flexible science-based regulations for all foods that allows resources to be assigned based on risk, that permits coordination of federal and state resources, and that makes it possible to address all risks from farm to table.
—All imported foods come only from countries with food safety standards equivalent to U.S. standards.

The NAS report states that the laws, particularly what the report characterizes as the requirement that there be continuous inspection of meat and poultry production through sight, smell, and touch (Aorganoleptic@) inspection, create inefficiencies, do not allow resource use to reflect the risks involved, and inhibit the use of scientific decision-making in activities related to food safety, including the monitoring of imported food.

Council Assessment

The report's recommendation that federal statutes provide agencies with authority to make decisions based on scientific assessments of risks to the public health is sound. Decisions based on public health risk assessments allow agencies to make effective use of science to set food safety priorities, allocate resources to higher risk areas, and instill consumer confidence that high-risk hazards are being addressed.

Since the federal food safety regulatory agencies operate under very different legislative authorities, the Council will conduct a full assessment of these statutes and evaluate the degree of regulatory flexibility that already exists. The Council has decided that this legislative review will be undertaken as part of the strategic planning process. The purpose of the review will be to: 1) examine the similarities and differences in federal food safety statutes; 2) identify the "best" statutory approaches for reducing foodborne illness; and 3) assess both gaps and statutory barriers to implementation of the plan. The need for statutory changes could then be determined, and, if necessary, legislative principles developed which would form the basis for discussions with stakeholders and Congress. For example, given the recent overhaul of pesticide legislation, the Council believes that further statutory changes may not be needed for pesticides at this time.

In some cases, the NAS report misinterprets existing statutory requirements. For example, the report concludes that the statutes require the current method of organoleptic inspection of all carcasses. Even though the current law requires continuous inspection, it does not specify how this inspection mandate is to be carried out. The statutes do require appropriate inspection of animals prior to slaughter and inspection post-slaughter at all official slaughter and processing facilities. Among other significant food safety purposes, this continuous inspection requirement ensures use of the best sanitary dressing processes, prevention of fecal contamination,

and prevention of meat from diseased animals from entering the food supply. Under the statutory flexibility that already exists, USDA has begun to develop and test a more risk-based inspection system, including adopting regulations requiring that HACCP be implemented in all slaughter and processing plants. In addition, USDA is studying how best to effect further improvements in the inspection of meat and poultry.

The food safety agencies have achieved and can continue to accomplish significant science-based improvements in their food safety programs under current authorities. However, new authorities that would improve the federal food safety system have been proposed by the President and are waiting action by Congress. Further analysis of the statutes may result in additional proposed statutory modifications.

Current Legislative Challenges

As part of its review of food safety statutes, the Council will focus on areas where regulatory jurisdiction is split between agencies and where resources could be more effectively shared between agencies. The Administration will work with Congress to pass:

—the Food Safety Enforcement Enhancement Act, forwarded by the Clinton Administration and introduced during the last Congress to increase the enforcement capabilities of FSIS; and

—legislation that gives FDA increased authority to effectively assure the safety of food imports.

RECENT ADVANCES IN APPLYING SCIENTIFIC ASSESSMENTS OF PUBLIC HEALTH RISKS TO FOOD SAFETY

HACCP implemented for meat, poultry, and seafood

FQPA tolerance reassessment based on aggregate exposure, cumulative risk, and vulnerable subpopulations.

Single, risk-based pesticide standard for raw and processed food established

Tolerance reassessment focusing on the riskiest pesticides first

Priority registration given to "safer" pesticides

Risk Assessment Consortium established

FoodNet/PulseNet established Good Agricultural Practices guidance for fresh produce established Unpasteurized juice warning labels required

Congress and the Administration should require development of a comprehensive national food safety plan. Funds appropriated for food safety programs (including research and education programs) should be allocated in accordance with science-based assessments of risk and potential benefit.

This recommendation contains two parts. The first part recommends that Congress and the Administration require preparation of a comprehensive, national food safety plan. The NAS report lists several essential features of such a plan, including a unified food safety mission; integrated federal, state and local activities; adequate support for research and surveillance; and increased efforts to ensure the safety of imported foods. The second part of the recommendation stresses that resources should be allocated on the basis of science-based assessments of risk and potential benefits.

Council Assessment

The Council agrees that a comprehensive national food safety strategic plan should be developed and the development of such a plan is underway. In fact, the President's Food Safety Initiative was an initial step toward a national food safety plan. The 1997 Farm to Table report was a means of leveraging federal food safety resources through coordinated planning and cooperative work to meet common needs such as development of surveillance data, response to outbreaks, research into preventive interventions, development of risk assessment techniques particularly for microbial risk assessments, and consumer education. This initial plan also took some steps toward extending food safety planning to the state and local level.

Strategic Planning

Picking up where the Farm to Table report left off, the Council will continue and expand the strategic planning process. One of the Council's primary purposes is to develop a comprehensive strategic plan for federal food safety activities that contains specific recommendations on needed changes, including goals with measurable outcomes. The plan's principal goal is to enhance the safety of the nation's food sup-

ply and protect public health through a seamless science-and risk-based food safety system. The plan will set priorities, improve coordination and efficiency, identify gaps in the current system and mechanisms to fill those gaps, continue to enhance and strengthen prevention strategies, and develop performance measures to show progress.

Preparation of the food safety strategic plan will be a public process, and will consider both short-and long-term issues including new and emerging threats and the special needs of vulnerable populations such as children and the elderly. Once the plan is sufficiently complete, the Council will advise agencies of priorities for investing in food safety and ensure that federal agencies annually submit coordinated food safety budgets to OMB to sustain and strengthen existing capacities. In short, the President's Council on Food Safety will develop a national food safety plan and make budget recommendations to agencies and OMB to accomplish what the NAS report recommends.

The Council has defined the scope of future federal level food safety strategic planning and a process for interagency planning and public participation. An interagency task force anticipates having a draft plan ready for public review and discussion in January 2000. Even while developing this plan, the task force intends to continue its consultations with stakeholders. The following is the draft vision statement for the Council's strategic plan:

—Consumers can be confident that food is safe, healthy, and affordable. We work within a seamless food safety system that uses farm-to-table preventive strategies and integrated research, surveillance, inspection, and enforcement. We are vigilant to new and emergent threats and consider the needs of vulnerable subpopulations. We use science-and risk-based approaches along with public/private partnerships. Food is safe because everyone understands and accepts their responsibilities.

The President's Council on Food Safety held four public meetings in the Fall of 1998 in Arlington, VA; Sacramento, CA; Chicago, IL; and Dallas, TX to solicit comments on this draft vision for food safety and to identify a strategic planning process, goals and critical steps as well as potential barriers to achieving that vision.

The Council's strategic planning task force is analyzing the transcripts of the 1998 public meetings and the input received through the notice and comment process to determine the major themes, issues, and subject areas. The task force will also consider the conclusions and recommendations of the NAS report, input from the federal, state, and local government integrated National Food Safety System Project, and input from the agencies involved.

The planning process will build upon common ground and provide the forum to tackle some of the difficult public health, resource, and management questions facing the federal food safety agencies and our state, tribal and local government partners. The plan will identify areas for enhanced coordination and efficiencies, determine whether legislative changes would be beneficial, and clarify federal, state, tribal, and local government roles and responsibilities in the national food safety system (see discussion under recommendation IIIb).

The strategic planning process will consider thoroughly the results of the legislative review outlined under the Council's assessment of NAS recommendation IIa. Examples of possible legislative proposals from such a review include:

—developing legislative proposals to eliminate current duplication of efforts by FDA and FSIS by reevaluating each agency's role in areas such as the regulation of eggs and egg products, game meats, food additives, animal drugs and biologics, and food products produced in plants under the jurisdiction of both agencies;

—modifying statutes to facilitate greater leveraging of agency resources;

—developing a legislative proposal giving FSIS explicit authority to enter into cooperative agreements for food safety risk assessment; and

—developing legislation that provides Performance Based Organization (PBO) authority for voluntary seafood inspection.

Allocation of Resources

The NAS report recommendation goes a step further than a national plan by urging that resources be allocated according to science-based assessments of risk and potential benefits. As stipulated in Executive Order 13100, the Council will ensure that agencies develop a coordinated food safety budget submission consistent with the strategic plan. The Council will develop guidance for food safety agencies to consider during the preparation of their individual budgets. The Council has created a budget task force that will:

—work with the strategic planning task force and review the draft and final strategic plans and Council budget guidance on priority areas for investment to

identify budget data and other information that will be necessary to plan and coordinate agency budget submissions to OMB;
—design a uniform format for presenting food safety initiative budget components in the OMB budget process for use in both individual agencies and the unified budget submissions;
—develop necessary guidance to facilitate submission of a unified food safety initiative budget and any other food safety issues deemed appropriate by the Council;
—establish a timetable for developing coordinated food safety budget requests and for submitting information to the Council that accommodates the various agencies' budget planning processes; and
—consider the issue of whether to amend OMB Circular No. A–11 (OMB guidance to agencies on budget structure and reporting elements) to include food safety as a budget cross-cut.

Comparative Risk Assessment

An important part to both risk-based planning and resource allocation will be the development of a comprehensive comparative risk assessment of the food supply. The Council has requested the Interagency Food Safety Risk Assessment Consortium, which consists of HHS and USDA agencies and EPA, to consider how to develop a comparative risk analysis for food safety strategic planning. The Council will direct the Consortium to seek and consider public input in its analysis.

The Council believes that various steps may need to be taken to evaluate risks including: a ranking of foodborne pathogen risks based on surveillance and economic data; consideration of a broader range of food safety hazards including not only microbial risks, but also pesticides and chemicals; and finally, selection of highly ranked hazards, an evaluation of control measures, and an evaluation of net benefits. The Council must avoid applying risk assessment in a manner that is too strict, rigorous, or inflexible. Instead, the comparative risk assessment must be used to prioritize the known greatest risks at the current time, with the understanding that scientific risk estimates can, and will likely, change frequently over time.

Challenges in Planning

The Council faces the following challenges in developing a comprehensive food safety strategic plan and allocating resources based on risk:
—Developing and successfully implementing a national plan will require strong cooperation, coordination, and communication, since each federal, state, and local agency has unique mandates, authorities, history, culture, and operating procedures.
—The diversity of stakeholders in food safety is enormous. It will be difficult, but imperative, that all stakeholders are represented in the Council's planning process.

PROGRESS IN STRATEGIC PLANNING

President's 1997 Farm to Table Food Safety Initiative
President's Fresh Produce and Imported Food Safety Initiative
Establishment of the Joint Institute for Food Safety Research
Establishment of the President's Council
Input from the National Academy of Sciences, Council of Agricultural Science and Technology, and other organizations
National Integrated Food Safety System project meetings
Development of a draft vision statement
Input from multiple public meetings and public comments

To implement a science-based system, Congress should establish by statute a unified and central framework for managing federal food safety programs, one that is headed by a single official and which has the responsibility and control of resources for all federal food safety activities, including outbreak management, standard-setting, inspection, monitoring, surveillance, risk assessment, enforcement, research, and education.

The NAS report finds that the existing regulatory structure for food safety in the United States is not well equipped to meet current challenges. Specifically, it points out that the system is facing tremendous pressures with regard to:
—emerging pathogens and ability to detect them;

—maintaining adequate inspection and monitoring of the increasing volume of imported foods, especially fruits and vegetables;
—maintaining adequate inspection of commercial food services and the increasing number of larger food processing plants; and
—the growing number of people at high risk for foodborne illnesses.

The report cites the strengths of the current food safety system, including the advent of FoodNet and PulseNet, HACCP implementation, and the Partnership for Food Safety Education. It also identifies deficiencies, which it attributes partly to "the fragmented nature of the system." The report attributes the fragmentation largely to a lack of adequate integration among the various federal agencies involved in the implementation of the primary statutes that regulate food safety, and observes that this lack of adequate integration occurs also with state and local activities. The report notes that several federal agencies are involved in key food safety functions and references more than 50 memoranda of agreement between various agencies related to food safety.

The NAS report attributes the lack of adequate integration among federal, state and local food safety authorities in part to the absence of "focused leadership" that has the responsibility, the authority and the resources to address key food safety problems. The report presents several examples of possible organizational structures to create a single federal voice for food safety. These include:
—a Food Safety Council with representatives from the agencies with a central chair appointed by the President, reporting to Congress and having control of resources;
—designating one current agency as the lead agency and having the head of that agency be the responsible individual;
—a single agency reporting to one current cabinet-level secretary; and
—an independent single agency at cabinet level.

Although the report indicates that many of the NAS committee's members believe that a single, unified agency headed by a single administrator is the most viable structure for implementing the "single voice" concept, the report recognizes that there may be many other models that would be workable.

Council Assessment

The Council agrees with the goal of the NAS recommendation—that there should be a fully integrated food safety system in the U.S. The food safety agencies are committed to this goal, and the Council is confident that its comprehensive strategic plan will be a major step toward creating a seamless food safety system. To ensure that the strategic plan achieves this goal, the Council will conduct an assessment of structural models and other mechanisms that could strengthen the federal food safety system through better coordination, planning, and resource allocation.

The Council's strategic plan will bring agreement on the vision, goals, and actions needed to enhance the safety of the nation's food supply and protect public health by reducing the annual incidence of acute and chronic foodborne illness. It will also clarify the roles and responsibilities of each food safety agency as well as their interactions with state, tribal, and local government partners.

While the Council recognizes that certain models of reorganization may improve coordination and allow for a better allocation of resources, any reorganization of food safety activities must consider the non-food-safety-related responsibilities of each agency and how these relate to the food safety responsibilities. Reorganization must not be done at the expense of these other responsibilities and activities. The Council is concerned that, if not done carefully, separating food safety from non-food safety activities in each agency could act to weaken consumer and environmental protection overall.

The Council also recognizes that expertise and knowledge, particularly expertise in state-of-the-art science and technology, provides a resource to food safety activities. For example, analytical methods for detection and quantification of adulterants in foods may be adapted to detection of chemical contaminants that threaten public health. Expertise in non-food safety regulatory science and legal procedures are critical when warnings are required on food labels to assure safety. In addition, reorganizations must avoid interfering with the public health framework established to identify and respond to infectious and non-infectious public health threats whether they are foodborne or not, since many of the major foodborne pathogens also produce non-foodborne disease. Thus, in its strategic planning the Council will be cognizant of the interplay between the food safety and non-food safety activities of each agency and how they affect each other.

The Council believes that there are programs that can benefit from immediate reorganization. For example, during the last two years, FDA and NOAA have been developing a proposal to transfer the NOAA Seafood Inspection Program to FDA as

a Performance Based Organization (PBO) in order to operate the voluntary Seafood Inspection Program on a more business-like basis. The PBO would be formed under the umbrella of FDA and would include all seafood inspection activities now carried out by NOAA. The fiscal year 2000 budget proposes to transfer the existing Seafood Inspection Program from NOAA to FDA. This action will fully consolidate federal seafood inspection activities within one agency thereby increasing the efficiency and effectiveness of seafood oversight. It will also enhance the overall safety and wholesomeness of seafood products. Funds are provided in the President's fiscal year 2000 budget to cover the costs of transition, including training and education activities.

Factors to Consider in Organizational Restructuring

The Council assessment of structural and organizational options must take into consideration factors such as:

—There are numerous instances in the existing food safety system where the division of regulatory responsibility is not optimal. For example, within the same plant, FSIS and

—FDA inspectors are often responsible for different foods. FDA and FSIS also share regulatory responsibility of eggs and egg products. Examples such as these create stakeholder confusion and inefficient allocation of resources. Any reorganization must consider areas where there is significant jurisdictional overlap.

Many food safety issues would be difficult to resolve by a reorganization. For example, some issues like bovine spongiform encephalopathy are both animal health issues and human health issues. Foodborne disease problems may also be waterborne disease problems. Other programs, particularly research and education programs for food safety often do not operate as separate activities within the agencies, but rather draw significant strength from one another. While some projects are entirely focused on food safety, the food safety research portfolio includes many other projects in such areas as animal health and animal genetics. Reorganization must also accommodate successful partnerships such as the Partnership for Food Safety Education.

RECENT STEPS TAKEN TO CREATE A UNIFIED FEDERAL FOOD SAFETY SYSTEM

1997 President's Food Safety Initiative implemented
Interagency Risk Assessment Consortium created
President's Fresh Produce plan implemented
Federal/State Outbreak Response task force established
Joint Institute for Food Safety Research created
President's Council on Food Safety established
Restructuring of seafood inspection proposed
Partnership for Food Safety Education created

Congress should provide the agency responsible for food safety at the federal level with the tools necessary to integrate and unify the efforts of authorities at the state and local levels to enhance food safety.

The NAS report recommends that federal, state, and local governments function as an integrated enterprise, along with their partners in the private sector. The report identified five statutory tools required to integrate federal, state, and local food safety activities into an effective national system:

—authority to mandate adherence to minimal federal standards for products or processes;

—continued authority to deputize state and local officials to serve as enforcers of federal law;

—funding to support, in whole or in part, activities of state and local officials that are judged necessary or appropriate to enhance the safety of food;

—authority given to the Federal official responsible for food safety to direct action by other agencies with assessment and monitoring capabilities; and

—authority to convene working groups, create partnerships, and direct other forms and means of collaboration to achieve integrated protection of the food supply.

This recommendation acknowledges the "equally critical roles" of state, tribal, and local government entities with those of the federal government in ensuring food safety, and suggests that changes in federal authorizing and appropriating legislation may be necessary to achieve better integration of federal, state, tribal, and local activities. The report points out that the work of the states and localities in support

of the federal food safety mission deserves "improved formal recognition and appropriate financial support."

Council Assessment

The Council agrees that the roles of state, tribal, and local governments in the food safety system are critical and that their efforts deserve the formal recognition that partnership in a national food safety system conveys. Thus, the Council supports steps taken toward the development of a more fully integrated national food safety system. While more needs to be done to optimize and develop new partnerships, the federal food safety agencies have already established extensive interactions with state and local regulatory agencies. In fact, a critical factor for the Council to consider is the manner in which existing federal/state or local activities are integrated and coordinated. The Council believes that its strategic planning process provides a fresh opportunity for their non-federal partners to participate as primary and equal partners in the development of the future food safety system.

Some overlap occurs among federal, state, and local food safety efforts. Neither federal food safety agencies nor state and local agencies have sufficient resources to carry out a comprehensive food safety program, but all these agencies have expertise and resources that, when combined in an integrated program, would significantly enhance the impact of food safety programs.

The Council also agrees that the five statutory tools identified by the NAS are critical for ensuring good coordination between the federal government and state, tribal, and local agencies. Fortunately, the federal food safety regulatory agencies (FDA, FSIS, and EPA) already have most of the statutory tools recommended by NAS.

The Council recognizes and agrees with the report's conclusion that the lack of integration among federal, state, and local authorities often complicates the administration of regulatory programs. We need to utilize available mechanisms to leverage resources and expertise from government, industry, academia, and consumers to expand the nation's food safety capabilities beyond what any one group can accomplish. Increased awareness and knowledge of food safety in each segment of the food safety community should reduce the need for regulation of industry and decrease the incidence of contamination at every point in the food safety system in order to protect public health.

Integrated National Food Safety System (NFSS) Project

HHS, USDA, and EPA are working with state and local officials on an integrated National Food Safety System (NFSS) Project to identify appropriate roles and to develop mutually supporting common goals for all levels of government in the U.S. food safety system. This work is considered integral to the Council's strategic plan and coordinated budget recommendations and will be the basis for improved integration with state, tribal and local governments.

Under the leadership of the FDA, the Project is proceeding under existing federal, state, and local laws although all levels of government recognize that changes in some of the federal and state laws will be necessary to achieve an integrated system. The Project began with a meeting of state and local officials from public health and agriculture agencies and state laboratories representing all 50 states, Puerto Rico, and the District of Columbia, FDA, CDC, and FSIS in Kansas City in September 1998. In December 1998, six work groups and an 18 member Coordinating Committee composed of federal, state and local officials met in Baltimore, Maryland to begin to develop plans for implementing recommendations and overcoming the obstacles identified at the Kansas City meeting. Subsequent meetings will be held throughout 1999 to continue the planning process. The group estimates that a fully integrated federal/state/local food safety system will take up to 10 years to build. The Association of Food and Drug Officials, which is an organization of state and local public health officials and regulators, strongly endorses the concept of a NFSS.

The NFSS Project builds on existing systems of federal/state cooperation such as the FSIS long-term "equal to" meat and poultry system currently operating in 26 states with shared state and federal funding and EPA's delegation to states of various regulatory programs.

Challenges to Developing a National Food Safety System

The Council recognizes that the existing systems for federal, state, and local government regulation of food and pesticides have different histories and important distinguishing characteristics. The Council believes it is important to respect the nature and strengths of the existing systems and that integration must proceed in a coordinated fashion. There are numerous challenges to building an integrated food safety system:

—*Establishment of a clear framework for integration*.—Such a framework would include the following: strong federal food safety standards, consistent training and competency of inspectors and other state/local officials, data sharing/exchange, federal oversight of state activities, and appropriate and effective enforcement. There needs to be public assurance that state and local activities are integrated with, and an extension of, the federal responsibility in order to assure consistency, accountability, and above all, enhanced consumer protection.

—*Responsiveness to stakeholder concerns*.—Development of an integrated system needs to be responsive to stakeholder concerns to have credibility and obtain public support. For example, consumers are concerned that the economic interests of industry within states may be a source of conflict if those states have an expanded food safety role that includes activities thought to be primarily a federal responsibility. Moreover, industry is concerned that food safety regulation will be inconsistent among the states if systems are integrated without adequate preparation of the state agencies to step into an expanded food safety role.

—*Infrastructure and support*.—There is a potential need for legislative change at the federal or state/local level to achieve uniformity and consistency in enforcement authorities and to permit the sharing of inspection and other resources.

EXAMPLES OF FEDERAL/STATE/LOCAL COOPERATION

Milk Sanitation Program—Pasteurized Milk Ordinance
Retail Food Safety Program—Food Code
Integrated National Food Safety System Project
Interstate Shellfish Sanitation Program
States conduct 5,000 inspections of FDA-regulated plants
FSIS oversee and supports 26 state "equal to" meat and poultry inspection programs
FDA maintains more than 100 state partnerships
Conference for Food Protection
FoodNet/Emerging Infections Program
PulseNet
Epidemiology and Laboratory Cooperative Agreements
Appropriate delegation of pesticide responsibility to states
Partial funding of states for implementation of some pesticide programs and for most pesticide compliance programs
State FIFRA Issues Research and Evaluation Group
State and local government involvement in Foodborne Outbreak Response Coordination Group (FORC-G)
States conduct inspections in 250 FSIS regulated plants
FSIS supports animal production food safety outreach projects involving 11 states
FSIS supports animal production food safety workshops
HACCP based enhancement of state labs, computer capabilities, and state training
Partnership for Food Safety Education "Fight BAC!" campaign

FDA answer. The Council on Food Safety has developed a process for developing a 5-year strategic plan that includes steps necessary to achieve a fully integrated U.S. food safety system. As part of this process, the Council will assess structural models and other mechanisms that could strengthen the federal food safety system through better coordination, planning, and resource allocation. The timeline associated with this process calls for the strategic plan to be presented to the public for comment in January 2000 and the final plan to be presented to the Council for approval in July 2000.

Question. While irradiation isn't a "magic-bullet", it is one extra step we can take to assure the safety of food products. What is being done to dispel consumer misconceptions about irradiation? Is this being done as part of the food safety education effort? If not, why?

USDA answer. Where food irradiation is concerned, dispelling misconceptions is a key component of consumer education. FSIS has been doing this for quite some time through the usual communications channels: Consumer publications (for example, Ten Most Commonly Asked Questions About Food Irradiation, September 1992) The Meat and Poultry Hotline (1–800–535–4555) FSIS Web site (http://

www.fsis.usda.gov/OA/topics/irrmenu.htm) Backgrounders (for example, Poultry Irradiation and Preventing Foodborne Illness, May 1992/Slightly Revised September 1992, or USDA Issues Meat and Poultry Irradiation Proposal, February 1999)

When the proposed rule on red meat irradiation was published in the Federal Register on February 24, 1999 (64 FR 9089) both the proposal and a "Review of Risk Analysis Issues" document were made available to the public through the FSIS Constituent Update. The FSIS Constituent Update is a mechanism for faxing FSIS information to more than 300 consumer, industry, and allied organizations. Informational documents were also made widely available to the public through the FSIS Web site. These included a review of risk analysis issues that addressed particular consumer concerns: food safety, environmental impact, worker safety, and transportation safety.

Answer. The FDA has been particularly active in its efforts to educate the public about the irradiation process. For example, last spring Dr. Michael Friedman, as lead Deputy Commissioner, was featured in the major television spots on the recent approval of meat irradiation. Dr. Friedman stressed the strong scientific basis for FDA's conclusion that irradiation of meat is safe. In addition, FDA staff handled a variety of print and broadcast interviews where they explained that irradiation has been shown to be safe and to significantly reduce bacterial contamination. They also made numerous presentations on this technology to scientific organizations and consumer groups. We value the importance of informing consumers. Nevertheless, we believe it is critical that consumer education efforts remain balanced and objective so irradiation and other antimicrobial interventions are placed in the proper context in the overall effort to ensure food safety.

Over the years, FDA experts on food irradiation have been made available to many requests for interviews from the press and broadcast media. These experts have also spoken at several professional meetings of food safety scientists and educators. FDA's Office of Public Affairs prepared a series of consumer oriented articles for its FDA Consumer magazine and is in the process of preparing a consumer education brochure on this issue. These efforts date back prior to the current food safety education effort and continue.

Question. To what extent is irradiation used now, both here and abroad?

USDA answer. FSIS estimated in the proposed rule on red meat irradiation that a low volume (i.e., one percent) of the U. S. poultry is irradiated (64 FR 9099). FSIS attributed this low volume of irradiated poultry, in part, to command-and-control pre-HACCP regulations governing the irradiation process. The FSIS red meat irradiation proposal included several substantive proposed changes to the poultry irradiation regulations that would make the poultry irradiation regulations more consistent with those proposed for red meat irradiation, as well as with HACCP regulations.

Regarding the extent to which irradiation is used abroad, more than 35 countries allow food, including meat and poultry, to be irradiated. As of 1994, the year in which the Joint FAO/IAEA report by the International Consultative Group on Food Irradiation was issued, seven countries had specific clearances for meat, 15 countries had clearances for poultry, and six countries had clearances for both meat and poultry. No data are available regarding the volume of meat and/or poultry irradiated.

FDA answer. The use of irradiation to process food has been relatively minor, both in the U.S. and abroad. At present, irradiation facilities can handle only a small proportion of food and most of the irradiation capacity has been used to sterilize medical supplies. We are aware of the use of irradiation to sanitize some spices although a larger fraction has been treated with fumigants such as ethylene oxide. We are also aware of one facility that has irradiated poultry and fruits and another that has irradiated fruits from Hawaii to prevent introduction of insect pests on the mainland.

Question. To what extent does irradiation kill pathogens? What about viruses?

USDA answer. Irradiation, at the absorbed dose level approved by FDA and proposed by FSIS, is highly effective in reducing the level of most pathogens associated with meat and poultry. As an example, if the minimum absorbed dose for fresh (not frozen) meat was 2.0 kGy throughout all parts of the meat or poultry, the decimal log reduction (each log reduction is equivalent to a 90 percent reduction in the total population) would be as follows: Campylobacter jejuni = 10 log10 per gram of product; Escherichia coli O157:H7 and Trichinella spiralis = 6.7 log10 per gram of product; Listeria monocytogenes and Toxoplasma gondii = 5 log10 per gram of product; and Salmonella spp.—4 log10 per gram of product. All of the reductions in the previous example would represent the potential for significant reductions in the number of foodborne outbreaks associated with meat and poultry. Irradiation, at the ab-

sorbed dose level approved by FDA and proposed by FSIS, would not be effective in reducing the level of viruses.

FDA answer. Pathogens are not all equally sensitive to irradiation and the amount of radiation needed to kill a significant fraction can depend on whether the food contains free liquids such as water. For example, pathogens such of the vibrio species are very sensitive while spore forming bacteria such as Clostridum botulinum can be very resistant. Other pathogens, such as Salmonella, Campylobacter, Listeria, or certain pathogenic strains of E. coli, have intermediate resistances. Larger doses are needed when the food is dry or frozen. Irradiation is very effective at killing all of these pathogens other than Clostridum botulinum under the conditions of approval for meats and poultry. As a general rule, viruses in food are not very sensitive to radiation and are controlled better by heat processing.

FDA answer. Irradiation of a food, as with other processing methods, can have an effect on texture, taste, or quality. The magnitude of the effect can be controlled, to some degree, by controlling the conditions of irradiation. For example, an effect will become larger as the radiation dose is increased. Irradiation of a solid versus dry or deep-frozen product has less of an effect than one that contains liquids. Oxygen in the atmosphere can promote rancidity in a fatty food. Effects in meats with strong flavors may be less detectable than in more bland products. Optimizing irradiation conditions would require balancing costs and the degree of bacterial control against unintended effects to obtain a product that consumers would want.

We would expect food processors to control the conditions of irradiation so that any irradiated meat sold would be acceptable to the average consumer. This does not necessarily mean that there would be no effect on texture, taste, or flavor. However, we would not expect food manufacturers to market a product unless consumers found it to be of good quality and taste.

Question. I understand that irradiation will not alter the texture, taste, or quality of meat if used properly. Is this true?

Answer. Irradiation, at the absorbed dose level approved by FDA and proposed by FSIS, will not noticeably alter the texture, taste, odor, appearance, or keeping quality of fresh or frozen meat or poultry.

Question. Will the use of irradiation affect the cost of food products to the consumer?

Answer. FSIS estimated in the proposed rule on red meat irradiation that the low end cost of irradiating ground beef would be 2.0 cents per pound and the high end cost would be 6.0 cents per pound, depending upon the volume of product irradiated (64 FR 9100).

Question. I understand that irradiation will not affect the nutritional value of meat products any more than cooking does. Is this true?

USDA answer. Irradiation, at the absorbed dose level approved by FDA and proposed by FSIS, will not reduce the level of sensitive nutrients (e.g., thiamin) below the level expected to be reduced by cooking. This point has been made in all educational materials produced by FSIS on irradiation. It is also discussed in FSIS' proposed regulation, which says in part:

"Central to the FSIS food safety strategy are efforts to reduce the level of microbiological pathogens in raw meat and poultry products. Irradiation has been shown to be a highly effective method for reducing the levels of microbiological pathogens in raw meat food products. Further, FDA has concluded that irradiation of meat food products, under the conditions requested by Isomedix, Inc. and granted by FDA, would not present toxicological or microbiological hazards and would not adversely affect the nutritional adequacy of these products. FSIS, therefore, sees compelling reasons to propose regulations providing for the irradiation of meat food products and has rejected the option of disallowing irradiation." (Federal Register, Vol. 64, No. 36, p. 9097)

FDA nswer. Both irradiation and cooking can decrease the levels of some nutrients and irradiation followed by cooking can have a greater effect, just as heat processing canned or cooked hams followed by cooking will increase nutrient loss. The important thing is that people get their nutrients from a variety of sources in sufficient amounts to allow for some losses. FDA has concluded that consuming irradiated meat will not have a significant effect on the nutritional status of consumers.

Question. Will the use of irradiation affect the cost of food products to the consumer?

FDA answer. Because the use of irradiation has been relatively minor, limited information is available on how the marketplace will address the issue.

Question. There has been a controversy over the labeling of irradiated products. Could you give us a status report on where we are on the labeling of irradiated food products?

USDA answer. For packages of irradiated product (i.e., all the meat or poultry contained in the package is irradiated), FSIS has proposed the same labeling requirements as those specified by FDA. Regarding secondary products (i.e., products in which irradiated meat or poultry comprise one or more ingredients in the formulation), FSIS has proposed that the ingredient statement should list the irradiated ingredient in the order of its level of predominance in the formulation. Presently, FDA does not have a similar requirement for the secondary product labeling of irradiated ingredients. FDA did issue an advance notice of proposed rulemaking on February 17, 1999 (64 FR 7834) concerning possible revisions to the labeling requirements for irradiated foods. Meanwhile, FSIS and FDA expect to meet and discuss the secondary product labeling issue. Both FSIS and FDA recognize the benefits of a consistent labeling policy for irradiated food.

FDA answer. When FDA issued its rule on irradiated foods in 1986, it concluded that there was no safety reason for requiring special labeling but that consumers should be informed when a food has been irradiated. Because a food that has been irradiated will not appear to have been processed, FDA required that the label indicate processing, except where an irradiated ingredient was added to a food which obviously had been processed. FDA required placement of a symbol, the radura, along with the words "Treated by irradiation" or "Treated with radiation" to educate people on what the radura symbolized. FDA encouraged manufacturers to add truthful phrases to the statement so consumers would understand why the food was irradiated.

In 1997, FDAMA mandated that the disclosure statement could not be required to be more prominent than the ingredient statement. On August 17, 1998, FDA amended its requirement for the labeling of irradiated food to clarify the interpretation of prominence consistent with FDAMA.

On February 17, 1999, FDA issued a notice requesting comment on the labeling of irradiated food. FDA cited the directive to solicit comment on this issue from the FDAMA Conferees Report, provided background information on labeling requirements, and posed a series of directed questions intended to address how consumers interpret the label and what information should be provided. At this time, FDA is receiving comments. The comment period is open until May 18, 1999.

CODEX ALIMENTARIUS ACTIVITIES

Question. What is the current (fiscal year 1999) budget for our Codex activities? What is the fiscal year 2000 request? Is this funding sufficient to protect our trade policy needs, and how is it administered in the budget?

USDA answer. USDA considers the Codex Alimentarius function to be very important for maintaining a science-based approach to standard setting for foods which are in international commerce. Recently the positioning of the U.S. Codex Office within USDA and FSIS has been elevated to the Office of the Administrator, and he and the Under Secretary are working with the U.S. Codex Manager to insure the staff works efficiently across USDA and the U.S. Government. An expanded Codex Steering Committee chaired by the Under Secretary for Food Safety includes membership from across the U.S. Government, including State, U.S. Trade Representative, Commerce, as well as AMS and FAS within USDA and all the food standard setting agencies—FSIS, FDA and EPA.

FSIS plans to spend about $782,000 in fiscal year 1999 on Codex Alimentarius activities. This amount is expected to increase in fiscal year 2000 by the amount needed to cover mandatory pay raises. Additional Codex costs are decentralized throughout USDA and other government agencies to support Codex delegate participation and provide for meetings, and for policy setting discussions.

FDA answer. FDA does not have a defined budget for Codex activities. The U.S. Codex Office, which has oversight over U.S. Codex activities, resides in USDA within the Office of the Administrator of the Food Safety and Inspection Service. Most of the activities of Codex, however, are decentralized throughout several government agencies, including FDA, USDA agencies, EPA, National Marine Fisheries Service in the Department of Commerce, and trade agencies. FDA has, since the beginnings of the Codex Alimentarius Commission in 1962, devoted considerable resources to ensuring that Codex international food standards reflect the level of safety and quality expected by the U.S. consumer. Currently FDA provides the U.S. Delegate or the Alternate Delegate to 14 of 16 Codex Committees and has established a Codex Management Group within FDA to better assist the U.S. Codex Office in coordinating the broad array of FDA-related Codex activities.

Codex activities are part of the Animal Drugs and Feed's Program's overall International travel budget. There is no separate line item in the budget for Codex activities. In fiscal year 1999 the Animal Drugs and Feeds Program spent approximately

$3,000 on Codex activities. For fiscal year 2000 the anticipated expense is $5,000. The international travel budget is spread throughout the Program's budget.

Question. Dr. Woteki, you are aware that the Food Industry Codex Coalition strongly believes that adequate and dedicated line-item funding to support the activities of the U.S. Codex Office in the amount of $3.15 million is required for fiscal year 2000 to expand export opportunities for U.S. products and advance international food policy based on sound science. In fact, as Chair of the U.S. Codex Steering Committee, I understand that you have indicated to the Coalition that the Committee agrees with this need and is committed to working on securing this funding in the fiscal year 2001 budget cycle.

USDA answer. The Steering Committee is in agreement that the level of resource commitment described in the Coalition's proposal is desirable. However, it has not concluded that a line item for the U.S. Codex Office is the appropriate mechanism for assuring an appropriate level of activity in support of U.S. positions in Codex.

Question. Why do you not share the Coalition's concern that U.S. trade and food safety interests require these additional resources now and this additional funding should not be postponed until fiscal year 2001?

USDA answer. As you may know, the Administration was approached with the Coalition's proposal very late in the fiscal year 2000 budget development cycle. While the Codex Policy Steering Committee is in agreement that the proposed funding level is desirable, the Codex Policy Steering Committee decided to delay consideration of a line item for the U.S. Codex Office until fiscal year 2001. This would permit the Departments and Agencies to assess what their current spending is on Codex activities, how that might be offset by this new line item, and what would actually constitute an increased effort, if any.

Question. What is the relationship between the Codex Alimentarius and the agreements of the World Trade Organization, specifically to the science base of the Sanitary and Phytosanitary Standards?

USDA answer. The rules that govern international trade are those that were agreed during the Uruguay Round of Trade Negotiations and apply to the members of the World Trade Organization (WTO). With respect to food safety matters, those rules are set out in the Agreement on the Application of Sanitary and Phytosanitary Measures—The SPS Agreement. The overall objective of the SPS Agreement is to permit countries to take legitimate measures to protect the life and health of their consumers, but keeping them from using those measures in a way that unjustifiably restricts trade. The primary goal of the SPS Agreement is to limit the use of any measures that may restrict trade to those that are justified to provide the necessary level of health protection. It recognizes the right of Member States to protect their consumers at a level they consider necessary, subject to certain principles, such as consistency and transparency. Codex decisions are given new standing under SPS, as they are regarded as setting food safety standards as a baseline under SPS.

The standards, guidelines, and other recommendations of the Codex Alimentarius Commission are considered by the WTO to reflect international consensus regarding the requirements for protecting human health from foodborne risks. A Member State's food safety measures are considered justified and in accordance with the provisions of the SPS Agreement if they are based on Codex standards and related texts. While the adoption and application of Codex standards are not mandatory, failure to apply the Codex standards creates the potential for dispute if a Member State applies standards that are more restrictive of trade than necessary to achieve required levels of protection. Additionally, by the terms of the SPS Agreement, WTO members are committed to considering Codex standards as a basis for their national laws and regulations, and to participate in the development of those international standards.

FDA answer. The WTO Agreement on the Application of Sanitary and Phytosanitary Measures, the SPS Agreement, makes specific reference to the Codex Alimentarius Commission as an international standard setting organization whose standards WTO Members should use as a basis for national SPS measures. The SPS Agreement also obligates Members to participate actively in Codex, within the limits of their resources. With regard to the science basis for standards, the SPS Agreement requires that Members base their national measures both on scientific evidence and on international standards, specifying that Members can maintain more stringent SPS measures, if there is scientific justification, under the terms of the Agreement. Under the Agreement, national SPS measures that conform with Codex standards are presumed to be in accord with the SPS Agreement.

Question. Is the current budget sufficient to permit US trade agency representation at critical Codex meetings (Departments of State and Commerce and the United States Trade Representative) in order to proactively influence decisions key to US trade interests?

USDA answer. Currently, trade agency representation at Codex meetings is encouraged. In fiscal year 1998, the U.S. sent delegations to 13 foreign hosted meetings of Codex subsidiary committees. There was a total of 14 trade agency representatives on the United States' delegations to 10 of those meetings. Trade agencies' representatives were not members of delegations to the Cocoa and Cocoa Products, Mineral Water, and Nutrition and Foods for Special Dietary Use Committees.

FDA answer. FDA cannot respond on behalf of the U.S. trade agencies, but the Agency can address its roles, responsibilities, and related resource commitments with respect to Codex. While FDA does not have a specific line item in its appropriation, a significant amount of the Agency's resources is devoted to Codex activities. FDA expends funds to support a portion of the time of 39 individuals directly involved in 14 of the 16 Codex Committees. As the quantity of food products flowing in and out of this country is increasing at an ever rapid pace, the Agency must use a greater percentage of base resources each year to provide technical support for these U.S. trade agencies, and also represent U.S. interests at critical Codex meetings. FDA is involved in these activities in order to ensure the safety of imported products and accomplish our mission as stated in the Food and Drug Administration Modernization Act of 1997 Plan for Statutory Compliance, to ". . . participate through appropriate processes with representatives of other countries to reduce the burden of regulation, harmonize regulatory requirements, and achieve appropriate reciprocal arrangements."

Question. Would increased funding for Codex enhance our trade policy and US exports? What additional activities could be undertaken with increased funding?

USDA answer. Putting additional funds into a line item for Codex may not result in any additional activity. Agencies and departments already make decisions to fund activities that support our positions in Codex from their program funds. Spending from a line item account would likely offset that spending. While it would create an ease of administration with respect to some activities, such as paying for U.S. hosted meetings of Codex Committees, it would limit the flexibility agencies and departments now have to address changing priorities.

FDA answer. Yes, increased funding for Codex activities would enhance our trade policy and U.S. exports. With the World Trade Organization or WTO and the Sanitary and Phytosanitary System or SPS Agreement, the U.S. trade agencies will be more dependent on the agencies responsible for setting standards for both human and animal food. Increased funding would greatly enhance the U.S. efforts to ensure both public health and fair trade. In the future, it will be much more difficult to determine whether new standards are protective of public health or are just disguised trade barriers.

As one example, Codex, with the assistance of the Joint Expert Committee on Food Additives or JECFA, developed and adopted maximum residue levels for several hormones used to enhance growth in beef. Since Codex serves as the reference international organization for food safety standards under the World Trade Organization SPS Agreement, these Codex standards were accepted by a WTO panel in the dispute between the EU and the U.S. over the use of hormones in beef production. This case involved more than $200 million in beef exports to the EU and was subsequently won by the U.S. FDA personnel participated in both the Codex and JECFA deliberations. This example illustrates the value of Codex in enhancing our trade policy and U.S. food exports.

Presently, the Codex mandate is to protect the health of consumers while ensuring fair trade practices. FDA continues to focus on protecting public health, but as the demand for FDA's involvement in ensuring fair trade practices grows, comparable resources are needed. If FDA receives additional funds, the Agency can expand upon those existing activities that simultaneously ensure the safety of human and animal food, and enhance our exports and U.S. trade policy. FDA is involved in three major areas related to Codex and or U.S. trade. These are ensuring that Codex standards meet a high standard of public health and safety consistent with our level of protection, technical assistance to U.S. trade agencies and bilateral negotiations in matters of equivalency or assessment. FDA needs resources, both budget and FTE, that will support coordinated efforts with U.S. trade agencies to determine the impact of Codex activities on trade long before disputes are taken to the WTO. FDA is involved in these activities in order to ensure the safety of imported products and accomplish a key component our mission as stated in the Food and Drug Administration Modernization Act of 1997 Plan for Statutory Compliance.

Question. We are currently making a substantial investment in food safety research. For fiscal year 1999, the Administration indicates that a total of $108 million will be invested in food safety initiative research, including $70 million by the Agricultural Research Service, $28 million by the Food and Drug Administration, and $15 million by the Cooperative State Research, Education and Extension Serv-

ice. How is the food safety research funded by different agencies and through these various programs being coordinated to address research priorities and needs, to prevent duplication of effort?

USDA answer. These three agencies have had a collective history of consulting about research priorities, the specific needs that should be reflected in Requests for Proposals for extramural programs, and the research focus for internal programs. This interaction has been accelerated by the work of the Interagency Working Group, chaired by USDA Deputy Undersecretary Eileen Kennedy and DHHS Science Advisor William Raub. This group has been involved in compiling an extensive inventory of existing research in food safety using data from fiscal years 1997 and 1998. From this base, the agency scientists have analyzed the current portfolio and compared it to the expressed research needs stated by regulatory agencies, industry spokespersons, consumer representatives and other interested parties in a series of stakeholder listening sessions. This analysis has provided greater assurance that our research portfolios do reflect the stated needs of our stakeholders. These kinds of inputs have also created an impetus for shifting research funds from a focus almost entirely on meat, poultry, eggs, and dairy, to the inclusion of a larger segment of research on fresh fruits and vegetables as it was evident that this was an emerging problem area. By virtue of these analyses, we have been able to confirm that duplication of research efforts was not a serious issue.

FDA answer. The food safety agencies have worked to coordinate activities in every area of the initiative since the implementation of the Food Safety Initiative in May, 1997. In fiscal year 1998 and fiscal year 1999, FDA worked directly with USDA in establishing areas of responsibility for Food Safety Initiative research. In fiscal year 1999, FDA sent a letter to the USDA research agencies concerning the expenditure of $5 million by USDA in consultation with FDA and listing FDA's regulatory research needs that would potentially be more optimally performed by USDA. Most of the FDA research needs focus primarily on pre-harvest research areas that the intramural and extramural programs of the USDA research agencies have unique expertise and facilities, or for which FDA knows that there is USDA research already underway.

President Clinton signed an Executive Order in fiscal year 1998 that established the Joint Institute for Food Safety Research and formalized the interagency research planning process. Likewise, Executive Order 13100 was signed on August 24, 1998, establishing the Food Safety Council and formalizing an interagency food safety budget planning and overall strategic planning. The President's Council on Food Safety has the responsibility for the development a comprehensive strategic plan for federal food safety activities to the Council. The Council will develop a comprehensive plan to improve the safety of the nation's food supply by establishing a seamless, science-based food safety system. The plan will address the steps necessary to achieve this improved system, focusing on key public health, resource, and management issues and including measurable outcome goals.

The Animal Drugs and Feeds Program initiated a detailed planning session designed to focus on food safety issues related to our regulatory mission, specifically, the impact of animal feed and antibiotics used in food producing animals on human health through the transmission of food-borne pathogens and/or the development and dissemination of antibiotic resistance. As an integral part of the planning efforts, scientists from FDA and other federal agencies such as USDA/ARS, and USDA/FSIS were actively involved with the development of our research plans, in large measure to avoid duplication of effort. In addition, the Animal Drugs and Feeds Program scientists participated in the planning activities of these same agencies. This process has continued to keep the other agencies apprised of our ongoing activities as well as their activities, explore areas for collaborative research efforts, and be able to respond to changing research needs and priorities.

Question. How are research results being shared and utilized by the various agencies involved in food safety? (USDA's REE)

USDA answer. Research results are being shared and utilized among the various agencies involved in food safety research. The staff members of the REE agencies are in frequent contact with one another regarding research agendas in their respective program areas. They participate with each other in workshop and committee meetings, and they serve together on many governmental and professional committees and in joint budget initiatives. The Under Secretary of REE has worked with members of the various agency staffs to prepare an Inventory of Food Safety Research which will serve as the basis for interagency program planning. The ARS has established formal liaison with both the FSIS and the FDA who have the responsibility to coordinate the research needs of these agencies with the available ARS research capabilities. Yearly workshops are held to review results and plan and coordinate research to meet new needs of these regulatory agencies. In addition there

is oversight of all food safety activities by the newly formed Food Safety Council. Reporting to the Council will be the new Joint Institute for Food Safety Research which will be a coordinating body among the food safety research agencies in both USDA and DHHS.

CSREES has a strong interaction with all other agencies involved in the food safety agenda of the Federal government as well as strong linkages with the land-grant and other universities. Examples of the latter are the fact that we regularly receive input on adequacy of Requests for Proposals from merit review panels following their review and critique of a set of submitted proposals. These faculty come from the potential recipient universities and usually have close contact with many other stake holders. To ensure formal involvement, most of the invited speakers at the First Annual Food Safety Conference held on November 12–13, 1998, and sponsored by CSREES and ARS, were from the research community in the land-grant system. This conference was focused on establishing research needs and included substantive dialogue between industry, consumer, and other stakeholders on the one hand, and interested research scientists on the other.

The substance of the Requests for Proposals for both the National Research Initiative and the Special Research Grants program was discussed with all other Federal agencies, including FDA, prior to the final version being submitted for administrative review and publication. CSREES has taken up the responsibility of providing a major portion of the educational effort needed to ensure a smooth transition to the FDA Guidance Document, "Minimizing Microbial Contamination of Fresh Fruits and Vegetables".

CSREES provided funding for the domestic conference which was focused on development of the educational program and framework for the domestic grower of fresh fruits and vegetables. CSREES scientists have participated with scientists from other Federal agencies in the Interagency Working Group which has just completed an analysis of the current (1998) food safety research portfolio. This analysis will provide a beginning point for the new Joint Institute for Food Safety Research as it begins to coordinate and oversee the Federal research effort on food safety.

Other interagency efforts currently in place include a mycotoxin committee linking FDA and USDA scientists in an effort to establish some mutual goals and objectives. CSREES scientists are also participating in a USDA task force on antibiotic resistance and CSREES program scientists are having discussions with FDA-Center for Veterinary Medicine on specific responses to the increasing concern about antibiotic resistance and the research needs which this issue has surfaced.

FDA answer. The results of food safety research efforts are shared among Federal food safety agencies, industry, and the public through multiple means. Within the scientific community, communication among researchers has always been the cornerstone upon which scientific advances have been built. Scientists have developed numerous formal and informal venues for the exchange of knowledge such as scientific publications, meeting of professional societies and internet bulletin boards. In addition, food safety researchers and the agencies to which they belong make a concerted effort to research segments of the country's population that can benefit from the scientific advances. For example, during the past year the FDA hosted two technical workshops for the manufacturers of orange juice to allow scientists to share the latest advances in methods for preventing unpasteurized orange juice from being contaminated with foodborne pathogenic bacteria. Similar workshops have been held with the sprouted seed industry and are planned for apple cider industry. There is also a concerted effort on the part of the food safety research community to inform the public of scientific advances. For example, FDA scientists working on research in support of the National Food Safety Initiative have been posting plain language reports of their research projects on the FDA's Center for Food Safety and Applied Nutrition internet web site. One of the goals of the newly established Joint Institute for Food Safety Research is to further enhance the communicate of food safety research advances to all interested parties.

The Animal Drugs and Feeds Program initiated a detailed planning session designed to focus on food safety issues related to our regulatory mission, specifically, the impact of animal feed and antibiotics used in food producing animals on human health through the transmission of foodborne pathogens and/or the development and dissemination of antibiotic resistance. As an integral part of the planning efforts, scientists from FDA and other federal agencies such as USDA/ARS, and USDA/FSIS were actively involved with the development of our research plans, in large measure to avoid duplication of effort. In addition, the Animal Drugs and Feeds Program scientists participated in the planning activities of these same agencies. This process has continued to keep the other agencies apprised of our ongoing activities as well as their activities, explore areas for collaborative research efforts, and be able to responsive to changing research needs and priorities.

CDC surveillance information is communicated to FDA and USDA on a regular basis. Also, through laboratory networks such as PulseNet, diagnostic information is shared very quickly electronically. For example, laboratories participating in PulseNet have a direct link with a central computer and electronic database of DNA "fingerprints" maintained at CDC. Laboratories are able to submit patterns to the national database online and obtain epidemiologic information associated with patterns in the database, If patterns submitted by laboratories in different locations during a defined time period are found to match, the CDC computer alerts PulseNet participants of a possible multistage outbreak so that a timely investigation can be done. If a bacterial strain is isolated from a suspected food, the strains from humans and suspected food can be compared quickly. Thus, matching patterns can indicate possible nationwide outbreaks and lead to public health actions such as epidemiologic investigations, product recalls, and ultimately to regulatory and other changes to prevent widespread outbreaks.

Such efforts have stimulated additional interagency collaboration to develop new, and evaluate existing, systems for sharing important information.

Question. Please distinguish the role of the various agencies in food safety research.

USDA answer. The Agricultural Research Service (ARS), as the intramural research agency of the U. S. Department of Agriculture, is considered to be the first response agency for the primary USDA regulatory agency, the Food Safety and Inspection Service. The ARS provides much of the expertise for development of detection systems required for regulatory oversight plus information about intervention methods, especially in meat and poultry. This agency is also well suited to undertake long term investigations that require a long period of sustained funding to accomplish the stated goal, a process not well suited to smaller, investigator initiated projects from the public sector.

The Cooperative State Research, Education, and Extension Service provides funding to extramural research organizations, universities, and institutes in both public and private settings. It benefits from investigator initiated proposals which bring forward new concepts and ideas for control of food safety hazards. Because these extramural programs can draw on a vast array of expertise in the university system, proposals may cover a very wide spectrum. In the National Research Initiative, the focus is on basic or fundamental research which can then provide information of use in more applied research efforts within our Food Safety Special Grants program or as a basis for extension educational programs.

The Economic Research Service (ERS) determines estimates of the costs of food borne illnesses and evaluates economic consequences for consumers of policies and programs which reduce food borne disease incidence and their associated medical costs and productivity losses. With respect to risk assessments, ERS evaluates the costs and benefits of alternative pathogen control strategies.

To summarize, it does appear that each agency has a specific mission or role to fulfill and the research programs of the various agencies are complementary and not duplicative. In addition, ARS scientists are often located in close proximity to the Department's partners in the academic community, providing further opportunity for collaboration and communication between researchers.

FDA answer. Considering the highly complex nature of food safety concerns and the wide array of factors that can impact the safety of the U.S. food supply, it is not surprising that there are a number of agencies that contribute to the Federal food safety research effort. The primary agencies within the Department of Health and Human Services that directly conduct food safety research are the FDA and the CDC. In addition, the NIH supports fundamental research that provides scientific advances that contribute to the general advancement of public health research. Within the USDA the primary research agencies are the ARS which is the intramural research agency for USDA, and the Cooperative State Research Education, and Extension Service or CSREES which is the extramural research agency. In addition to these agencies these are a number of other agencies, such as DOD, EPA, and NMFS, that have smaller, focused food safety research programs.

The specific areas and aspects of food safety research undertaken by the individual agencies largely reflect the mission of the agency. For example, the FDA CFSAN research program is in direct support of the Agency's need to have scientifically based inspection systems and food safety policies. Thus, the research program has focused on the development of effective detection methods, the evaluation of post-harvest intervention and prevention technologies, and the advancement of risk assessment techniques. Conversely, a substantial portion of the ARS food safety research has focused on the development of pre-harvest methods for preventing the introduction of human pathogens at the agricultural production level. Such a diverse research portfolio has the potential for unplanned redundancy of efforts. To avoid

this, there has always been a high degree of coordination among food safety research agencies and their scientists. This is being enhanced further by the establishment of the Joint Institute for Food Safety Research which will provide a formal mechanism for coordination of food safety research planning.

CDC plays a critical and unique role as a monitoring, investigative, and advisory agency, and works closely with Federal food safety regulatory agencies. CDC is the cornerstone Federal agency for identifying and monitoring foodborne and other human illness; for detecting, investigating, and responding to outbreaks of foodborne illness; and for documenting the effectiveness of prevention and control efforts.

In addition to surveillance and response, CDC conducts applied research. Examples include developing laboratory diagnostic techniques; developing methods to subtype, or "fingerprint" pathogens causing foodborne illness; conducting risk factor studies for foodborne illness in special populations, such as the immunocompromised; and performing cost-effectiveness studies of potential prevention measures.

FDA's role in food safety research is based on the need to maintain safety and efficacy of food animal drugs, food additives, packaging materials, and diagnostic kits. The research is used to define science-based policies and regulatory frameworks. The FDA Animal Drugs and Feeds Program has focused on those FSI activities, as specified in the document "Food Safety from Farm to Table," which relate to the Animal Drugs and Feeds regulatory mandate. The research developed from FSI research areas will aid the Animal Drugs and Feeds Program and Agency in formulating policy and regulations related to antibiotic use in food-producing animals and the potential impact on human health.

Question. What research is currently being carried out by each agency for fiscal year 1999? What is planned for fiscal year 2000? Please provide a description of each research project, the level of funds for the project, and indicate who is carrying out the research.

USDA answer. Food Safety activities are carried out by CSREES, NASS, ERS, and ARS. The Cooperative State Research, Education, and Extension Service (CSREES) has not yet made any awards under its competitive grants program in the National Research Initiative or in the Food Safety Special Research Grants program for fiscal year 1999. The Requests for Proposals have been issued and the focus of these Requests are as follows. In the regular National Research Initiative Food Safety program ($4.5 million), proposals have been requested that focus on control and prevention strategies, sources of microbial contamination, improved sampling and detection systems for bacteria, an understanding of the mechanisms of antibiotic resistance, risk assessment and hazard evaluation, studies on consumer behavior and adoption of safe food habits by consumers, and mechanisms of microbial pathogenesis in humans. The National Research Initiative Supplemental grant program ($5 million) will focus on epidemiologic investigations of food borne pathogens within all segments of the farm to table continuum and in all types of food products, including meat, poultry, dairy, and fresh fruits and vegetables. The goal of this supplemental program is to have a major focus on the production segment of the food chain and provide information needed to develop best management practices or conduct meaningful risk assessment studies on specific pathogens.

The Special Grants Program in Food Safety ($5 million) will continue to have some focus on fresh fruits and vegetables with more of an emphasis on applied studies on the production segment of the industry. Other specific issues include development of risk assessment models for specific segments of the food chain with a special emphasis on ready-to-eat foods, and establishing the scientific basis and models for establishing and validating critical control points in the food chain. This Request for Proposals is expected to be released on about April 1, 1999.

For the fiscal year 2000, CSREES has requested $10.1 million increase in food safety research to strengthen efforts in risk assessment research, and in the epidemiology of food borne pathogens and development of improved control and prevention methods including implementation of Good Production Practices by producers and growers.

The National Agricultural Statistics Service (NASS) has requested for fiscal year 2000 $2.5 million to conduct a survey of fruit and vegetable growers, as well as packing houses, to establish a baseline for good agricultural practices as they relate to microbial food safety issues. The survey would consist of core questions covering water and manure management, facility sanitation, worker sanitation and hygiene, and transportation practices. In fiscal year 1999, NASS will conduct a pilot study in California and New York to provide information for the final design of materials and plans for the requested nationwide baseline survey effort in fiscal year 2000. These two pilot States were chosen based on distinct differences in crops grown, growing conditions, and agricultural practices.

Total Economic Research Service (ERS) funding for food safety research in fiscal year 1999 is $938,000. ERS is continuing research on the costs associated with illnesses associated with microbial pathogens in food. Starting with the estimated number of illnesses, and examining the nature and severity of the illness, ERS analysts have calculated the medical costs, based on the typical treatment for each type of illness. This year we have completed a project to re-estimate the medical costs of disease caused by one specific pathogen, Salmonella. We conducted a joint research project with staff of the Centers for Disease Control and Prevention, using data from the FoodNet Surveillance System, to re-evaluate the number of cases of Salmonellosis, and to re-estimate the medical costs and productivity losses using new data sources. Preliminary findings are that the total costs of illnesses associated with Salmonella in food are lower than previously thought. Final results will be released when the FoodNet estimates on the number of Salmonellosis cases are cleared by CDC. ERS has also completed a study evaluating the alternative economic methods for placing premature death from foodborne illness in an economic perspective. These methods allow us to estimate the costs to society from premature death. ERS is planning a major conference for fiscal year 2000 to provide guidance to decision makers on the best methodologies for placing an economic value on premature death.

For fiscal year 2000, ERS has requested $1,391,000, which includes an increase to support economic analysis in risk assessment. In fiscal year 1999, ERS has worked with the Risk Assessment Consortium (established under the President's Food Safety Initiative), to begin ranking foodborne health risks on the basis of their economic cost to society. We intend that these funds will be awarded under a competitive grants process, where one or more research programs will be funded over three years to apply state-of-the-art economic analysis to estimate the benefits of making the U.S. food supply safer, and to expand our risk assessment activities to include analysis of the economic burden placed on society by additional sources of foodborne health risk.

In fiscal year 1999, Agricultural Research Service (ARS) is providing $69,867,600 for food safety research specifically in the areas of detection and prevention/control of food borne hazards; antimicrobial/antibiotic resistance; risk assessment; and food handling, distribution and storage. In fiscal year 2000, ARS is requesting an increase of $11.7 million to support additional food safety research, for a total of $81,589,600.

In fiscal year 1999, ARS undertook 40 projects ($14.2 million) in detection of food borne pathogens; 70 projects ($37.9 million) in prevention and control of pathogens; 7 projects ($2.2 million) in antimicrobial/antibiotic resistance; 9 projects ($4.9 million) in risk assessment; and 18 projects ($10.6 million) in food handling, distribution and storage.

In fiscal year 2000, ARS plans to undertake additional research in the following areas: detection of food borne pathogens ($700,000); prevention and control of pathogens ($4,750,000); antimicrobial/antibiotic resistance ($3,420,000); risk assessment ($2,400,000); and food handling, distribution and storage ($450,000).

A listing of the fiscal year 1999 ARS projects is provided for the record.

[The information follows:]

ARS PROJECTS

[Fiscal year 1999]

Research title	Funds	Location
DETECTION OF FOOD BORNE PATHOGENS		
Food Safety Pathogen Reduction	110,000	Headquarters
Agricultural vs Natural Habitats as Sources of Cryptosporidium Parvum	42,100	Beltsville, MD
Epidemiology and Control of Toxoplasma, Trichinella and Related Parasites	353,400	Beltsville, MD
Prevention and Therapy for Protozoan Parasites	245,700	Beltsville, MD
New Technologies to Improve and Assess Meat Quality and Safety	344,700	Beltsville, MD
Develop Detection Methods for Cryptosporidium	296,400	Beltsville, MD
Methods of Analysis for Residues in Meat and Agric. Products	310,300	Beltsville, MD
New Handling Systems and Pathogen Decontamination Technology for Fruits	59,300	Beltsville, MD

ARS PROJECTS—Continued

[Fiscal year 1999]

Research title	Funds	Location
New Handling Systems and Pathogen Decontamination Technology for Fruits	59,300	Beltsville, MD
Detection of Pathogenic Bacteria by Biosensors	1,141,000	Wyndmoor, PA
Advanced Technologies for the Analysis of Contaminants in Foods	1,093,600	Wyndmoor, PA
Rapid Pathogen Diagnostic and Detection Methods	541,900	Wyndmoor, PA/ Purdue University
Stress Adaptation and Virulence Expression of Pathogens in Food	328,300	Wyndmoor, PA
Food Safety Engineering Univ. Of Purdue: Biosensor Technology	988,000	Wyndmoor, PA
ARS Microbial Germplasm Collection for Agricultural and Industrial Uses	378,800	Peoria, IL
Supercritical Fluid Techniques for Food Safety and Nutrient Analysis	434,100	Peoria, IL
Detection, Identification, and Surveillance of Mycotoxins in Cereals	826,100	Peoria, IL
Prevention of Loss from Colibacillosis/E. coli O157:H7 in Cattle and Swine	284,300	Ames, IA
Prevention in Livestock of Potential Human Foodborne Pathogens	487,000	Ames, IA
Treatment/Handling of Animal Manure to Prevent Pathogen Transmission	148,200	Riverside, CA
Control of Pathogens on Surfaces of Poultry and of Fruits and Vegetables	478,100	Albany, CA
Adhesion of Human Pathogens to Surfaces of Poultry, Fruits and Vegetables	538,500	Albany, CA
Removal of Aflatoxin Contamination from Human Foods in Real-Time by Imaging Techniques	215,000	Albany, CA
Treatment of Animal Manure to Prevent Pathogen Transmission	148,200	Albany, CA
Pinus and Gutierrezia Species: Toxicoses and Abortion in Livestock	53,700	Logan, UT
Astragalus and Oxytropis Poisoning in Livestock	63,600	Logan, UT
Livestock Poisoning by Pyrrolizidine Alkaloids and Other Hepatotoxic and Teratogenic Plants	43,800	Logan, UT
Poisoning of Livestock by Larkspur (Delphinium) Species	53,700	Logan, UT
On-Line Verification and Intervention Procedures for HACCP in Slaughter/Processing Systems	436,500	Clay Center, NE
Control of Salmonella and E. coli O157:H7 in Livestock/Preharvest	783,400	Clay Center, NE
Prevent the Occurrence of Toxins in Water/Protect Food and Environment	296,400	Fargo, ND
Methodology Development for Rapid Analysis of Drug and Pesticide Residues in Food Animal Products	797,000	College Station, TX
Mississippi Center for Food Safety and Postharvest Technology	358,700	Mississippi ST,
MS Determine Isoflavonoid Induction in Legumes and Their Phytoestrogenic Effects in Animal Systems	206,200	New Orleans, LA
Post-Mortem Muscle/Meat Changes That Affect Product Safety and Quality	414,100	Athens, GA
Reduction of Fusarium Mycotoxins in Agricultural Commodities	166,500	Athens, GA
Rapid Pathogen Diagnostic and Detection Methods	245,500	Athens, GA
Reduction of Biofilms Related to Bacterial Contamination and Pathogen Load During Poultry Processing.	297,600	Athens, GA
Prevent Pathogen Transmission in Animal Manure	74,100	Athens, GA

ARS PROJECTS—Continued

[Fiscal year 1999]

Research title	Funds	Location
Treatment of Poultry Manure to Prevent Pathogen Transmission	74,100	Athens, GA
TOTAL	14,217,200	
PREVENTION AND CONTROL OF PATHOGENS		
Preharvest Control of Aflatoxin	861,200	Headquarters
Food Safety Pathogen Reduction	105,700	Headquarters
Assessment of Agricultural vs Natural Habitats as Sources of C. Parvum	168,500	Beltsville, MD
Epidemiology and Control of Toxoplasma, Trichinella and Related Parasites	342,700	Beltsville, MD
Strategies to Control Swine Parasites Affecting Food Safety	766,600	Beltsville, MD
Prevention and Therapy for Protozoan Parasites	245,600	Beltsville, MD
Animal Waste Handling Systems to Prevent Pathogen Transmission	592,800	Beltsville, MD
Fate and Environmental Impact of Agricultural Nutrients in Sustainable Production Systems	350,800	Beltsville, MD
The Effect of Plant Genetics and Zinc on Cadmium Concentration and Bioavailability in Crops	218,200	Beltsville, MD
Composting, Stabilization, and Safe Use of Manure and Mineral By-Products from Rural/Urban Areas	790,800	Beltsville, MD
Integrated Soil-Nutrient-Crop-Microbial-Pest-Waste Management Strategies for Sustainable Agriculture	240,600	Beltsville, MD
Development of Techniques for Inspection of Poultry Carcasses	1,001,800	Beltsville, MD
New Handling Systems and Pathogen Decontamination Technology for Fruits	177,800	Beltsville, MD
New Handling Systems and Pathogen Decontamination Technology for Fruits	177,800	Beltsville, MD
Quality Maintenance and Food Safety of Fresh and Fresh Fruits/Vegetables	545,200	Beltsville, MD
Agricultural Approaches to Human Health Through Understanding Soil-Plant-Human/Animal Food Systems	166,500	Ithaca, NY
Improving the Nutritional Quality and Stress Tolerance of Food Crop Species	149,700	Ithaca, NY
Interventions to Improve the Microbiological Safety and Quality of Fruits and Vegetables	776,000	Wyndmoor, PA
Pathogen Contamination in Food Producing Swine	296,400	West Lafayette, IN
Molecular Approach to Understand/Control Fusarium Infection and Mycotoxin Contamination of Crops	852,800	Peoria, IL
Strategies for Developing Maize Kernels Resistant to Invasion by Fusarium	222,700	Peoria, IL
Control of Fusarium Mycotoxins and Diseases in Corn and Small Grains	984,000	Peoria, IL
Integrated Control of Aspergillus Flavus and Aflatoxin in the Midwest Corn Belt	1,201,100	Peoria, IL
Control and Prevention of Cryptosporidium Parvum Infection	415,700	Ames, IA
Rumen Microbes and Their Interactions with Secondary Plant Metabolites	475,800	Ames, IA
Prevention of Losses from Colibacillosis and E. coli O157:H7 in Cattle/Swine	710,800	Ames, IA
Epidemiology and Control of Salmonella	657,200	Ames, IA
Prevent Zoonotic Pathogen Transmission in Swine	592,800	Ames, IA

ARS PROJECTS—Continued

[Fiscal year 1999]

Research title	Funds	Location
Prevent Pathogen Contamination in Food Producing Animals, Swine	296,400	Ames, IA
Treatment/Handling of Animal Manure to Prevent Pathogen Transmission	444,600	Riverside, CA
Practical Application of Molecular Genetics for Improved Potato Cultivars	327,700	Albany, CA
Reduction of Aflatoxin in Tree Nuts and Figs Through Control of Major Insect Vectors	946,900	Albany, CA
Control and Prevention of Aflatoxin Formation in Tree Nuts	750,100	Albany, CA
Control of Pathogens on Surfaces of Poultry and of Fruits/Vegetables	697,200	Albany, CA
Adhesion of Human Pathogens to Surfaces of Poultry Fruits/Vegetables	517,000	Albany, CA
Treatment of Animal Manure to Prevent Pathogen Transmission	444,600	Albany, CA
Pinus and Gutierrezia Species: Toxicoses and Abortion in Livestock	483,100	Logan, UT
Astragalus and Oxytropis Poisoning in Livestock	572,100	Logan, UT
Livestock Poisoning by Pyrrolizidine Alkaloids and Other Hepatotoxic and Teratogenic Plants	394,200	Logan, UT
Poisoning of Livestock by Larkspur (Delphinium) Species	483,100	Logan, UT
Control of Salmonella and E. coli O157:H7 in Livestock During Preharvest	1,081,900	Clay Center, NE
Determine the Correlation Between Production and Transportation Practices in Cattle	296,400	Clay Center, NE
Cytokine-Mediated Modulation of the Innate Immune Response to Prevent Salmonellosis in Poultry	539,500	College Station, TX
Development of Microbial CEC Methods to Reduce Pathogens in Swine	1,249,900	College Station, TX
Prevention and Control of Salmonella and Other Enteropathogens in Poultry During Growout	1,189,400	College Station, TX
Prevent Pathogen Contamination in Food Producing Animals, Cattle	281,600	Lubbock, TX
Disease Related Problems of Poultry Production and Processing	293,800	Fayetteville, AR
Enhancing Biotic Pest Resistance in Corn Germplasm	669,100	Mississippi ST, MS
Aflatoxin Control Through Targeting Gene Cluster Governing Aflatoxin Synthesis in Corn and Cottonseed	1,019,900	New Orleans, LA
Modification of Fungal Community Structure to Improve Food Safety	488,600	New Orleans,
LA Aflatoxin Control Through Addition of Enhancement of Antifungal Genes in Corn and Cotton	1,324,200	New Orleans, LA
Development of Improved Peanut Germplasm with Resistance to Disease and Nematode Pests	267,700	Tifton, GA
Genetic Improvement of Corn and Sorghum for Resistance to Insects and Aflatoxin	151,700	Tifton, GA
Plant Resistance and Germplasm Enhancement for Managing Insect Pests of Southern Crops	145,000	Tifton, GA
Biochemical, Physical, Microbiological Management for Prevention of Mycotoxin in Peanuts	745,600	Dawson, GA
Pathogenesis, Detection, and Control of S. Enteritidis and Other Salmonellae in Chickens	1,025,400	Athens, GA
Stimulation of Mucosal Immunity in Chickens to Protect Against Enteric and Respiratory Pathogens	371,200	Athens, GA
Engineering Innovations and Micro Developments to Reduce Contamination of Poultry and Equipment	537,500	Athens, GA

ARS PROJECTS—Continued

[Fiscal year 1999]

Research title	Funds	Location
Control of Campylobacter Jejuni in Poultry	1,117,400	Athens, GA
Control of Salmonella During Poultry Production	844,400	Athens, GA
Reduction of Fusarium Mycotoxins as Concerns in Agricultural Commodities	666,000	Athens, GA
Control and Prevention of Mycotoxin Formation by the Corn Endophyte Fusarium Moniliforme	1,032,300	Athens, GA
Epidemiology and Ecology of S. Enteritidis in Commercial Poultry Flocks	327,400	Athens, GA
Food Safety-Pathogen Reduction in Poultry	237,000	Athens, GA
Prevent Pathogen Transmission in Animal Manure	222,300	Athens, GA
Treatment of Poultry Manure to Prevent Pathogen Transmission	222,300	Athens, GA
On-Line Detection Technology: PPQRU RRRC/Institute Technology Development	439,100	Athens, GA/Inst. Of Tech. Dev.
Food Safety, Waste Minimization, and Value Enhancement of Fermented and Lightly Processed Vegetables	491,800	Raleigh, NC
National Agricultural Library: Food Safety Data Base	219,600	Beltsville, MD
TOTAL	37,942,600	
ANTIMICROBIAL/ANTIBIOTIC RESISTANCE		
Assurance of Microbiological Safety of Thermally Processed Foods	159,900	Wyndmoor, PA
Stress Adaptation and Virulence Expression of Bacterial Pathogens in Food Environments	506,100	Wyndmoor, PA
Improve Safety and Shelf-Life of Meat and Poultry with Ionizing Radiation	156,700	Wyndmoor, PA
Epidemiology and Control of Salmonella	295,300	Ames, IA
Development of Microbial CEC Methods to Reduce Pathogens in Swine	588,200	College Station, TX
Pathogen Reduction in Poultry	218,800	Athens, GA
Antibiotic Resistance Research	296,400	Athens, GA
Total	2,221,400	
RISK ASSESSMENT		
Epemiology and Control of Toxoplasma, Trichinella in Domestic Animals	374,800	Beltsville, MD
New Technologies to Improve and Assess Meat Quality and Safety	344,700	Beltsville, MD
Minimally Degradative Pasteurization Processes for Liquid or Solid Foods	302,900	Wyndmoor, PA
Assurance of Microbiological Safety of Thermally Processed Foods	399,900	Wyndmoor, PA
Risk Modeling to Improve the Microbiological Safety of Poultry Products	120,700	Wyndmoor, PA
Microbial Modeling Components for Use in Risk Assessments	1,209,600	Wyndmoor, PA
Improve Safety and Shelf-Life of Meat and Poultry by Irradiation	156,700	Wyndmoor, PA
Disposition of Beta-Agonists in Farm Animals	915,300	Fargo, ND
Dioxins and Other Environmental Contaminants in Foods	1,084,400	Fargo, ND

ARS PROJECTS—Continued

[Fiscal year 1999]

Research title	Funds	Location
Total	4,909,000	
FOOD HANDLING, DISTRIBUTION AND STORAGE		
Develop New Handling Systems and Pathogen Decontamination Technology for Fruits	59,300	Beltsville, MD
Develop New Handling Systems and Pathogen Decontamination Technology for Fruits	59,300	Beltsville, MD
Interventions to Improve the Microbiological Safety and Quality of Fruits and Vegetables	987,600	Wyndmoor, PA
Development of Minimally Degradative Pasteurization Processes for Liquid or Solid Foods	959,200	Wyndmoor, PA
Detection of Pathogenic Bacteria by Biosensors	303,300	Wyndmoor, PA
Assurance of Microbiological Safety of Thermally Processed Foods	239,900	Wyndmoor, PA
Risk Modeling to Improve the Microbiological Safety of Poultry Products	120,700	Wyndmoor, PA
Stress Adaptation and Virulence Expression of Pathogens in Food	533,400	Wyndmoor, PA
Improve Safety and Shelf-Life of Meat/Poultry with Ionizing Radiation	1,253,800	Wyndmoor, PA
Quantitative Determination of Pathogen Reduction During Animal Slaughter and Food Processing	966,700	Wyndmoor, PA
Control of Pathogens on Surfaces of Poultry and Fruits and Vegetables	816,700	Albany, CA
Adhesion of Human Pathogens to Surfaces of Poultry and Fruits/Vegetables	1,098,600	Albany, CA
Adv. Technologies for Reduction of Microorganisms and Particulate Matter in Food Processing	541,300	Albany, CA
Removal of Aflatoxin Contamination from Human Foods in Real Time by Imaging Techniques	215,000	Albany, CA
Control of Pathogenic and Spoilage Bacteria on Red Meat	844,400	Clay Center, NE
Develop On-Line Verification and Intervention Procedures for HACCP in Slaughter/Processing Systems	436,500	Clay Center, NE
Engineering Innovations and Micro Developments to Reduce Contamination of Poultry and Equipment	537,500	Athens, GA
Reduction of Biofilms Related to Bacterial Contamination and Pathogen Load During Poultry Processing.	604,200	Athens, GA
Total	10,577,400	
Total Food Safety	69,867,600	

FDA answer. The applied research CDC conducts is directed toward developing and enhancing surveillance of foodborne illness, and is supported under the surveillance line of the Food Safety Initiative budget. For example, CDC's FSI resources are directed toward increasing CDC's capacity to identify new foodborne hazards and characterize the risk posed by those hazards, increasing the speed with which the presence of hazards in foods can be determined and controlled, and increasing the accuracy and timeliness of public health data that justify food safety control programs and evaluate their effectiveness.

FDA would be happy to provide this information for the record.

[The information follows:]

FOOD AND DRUG ADMINISTRATION

FOOD SAFETY RESEARCH

The 1999 Food Safety Initiative builds on science-based gains in research during 1998. The initiative places increased emphasis on ensuring the safety of domestic and imported fresh produce and imported foods, and develops scientific information and tools to control a greater range of food safety hazards. The 2000 President's Food Safety Initiative builds on the foundation established in 1998 and 1999 for research and risk assessment activities. The following information provides greater detail on research projects for fiscal year 1999 and 2000:

Planned Activities Funded by Fiscal Year 1999 Funds

FDA's FSI base resources and $25 million appropriation in fiscal year 1999 will support the following activities and accomplishments in the area of research and risk assessment:

—research toward pathogen growth and control in areas critical to reduce microbial risk in produce;

—improved detection methods (rapid tests) to identify a broader range of pathogens on food products (fresh fruits and vegetables), throughout food production, manufacturing and distribution systems;

—develop prevention/intervention strategies, with research on the development of alternative food production, processing, and handling systems that eliminate or pathogen contamination; and risk assessments of Listeria, Vibrio Parahaemolyticus, and methyl mercury.

Planned Activities Funded by Proposed Fiscal Year 2000 Funds

FDA's fiscal year 1999 FSI base resources and the proposed $3 million increase requested in fiscal year 2000 for research are expected to support the following activities:

—extramural contracts to further expand methods development and prevention technology research. These contracts will be supported with other Federal agencies; upgrade scientific equipment;

—expand data collection on contaminated foods associated with foodborne outbreaks and characteristics of people who did not become ill after exposure to the same foods;

—expand development of appropriate animal models for determining whether threshold or non-threshold models for infectivity are more appropriate for describing low dose infectivity rates for infectious and toxicoinfectious microorganisms;

—expand development of modeling techniques for assessing human exposure to a variety of foodborne contaminants especially emerging pathogens.

The following table provides a list of research projects planned by FDA in fiscal year 2000

Research Projects/Project Title	*Estimated Project Cost* [1]
Sampling for Pathogens on Produce	$1,500,000
Molecular Characterization of Maverick Strains of Enterohemorrhagic E. coli	400,000
Effects of Environmental Conditions, Phytochemicals, Modified Atmosphere Packaging and other Parameters for the Growth and Survival of Foodborne Pathogens on Produce, Particularly Sprouted Seeds	1,200,000
Molecular Mechanisms for Pathogen Emergence	1,250,000
Identification and Characterization of Virulence Determinants for Salmonella enteritidis and Vibrio vulnificus	400,000
Cyclospora Detection and Viability Assessment	450,000
Characterization of Pathogenic Aquatic Eucaryotes and their Toxins	1,500,000
Control of Viral and Bacterial Human Pathogens in Seafood	650,000
Assessment of Technologies for Pathogen Reduction or Elimination	1,750,000
Study of Mycotoxins	1,650,000
Virulence Assessment and Molecular Pathogenesis of Salmonella Typhimurium DT 104 and Shigella	450,000
Minimizing Biogenic Amine Formation in Seafood and Other Commodities	540,000

[1] The following estimated costs for each project are based on base resources (fiscal years 1997, 1998 and 1999) plus requested increases in fiscal year 2000.

ANIMAL DRUGS AND FEEDS PROGRAM/RESEARCH

Research Project	Organization Carrying Out Research	Fiscal Year 1999 Funding
Detection procedures for pathogens in meat, eggs, animal feed and the environment.	University of Tennessee Center for Veterinary Medicine.	$400,000
Pathogen reduction in animal feeds	Washington State University Center for Veterinary Medicine.	300,000
Pathogen reduction research on food producing animals and the environment.	University of Wisconsin, University of Georgia, ARS/USDA, Center for Veterinary Medicine.	800,000
Determine impact of antibiotic use in feed on bacterial resistance development and pathogen transmission in food producing animals and the environment.	Center for Veterinary Medicine	300,000
Evaluate effects of various drug doses and routes of administration on bacterial antibiotic resistance development and dissemination.	New England Medical Center William Beaumont Hospital Center for Veterinary Medicine.	700,000

FDA food safety research being conducted in fiscal year 1999 with NCTE for the Animal Drug and feeds Program ($85,000 from the Surveillance FSI program to NCTE) includes assessing microbial products intended for food animals that are designed to reduce colonization by Salmonella, evaluation of antimicrobial drug resistance in these products, development of rapid screening tests for antimicrobial drug resistance determinants and food borne pathogens, and identification of bovine mitochondrial DNA contaminants in animal feed.

ANIMAL DRUGS AND FEEDS PROGRAM/RESEARCH

Research Project	Organization Carrying Out Research [1]	Fiscal Year 1999 Funding
Detection procedures for pathogens in meat, eggs, animal feed and the environment.	University of Tennessee Center for Veterinary Medicine.	$800,000
Pathogen reduction in animal feeds	Washington State University Center for Veterinary Medicine.	300,000
Pathogen reduction research on food producing animals and the environment.	Center for Veterinary Medicine	800,000
Determine impact of antibiotic use in feed on bacterial resistance development and pathogen transmission in food producing animals and the environment.	Center for Veterinary Medicine	300,000
Evaluate effects of various drug doses and routes of administration on bacterial antibiotic resistance development and dissemination.	New England Medical Center, William Beaumont Hospital, Center for Veterinary Medicine.	1,000,000
Characterization of bacterial multiple antimicrobial resistance mechanisms in animals and the environment.	Center for Veterinary Medicine	500,000

[1] In fiscal year 2000 a request for proposals will be advertised and additional cooperative agreements will be funded in addition to the ones mentioned.

Question. The Administration indicates that $20 million will be invested in fiscal year 1999 through the Food Safety Initiative on education. Would you please describe the various education activities planned or being undertaken by each of the five USDA agencies, the Food and Drug Administration, and the CDC?

USDA answer. A food safety video for use in senior citizens' centers will be produced and distributed in cooperation with FDA. Other activities planned for 1999 and 2000 include work with the Partnership for Food Safety Education's "Fight

BAC! " campaign; observance of National Food Safety Education Month; curriculum development, aimed at bringing the farm-to-table Initiative into classrooms nationwide; and publications distribution. Participating agencies have also formed the National Food Safety Information Network to bring together the government's primary mechanisms for providing food safety information to the public. The National Food Safety Information Network consists of the following media: FDA's Food Information Line, USDA's Meat and Poultry Hotline, USDA/FDA Foodborne Illness Education Information Center at the National Agricultural Library; www.FoodSafety.gov, the Gateway to Government Food Safety Information on the World Wide Web; FoodSafe, an electronic dissemination system; and EdNet, an electronic newsletter for food safety educators.

In the area of pre-harvest food safety education, FSIS is working to establish animal production food safety partnerships with State agriculture agencies. FSIS is also working with the Department of Education to develop internet-based educational programs for agricultural extension agents and vocational agriculture teachers. Using data collected from a national producer educational survey—conducted in 1998–1999 by Tuskegee University, Texas A&M and the Research Triangle Institute—FSIS plans to issue grants to "1890 Institutions" to conduct educational outreach targeting small and limited producers in the southeastern United States.

The Cooperative State Research, Education, and Extension Service is providing education and outreach to growers and producers of domestic and imported fresh fruits and vegetables. This effort supports the President's Food Safety Initiative and the Initiative to Ensure the Safety of the Imported and Domestic Fresh Fruits and Vegetables. Increased funding in fiscal year 1999 has provided needed resources to support collaborative efforts with the Food and Drug Administration, the Centers for Disease Control and Prevention, and the Foreign Agricultural Service to provide education and outreach to both national and international growers and producers. An example is the "Fight BAC!" campaign developed by the Partnership for Food Safety Education in conjunction with the President's Food Safety Initiative to simplify and provide useful public education and information about safe handling of all foods. The Partnership consists of numerous associations, councils, and institutes, with liaison from four Federal agencies, including USDA, and an international affiliation with Canada. These efforts are focused on building a strong, viable, integrated food safety program across the federal government.

In fiscal year 1999, the Cooperative State Research, Education, and Extension Service has $7,365,000 for competitive projects in food safety education. We anticipate funding 70–80 food safety extension education projects which may range from $50,000 to $500,000. Proposals have been solicited which focus on training for food handlers, consumer food safety education, use of good agricultural practices to increase food safety, and development of a national food safety database.

FDA answer. CDC is happy to provide the information for the record. CDC conducts educational activities primarily for health care professionals and the public. Examples include materials on how high-risk populations can avoid foodborne illness and training videos on laboratory methods to diagnose foodborne pathogens. In addition, CDC actively participates with FDA, USDA, industry, and consumer organizations in the Partnership for Food Safety Education, a public-private partnership created to reduce the incidence of foodborne illness by educating Americans about safe food-handling practices through many activities, including the national Fight BACTM Campaign. The purpose of the Fight BACTM Campaign is to help educate the public about foodborne illness and motivate the consumers to take basic sanitation and food-handling steps to reduce the risk of foodborne illness. With National Food Safety Initiative resources in fiscal year 1999, CDC also is working with FDA and USDA to reach school-age children through school-based efforts.

FDA would be happy to provide the information for the record.

[The information follows:]

FOOD AND DRUG ADMINISTRATION EDUCATION ACTIVITIES

FDA will invest a total of $2.47 million in fiscal year 1999 on education, and consumer research that will serve as the basis for consumer education material. This amount represents a $400,000 increase over fiscal year 1998.

Education

The Agency will use the funding to continue to support and broaden partnerships and alliances with other food safety organizations that allow the Agency to leverage resources while spreading food safety messages to a greater number of people. The focus this year is to expand consumer education to change unsafe food handling

practices of individuals at high risk for foodborne disease and the non-English speaking populations.

Another FDA priority in fiscal year 1999 is the development of school-based food safety programs to establish lifelong safe food handling practices in young people. To achieve this goal, an agreement has been signed with the National Science Teachers Association to develop a supplemental food safety curriculum for use in secondary schools. This program will also provide food safety training to over half of these students who will at some time during their teenage years work in a food service establishment.

A recent FDA-USDA consumer survey showed that only 1 percent of consumers viewed eggs as a risky food, a decrease of 10 percent since 1993. A public education campaign through the media as well as through community health associations and food service operations will be launched later this year concerning the safe handling of eggs.

Funding during fiscal year 1999 will support the Food Information Center at FDA that provides food safety information to consumers through its hot line, fast fax, web page and E-mail dissemination system. The Food Information Center is part of jointly supported FDA-USDA system of information distribution.

Research

In order to target consumer education materials where it is most needed, research in kitchens is currently underway to identify unsafe food handling behaviors that consumers are actually practicing (as opposed to reported as being practiced).

FDA will also conduct consumer research on special groups, such as Spanish speaking populations, to determine the best way to communicate key food safety principles in order to achieve behavioral changes.

Data available to FDA indicates that retail food service operations (including fast food restaurants, vending operations, institutional feeding operations such as schools, hospitals, and nursing homes) are the source of a substantial number of food-borne illnesses. Market research will also be conducted to identify barriers to safe food preparation practices by the retail food service industry. This type of research activity will produce a knowledge base for educators and will guide the design of more effective training programs and materials targeted for development next fiscal year. This program will address the impact of the high turnover in food service workers and target small businesses, and new entrepreneurs.

Question. I know that the Food Safety and Inspection Service has food safety hotline. Is this the only government hotline, or does each agency have its own?

FDA answer. The Food Safety and Inspection Service hotline deals with meat and poultry. FDA's Center for Food Safety and Applied Nutrition has a toll free Food Information Line, 1–800–332–4010, to cover other foods and dietary supplement questions. The FDA and USDA information lines will soon be integrated so that calls will routinely be handled by the most appropriate agency and the agencies can more easily handle hot issues and crises.

Additionally, other Federal Government toll-free food-related information lines include Department of Commerce's National Marine Fisheries Service at 1–800–422–2750, Environmental Protection Agency's Safe Drinking Water Hotline at 1–800–827–2794, and EPA's National Pesticide Telecommunications Network at 1–800–858–7378. The administration has established a government food safety web site (http://www.foodsafety.gov/) designed to help the public find government food safety information more readily on the web. The site provides links to food safety-related web sites from federal, state and local government agencies, including CDC.

Question. What audiences are you currently targeting through your food safety education efforts?

USDA answer. FSIS is working to reach those at greatest risk for foodborne illness, in addition to the general public. Specific target audiences include: Home food handlers; Cooks and food handlers in retail settings and congregate feeding sites; School foodservice providers; Children; Expectant mothers; Child care providers; The elderly and Immune-compromised individuals. In the area of pre-harvest food safety education, FSIS is targeting its outreach efforts towards the one million food animal producers and the thousands of livestock markets and satellite industries.

In fiscal year 1999, the Food Safety and Quality National Education Initiative of the Cooperative State Research, Education, and Extension Service has significantly expanded the Department of Agriculture's education and outreach efforts to consumers, educators, health professionals, farmers, veterinarians, producers, processors, food service workers, sanitarians, food inspectors, retailers, distributors, transporters, and other food handlers. Growers and producers of domestic and imported fresh fruits and vegetables are also targeted.

The Food and Nutrition Service has provided food safety information to school food service professionals and child care providers to assist them in preparing and serving meals to children, and to work with children to teach them safe food handling.

FDA answer. The Food Safety Initiative's educational efforts will target individuals at high risk, such as children, women, elderly, individuals with comprised immune system, for foodborne disease, non-English speaking populations, and consumers of eggs. Another FDA effort in fiscal year 1999 is the development of school-based food safety programs targeted at young people, so that these messages may establish lifelong safe food handling practices.

Current target audiences are school children, general public and public health professionals, including physicians, nurses, nutritionists, food protection specialists, laboratorians and epidemiologists. CDC is working with FDA and USDA to reach children through school-based efforts.

Question. Dr. Henney, you indicate that through a combination of FDA inspection and state contracts, all domestic seafood processors and importers were inspected to verify implementation of HACCP by the end of calendar year 1998. Were these seafood processors and importers in compliance with HACCP implementation requirements?

FDA answer. Processors were inspected to determine whether they have HACCP systems in place, while importers were inspected to determine whether they were taking steps to verify that their foreign suppliers were processing in accordance with United States, such as HACCP requirements.

Initially, approximately 30 percent of processors and 20 percent of importers were in compliance, that is, they had HACCP systems that were essentially complete and needed little or no additional work. FDA defined compliance in terms of the presence or absence of significant technical HACCP problems, not whether a processor was producing food that was dangerous to eat, or in imminent danger of doing so. Minor technical HACCP problems were not regarded as out of compliance.

FDA has learned from HACCP pilots and the experience of other nations in implementing their own HACCP systems, that the early stages of HACCP implementation involves considerable trial and error, both for the industry and the regulator. Consequently, FDA's primary objective during the first round of inspections was to provide consistent, accurate feedback to firms on the status of their HACCP systems. The percentage of firms that achieved essentially error free HACCP programs by their first inspections was a secondary consideration. No regulatory action was contemplated for technical HACCP problems in the absence of an imminent public health problem.

Question. Dr. Henney, you indicate that FDA found a range of problems with HACCP implementation that needed to be addressed by seafood facilities. What problems did you identify and how are working with the seafood industry to address these problems?

FDA answer. The results of the first round of inspections reflect a range of issues, most of which were anticipated. Collectively, the most prevalent deficiencies involved lack of adequate sanitation monitoring and failure to have a HACCP plan. While many firms practice good sanitation, this is an area that has been a longstanding problem with the seafood industry generally. With regard to HACCP plans, some firms were simply being recalcitrant, while others held a good faith belief that, in their case, a plan was not needed. Plans are needed only when there are food safety hazards that are reasonably likely to occur with the product.

Where processors had HACCP plans, the problems were, in many cases, those that could reasonably be attributed to trial and error. Although not minor, those kinds of problems are often readily correctable. In other cases, a processor might disagree with FDA over the adequacy of its HACCP plan. In most cases FDA would categorize the processor as noncompliant, but would also provide the processor with the opportunity to demonstrate the adequacy of its HACCP system. Where adequacy can be demonstrated, the compliance status of the firm will be changed.

We are doing a number of things in the second year to continue to move the industry down the road toward full compliance. First, we are working with a consortium of Federal agencies, the Association of Food and Drug Officials, academia, and industry trade associations, collectively known as the Seafood HACCP Alliance, to develop a low cost training course for processors to help them overcome specific types of implementation problems. During part of the course, trained instructors will walk students through problem solving exercises that are tailored to their specific needs. The Alliance has already developed a basic training course in seafood HACCP that has been taken by over 10,000 individuals. FDA is now contributing $30,000 from FSI funds toward the development of this follow-on effort, and we expect it to be ready by mid-April. Second, in addition to the course, our district offices

are planning implementation workshops tailored to their local industries. Our Los Angeles district office recently conducted a highly successful workshop, and we wish to replicate that effort around the country.

Third, we are upgrading our guidance materials, including our principal guidance document to industry, the Fish and Fishery Products Hazards and Controls Guide. This document essentially describes everything we know about seafood hazards and controls. It is a one-of-a-kind document that has earned some international recognition. It has been translated into other languages and some countries have incorporated it, at least informally, into their own regulatory programs.

To help achieve international compliance with HACCP from those who export fish and fishery products to the United States, we are beginning a program of foreign inspections, primarily targeted toward developing countries with large volumes of seafood exports to the U.S.

We are also continuing to pursue equivalence agreements with more advanced seafood trading partners. Over 30 countries have requested that we determine whether their regulatory systems for seafood safety are equivalent to ours.

We are also upgrading the education we provide to our own inspectors. We will give them the same follow-on training course that is being prepared for industry. In addition, we are developing a certification program for seafood inspectors, consisting of courses, exams, and on-the-job audits. This program will help ensure uniform, national proficiency and will reward inspectors who increase their knowledge and inspectional skills.

Question. What is FDA doing in fiscal year 1999 to ensure full compliance with its seafood HACCP rules and regulations?

FDA answer. It is worth noting that FDA's compliance target for fiscal year 1999 is 50 percent, with full compliance not being anticipated for several years. A longstanding, key strategy for this program has been gradual and steady progress. In the Agency's view, a gradual approach provides the best long term chance for success, and is affordable given that there is no public health emergency with seafood that requires urgent action.

Seafood includes over 300 edible species from a variety of habitats. Most are still wild caught. While no potential hazard causes a large number of illnesses in the U.S., there are a wide variety of hazards, including some unique to seafood, that can cause illness. Seafood safety is a matter of some complexity.

Thus, it is essential that seafood processors know the potential hazards that could affect their products and take science-based preventive measures to ensure that these hazards are controlled. Before seafood HACCP, there was no requirement that seafood processors understand hazards and controls as a condition of selling food to the U.S. public. The FDA seafood HACCP program establishes such a condition for the first time. In this respect, the education of the industry in science-based hazards and controls is a key to success. Ultimately, each processor should be able to evaluate its own circumstances and develop and tailor a HACCP system to those circumstances.

Question. I understand FDA funding for Seafood HACCP was $8 million for each fiscal years 1998 and 1999. Is that correct? Last year, FDA indicated that a $3.4 million increase was requested for Seafood HACCP. Why is funding for Seafood HACCP being continued at the fiscal year 1998 level of $8 million for fiscal year 1999? What level of funding is requested for Seafood HACCP for fiscal year 2000? Please compare that level to the funding and staffing levels for Seafood HACCP in each of fiscal years 1998 and 1999?

FDA answer. Yes, FDA's funding for the field implementation of Seafood HACCP is $8 million for both fiscal years 1998 and 1999. The Agency plans to expend an estimated $3.4 million for activities that compliment and support Seafood HACCP in fiscal year 1999, but will not be directly expended on Seafood HACCP inspections by FDA's field office.

We are happy to provide for the record a table which outlines FDA's use of resources for Seafood HACCP.

[The information follows:]

FDA'S SEAFOOD HACCP RESOURCES—FISCAL YEARS 1998 THROUGH 2000

Activity	Fiscal year 1998		Fiscal year 1999 Increase		Fiscal year 1999 Total		Fiscal year 2000 Requestion Increase	
	Dollars	FTE	Dollars	FTE	Dollars	FTE	Dollars	FTE
HACCP Training, Implementation & Expansion	.....	.....	2.1	20	2.1	20	.5	1.0

FDA'S SEAFOOD HACCP RESOURCES—FISCAL YEARS 1998 THROUGH 2000—Continued

Activity	Fiscal year 1998		Fiscal year 1999 Increase		Fiscal year 1999 Total		Fiscal year 2000 Requestion Increase	
	Dollars	FTE	Dollars	FTE	Dollars	FTE	Dollars	FTE
Seafood HACCP Training	1.3	1.3	.....	.....	1.3	1.3	.....	.....
Seafood HACCP Field Inspections	8.0	8.0	.....	.....	8.0	8.0	.....	.....

Question. The President's budget for fiscal year 2000 proposes that the Seafood Inspection Program be transferred from the Department of Commerce to the Food and Drug Administration. How will the transfer of this program to FDA improve the safety of seafood?

FDA answer. Transfer of the Seafood Inspection Program from the Department of Commerce to FDA will improve the safety of seafood in several ways. Establishing a Performance Based Organization or PBO at FDA will establish FDA as the sole seafood agency with one federal HACCP standard, thereby promoting efficiency, effectiveness, and consistency of seafood regulation. This centralization will help both domestically and internationally. In addition, the PBO will provide additional trained inspectors to implement its HACCP regulations, resulting in increased frequency of inspection. Consumers will benefit by improved food safety from an increased federal regulatory presence and a single HACCP standard established by FDA.

Question. Why are you requesting that this transfer be made through the appropriations bill rather than submitting a legislative proposal to the appropriate authorizing committees of jurisdiction?

FDA answer. While the Administration has requested appropriations to transfer the program as is, without establishing it as a Performance Based Organization or PBO, the longer term solution is authorizing legislation that would establish the Seafood Inspection Program as a PBO with the Department of Health and Human Services. FDA and the Department of Health and Human Services is currently working with the Department of Commerce and other parts of the Administration to finalize a draft proposal that would accomplish such a PBO. We are eager to work with Congress to achieve this goal.

Question. The budget indicates that a legislative proposal will be transmitted to make the Seafood Inspection Program a Performance-Based Organization. Would you please explain that proposal.

FDA answer. FDA and the Department of Health and Human Services are currently working with the Department of Commerce and other parts of the Administration to finalize a draft proposal that would transfer the Seafood Inspection Program of the National Marine Fisheries Service in the Department of Commerce to FDA in the form of a Performance Based Organization or PBO. A PBO is a quasi-public organization that is located in a federal agency but operated like a business in that it is to be financially self-sustaining. Although the federal agency oversees the PBO, the PBO is given a great deal of autonomy to run day-to-day operations, particularly in the areas of personnel and procurement, in order to response to customer's needs and marketing conditions.

In this case, the seafood inspection PBO would continue to perform the voluntary, fee-for-service inspection, grading, certification, and training services for the seafood industry and other customers currently performed by the Seafood Inspection Program in the Department of Commerce. In addition, FDA would be able to utilize these trained inspectors to perform regulatory HACCP inspections under one Federal HACCP standard.

Question. Dr. Henney you indicate that FDA has undertaken not only to strengthen border surveillance activities but to design new programs to prevent contamination in countries that export to the United States, including an assessment of foreign control over exports to the United States and providing technical assistance to foreign countries. Would you please be more specific as to the new programs implemented by FDA to increase the safety of imported food?

FDA answer. The FDA is employing a number of strategies to better utilize existing import resources and target efforts. One strategy is to increase activity in developing Mutual Recognition Agreements or MRAs, as well as informal agreements with other countries. These agreements recognize regulatory expertise in the exporting country and allow foreign governments to provide a degree of assistance in controlling export of food products to the United States.

A second strategy is to conduct audits of Foreign Food Systems to assess the prospect of developing future equivalency agreements. As a part of these audits, country's infrastructure, laws, regulations, inspectional force, and regulatory follow up are evaluated. Assessments were completed for Honduras, Trinidad and Tobago in fiscal year 1998. We have tentative plans to conduct assessments for Costa Rica and Nicaragua in March 1999, and we have tentatively scheduled reviews of the infrastructure, laws and regulations related to food safety for both Canada and Mexico in fiscal year 1999.

As a third strategy, FDA is conducting several types of inspections in Country of Origin. Primary countries in which Seafood Inspections in Country of Origin are being conducted include Ecuador, Taiwan, Phillippines, Viet Nam, and Indonesia. Low Acid Canned Food Inspections in Country of Origin are being conducted in the following primary countries; Ecuador, Brazil, Canada, Malaysia, Philippines, Indonesia, and India. The Agency is also conducting compliance inspections for land foods in Country of Origin in Canada, Mexico, Italy, Portugal and France. Primary commodities inspected include cheese, ready-to-eat, heat and serve snack foods, and candy including chocolate candy.

Yet another strategy involves supporting proposed authority to more effectively prevent entry of products that come from countries whose food regulatory agencies are unable to effectively regulate their own industry, as well as prevent export of products that are violative under U.S. law. FDA also supports proposed new authority to cause mandatory destruction of refused merchandise. Finally, FDA seeks greater interactions with other Federal Agencies, including U.S. Customs, to screen, collect and analyze samples, and report these results to the FDA for appropriate follow-up.

The Agency is developing an assessment program of the regulatory structure and capabilities of foreign food regulatory agencies for possible future equivalency determinations, and has developed industry guidance Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables.

The Agency has worked with foreign governments and industry of countries identified as being the source of large U. S. outbreaks over the last several years, trying to identify and eradicate problems. This included inspections of suspect processors and growers.

Question. Please describe FDA's current surveillance of imported food products at our borders. How is this surveillance capability being enhanced in fiscal year 1999? What funding and staffing is being devoted to this effort, as compared to fiscal year 1998? What level of funding is requested for fiscal year 2000?

FDA answer. FDA has allocated additional resources to increase its inspectional staff, with a significant number of new employees being devoted to the Agency's import activities. These import activities include increased examinations of imported seafood, fresh produce, and other public health hazards related to foods. The main emphasis of the 1999 increase in import surveillance is in our sampling programs, which include risk-based assignments and directives from FDA's Center for Food Safety and Applied Nutrition or CFSAN. These programs, assignments, and directives are being implemented through the enhancements to the FDA Operational and Administrative System for Import Support, or OASIS, which will allow more selective screening of products offered for entry. Through the OASIS system, FDA's districts will be able to target consignees, importers, ports and other data fields for coverage where as before, the system was unable to distinguish many of the data elements for selectivity screening. This will also enable FDA to test for specialized information such as seafood HACCP compliance status of importing firms.

One such program assignment is the Agency's Imported Produce Sampling Assignment for the examination of various fresh fruits and vegetables for microbiological contamination, such as E. coli O157H7, Shigella, Cyclospora, etc. This broad-based surveillance and enforcement approach is the Agency's response to potential microbiological hazards that may be associated with the U.S. fresh produce supplies.

Under the FDA Imported Seafood Program, importer HACCP inspections are being conducted to determine compliance with the requirements of Title 21 CFR 123.12, which requires seafood importers to assure their foreign seafood suppliers are operating in compliance with Seafood HACCP regulations.

FDA also developed and provided specialized import training for field employees to assure more uniform and consistent approaches throughout FDA's field offices. This training covers many of the basic import requirements, including the Federal Food, Drug and Cosmetic Act and FDA regulations, Center programs, proper sampling and examination techniques, documentation of violations of the laws enforced by FDA, and so forth.

In fiscal year 1999 FDA worked to make sure that all feed and feed ingredients were identified as components to be examined at import entry into the U.S. to ensure compliance with the regulation prohibiting the use of certain mammalian protein from use in ruminant feed. This regulation is to prevent the development and amplification of Bovine Spongiform Encephalopathy or BSE in the U.S. In addition, in fiscal year 1999 the Animal Drugs and Feeds Program will train the FDA import personnel to educate importers on the applicability of the BSE regulation to certain imported products.

Question. How has FDA placed special emphasis on ensuring the safety of imported and domestic fruits and vegetables?

FDA answer. FDA developed, in consultation with USDA and industry, guidance on good agriculture practices. In October 1998, FDA produced the "Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables" and referred to as GAP's. This guide is intended to provide guidance in addressing microbial food safety hazards and good agricultural and management practices common to the growing, harvesting, washing, sorting, packing and transporting of most fruits and vegetable sold to consumers in an unprocessed or minimally raw form.

In fiscal year 1997 and 1998, FDA conducted multiple surveys of domestically produced fresh fruits and vegetables including sprouts, fresh unpasteurized apple juice and cider, and prepared cut vegetable salads. On February 23, 1999, FDA initiated a sample collection and analysis assignment for 1,000 samples of imported fresh produce. The Agency will test for pathogens and collect data on the extent of microbial contamination in fresh produce.

The Agency has developed and published industry and Investigational guidance "Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables" and "Guide to Traceback of Fresh Fruits and Vegetables Implicated in Epidemiological Investigations", respectively. The Traceback Guide assists the field investigator in identifying specific shipments of fruits and vegetables that could be involved in epidemiological outbreaks. Training has been provided to FDA's field offices. In April 1999, FDA and USDA are sponsoring a national training conference for domestic and imported producers on the implementation of the "Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables."

Question. How many foreign inspections of food establishments were conducted in fiscal year 1998? In which countries?

USDA answer. FSIS oversees imports of meat and poultry products from 37 countries to the United States. For the record, the following table presents the number of foreign meat and poultry slaughter/processing establishments audited by country in fiscal year 1998.

[The information follows]

Number of Foreign Establishments Audited by FSIS in Fiscal Year 1998

COUNTRY	*AUDITS*
Australia	18
Austria	9
Belgium	18
Brazil	16
Costa Rica	5
Czech Republic	2
Denmark	26
Finland	7
France	13
Germany	12
Great Britain	6
Guatemala	1
Honduras	5
Hong Kong	1
Hungary	9
Iceland	2
Ireland	9
Israel	15
Italy	25
Japan	3
Mexico	22
Netherlands	19
Nicaragua	3
Northern Ireland	1
Poland	37
Romania	7

COUNTRY	*AUDITS*
Spain	12
Sweden	16
Switzerland	12
Uruguay	17
Total Countries Visited:	30

Question. Were the foreign inspections being targeted only on those food establishments that produce food products at high risk for microbial contamination? Which foods are these?

USDA answer. FSIS did not target audits at establishments that produce meat and poultry products at high risk for microbial contamination. Audits are based on random selections of establishments that are certified by the foreign inspection systems to export to the U.S. When products are found to have microbial violations at U.S. ports of entry, the establishments of origin are targeted to be included in the list of establishments to be visited during the audits.

Question. What increases in foreign inspections of food establishments are planned for fiscal year 1999 and requested for fiscal year 2000?

USDA answer. FSIS's goal is to visit each country annually to conduct on-site audits of selected plants. As part of the audit of a country's food safety system, a random selection of establishments within each country is selected for review by FSIS personnel.

Question. Please indicate funding and staffing levels for foreign inspections for each of fiscal years 1998 and 1999, and requested for fiscal year 2000.

USDA answer. The FSIS budget for foreign inspections, including personnel, travel and operating costs, is approximately $800,000 and 8 staff years in fiscal year 1998. Both the funding and staffing are expected to remain at that level in fiscal year 1999 and fiscal year 2000.

Question. How many foreign inspections of food establishments were conducted in fiscal year 1998? In which countries? Were the foreign inspections being targeted only on those food establishments that produce food products at high risk for microbial contamination? Which foods are these? What increases in foreign inspections of food establishments are planned for fiscal year 1999 and requested for fiscal year 2000? Please indicate funding and staffing levels for foreign inspections for each of fiscal years 1998 and 1999, and requested for fiscal year 2000?

FDA answer. Twenty six foreign inspections of food establishments were conducted in fiscal year 1998. We inspected firms in China, Italy and Thailand. The inspections covered low acid canned foods. In addition, we also conducted assessments of Guatemala's raspberry growing industry. We anticipate completing 100 inspections in fiscal year 1999.

Only foreign food establishments producing products at high risk for microbial contamination are targeted for inspection, such as seafood, fresh fruits and vegetables, and Low Acid Canned Foods.

Question. The National Academy of Sciences' report indicates that "Although FDA recommended minimum food-handling standards in a Food Code issued in 1993, the Code has not been adopted in its entirety by most state and local authorities." What is being done to encourage states to adopt the Food Code?

USDA answer. USDA is working closely with HHS to promote adoption of the Food Code. Last year, Secretaries Glickman and Shalala sent letters to all the Governors, to constituents, and to employees of USDA and HHS encouraging the adoption and use of the food code. Virtually every USDA meeting with or speech directed at state audiences includes a reference to the Code and its value as a standard for regulation of food safety at retail. Promotion of the adoption of the Food Code was one of the themes at the recent, USDA-hosted Federal-State Food Safety Conference attended by state Health and Agriculture Commissioners, Secretaries Glickman and Shalala, and other officials. USDA personnel have also discussed the code with the agriculture committee of the National Council of State Legislators (NCSL).

We are continuing to work with the food industry as well as representatives of state and local government, through the Conference for Food Protection and in other forums, to encourage industry leaders and trade groups to endorse the Food Code and promote its adoption in all jurisdictions. Major trade associations like the Food Marketing Institute and the National Restaurant Association, government groups like the National Association of State Departments of Agriculture, professional groups like the Association of Food and Drug Officials and the National Environmental Health Association, and many others have had input into and have endorsed the Food Code.

This broad base of support has been instrumental in encouraging grass-root support for universal adoption of the Food Code.

FDA monitors the progress of initiatives in the various jurisdictions, and HHS and USDA have tendered a standing offer to provide technical advice and expert testimony upon request to support State administrative and legislative initiatives to adopt the Food Code. FDA's most recent report shows 15 state level agencies and 17 other jurisdictions (federal agencies, tribal and local government agencies) have now adopted the Code, and that another 23 states, Puerto Rico, the District of Columbia, and several additional local government agencies are in the process of adopting it.

[The information follows:]

FDA recently published the 1999 Food Code on February 22, 1999. There are at least six distinct efforts under our Public Health Service Act mandate to advise and assist states.

On June 4, 1998, Secretaries Shalala and Glickman wrote to the governors encouraging state adoption and implementation of the Food Code.

At the Conference for Food Protection meetings in 1994, 1996 and 1998, recommendations for modifying the Food Code have been debated, passed and sent to FDA. Many of these changes have made newer Food Code editions more acceptable to all parties. Strong opposition by the regulated industry is now rare.

We continue to emphasize promotion of the adoption of uniform standards by the states in our yearly Compliance Programs. Each fiscal year, about 8 person years are allocated to our Field Food Specialists to perform this activity.

When a state requests assistance during its adoption process, we have provided technical and administrative help from Headquarters. For example, FDA has attended public hearings in both Florida and Minnesota to answer questions and support state regulators.

FDA lists Food Code adoptions on its website to encourage participation.

FDA has drafted a set of proposed standards for food regulatory agencies. The first standard in this document is Regulatory Foundation—satisfied by adoption of the Food Code as the uniform set of rules for regulating retail establishments.

Question. Would you please tell us more about the importance of the Antimicrobial Resistance Monitoring Network to food safety and what your plans are to expand the network in fiscal year 1999 and 2000?

USDA answer. The National Antimicrobial Resistance Monitoring System (NARMS) has recently been renamed to NARMS—Enteric Bacteria (NARMS-EB) to more accurately reflect its scope. A public health surveillance system, NARMS-EB is a systematic, data collection and reporting activity. To most efficiently use federal resources, the veterinary and human components of NARMS-EB are structured to collect comparable data. NARMS-EB provides information on the temporal and geographic trends in antibiotic resistant foodborne pathogens. Critical analysis and timely reporting of the NARMS-EB data will enable researchers, public health practitioners, and clinicians to assess the extent of antibiotic resistance in the monitored foodborne pathogens so that reasoned action can be taken to prolong the useful life of antibiotics, maximize the therapeutic effect of antibiotics in animals and man, and minimize human exposure to these potentially harmful agents. The NARMS-EB data and isolates facilitate critical research on antibiotic resistance and virulence mechanisms.

As the lead agencies in the NARMS-EB, FDA and CDC have primary responsibility for decisions on expanding NARMS-EB. Beginning in fiscal year 1999, FSIS began a baseline sampling program for Campylobacter in broilers. FDA-CVM requested, and FSIS agreed, to forward those isolates to the USDA-ARS research laboratory in Athens, Georgia, that conducts the antimicrobial resistance testing for the veterinary portion of the NARMS-EB program. Because FSIS generates the majority of the domestic Salmonella isolates from meat, poultry, and egg products, FSIS is working towards designing its program to ensure that those serotyped Salmonella isolates of FSIS origin that are sent to NARMS-EB are most representative of the overall domestic meat, poultry, and egg products supply.

FDA answer. The National Antimicrobial Resistance Monitoring System or NARMS monitors the emergence and spread of resistance in enteric bacteria and helps to ensure the continued safety and effectiveness of veterinary antimicrobials. Under NARMS thousands of bacterial isolates are tested for resistance to antimicrobials. NARMS will provide an early warning to identifying resistance trends among bacteria. All data from NARMS are made public for review by scientists or the public. NARMS monitors changes in susceptibilities to 17 antimicrobial drugs of zoonotic enteric pathogens from human and animal clinical specimens, from healthy farm animals, and from carcasses of food-producing animals at slaughter.

NARMS objectives are to prolong the lifespan of approved drugs, identify areas for more detailed investigation, guide research in the area of antimicrobial resist-

ance, provide timely information to practitioners, and provide descriptive data on the extent and temporal trends of antimicrobial susceptibility in enteric organisms from human and animal populations.

Benefits gained from NARMS are multiple. NARMS contributed to food safety when CDC provided information to public health departments on the presence, in specific areas of the country, of Salmonella typhimurium DT104, a multi-drug resistant pathogen identified by NARMS. Food animal producers use the NARMS report to identify problems associated with drug resistance in some food animal populations. Researchers use NARMS as a source of well characterized isolates from food animals to develop rapid assays to identify human pathogens in food. One example is, the Salmonella typhimurium DT104 rapid assay announced by Secretary Dan Glickman.

In fiscal year 1999 and fiscal year 2000 we will expand the geographical scope of the NARMS database by supporting the inclusion of international resistance information through the World Health Organization.

Future benefits from isolates tested in NARMS are an increased ability to detect outbreaks of foodborne disease earlier and recall adulterated products preventing exposure of larger proportions of the population, improved ability to identify the source of resistant human foodborne pathogens, improved characterization of the magnitude and type of resistance in food animal populations and improved capability to determine the magnitude of resistance transfer in foodborne pathogens.

Question. What are the concerns about the effect of antibiotics on resistance of microbes that infect people?

USDA answer. In general, when humans become infected with a bacterial strain that is resistant to one or more antibiotics, therapeutic options are diminished, implementation of appropriate treatment may be delayed, illness severity may increase, and overall treatment cost may increase. FSIS, under the Pathogen Reduction and HACCP rule, has implemented a prevention based food production system that, in part, sets product specific limits on the prevalence of Salmonella in raw meat and poultry products. Recently reported test results from the first full year of HACCP indicate that Salmonella prevalence on broilers, ground beef, hogs, and ground turkey were lower after HACCP implementation. Continued monitoring of both the Salmonella prevalence in raw products and, through NARMS-EB, the antimicrobial resistance profiles of Salmonella and Campylobacter isolates will better enable us to characterize the public health impact of antimicrobial resistant foodborne pathogens.

FDA answer. Development of resistance in foodborne pathogens is a medical and public health concern. Drugs may lose all or some of their effectiveness in treating patients with bacterial infections. If resistant foodborne pathogens develop because of antimicrobial drug use in food animals, food products may be contaminated at slaughter and the resistant bacteria transmitted to humans. Even if the bacteria are not pathogenic to the animal they can be pathogenic to humans. For example, Salmonella, Campylobacter, and E. coli O157 can exist in the intestinal flora of various food-producing animals without causing illness. However, all three bacteria can cause severe foodborne illness in humans. If the bacteria that cause illness in humans is resistant to a drug used for treatment, medical therapy may be effected.

There are several concerns. When the microbes that affect people become resistant to the antibiotics used to treat the infections, treatment becomes more difficult, less likely to be successful, and more expensive. That means longer illnesses, higher medical costs, and ultimately, more deaths. Also, when the microbes become resistant, they can spread more easily and cause more illness in humans or animals that are already taking antibiotics for other reasons. This means that someone taking an antibiotic to treat one infection, may become ill with a second infection caused by a resistant organism. Finally, the genes that make the bacteria resistant are often mobile, so that different kinds of bacteria can swap the genes back and forth, and collect them in clusters of genes. This means that resistance that appears in one bacteria can subsequently spread to other bacteria, and can become linked to other resistance genes. Then the use of one antibiotic can select for all of the resistances that are linked together. For these reasons, the use of antibiotics in humans and in animals needs to be prudent and justified, because each use is also selecting for more resistance in the future.

Question. I understand FDA has begun a major revision of its guidelines for approving use of new antibiotics for animals and for monitoring the effects of old ones. What revisions will you propose and will these have a significant impact on the availability and uses of antimicrobials?

FDA answer. FDA has determined that the current regulatory structure for the approval of antimicrobial new animal drugs is inadequate for evaluating the antimicrobial resistance impact on human health. FDA is therefore undertaking an ex-

tensive process to evaluate issues related to the use of all antimicrobial drugs in food-producing animals and develop policies that protect the public health, including products already on the market. Our goal in this process is to protect public health by ensuring that significant human antimicrobial therapies are not compromised due to the use of antimicrobials in food animals, yet provide for future approvals and safe use of antimicrobials in animals.

FDA's proposed regulatory framework is based on scientific evaluation of the hazards to public health from the use of antimicrobials in food animals. The proposed framework takes into consideration two factors that would be used in evaluating human health concerns associated with food-animal use of antimicrobials. These factors are the importance of the drug or class of drugs for human medicine, and the potential exposure of humans to resistant pathogens or resistant elements originating from animals treated with antimicrobials, and the impact this exposure would have on the availability and effectiveness of drugs to treat human disease. FDA would then place the drug or related drug in one of three major tiers according to the drug's importance. Each tier would have different requirements for approval. The requirements for approval may include both pre-approval screening and post-approval monitoring conducted on farms.

FDA now believes it is necessary to evaluate the human impact of microbial effects associated with uses of all classes of antimcirobial new animal drugs intended for use in food-producing animals. FDA will evaluate the safety of antimicrobial products according to two factors. One is resistance, that is the quantity of resistant bacteria formed in an animal's intestinal tract (enteric) following exposure to the drug. The second is the pathogen load which is the changes in the number of animal enteric bacteria that cause human illness.

To address concerns, the framework document proposes that sponsors of antimicrobial products need to evaluate microbial safety, including assessment of pathogen load and antimicrobial resistance; assess pre-approval data showing that the level of resistance transfer from proposed uses of drugs, if any, will be safe for consumers of food products derived from treated animals; and establish acceptable thresholds prior to approval to ensure that approved uses do not result in resistance development in animals or transfer to humans above established levels.

Question. I understand that some consumer, health, and environmental groups are seeking a federal ban on feeding of antibiotics to livestock given developing evidence of immunity in strains of bacteria that infect humans. Do you advocate an outright ban? What is FDA's authority to remove drugs that may be found to cause human pathogens to build resistance to the antimicrobials?

FDA answer. FDA is engaged in discussions to resolve questions about appropriate uses of antibiotics, and the Agency is very concerned about the ever-expanding antibiotic resistance in organisms that cause illness in humans. Our draft framework document entitled A Proposed Framework for Evaluating and Assuring the Human Safety of the Microbial Effects of Antimicrobial New Animal Drugs Intended for Use in Food-Producing Animals sets out a conceptual risk-based process for evaluating the microbial safety of antimicrobial drugs intended for use in food-producing animals. This document has been released to the public and has been the subject of a great deal of appropriate public debate.

FDA has the authority under Section 512 of the Federal Food, Drug, and Cosmetic Act to withdraw approval of applications of new animal drug products, including antimicrobials, when certain conditions are met such as the drug is shown to be unsafe under its approved conditions of use. Sponsors of applications for such products must be given an opportunity for a hearing on the proposed withdrawal. Section 512 also gives FDA the authority to suspend an approval if the Secretary finds the drug poses an imminent hazard to the health of man or animals. In such cases, sponsors must be given an opportunity for an expedited hearing on the suspension. That section also gives FDA the authority to revoke an approval through a notice-and-comment process.

If FDA suspends or withdraws an approval, any product covered by the suspension or withdrawal that is subsequently offered for sale is considered adulterated and subject to seizure or other remedies.

FOOD SAFETY RESEARCH BY THE AGRICULTURAL RESEARCH SERVICE

Question. The Agricultural Research Service (ARS) is requesting an increase of $7.3 million for on-farm food safety research. What percent of ARS research is on-farm and post-harvest? What are the current funding levels for each?

USDA answer. In fiscal year 1999, the Agricultural Research Service devotes 59 percent of its food safety funding to on-farm research and 41 percent to post-harvest

research. The current funding levels are $41,078,200 for on-farm research and $28,789,400 for post-harvest research.

Question. Antibiotic use in animals is suggested as a contributing cause to pathogens in food producing animals and human infection. Please explain this problem; the research that has been done in this area and your proposals to confront this issue. (ARS)

USDA answer. The emergence of resistance to antibiotics has compromised control of some bacterial pathogens both in humans and in food producing animals. The problem starts with the inherent variation in all bacterial populations; when bacterial pathogens are exposed to antibiotics, or other control technologies, such as, heat, cold, low pH, high salt, or disinfectants, a few individual bacterial cells survive. But since these bacteria now have less competition, the resistant bacteria are able to grow and reproduce faster. Thus after a period of time if the selection pressure continues, the resistant bacteria outnumber the original susceptible population. A confounding factor is that the genes coding for this resistance may be transferred between different bacteria, and thus a bacteria population could become resistant even though they have not previously encountered the drug. Additionally pathogens can acquire resistance to multiple antibiotics.

It is possible that pathogens that have become resistant through antibiotic use in animals may be transmitted to humans; and if humans subsequently need to be treated with an antibiotic for this or other pathogens, a different antibiotic would be necessary. The frequency of the occurrence of this transmission is not known.

Research has helped to delineate the occurrence of antibiotic resistance in both human and animal isolates, and to elucidate the genetic basis of many of the types of antibiotic resistance. The latter information will help to associate specific types of resistance in humans and in animals. Research has not helped to answer the question of whether low level growth promoting uses of antibiotics in animals contribute to the incidence of antibiotic resistance in human pathogens; nor do we have data on the true incidence of resistance in humans, animals, and environmental reservoirs.

To help solve these problems and prolong the useful life of antibiotics, ARS is initiating research programs to develop rapid tests for the presence of antibiotic resistance, to determine how both pathogens and nonpathogens acquire and transfer antibiotic resistance and at what levels of antibiotic exposure, define any alterations in virulence which may be linked to the presence of resistance, and to determine sources and interaction of antibiotic resistant pathogens in the environment, that is, their population genetics. This information will help form the basis for risk assessments of the use of specific antibiotic in both humans and animals.

FDA answer. Just as there are many human infections where the human use of antibiotics can lead to resistance, so are there also infections in animals were the growing tide of resistance is making veterinary therapeutic drug choices more limited and difficult. Foodborne infections represent a crossover point, where the problems of resistance in the animal sector affect humans. In addition, resistance can develop in non-pathogenic bacteria in animals from exposure to antimicrobial drugs. Public health risks also occur from the transfer of resistance genes from animal commensals to human pathogens in the animal, on food or in the human gut.

Antibiotic use in animals leads to resistance in the bacteria that inhabit the animals, including foodborne bacteria such as Salmonella and Campylobacter. When those bacteria contaminate the foods we eat, we can become ill. When the bacteria is resistant to antibiotics that are used to treat human infection, serious infections become harder to treat. It takes the laboratory some time to determine the resistance pattern, so the first treatment is based on past experience of what will work. For example, the drug of choice for the treatment of severe salmonellosis is a fluoroquinolone. If the Salmonella is already resistant to fluoroquinolones, then treatment may fail, and there is a delay in finding a treatment that will work.

Through surveillance, CDC is documenting rising resistance in Salmonella and Campylobacter, which is making the choice of antibiotics more problematic. CDC investigates illnesses to determine the sources, and for some resistant Salmonella, CDC has traced the sources back to farms where antibiotics were being used imprudently, or where there were ill animals. CDC and FDA use this information to guide the development of specific prevention strategies.

The principle strategies for controlling the rising tide of resistance are: To make sure that antibiotic use is prudent and rational; to use different antibiotics in humans and animals as much as possible; and to promote better prevention so that infections do not happen in the first place. Non-essential uses of antibiotics need to be limited or stopped, so that their effectiveness can be preserved to treat sick humans and animals. CDC has been working closely with the FDA Center for Veterinary Medicine, and with EPA (which regulates the use of antibiotics on fruit trees

and in boat paint) to promote the concepts of prudent use. The FDA has proposed a new framework for regulating the uses of antibiotics in animal production that incorporates public health concerns about resistance. CDC believes that the combination of prudent use and prevention will actually lead to better animal and human health, as the usefulness of available antibiotics will be extended.

If resistant foodborne pathogens develop in response to antimicrobial drug use in food animals, food products may be contaminated at slaughter and the resistant bacteria transmitted to humans. In addition, when antimicrobial drugs are administered to food-producing animals they promote the emergence of resistance in bacteria that may not be pathogenic to the animal but can be pathogenic to humans.

FDA has determined that the current regulatory structure for the approval of antimicrobial new animal drugs is inadequate for evaluating the human health impact of antimicrobial resistance. FDA is therefore undertaking an extensive process to evaluate issues related to the use of all antimicrobial drugs in food-producing animals and develop policies that protect the public health, including products already on the market.

We would be happy to provide for the record the paper entitled The Issue of Antimicrobial Use in Food Animals. This paper describes the research that has been done in this area.

[The information follows:]

THE ISSUE OF ANTIMICROBIAL USE IN FOOD ANIMALS

The issue of antimicrobial use in food animals has been controversial for more than three decades. The Food and Drug Administration (FDA) first called for several restrictions on antimicrobial use in feed in 1977. That proposal has generated several studies and reports. Definitive answers about the safety of antimicrobial use in animals remain scientifically challenging, but we are continuing to uncover more truths and, more important, have begun updating FDA's process for determining whether antimicrobial products can be used in food animals.

In the United States, FDA is the primary Federal agency responsible for ensuring the safety of the food supply. While the Center for Food Safety and Applied Nutrition regulates the vast majority of human food, FDA's Center for Veterinary Medicine (CVM) ensures that animal drug products are effective and safe for animals and consumers of edible products from treated animals.

CVM, which is part of FDA, is responsible for establishing the safety assessments for the use of antimicrobial drugs in food from animals, and the U.S. Department of Agriculture (USDA) is primarily responsible for testing the meat supply for microbiological contamination and animal drug residues in the food from animals.

Although the use of antimicrobial products in food-producing animals raises various efficacy and safety concerns, in recent years these concerns have focused on human food safety because foods of animal origin are often identified as the vehicles of foodborne disease in humans. As a result of treatment of the animal with antibiotics, these microbes may also be resistant to antibiotics used to treat humans.

The source for some of the pathogens found on food may be the colon of the slaughtered animal. Feces that contain harmful bacteria can contaminate the meat at slaughter. An estimated 1 percent of beef carcasses and possibly 20 percent of poultry carcasses are contaminated with Salmonella.

Treatment of food-producing animals with antimicrobials may alter pathogen load and/or the resistance pattern of bacteria associated with the animal. Thus, to ensure the human food safety of edible animal products from animals treated with antibiotics, CVM considers these criteria for non-therapeutic uses:

—The safety of the chemical residues, including the drug and its metabolites.

—The microbiological safety, including changes in bacterial pathogen load and resistance pattern that occur as a result of drug use.

The use of antibiotics to treat disease in food-producing animals started in the mid-1940s.

The scientific debate over the possible public health risks posed by such use started more than 30 years ago, when researchers first reported that the addition of streptomycin to chicken feed increased the rate of growth of the chickens. The introduction of affordable antibiotics in feed for cattle, pigs, and chickens started in the early 1950s. It launched a new era in livestock management and meat production.

RESEARCH AND ACTIONS

Soon after livestock producers began using antimicrobials in food-producing animals, scientists began studying the possible effects of long-term use of antibiotics. Here's a review of the studies and reports to date.

1960 Netherthrope Committee

It was formed in the UK to consider possible human health implications from the use of subtherapeutic antibiotics in livestock and concluded that there was no evidence of a human health hazard associated with the use.

1969 Swann Committee

Also formed in the U.K., the committee reported no Howard to humans or animals from the use of antibiotics in poultry or swine. However, it linked an outbreak of salmonellosis in humans to the therapeutic use of antibiotics in sick calves. The committee recommended:

—Antibiotics used in animals should be divided into "feed" or "therapeutic" classes.
—The "feed" antibiotics class should not include drugs used therapeutically in humans or animals.
—"Therapeutic" antibiotics should be available only by prescription.

1970 FDA Task Force

The task force report, "The Use of Antibiotics in Animal Feeds," concluded:

—The use of subtherapeutic amounts of antimicrobials favored the selection and development of resistant bacteria.
—Animals receiving antimicrobial treatment may serve as a reservoir of antibiotic resistant pathogens that can produce human disease.
—The prevalence of multi-resistant bacteria in animals has increased due to the use of antimicrobials.
—Resistant bacteria are present in meat and meat products.
—There has been an increase in the prevalence of antimicrobial resistant bacteria in man.

Based on the report's recommendations, CVM began requiring microbiological safety studies for non-therapeutic uses. The focus of these studies was to preserve efficacy and safety of antibiotics for animal uses, and the safety evaluation included an evaluation of human health concerns.

1977 CVM Proposal

In 1977, CVM proposed to withdraw the subtherapeutic uses of penicillin and the tetracyclines from animal feeds when used alone or in combination. These two drugs were chosen because of their importance in human medicine.

The proposals were criticized at the time because of a lack of epidemiological evidence to show that the drug-resistant bacteria of animal origin are commonly transmitted to humans and cause serious illness. Critics argued that, while antibiotics used in animals select for resistant bacteria, the transfer of these bacteria from animals to humans is rare. Also, the critics said, no evidence showed that "any transferred organisms actually survive or cause disease in humans. The critics argued instead that the increased antibiotic resistance of bacteria found in humans was a result of the use of antibiotics in human medicine.

1980 NAS Study

As a result of the 1977 proposal, several studies were started. In 1978, FDA began to work with the National Academy of Sciences (NAS) to study the issue. In 1979, the

Congress required FDA to spend $1.5 million of its appropriations for a study of the antibiotics issue, to be conducted by NAS. The NAS study was finished in 1980. It concluded that existing data had neither proved nor disproved the potential hazards to human health from subtherapeutic antimicrobials use in animal feeds.

1984 NRDC Petition

In 1984, the Natural Resources Defense Council, Inc., (NRDC) petitioned the Department.

Health and Human Services (HHS) to suspend immediately approval of the subtherapeutic use of penicillin and tetracyclines in food animals by invoking the imminent hazard provision of the Food, Drug, and Cosmetic Act, 21 U.S.C. Sec. 360b(E)(1). That provision authorizes the Secretary of HHS to suspend approval of an application for the use of a new animal drug if an imminent hazard exists to the health of man or to the animals for which the drug is intended. NRDC based its case on several studies, two by Holmberg, et al., at the CDC in Atlanta, GA and one published by Thomas O'Brien, et al., in the New England Journal of Medicine. However, in November 1985, HHS denied the petition on the basis that an "imminent hazard" had not been demonstrated. This decision was based on an analysis of the NRDC's evidence as well as scientific evidence, information, and opinions

coming out of the January 1985 public hearing and other relevant data collected and analyzed by FDA.

1984 King County Study

In 1981, the House Appropriations Committee provided money in FDA's budget for a definitive epidemiological study of the antibiotics in animal feeds issue. The Committee stated that FDA should hold in abeyance any implementation of the proposed withdrawal pending completion of the studies and reevaluation of FDA's concerns. FDA contracted with the Communicable Disease Control Section of the Seattle-King County Department of Public Health to review the possibility of the movement of bacteria from chickens to humans. The study focused on poultry workers, slaughterhouse workers, and consumers. The report, "Surveillance of the Flow of Salmonella and Campylobacter in a Community," found that Campylobacter jejuni was more common than Salmonella on poultry. Also, it found that C. jejuni "does appear to flow from chickens to man via consumption of poultry products." The report stated that the "isolates from human cases and those from retail poultry had similar antibiotic susceptibility patterns, including prevalence of 29.7 percent and 32.8 percent, respectively, for tetracycline resistance, which was found to be plasmid-mediated."

1987 FDA Report

In its report, "Antibiotics in Animal Feeds: An Assessment of Scientific Data Concerning Their Safety," FDA concluded that the therapeutic use of antibiotics would not significantly contribute to the frequency of resistant organisms because of the pattern of use of these products. Therapeutic use is typically for a select number of animals and for a short duration, situations that are not likely to lead to antibiotic resistance, the report said.

1988 IOM Review

In 1988, the Institute of Medicine (IOM) again reviewed all the information about the antibiotic resistance issue available. An expert Committee was convened to determine the human health risks associated with the practice of feeding subtherapeutic levels of penicillin and tetracyclines to animals for growth promotion, feed efficiency, and disease prevention. In the report, "Human Health Risks with the Subtherapeutic Use of Penicillin or Tetracyclines in Animal Feed," the Committee developed a risk-analysis model, using data only on Salmonella infections that resulted in human death. The Committee found a considerable amount of indirect evidence implicating both subtherapeutic and therapeutic use of antimicrobials as a potential human health hazard, but did not find data demonstrating that use of subtherapeutic penicillin or tetracycline directly caused a human to die from salmonellosis. The Committee strongly recommended further study of the issue.

1995 AMS Report

The American Society of Microbiology (ASM), which includes members who specialize in medical and animal microbiology, issued a report in 1995 that cited grave concerns about both human and animal antibiotic use and the rise in antimicrobial resistance. The report advocated a significant increase in resistance monitoring in the U.S., more education about the use and risks of antimicrobials, and more basic research designed to develop new antimicrobials and vaccines and disease prevention measures. The report criticized overuse of antibacterials in human medicine, but also pointed out the large use in food production, which was partly attributed to the consolidation of farms to facilities with large numbers of confined animals. The report made it clear that the antibiotic resistance problem is global. The ASM report was a precursor to involvement by the United Nation's World Health Organization (WHO).

1997 WHO Meeting

In October 1997, WHO convened a meeting of experts in Berlin, Germany, to review the question of whether the use of antimicrobials in animals leads to antimicrobial resistance in humans. The experts sought to define potential medical problems that could arise from antimicrobial use in livestock and to recommend actions that the WHO should take. The group of experts recommended against using antimicrobials for growth promotion if those antimicrobials are also used in human medicine or can induce cross-resistance to antimicrobials used for human medical therapy. The group also recommended that research be conducted on non-antimicrobial growth-promoters and urged that the risk to human health from use of antimicrobials in food animals be accurately assessed. The group called for enhanced monitoring of resistance among isolates of enteric bacteria from food animals

and food of animal origin. In addition, the group recommended managing risk at the producer level through the prudent use of antimicrobials.

1998 WHO Meeting

In June 1998, the WHO held another meeting, this time in Geneva, Switzerland, to specifically address the use of quinolones in food-producing animals. The participants agreed that the use of antimicrobials will cause resistance to develop and that there is a potential human health hazard from resistant Salmonella, E. colt, and Campylobacter organisms transferred to humans through the food supply. However, the experts also agreed that antimicrobial drugs, including quinolones in certain instances, are needed to treat sick animals, and urged more research on the possible human health effects from the use of these drugs in animals.

1998 CSPI Report

In May 1998, the Center for Science in the Public Interest (CSPI), in a coalition that included 15 other health and consumer groups, produced a comprehensive report on the antibiotic resistance problem. The focus of the report was on human antimicrobial use; however CSPI made several recommendations regarding the use of antimicrobials in veterinary medicine. The report recommended that FDA ban all subtherapeutic uses of antimicrobial agents that are used in human medicine or might select for cross resistance to antimicrobials used in human medicine. The organization also expressed concerns about new human antimicrobials that may be at risk due to use of the same class of drugs in agriculture, at either subtherapeutic or therapeutic levels. Development of resistance to certain classes of drugs that are considered vital in human medical therapy, such as the fluoroquinolones, would cause particular concerto For this reason, CSPI recommended that FDA repeal approval of fluoroquinolones in poultry and allow additional approvals of fluoroquinolones only if the drug sponsor can show that those uses would not reduce the drug's effectiveness for human medical therapy.

1998 NRC Report

In July 1998, the National Research Council (NRC) produced a report reviewing antimicrobial resistance issues in broad terms. The NRC recommended establishing a national databases to support scientific process and policy development for approval and use of antibiotics in food animals. The NRC also recommended that FDA use interdisciplinary panels of experts so that ". . . further development and use of antibiotics in both human and animal medicine have oversight by an interdisciplinary panel of experts composed of representatives of the veterinary and animal health industry, the human medicine community, consumer advocacy groups, the animal production industry, and the regulatory agencies."

1998 EU Action

The European Union (KU) recently took action to minimize the agricultural use of antimicrobial drugs. In December 1998, health ministers for the EU voted to ban four antibiotics that are widely used at subtherapeutic levels to promote animal growth. The ban on using bacitracin zinc, spiramycin, tylosin, and virginiamycin in animal feed becomes effective for the fifteen member states of the EU on July 1, 1999.

CURRENT ISSUES

For several years, CVM has approved new antimicrobials for use in animals for therapeutic purposes as prescription-only products. This prescription-only policy is based on CVM's desire to assure the proper use of antimicrobials though precise diagnosis and correct treatment of disease to minimize animal suffering and to avoid drug residues in food. Antimicrobial products for use in animals have to meet FDA's standards for safety, efficacy, and quality to be approved in the United States.

When antimicrobial products are intended for use in food-producing animals, safety considerations include the evaluation of data to ensure that residues in food derived from treated animals are safe for human consumption. In the past, microbiological safety studies were required only for antimicrobials to be used in feed for more than 14 days. These studies examined resistance patterns and pathogen load.

In the 1990s, several scientists raised concerns about the therapeutic use of fluoroquinolone antibiotics in food-producing animals. The scientists said the use could lead to enteric disease in humans associated with fluoroquinolone-resistant zoonotic pathogens. At least part of this concern was prompted by the fact that the search for new antimicrobial drugs and other novel agents to combat bacterial pathogens had decreased in recent years, leaving fluoroquinolones as the last family of therapeutic agents available to treat some multiply resistant organisms. Adding

to that concern were reports of a temporal association between the approval of fluoroquinolone for therapeutic use in poultry and the emergence of a fluoroquinolone-resistant Campylobacter spp. from humans.

To further investigate the public health concerns regarding the potential impact of fluoroquinolone use in food-producing animals and to determine whether the 1987 FDA report (which concluded that therapeutic antimicrobials used for short duration were safe) was still valid, FDA held a Joint Advisory Committee meeting in 1994 that included the CVM Advisory Committee and the Center for Drug Evaluation and Research's Anti-infective Drugs Advisory Committee. The joint committee recommended that fluoroquinolones be approved, but that the use of the drugs should be limited to prescription only, that no extra-label use should be allowed, and that resistance should be monitored after the product was approved.

CVM created a Fluoroquinolone Working Group to address the points raised by the joint committee. The Working Group offered seven recommendations, all of which were accepted by CVM, and subsequently the use of fluoroquinolones was approved for poultry. As suggested in the recommendations, the sponsors agreed to provide baseline susceptibility information and to conduct continuing monitoring of target animal pathogens through the post-approval monitoring program.

More recently, scientists have detected a new multi-resistant pathogen, Salmonella typhimurium DT104. The organism carries chromosomally integrated resistance to

Ampicillin, Chloramphenicol, Streptomycin, Sulphonamides, and Tetracycline. This chromosomally integrated resistance is unique and raises concerns about the establishment of a reservoir of multi-drug resistant organisms that are zoonotic enteric pathogens that may become endemic in food-animal microbial populations. In addition to the chromosomally borne pen/a-resistance, the organism seems to be losing its susceptibility to quinolone and trimethoprim antibiotics and has been recently shown to carry additional florfenicol and spectinomycin resistance.

A report from the UK suggests that infections caused by DT104 may be associated with greater morbidity and mortality than other infections by Salmonella. An association has been noted between loss of susceptibility to fluoroquinolones among DT104 isolates and the approval and use of a fluoroquinolone for veterinary therapeutic use in the UK. This organism has also been identified in livestock and poultry in the U.S. Human disease caused by DT104 in the U.S. has been associated with unpasteurized dairy products and direct contact with livestock.

DT104 is currently epidemic in human and animal populations in Great Britain and has been isolated from most countries in Europe. The organism more recently has been found in the U.S. and appears to be increasingly prevalent in both domestic and wild animals. The most notable outbreak of DT104 was on a dairy farm in Vermont.

The DT104 findings caused FDA to aggressively move ahead with plans to change the regulatory framework for approving antimicrobial products. The discovery of DT104 was a turning point for FDA, and led to the development of a proposed regulatory course for the Agency.

Reports from the scientific and public health communities, both domestically and internationally, have identified concerns about the relationship between the approval of fluoroquinolones for therapeutic use in food-producing animals and the development of fluoroquinolone resistance in Campylobacter. The approval of these drugs in food-producing animals in the Netherlands, the UK, and Spain temporally preceded increases in resistance in Campylobacter isolates from humans. Despite several restrictions placed on the use of the two approved poultry fluoroquinolone products in the U.S., ciprofloxacin-resistant Campylobacter were recently isolated from 20 percent of domestic retail chicken products sampled. Molecular subtyping revealed an association between resistant C. jejuni strains from chicken products and C. jejuni strains from domestically acquired human cases of campylobacteriosis.

Framework Document

FDA's concept of the best regulatory approach for antimicrobial approvals is explained in what is called the "Framework Document," ("A Proposed Framework for Evaluating and Assuring the Human Safety of the Microbial Effects of Antimicrobial New Animal Drugs Intended for Use in Food-Producing Animals"), which is available on the CVM Home Page at http://www.fda Pov/cvm/fda/infores/vmac/antiml8 him or http://www.fda.Pov/cvm/fda/infores/vmac/antim18.pdf.

The document was released to the public December 9, 1998, and the comment period was scheduled to last until April 6, 1999.

The proposed framework takes into consideration two factors that would be used in evaluating human health concerns associated with food-animal use of antimicrobials:

—The importance of the drug or class of drugs for human medicine, and
—The potential exposure that humans would face to resistant pathogens or resistant elements originating from animals treated with an antimicrobial, and the impact this exposure would have on the availability and effectiveness for human medicine of drugs to which the resistance has developed.

Depending on the importance of the drug (or a related drug) to human health, FDA would place it in one of three major Tiers. Each Tier would have different requirements for approval. The requirements for approval may include both pre-approval screening and post-approval monitoring conducted on farms.

FDA's implementation of the framework will require the development of guidance documents and perhaps new or amended rules. All such guidance or rules would be developed with public input, and FDA will consider any needed change as a high priority.

Under the framework document, antimicrobial drugs would be placed in Class I, the level with the greatest approval requirements, if:
—They are needed to treat a serious or life-threatening disease for which there is no satisfactory alternative therapy, and
—They are important for the treatment of foodborne diseases.

Drugs that can select for cross-resistance to Class I human agents would also be listed in Class I, unless the sponsor could demonstrate that animal use did not result in the induction of resistant pathogens or the transfer of resistant elements to human pathogens.

Drugs would be placed in Class II if:
—They are of high importance or are the drugs of choice to treat a serious or life-threatening disease, but a satisfactory alternative therapy exists.
—They are members of a class of drugs that have a unique mechanism of action or nature of resistance-induction, that rarely produce resistance in human pathogens, and that hold potential for long-term therapy in human medicine.

FDA would put products into Class III if they do not meet any of the requirements of the other two classes.

NARMS

CVM now believes that the safety assessment of antimicrobials must include evaluation of resistance concerns with the conduct of pre-approval studies and post-approval monitoring programs, which are aided by the National Antimicrobial Resistance Monitoring System (NARMS).

The program was proposed by CVM as a post-marketing activity to monitor the emergence and spread of resistance in enteric bacteria and to help ensure the continued safety and effectiveness of veterinary antimicrobials. In 1996, the FDA, CDC, and the USDA created NARMS to prospectively monitor changes in antimicrobial susceptibilities of zoonotic enteric pathogens from human and animal clinical specimens, from healthy farm animals, and from carcasses of food-producing animals at slaughter. Non-typhoia Salmonella was selected as the sentinel organism; the NARMS has been expanded each year since its inception. At the present time, NARMS is monitoring susceptibilities of Salmonella and E cold isolates to 17 antimicrobics and Campylobacter isolates to 8 antimicrobics (azithromycin, chloramphenicol, ciprofloxacin, clindamycin, erythromycin, gentamycin, nalidixic acid, and tetracycline).

Veterinary testing is conducted at USDA's Agricultural Research Service Russell Research Center. Human isolate testing is conducted at CDC's National Center for Infectious Diseases Foodborne Disease Laboratory. Seventeen State and local health departments (CA, CO, CT, FL, GA, KS, Los Angeles County, MA, MD, MN, NJ, New York City, NY, OR, TN, WA, and WV) submit human clinical isolates of non-typhoid Salmonella and E. coli. Eight health departments are submitting human clinical Campylobacter isolates, and in addition MN, GA, MD, and OR are submitting Campylobacter isolates from poultry retail samples. A pilot study involving MN, GA, MD, and OR to monitor the resistance of human and poultry Enterococcus isolates to 27 antimicrobials was begun in 1998.

The goals and objectives of the monitoring program are to provide descriptive data on the extent and temporal trends of antimicrobial susceptibility in Salmonella and other enteric organisms from the human and animal populations; provide timely information to veterinarians physicians; prolong the life span of approved drugs by promoting the prudent use of antimicrobics; identify areas for more detailed investigation; and guide research on antibiotic resistance. Annual reports summarizing the data are available on the Internet (http://www.fda.gov/cvm/fda/mappos/narms/html and www.cdc.gov/ncidod/dbmd/narms).

The NARMS was substantially expanded during 1998. Veterinary diagnostic lab sentinel sites were enrolled as well as additional sites to gather human isolates, and

the number of Salmonella isolates collected from slaughter plants was increased. Beginning January 1, 1999, the State and local health departments began to submit human S. typhi and Shigella isolates.

Also in 1998, follow-on epidemiology research and investigations augmented the program. On-farm poultry studies were begun in five states, which are designed to elaborate management, production, and drug use practices that influence the development of resistant zoonotic pathogens. Collaborative molecular genetic studies have begun at FDA's National Center for Toxicological Research in Arkansas to identify regions of fluoroquinolone resistance in zoonotic enteric organisms. This information will be applied to enteric and environmental bacteria to provide improved monitoring for resistance emergence and transfer. Case-control follow-up investigations of human cases of salmonellosis and campylobacteriosis with losses in susceptibility to quinolones were begun in 1998. Also in 1998, two projects on prudent drug use activities were initiated in California and Michigan.

PRUDENT USE

CVM believes it is critical that prudent use of antimicrobials be emphasized in order to minimize the development of antimicrobial resistance and to ensure the continued efficacy and availability of antimicrobial products for use in food-producing animals. To promote this concept, CVM and CDC facilitated a meeting on "Prudent Use" held in May 1998 in Rockville, Maryland.

The objective of the meeting was to develop a plan to promote the Prudent Use of therapeutic antimicrobials in veterinary medicine. At the meeting, several groups agreed to develop programs about Prudent Use, and the effort was led by the American Veterinary Medical Association (AVMA), which has developed its Prudent Use program of "Judicious Use."

The Executive Board of AVMA has agreed to principles concerning Judicious Use developed by a special AVMA Steering Committee. CVM and CDC provided experts to advise the Steering Committee. CVM strongly supports the effort to develop Judicious Use principles for veterinary practitioners, and will financially support efforts to publicize the guidelines.

Key elements of Prudent Use that CVM believes should be addressed:

—Development of Prudent Use principles.

—Therapeutically based antimicrobial-use guidelines.

—Recommendations on appropriate measures to reduce disease transmission.

—Educational programs for prescribers and users of these drugs.

CVM defines Prudent Use of therapeutic antimicrobial agents as. . .

". . . use that maximizes therapeutic effect while minimizing the development of resistance."

At the May 1998 meeting and in other contacts, CVM has and will continue to solicit advice from the human medical community in the development of Prudent Use principles because their expertise about what has worked and not worked in human medicine will be useful. The development of the Prudent Use principles won't be static. Instead, the process will likely demand continued attention. In fact, CVM will probably engage food animal producers on this issue at some time in the future.

Question. The ARS budget request includes an increase of $2.4 million to develop risk assessment predictive models. What modeling has been done to date in this area and how has it been implemented? (ARS)

USDA answer. Risk assessments for pathogens have primarily been carried out in the postharvest arena to predict the frequency and the numbers of pathogens that might be present in specific food products such as eggs or ground beef. These numbers are then related to the frequency that sufficient pathogens might be present in a food to result in human illness. ARS has worked closely with the FSIS in the development of such a model for Salmonella enteritidis in eggs which was the basis of rulemaking by this USDA regulatory agency. It is now time to initiate the development of predictive microbiological models in preharvest animal production, and to help evaluate the effects of various production practices, interventions, and transportation systems on the risk of contamination of food producing animals as they are presented for slaughter.

Question. What is the time frame for developing the models you propose in the fiscal year 2000 budget? When would they be implemented? Who would utilize the technology?

You are requesting an additional $4,420,000 for post-harvest (slaughter and processing) research. This area has been ARS' major focus of pathogen contamination. Please summarize the progress made to date as a result of pathogen control strategies for Campylobacter, E. coliO157:H7, Listeria, and Salmonella.

USDA answer. Acquisition of the research information needed to develop truly useful predictive models is a significant research activity that will take several years. Quantitative microbiological data must be developed, rather than just the incidence or quantitative data of the past; quantitative data is expensive and time consuming to obtain.

The underlying research will require several years to develop the first data for the models. The first models will be available as soon as this phase is completed.

These models would be utilized/implemented by producers to help them make informed decisions on which interventions will yield the best food safety results within their available resources and production situations.

The progress made to date on postharvest research for the pathogens, Campylobacter, E. coli O157:H7, Listeria and Salmonella are as follows:

Progress in the area of detection methods:

—Monoclonal antibodies (MAbs) that bind specifically to Campylobacter jejuni and Campylobacter coli have been developed, and patented. These antibodies will be used in an immunologically based method (ELISA) to improve the current specific detection methods for Campylobacter.

—A laser assisted method (MALDI) has been developed for the rapid detection of Campylobacter. The methods advantage is that only a single bacterial colony is needed for analysis. The MALDI technique also has the potential to be widely used for confirmatory analysis of other pathogenic bacteria.

—A nucleic acid based (PCR) method was developed which simultaneously detects enterotoxigenic and Shiga toxin-producing E. coli (O157:H7) strains from calves. The method is being used by diagnostic laboratories to rapidly identify, differentiate and characterize pathogenic E. coli. This change will be useful to producers and veterinarians for the rapid diagnosis of all the diseases caused by E. coli in calves.

—An ELISA based test (immuno-precipitation pregnancy test design) called Meridian was developed. The test uses monoclonal antibodies to specifically detect all E. Coli O157 strains, not just O157:H7. Meridian has found widespread use by food companies since it has a much lower incidence of false negatives than other comparable tests.

—In cooperation with IGEN of Gaithersburg, MD, ARS has developed an immunomagnetic electro-chemiluminescent (IM-EC) method for the detection of E. coli O157:H7. The test is rapid, sensitive to low numbers of bacteria, inexpensive, and user-friendly. The technology is currently under evaluation by the FSIS.

—Optimized methods to identify, differentiate, and characterize pathogenic E. coli isolates from bovine sources were developed. Anti-O157 Mabs in an ELISA format accurately detected serum antibodies to E. coli 0111, in cattle and other livestock. Serum detection of antibodies to E. coli O157:H7 will allow accurate detection of all animals exposed to this pathogen at any time during animal growth.

—Research by ARS determined that automated nucleic acid based ribotyping of Salmonella was a better discriminator between isolates than serotyping. Ribotyping however, is not a replacement for serotyping. It was recommended that for epidemiological investigations, both techniques should be used simultaneously.

Progress in the area of pathogen reduction:

—In order to determine the effectiveness of a pathogen reduction method bacteria need to be modified to allow their identification and discrimination from background microflora. ARS has developed a genetic technique that allows the construction of (model) pathogens that bioluminesce under UV light due to production of a green fluorescent protein (GFP). Various model strains of E. coli O157:H7 and Salmonella were constructed having the same growth and attachment characteristics as the wild type strain. This research technology will aid in understanding the basis of microbial attachment and detachment to animal carcasses in real-time. The technology also offers a more rapid means to evaluate antimicrobial carcass treatments that do not rely on sampling, culturing and back-extrapolation of the resulting plate counts to large surface areas.

—ARS concluded research on washing and sanitizing hog hauling trailers and holding pens. The results have led to procedures to significantly reduce Salmonella, Campylobacter and E. coli contamination on animals entering slaughter plants.

—A surface pasteurization technique was developed to reduce microbial contamination (almonella, Campylobacter and Listeria) on the surface of solid foods without loss of quality. A prototype design to briefly steam fresh whole broiler

carcasses, so that surface organisms are killed but with no appreciable cooking of the meat, was built, tested and patented.

—Feed withdrawal in broilers prior to slaughter is used to induce molt and to stimulate egg laying in aged flocks, however, withdrawal increased infection rates in their crops by Salmonella and Campylobacter. Research showed that methods such as adding lactose to drinking water had the ability to restore resistance, and reduce infection rates.

—Various conventional and experimental wash formulations were evaluated to determine their efficacy in decontaminating apples of human pathogens (almonella, E. coli O157:H7, Listeria). Solutions containing 5 percent hydrogen peroxide, alone or in combination with acidic detergents achieved a 3–4 log pathogen reduction. These studies demonstrated that current conventional methods of washing apples are largely ineffective. Development of efficacious cleaning methods for fruit are crucial for the production of unpasteurized juices.

—Low dose gamma irradiation was found to be efficacious for destroying the human bacterial pathogens E. coli O157:H7, Listeria and Salmonella on seed used for the growth of sprouts. Irradiation is a useful technology that significantly reduces pathogens in certain food commodities, while increasing shelf life and maintaining freshness, all major consumer demands.

Progress in the area of pathogen control through intervention strategies:

—The discovery that electropolishing surfaces significantly reduces attachment of pathogens such as Campylobacter and subsequent biofilm formation. This finding will aid equipment manufacturers in developing methods and selecting materials to be used in processing foods.

—It was discovered that some naturally occurring food additives blocked the attachment of E. coli to bovine fascia and connective tissues. Inhibition of E. coli O157:H attachment to intact meat tissues by use of these substances will offer processors an additional means to help to prevent E. coli O157:H7 contamination of meats.

—Controlled atmospheric storage of fresh produce does not appear to offer a viable method for controlling Listeria monocytogenes. Therefore, the fresh cut industry should consider alternate methods for controlling this pathogen.

—ARS in collaboration with FSIS conducted a nationwide evaluation of color of cooked beef patties relative to potential food safety risk for E. coli O157:H7. The study provided solid evidence that cooked beef patty color is not a good indicator of internal patty temperature. The results were a major factor in the development of the new FSIS consumer message that "consumers should not eat ground beef patties that are pink or red in the middle unless a food thermometer has been used to verify cooked temperature."

Progress in the area of antimicrobial resistance:

—The acid tolerance of E. coli O157:H7 contributes to its ability to cause disease by increasing both its ability to persist in food, and its infectivity. ARS developed a technique to induce maximum acid tolerance in these microorganisms, and identified that the sensitivity to acid inactivation is dependent on acidulant identity, prior exposure to an acid environment, and strain identity.

Progress in the area of risk assessment:

—Bioluminescent strains of Salmonella were used as a tool for modeling behavior of Salmonella in raw and cooked poultry products. The data were incorporated into version 2.0 of the Salmonella—Risk Assessment Modeling Program for Poultry (-RAMPP). A new simulation model, the Food Animal Risk Model for Poultry Pathogens (FARM-PP) was also developed which predicts the severity of outcomes from consumption of poultry products contaminated with Salmonella and/or Campylobacter.

Question. Please identify and discuss food safety research that is specifically carried out to meet FSIS concerns. What other Federal agencies benefit directly from ARS food safety research? How are these needs expressed?

USDA answer. ARS carries out both preharvest and postharvest food safety research to meet the needs of the FSIS, particularly for the implementation of HACCP. In many cases this research also meets the needs of other ARS stakeholders such as animal producers and slaughter and packing houses, and food processors. Both the regulatory agencies and producers use the results of the latest research to help assure the production and delivery of safe food. Preharvest food safety research develops information and technologies to control E. coli 1057:H7 in cattle, Salmonella sp. in poultry, swine and cattle, Campylobacter sp. in poultry and swine, and Cryptosporidia infections in cattle. In particular this research develops methodology to detect pathogens, and it develops interventions such as vaccines and competitive exclusion bacterial cultures for use by producers to prevent zoonotic pathogens. Other preharvest research is directed at determining the major factors

in the genesis and dissemination of antibacterial resistance, and at developing strategies to help prolong the useful life of antibiotics.

In the postharvest arena ARS develops improved methodologies to detect pathogens, including E. coli, Salmonella, Campylobacter and Listeria with needed accuracy and reliability using reproducible sampling methods that meet agency cost constraints. Other projects develop imaging systems that will detect lesions and help assure that only wholesome birds are passed for human food. Interventions or hurdle technologies are developed for slaughter and processing establishments, including the very small plants; these technologies include acid rinses, the use of steam and hot water, and chlorine replacements. Biofilms are studied as they are formed on processing equipment, and methods to disrupt this natural biological protection of pathogens are developed. Steam pasteurization and irradiation are developed as final effective hurdles to prevent the occurrence of most pathogens on food products of animal origin. Information on both survival and kill times for the important pathogens in various food systems under different environmental conditions are obtained to aid in FSIS decision making, in the development of HACCP programs and most importantly for risk assessment.

Particular attention is being paid to Listeria, the pathogen recently recognized as responsible for a large number of food poisoning and deaths, and for which both FSIS and the food industry need answers. A rapid gene-based assay has been developed that can readily identify and differentiate Listeria species in various ready-to-eat foods, allowing for molecular fingerprinting and trace-back. A program has been initiated to develop technology to surface pasteurize food products, including hot dogs, which economically reduces microbial contamination without significant loss of product quality; and ARS is also defining the parameters required for irradiation of meats and meat products. ARS is determining the effect of various food components, and parameters (pH, water activity, salt, process and storage temperature) on the inactivation, survival and growth of Listeria in ready to eat products, and identifying new generally recognized as safe (GRAS) compounds that can be incorporated into foods as a antimicrobial agents to protect against Listeria and other pathogens. The FDA and CDC also directly benefit from ARS food safety research.

The FDA's needs are expressed to ARS through continual dialogue between the agencies via meetings between the Chief Scientist at CFSAN/FDA and his staff, and ARS Food Safety National Program Leaders. In order to ensure there is no duplication of efforts, there is a routine comparison of research agendas from each of the agencies and delineation of activities, and interaction between agencies on projects or issues of national importance when required.

Question. Please identify and briefly describe the food safety research ARS performs at its various laboratories.

USDA answer. ARS conducts research at the following laboratories:

Location	Fiscal Year 1999	Food Safety Initiative Rsch
Fayetteville, AR	$293,800	Prevention
Albany, CA	7,734,800	Detection, Prevention, Handling & Distribution
Riverside, CA	592,800	Detection, Prevention
Athens, GA	9,971,100	Detection, Prevention, Antibiotic Resistance, Handling & Distribution
Dawson, GA	745,600	Detection
Tifton, GA	564,500	Prevention
Ames, IA	4,215,400	Detection, Prevention, Antibiotic Resistance
Peoria, IL	4,899,600	Detection, Prevention
West Lafayette, IN	296,400	Prevention
New Orleans, LA	3,039,000	Detection, Prevention
Beltsville, MD	8,168,400	Detection, Prevention, Risk Assessment, Handling & Distribution
Beltsville, MD (NAL)	219,600	Prevention
Mississippi State, MS	669,100	Prevention
Raleigh, NC	491,800	Prevention
Fargo, ND	2,296,100	Detection, Risk Assessment
Clay Center, NE	3,879,100	Detection, Prevention, Handling & Distribution
Ithaca, NY	316,200	Prevention
Wyndmoor, PA	13,245,900	Detection, Prevention, Antimicrobial Resistance, Risk Assessment, Handling/Distribution
College Station, TX	4,722,600	Detection, Prevention, Antibiotic Resistance
Lubbock, TX	281,600	Prevention

Location	Fiscal Year 1999	Food Safety Initiative Rsch
Logan, UT	2,147,300	Detection, Prevention
Headquarters	1,076,900	Detection, Prevention
Total	69,867,600	

Question. Please identify the food safety research funding in REE agencies by each account. Provide for the record the funding appropriated from fiscal years 1990 to 1999. Also include the increase requested in the President's 2000 budget.

USDA answer. The National Agricultural Statistics Service (NASS) did not have any expenditures related to food safety research in fiscal years 1990 to 1999 and has not provided funding to institutions for food safety related research projects. For the fiscal year 2000 President's budget, NASS has one initiative for $2.5 million to conduct a fruits and vegetables food safety survey. Under this initiative, NASS would conduct a statistical survey of fruit and vegetable growers, as well as packing houses, to establish a baseline for good agricultural practices as they relate to microbial food safety issues.

The food safety research funding for Economic Research Service (ERS) for fiscal year 1990 through fiscal year 1999 and the request for fiscal year 2000 are as follows:

Fiscal Year	
1990	$325,000
1991	550,000
1992	550,000
1993	550,000
1994	500,000
1995	485,000
1996	485,000
1997	485,000
1998	485,000
1999	938,000
2000	1,391,000

In fiscal year 1997 and fiscal year 1998, ERS Food Safety funds were dedicated to ERS staff costs and the research was done internally. In fiscal year 1999 and fiscal year 2000, we plan to spend the initiative increases on extramural research programs to measure the benefits of food safety and to support economic analysis in risk assessment and surveillance. The recipient institutions have not been determined at this time. The food safety research funding for ARS for fiscal year 1990 through 1999 and the request for fiscal year 2000 are as follows:

Fiscal Year	
1990	$27,517,000
1991	33,087,900
1992	35,989,000
1993	35,989,000
1994	37,587,400
1995	43,840,300
1996	44,313,100
1997	49,647,300
1998	54,949,400
1999	69,867,600
2000	81,588,000

Based on Food Safety Initiative Codes, in fiscal year 1999, ARS undertook 40 projects ($14.2 million) in detection of food borne pathogens; 70 projects ($37.9 million) in prevention and control; 7 projects ($2.2 million) in antimicrobal/antibiotic resistance; 9 projects ($4.9 million) in risk assessment; and 18 projects ($10.6 million) in food handling distribution and storage. The increase requested for ARS in the President's fiscal year 2000 budget is $11,720,000 to be directed towards: Preharvest: manure handling and distribution-pathogen reduction ($2,500,000); risk assessment ($2,400,000); antibiotic resistance ($1,800,000); fungal toxins ($300,000); zoonotic disease risk ($300,000) and Postharvest: pathogen control during slaughter and processing ($700,000); pathogen control in fruits and vegetables ($2,100,000); antimicrobial resistance ($1,620,000). The food safety research funding for CSREES, including formula funds, all special research grants, and the NRI, for fiscal year 1990 through fiscal year 1999 and the request for fiscal year 2000 are as follows:

Fiscal Year	
1990	$5,790
1991	9,827
1992	12,002
1993	11,610
1994	14,117
1995	12,450
1996	11,644
1997	12,195
1998	14,727
1999	30,888
2000	39,536

Food Safety programs previously in the research and extension activities are now reflected in the integrated activities for fiscal year 2000.

Question. Please list the institutions receiving food safety funding from REE agencies' appropriations in each of fiscal years 1997 to 1999, a description of each food safety research project funded in each fiscal year, and the progress which has been made to date through the research funded.

USDA answer. Most ARS expenditures for food safety research are for in-house programs. The extramural institutions who have received funding (pass through dollars) from ARS during fiscal years 1997–1999 are as follows: Mississippi Center for Food Safety and Postharvest Technology, Mississippi State University (MCFSPT); Agricultural and Home Economics Experiment Station, New Mexico State University (AHEES), Food Safety Engineering Center, Purdue University (FSEC); Institute for Technology Development, Stennis Space Center, Mississippi (ITD); and grants to various Land Grant, State Universities and research groups, including Iowa State University, University of Arizona, Texas A & M, Purdue University, University of S.W. Louisiana, North Carolina State University, Mississippi State University, University of California, University of California-Davis, University of Illinois, Georgia Coastal Plain Experiment Station, and the Arizona Cotton and Protection Council. These programs are managed via the National Program Staff (NPS).

The extramural funding allocations for years 1997—1999 are as follows:

Center	Fiscal Year 1997	Fiscal Year 1998	Fiscal Year 1999
MCFSPT (Est.)	$314,335	$312,712	$312,712
AHEES	118,000	114,000	114,000
FSEC			878,049
ITD			219,000
Via NPS	560,087	553,341	784,468

Description of these extramural food safety research projects are as follows:

Mississippi Center for Food Safety and Postharvest Technology.—Project title/objectives: Detection and Treatment of Listeria and Other Bacteria in Channel Catfish. The major thrust of the project is to assess and help ensure the safety of channel catfish for sale throughout the United States. The research achievements of this project were: the development of an immunologically (ELISA)—medicated nucleic acid based method for the rapid detection of Listeria monocytogenes in foods; understanding the types of biofilms formed and the presence of various pathogens at the different processing stations; development of methods to detect the presence of antibiotics in channel catfish; and the identification of various pathogenicity vectors in Listeria. Processing and packaging technologies/treatments are being developed to reduce/eliminate microbial contamination to ensure product safety with extension of shelf life. Information from this research has been transferred to producers and processors, where it has been put into operation. Guidelines have been incorporated into HACCP program adopted for use by this industry.

Agricultural and Home Economics Experiment Station.—Project title/objective: Locoweed Ecology and Toxicology. The research in this project was aimed at determination of the cytokinetics (absorption, distribution, and excretion and clearance) of plants toxins from the tissue or products of animals that consume poisonous plants. The studies delineated the withdrawal time to ensure that animal products would be free from plant toxins. This information can be used for management strategies in many states. The research also improved animal productivity, and enhanced the utilization of pastures and rangelands where poisonous plants are found.

Food Safety Engineering Center.—Project title: Rapid Pathogen Diagnostic and Detection Methods: This is a new project initiated in fiscal year 1999. The goal is the development and use of biosensor technology in food safety.

Institute for Technology Development.—Project title: Online Detection Technology. This project initiated in fiscal year 1999 will develop real time on-line detection technology for rapid identification of surface contamination in poultry.

National Program Staff.—Project title: Aflatoxin Research: Funds are distributed to numerous Land Grant and State Universities and the objectives of this project are varied. Some funding for projects is specifically made available on a competitive basis (intent of Congress). The aim of the program is the reduction of aflatoxins which are metabolities of the fungi Aspergillus flavus and A. parasiticus for agricultural products, for example, cottonseed, corn, peanuts and tree nuts. Aflatoxins is considered one of the most serious food safety problems, and chronic problems with aflatoxin contamination occur in the southern United States. Two areas of research and development have resulted from these studies: the development of novel genetic engineering and or marker-based breeding methods to enhance general antifungal resistance in crops; and the isolation and formulation of special fungi for use in biocontrol. The biocontrol fungi are strains of A. flavus-group fungi that do not produce aflatoxin, but have the capacity to occupy the same ecological niche in the field and out compete harmful toxin-producing fungi. The research has led to the well grounded optimism that solutions to this serious problem will be available by the beginning of the next century.

The following list represents the projects in food safety funded by CSREES in the named program area within 1997 and 1998. The CSREES has not yet made any awards under the Food Safety Special Research Grants program and the National Research Initiative program in fiscal year 1999.

NATIONAL RESEARCH INITIATIVE AWARDS FISCAL YEAR 1997

The Role of Acid Resistance in Escherichia coli O157:H7 Colonization and Disease, University of South Alabama, $227,000. Enterohemorrhagic E. coli (EHEC) cause a variety of dangerous gastrointestinal infections. EHEC Stereotype O157:H7 has recently emerged as an important foodborne pathogen that threatens many aspects of the food industry. A crucial feature of O157:H7 pathogenesis is its ability to withstand stomach acidity. Our laboratory has identified three systems of acid resistance present in all E. coli and a fourth system dedicated to O157:H7. Each system will protect cells to pH < 2.5 for several hours. The University of South Alabama hypothesize that these acid resistance systems are induced during growth within livestock intestines and will persist over long periods of cold storage. One or more of these systems must contribute to the low infectious dose of O157:H7 by protecting E. coli from gastric acidity and intestinal weak acids. The University of Alabama's long terms goals are to develop new strategies that will diminish the infectious character of this pathogens through an understanding of the molecular basis of acid resistance in E. coli with emphasis on the superior acid resistance of O157:H7.

Quantitative Viability Assays for Cryptosporidium parvum and Giardia lamblia, University of California-Davis, $44,000. Cryptosporidium parvum and Giardia lamblia are common waterborne agents whose potential for transmission via foods is increasingly being recognized. The objectives of this study are to develop quantitative viability assays for C. parvum and G. lamblia based on cell culture or in vitro culture and ELISA, and to evaluate the methods in trials of killing the protozoan oocysts or cysts by various means pertinent to food safety. Oocysts or cysts, respectively, will be inoculated into foods at risk of protozoan contamination (e.g., apple juice, shellfish, etc.); foods will be suspended in diluent as necessary, and the oocysts or cysts will be recovered by immunomagnetic capture. The oocysts or cysts will be treated to induce excystation, diluted serially, and inoculated into ELISA plate wells. Amplification of viable infectious agents will take place in the plate wells, during approximately 24 h at 37. C. 0ocysts of C. parvum will be amplified in plate wells that contain monolayers of BSC–1 cells; whereas G. Iamblia cysts will probably be amplified in artificial medium in the wells. Homologous antibody will be added and labeled indirectly with horseradish peroxidase. The wells will be washed, a color reaction carried out, and results determined in a standard ELISA plate reader. Control inocula will include oocysts or cysts that have been inactivated by ultraviolet, formaldehyde, freezing, or heat. The tests will then be applied in inactivation trials with viable oocysts or cysts in foods of interest or in water that might be used in food processing.

Molecular Stress Physiology of Listeria monocytogene, Illinois State University, $113,000. The bacterium Listeria monocytogenes is the causative agent of the foodborne disease listeriosis. The fatality rate of listeriosis is high and it is believed to be the leading cause of death from foodborne infections in the United States. Although Listeria can grow at the body temperature of an infected person, it has the unusual ability to also grow at refrigeration temperatures. Refrigeration can then

in effect increase the Listeria content of a food. Illinois State University is interested in the underlying mechanisms involved that permit the bacterium to grow at low temperatures. Illinois State University will attempt to identify novel genes and proteins involved in growth at low temperatures. A fatty acid known as anteiso branched chain fatty acid appears to play a critical role in growth at low temperatures. Illinois State University will investigate the role of this fatty acid in maintaining membrane lipid fluidity at refrigeration temperatures. During food processing, bacteria can become injured and undetectable by conventional culturing methods, but not be dead. Illinois State University suspect that injured bacteria contain denatured proteins that must be degraded before the bacteria can grow, and will investigate this hypothesis. It is hoped that these studies will provide the scientific basis that will lead to novel methods of control of Listeria and improved methods of detection of the organism.

Detoxification of Fumonisin by a Simple Fructose Reaction in Corn for Food, $110,000. The toxin, fumonisin B1, is found in corn everywhere. A suspected cancer-causing agent in humans, fumonisin B1 requires its amine group, a simple nitrogen-containing portion of the molecule for its toxic action. Reacting this amine with simple sugars, such as fructose, is likely to block fumionisin toxicity, as the Iowa State University has previously demonstrated in a one-month model of liver cancer development in rats. Iowa State University's objectives are 1) to determine the toxicity of fructose-FB1 products in: a) a study of short-term toxic effects in pigs and b) a field-test feeding rats a fumonisin contaminated corn food that we have attempted to detoxify; and 2) to determine the processing conditions for the reactions of fructose and glucose with fumonisin to occur in corn-based foods. Objective 1) will be accomplished by feeding studies in pigs (for 2 weeks) and rats (for 4 months), comparing toxicity of pure fumonisin B1 with a fumonisin B1-fructose product and with corn contaminated with fumonisin and corn reacted to detoxify the fumonisin. Toxicity will be assessed by blood chemical changes and microscopic examination of tissues from the test animals. Objective 2) will determine the feasibility of performing this detoxification reaction in human foods, characterizing FB-reducing sugar reactions and the nature of the detoxification product(s), using a variety of chemical analytical techniques. These studies may provide a practical approach to the problem of natural toxins, increasing the safety of the food supply by detoxifying a natural toxin that occurs in corn everywhere.

Salmonella enteritidis Heterophil Resistance, Iowa State University, $164,000. Egg-transmitted human salmonellosis is the most widespread food safety problem in the developed world. Over the past two decades, the number of Salmonella infections has increased dramatically in the United States, mostly due to Salmonella enteritidis var.enteritidis (SE) infections of eggs and egg products. The difficulty in controlling SE is primarily due to the low, but significant incidence of infected eggs. Iowa State University has isolated two less virulent SE mutants which are only briefly shed by infected birds, are effective in protecting birds against virulent challenge, and prevent egg transmission of virulent SE. Iowa State University propose to utilize these mutants to study the molecular basis of SE virulence and to identify genes involved in immune cell resistance so that safer vaccines can be developed. The following specific aims will be addressed: 1) Iowa State University will complete the assessment of the SE mutants in chickens in order to assess their pattern of colonization of infected tissues and affinity for egg laying tissues; 2) The genes involved in immune cell resistance will be identified by screening complemented strains in cell cultures; 3) Mutations will be constructed in these genes in the wild type strain in order to confirm their role in immune cell resistance; and 4) The mutants will be assessed for virulence and egg transmissibility in chickens. For unknown reasons, immune cell resistance is directly linked to lowered virulence in SE. These studies will shed light on the possible mechanisms involved and add to our understanding of Salmonella pathogenesis.

Extracellular Sporulation Signals of Clostridium perfringens, University of Massachusetts, $148,000. Clostridium perfringens has established itself as a leading cause of human foodborne illness in the U.S. This organism produces heat resistant spores. An enterotoxin is produced by some strains during sporulation and therefore the sequence of events leading to spore formation are especially important. Yet virtually nothing is know about the early events of this process. The University of Massachusetts has identified a sporulation factor (C. perfringens sporulation fact [CPSF]) produced by both enterotoxin-positive and enterotoxin-negative strains which stimulate the onset of sporulation and enterotoxin formation by this organism. The product(s) may be part of a signal transduction system. The signal transduction system in bacteria monitors the bacteria's environment and reacts to changes by chemical signals to the interior of cell. The University of Massachusetts

will develop conditions to optimize the levels of this product then attempt to isolate and characterize it.

Raw protein foods are commonly contaminated with both enterotoxin-positive and enterotoxin-negative strains and the ability of enterotoxin-negative strains to stimulate sporulation and enterotoxin formation of co-cultured enterotoxin-positive strains will be determined in laboratory media and in a model food system. Such an ability by enterotoxin-negative strains could contribute to periodically-reported C. perfringens outbreaks having short incubation periods and may also identify a role for enterotoxin-negative strains in promoting sporulation and enterotoxin formation in the human intestine following ingestion of temperature-abused foods containing high levels of vegetative cells of both toxin types.

Enhanced Green Fluorescent Protein Expression in Escherichia coli to Study Adherence to Meat, University of Massachusetts, $92,000. The United States Department of Agriculture, Food Safety Inspection Service (USDA/FSIS) recently enacted a regulation that requires that all meat and poultry processing plants develop a hazard analysis critical control points (HACCP) program. The aim of this regulation is to reduce the presence of infectious bacteria on the surface of meats, ground beef, and poultry products. There has been much research focusing upon methods for meat disinfection, even though there is little known about how bacterial stick to meat surfaces. This proposal will develop a microscopic experimental system that will investigate bacterial adhesion to meat surfaces. Knowledge of the interaction between bacteria and meat surfaces will lead to improved methods of detection and meat decontamination. This project will create E. coli strains that express enhanced fluorescent green protein (EGFP) and use these constructs to study bacterial adhesion and growth on meat surfaces by laser scanning confocal microscopy (LSCM). Both non-pathogenic E. coliand pathogenic strains will be constructed. This model system will allow experiments to be designed to determine the specificity of the adhesion and for analysis of the distribution of bacteria to meat structures. The scientific significance of this study is the novel system for investigation into the specific nature and parameters involved in bacterial adhesion to meat at a cellular level. The practical applications of this study will be the generation of basic knowledge that can be applied to evaluation of differential binding of pathogens (and indicator organisms) and the application of this knowledge to the wash steps during meat processing.

Detection and Analysis of taphylococcus aureus Enterotoxin A in Food 7 Johns Hopkins University, $133,000. The goal of this project is to increase food safety by developing the next generation of detection and analysis methodology for bacterial toxins in food, using taphylococcus aureus enterotoxin A (SEA) as a model. The proposal aims to develop two technologies: a cell culture based assay of SEA activity and biosensor methodology for immediate automated detection of SEA in food. The two different approaches will complement each other since they address two sides of the same problem. Biosensor detection allows rapid detection of the toxin in food, while the cell culture methodology supplies the information on biological activity of the toxin. These two methods are expected to overcome the limitations of current immunological and animal-based tests for toxins in food. The cell culture based activity assay will be developed by exploiting the toxin's ability to stimulate division of lymphocytes. Biosensor technology represents a new approach to food safety analysis—real-time analysis. Biosensors can translate biological measurements into electronic signals enabling immediate analysis and automation. A novel methodology applying biosensor technology to food testing is proposed here. The aim of this project is to develop new testing methodologies which will aid food production and food regulation, and may increase food safety and quality.

Intimin: Candidate for an Escherichia coli O157:H7 Anti-Transmission Vaccine, Uniformed Services University of the Health Sciences, $232,456. Enterohemorrhagic Escherichia coli (EHEC) O157:H7 is the most common infectious cause of bloody diarrhea in the U.S., and an occasional consequence of this infection, the hemolytic uremic syndrome, is the primary cause of acute kidney failure in U.S. children. Most U.S. cases of EHEC O157:H7 disease have occurred after ingestion of under cooked, contaminated hamburger. Cattle are reported to be asymptomatically and sporadically infected with this organism. EHEC have been shown to adhere to the intestinal epithelium of neonatal calves via a bacterial surface protein called intimin. The long-term goal of our project is to develop an inexpensive vaccine to prevent cattle from becoming infected with EHEC and, thus, prevent transmission from cattle to humans. To achieve this objective, the Uniformed Services University of the Health Sciences will i) evaluate whether intimin is required for EHEC O157:H7 colonization of older calves; ii) assess whether oral administration of anti-intimin antibodies interferes with intestinal colonization and lesion formation caused by EHEC O157:H7 in piglets, a surrogate for calves; iii) test whether pregnant pigs adminis-

tered intimin by a non-oral route elicit anti-intimin antibody responses in serum, colostrum, and milk and whether suckling piglets born of these immunized sows are protected from infection with E. coli O157:H7; iv) compare the antibody responses of mice to intimin and a set of intimin fragments administered by different routes and identify the smallest fragment that elicits antibodies capable of blocking EHEC adherence to epithelial cells; and v) develop a plant that expresses intimin or a fragment thereof as a potential edible vaccine for cattle.

Survival and Virulence of Enterohemorrhagic Escherichia coli (EHEC) as Affected by pH and Water Activity, University of Maryland, $87,000. Enterohemorrhagic Escherichia coli (EHEC) have caused a series of foodborne outbreaks of bloody diarrhea as well as serious complications, including hemolytic uremic syndrome (HUS). While research efforts have been focused on E. coli O157:H7, it is becoming more evident that other serotypes of EHEC can also be associated with human diseases. An increasing number of non-O157 EHEC have been isolated from humans suffering from HUS and diarrhea. A variety of foods have been implicated in E. coli O157:H7 outbreaks, particularly foods of bovine origin. Certain foods such as apple cider and dry-cured salami that were considered safe and ready to eat, and are generally not heated before consumption have been identified as transmitting vehicle in E. coli O157:H7 outbreaks. Unlike O157:H7, most of non-O157 EHEC serotypes have been isolated from sporadic cases, hence, the significance of food as vehicle for transmitting non-O157 EHEC is not clear. It has been shown that bacterial regulatory responses to environmental conditions are tied to virulence gene expression and that stressful signal in a hostile environment (e.g. acidic and/or dry conditions) can be utilized to induce/enhance virulence gene expression by pathogenic microorganisms. Foodborne pathogens having been exposed to such conditions may become more virulent. We propose to study: 1) Survival of EHEC strains (mainly non-O157:H7) as affected by pH and water activity; and 2) Virulence of EHEC strains as affected by pH and water activity.

Symposia on Microbial Food Borne Hazards—Basic Research/Industry/Regulatory Concerns, DHHS Food and Drug Administration; $6,000. The Food Microbiology Research Conference (FMRC) focuses on the presentation of basic/applied research by scientists within academia, government, and industry. The activities of the FMRC are governed by a set of bylaws, which were adapted as part of the process of gaining tax exempt status (private/nonprofit), thereby providing formal structure to the conference's financial management. FMRC meets every two years in the Chicago area, participation is by invitation, and the program format (panel discussion; individual seminars; symposia) is designed by an Executive Committee. The goal of the Conference is to advance knowledge and understanding in the area of food microbiology. FMRC meeting represent one of the few regularly held gatherings exclusively devoted to food microbiology. Industry/regulatory concerns are incorporated into the program for timely and relevant research topics. The XVI FMRC was held on 9–12 November 1997 at the Ramada Inn, O'Hare, Chicago. Confirmed symposia include: Molecular Approaches for Food Safety Assurance; Resistance-Control-Host Response to Bacterial Pathogens; Developments in Bacterial Inactivation and Reduced Consumer Risk; Roundtable panel on Zero Tolerance/Risk; and General Topics. Invited speakers and chosen symposia topics are designed to promote research/industry/regulatory interaction, thereby furthering the overall goal of enhancing food safety.

Recombinant Antibodies to Natural Toxicants, Michigan State University, $116,000. There has been increased use by government agencies and the food industry of rapid antibody-based immunoassay in a first-tier screen for harmful toxins and microbial pathogens in foods. The antibodies used in these assays have been developed in animals such as rabbits or in tissue culture systems. Using recombinant DNA technology, it is now possible to engineer specific antibody reagents for improved food safety screening. The immediate advantages of recombinant antibodies are threefold. First, these antibodies can be genetically manipulated to improve sensitivity and greatly reduce assay time. Antibodies can also be designed that have specificity for groups or broad classes of toxicants or harmful microbes. Second, this approach will diminish the use of animals and animal products (e.g. fetal calf serum) for antibody production. Third, since recombinant antibodies will be produced in bacteria, the cost of the basic reagent will be as much as 10-fold less than that for animal or tissue culture systems. Thus, recombinant antibodies could be immediately useful in enhancing existing and new assays for toxins and microbes in foods. This proposal seeks to genetically engineer novel antibodies to an important group of natural toxins known as the Fusarium mycotoxins which commonly contaminate wheat, corn, rice and barley. Specifically, antibodies to fumonisin, vomitoxin and zearalenone will be prepared in bacteria and then these antibodies will be applied to testing for these harmful toxicants in food. From the perspective

of food safety, the general approaches developed in this research will be amenable to improved detection of natural toxicants, chemical contaminants as well as bacterial pathogens and their toxins. Over the long term, cloned antibody sequences may find novel uses such as (1) immunization of food producing animals prevent toxic residues or pathogens in meats and poultry, (2) development of low cost procedures for removing toxicants from milk and dairy foods, and (3) expression in plants to neutralize toxicity.

Adhesins for Colonization of Chickens and Their Use in Preventive of Salmonellosis, Washington State University, $156,000. The incidence of infection resulting from food borne pathogens continue to increase worldwide despite extensive research and changes at the production and processing levels. A 1996 CDC study indicated that Salmonella accounted for the majority of the bacterial foodborne disease outbreaks from 1988 to 1992. Washington State University's long-term objective is to reduce or eliminate Salmonella colonization of poultry, which would in turn result in a reduction in the shedding of Salmonella in feces, its transmission to eggs, and the cross-contamination which occurs during processing. An understanding of the mechanism of Salmonella adherence to chicken cells could be particularly valuable when developing strategies to eliminate Salmonella contamination of poultry. Washington State University's preliminary data support the hypothesis that the Salmonella bacterium expresses gene(s) encoding an "adhesin" protein in response to high iron concentrations, and this adhesin is involved in binding the bacterial pathogen to a host cell. The goals of this proposal are (1) to identify the gene(s) encoding the iron-induced adhesin from Salmonella typhimurium, (2) to evaluate the role of the iron-induced adhesin in the adherence of the Salmonella to avian cells and (3) to determine if the iron-induced adhesin is made by other Salmonella species which colonize chickens. Washington State University will identify mutants unable to synthesize this adhesin and these will be evaluated using tissue culture and animal models. Ultimately, this information will be used to design methods to eliminate Salmonella in poultry either by contributing to the development of a live oral vaccine, or by identifying possible changes in the slaughtering procedure to reduce Salmonella cross-contamination.

Incidence and Fate of Moniliformin in Corn and Heat Processed Corn Products, University of Nebraska, $97,000. Moniliformin is a highly toxic substance produced by Fusarium proliferatum and Fusarium sublutinans, molds commonly found on corn. Moniliformin has also been found in corn from different parts of the world, though the incidence and levels in corn and corn-based food products in the U.S. are not well documented. Considering the toxicity of moniliformin and the potential risk of chronic long-term consumption of it in corn-based foods, it is very important to know the extent of contamination and heat stability of moniliformin in corn and corn-based foods. The overall objective is to determine the incidence and levels of moniliformin in U.S. corn and corn-based foods, and the effects of heat, as applied in basic thermal processing of corn, on the stability of moniliformin. Specific objectives are to determine 1) the incidence and amounts of moniliformin in U.S. corn and corn-based foods; 2) the effect of heat on the stability of pure moniliformin in water at different temperatures, pH levels and heating times; and 3) the effect of selected thermal processes, including extrusion, alkaline processing (tortilla process) and baking on the stability of moniliformin in corn. To accomplish the objectives, corn and corn-based foods will be obtained from commercial food channels throughout the U.S. and analyzed for the presence and amounts of moniliformin. Heat stability of moniliformin in both water and corn substrates will also be studied. After heating in water or by the selected process, the presence and amount of moniliformin remaining will be determined by high performance liquid chromatography (HPLC).

Modeling the Interactions of Pathogenic and Biocontrol Bacteria for Applications in Foods, USDA Agricultural Research Service, $86,000. The objective of this research is to develop a safe method for preventing the growth of pathogenic bacteria in minimally processed, refrigerated foods. A biocontrol strategy will be used which involves bacterial competition to accomplish this task. Lactic acid bacteria which are commonly used in various food fermentations (dairy, meat, vegetables) will be added as biocontrol agents to prevent the growth of pathogenic bacteria in minimally processed foods. If a food protected by this type of biocontrol strategy should spoil due to improper refrigeration or other reasons, the lactic acid bacterium should grow and competitively prevent the growth of potentially harmful bacteria. Although the food may not taste good because of the acid produced, the product would not be unsafe. The Agricultural Research Service has developed a mathematical model that predicts the outcome of the competitive growth of bacteria. The model may be useful in determining which lactic acid bacteria should be chosen as biocontrol agents, and how the growth of selected lactic acid bacteria will affect the growth of pathogenic

or disease-causing bacteria. The Agricultural Research Service's research will involve growing both biocontrol and pathogenic bacteria, singly and in mixed culture, in vegetable broth and minimally processed vegetable products. Using the model to help interpret the data from these experiments, the Agricultural Research Service hope to gain insights into which factors such as growth rates, production of inhibitory compounds, or sensitivity of the cells to these inhibitors are most important to the predominance of one bacterial culture over another. While the Agricultural Research Service will primarily investigate biocontrol applications for refrigerated vegetable products, it is hoped that the principles learned in these studies can be applied to biocontrol applications for a variety of foods.

Salmonella in Modern Swine Production Systems. Risk Factors for Fecal Shedding by Finished Pigs, North Carolina State University, $241,000. Control of foodborne disease is best achieved through appropriate actions in all sectors of the farm to table continuum. Salmonellosis is a major foodborne disease worldwide and Salmonella is the foodborne pathogen of greatest importance in modem swine production. Systems for producing swine have changed radically in recent years, in association with increases in average herd size. Knowledge of the epidemiology of Salmonella infections in modem swine production systems is minimal, but is necessary to identify appropriate measures to reduce the risk of foodborne disease to people and ensure access to international markets. Specific objectives of this project are to determine 1) risk factors for Salmonella prevalence in finishing pigs raised on slotted concrete floors in barns managed all-in/all-out, within multiple-site production systems; and 2) the relative importance of Salmonella infection in nurseries or the finishing environment as determinants of Salmonella infection in finishing hogs. Prevalence and serotypes of Salmonella will be determined by fecal cultures in finishing pigs, raised at specialist finishing sites. The sites chosen will be typical of modem systems that are predominantly and increasingly used for pork production in the USA. Feed and environmental samples will also be cultured. Data on management and environmental factors will be collected and examined for associations with Salmonella prevalence. The information obtained will be relevant to a large and increasing segment of the national swine industry, and will aid in defining the most efficient options for reducing Salmonella in the pork supply.

Experimental Campylobacter Vaccine, University of Pennsylvania, $138,000. Campylobacter jejuni is a major cause of gastrointestinal infection in man and is the most common cause of sporadic diarrheal illness in the U.S. Campylobacter infection is primarily a foodborne disease with poultry being the single most important vehicle for transmitting the disease. A number of immunological approaches to reducing or eliminating Campylobacter from poultry are currently being investigated including the use of vaccines. The mechanism by which Campylobacter colonizes the chick GI tract is not completely understood but flagella are important colonization factors. The University of Pennsylvania expressed the full length Campylobacter flagellin gene, flaA, in an avirulent Salmonella typhimurium vaccine vector and tested several vaccine constructs in 4 day old chicks for immunogenicity and protection. During the past funding period, the University of Pennsylvania showed that these vaccines were highly immunogenic and induced anti-flagellin antibodies using a two-dose regimen. When animals were challenged 3 weeks after vaccination with the homologous strain of C. jejuni, vaccines conferred >95 percent homologous protection against cecal colonication. In the next funding period, the University of Pennsylvania will extend these studies to 1) assess the ability of these vaccines to confer cross-protection with different flaA types of C. jejuni, 2) determine the minimal amount of time needed post-immunization to confer protective immunity, 3) determine the minimal C. jejuni challenge dose in which complete protection occurs, 4) determine whether the bivalent vaccine confers protection against Salmonella infection and 5) determine the smallest flagellin fragment that can elicit protective immunity. An immunogenic, broadly cross-reactive vaccine, should be useful in improving the safety of poultry for human consumption.

Food Pathogen Biosensors for Rapid Safety Measurements of Meat, University of Rhode Island; Food Optic and Biosensor Research Group, Kingston, RI, $96,205. Classical procedures for the detection of microbial pathogens in meats are slow and labor intensive. Rapid methods currently available are either complex, require potentially hazardous and expensive materials, or utilize a pre-enrichment step of 18–24 hours to grow up enough cells for detection. This project will establish that biosensors; employing immobilized antibodies specific for meat pathogens can be successfully utilized for biomonitoring of contamination in food products. One approach will utilize fiber optics to analyze the optical excitation and emission properties of immobilized antibodies and attached pathogens on the surfaces of gold coated silicon. The second biosensor will continue to explore the potential of the Quartz Crystal Microbalance with reusable piezoelectric quartz crystals containing attached

antibodies. The maximum response of these biosensors for determination of microbial cell concentrations of pathogens in meat products will be established. Consumer demand for fresh and less processed food, such as meat, makes the need to ensure microbial safety of products very clear. This project provides the opportunity for a multidisciplinary effort to create specific biosensors for rapid and early detection of pathogen contamination in meat. These devices have the potential for specifically selecting food pathogens from among the total microbial load within minutes and measuring the concentration as real-time analysis on site. The capability for miniaturization and portability emphasizes the possibilities that this new technology will provide the tools for effective monitoring programs. The ability for rapid early detection of pathogens will enhance the safety and quality of U.S. meat products.

Salmonella typhimurium Genes Required for Systemic Infection of Cattle, Texas A&M University, $90,000. Salmonellosis is the most frequent food-borne illness in the U.S. and is usually contracted by consumption of meat and dairy products from infected livestock. Little is known about genes allowing Salmonella typhimurium to cause systemic infection in cattle, an important meat source in the U.S. Since systemic infection can lead to a chronic carrier state, information about the mechanisms used by S.typhimurium to establish systemic infection is relevant to development of strategies to eliminate this pathogen from cattle. The goals of this project are the identification and characterization of bacterial genes which enable S. typhimurium to cause systemic infection in cattle. The role that these genes play during infection will be examined by determining the ability of attenuated bacterial mutants to spread to different organs in cattle. Finally, by determining whether the same set of virulence genes identified in cattle is also required for infection of the mouse, the university will determine whether any of the genes identified in this study are host-specific adaptations to causing disease in cattle. The results of this research will help to develop strategies for reducing the number of carrier animals from cattle herds as well as for the detection of Salmonella in meat and dairy products, thereby increasing food safety.

Fumonisins: Immunology, Genetics and Enzymology, University of Wisconsin, $129,897. Fumonisins (Fms) are a group of mycotoxins produced primarily by the fungus Fusarium moniliforme, FmB1, the major mycotoxin in this group is a weak carcinogen and induces apoptosis both in animals and plants. It also is responsible for leukoencephalomalacia in horses and for swine edema syndrome/swine mystery disease. Because of the widespread occurrence of this group of mycotoxins in corn and related foods and their carcinogenicity and potent cancer promoting activity, this group of mycotoxins is potentially hazardous to human and animal health. Using mutant cultures and a combination of immunochemical and chemical methods, the University plan to identify the major steps, intermediates and enzymes involved in the biosynthesis of Fm. The methodology developed in the proposed work could be used for further studies of the conditions conducive to the formation of Fms in the field and during storage. Different tools and mutants developed from the present study will be shared with other scientists for related studies. This study is a critical step in the development of methods to control Fm formation.

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Rapid Detection of Brevetoxin and Ciguatoxin Using Recombinant Na+ Channels, University of South Alabama College of Medicine, $90,000. Contamination of shellfish by a marine toxin known as brevetoxin periodically threatens the health and safety of seafood consumers. Brevetoxin poisoning typically causes neurological and gastrointestinal disturbances that last 3 to 4 days but fatalities have been reported in severe cases. There are not any known antedotes for poisoning and, consequently, toxin levels must be rigorously monitored to prevent ingestion of tainted seafoods. This proposal will develop rapid and sensitive methods to test for brevetoxin and ensure seafood product safety.

Role of Putative Pathogenicity Island in Campylobacter jejuni Virulence, University of Arizona, $190,000. Incidence of campylobacteriosis in man has risen dramatically in the past 10 years and passed salmonellosis as the number one disease acquired by consuming contaminated food products. It is estimated that Campylobacter jejuni causes 3 million cases per year with a cost due to treatment and loss of productivity greater than one billion dollars. Clearly, understanding mechanisms by which this major pathogen causes disease is invaluable. Nevertheless, few factors associated with C. jejuni virulence have been identified. Progress in this important research area has been hampered by the lack of genetic tools to examine or identify virulence factors. To date, roughly ninety C. jejuni genes have been characterized, and only six of which are related to virulence. Recently, the University has isolated an iron uptake system encoded within a putative pathogenicity

island from virulent C. jejuni. Genes within this island may be influential in defining the pathogenicity of the agent that will lead to control measures for decreasing the incidence of campylobacteriosis. The long range goal of the proposed research is to evaluate genes contained within a putative pathogenicity island in C. jejuni for their role in virulence. Sequence analysis reveals an area that encodes two disparate physiologic functions, an iron uptake system, and a cell wall biosynthetic pathway suggesting that maintenance of this unique island may not be due to environmental iron limitations alone. The island may encode other functions and comprise not only an iron uptake island, but a pathogenicity island. Consistent with these observations we hypothesize that this locus comprises a pathogenicity island which contributes to C. jejuni virulence.

Strategies to Eliminate and Prevent Microbial Contamination of Food Products, University of Arkansas for Medical Science; College of Pharmacy; Food Safety Group, Little Rock, AR, $70,000. While the American food supply is considered among the safest in the world, recent estimates suggest that as many as 9,000 deaths and 6.5 to 33 million illnesses in the United States each year are food-related, and with medical costs and productivity losses ranging between $1.8 billion and $4.8 billion annually. The need to develop strategies to eliminate and prevent microbial contamination of food products is highlighted by factors such as emerging foodborne pathogens and pathogenic strains, new and more frequent outbreaks of foodborne disease, and the increased susceptibility to foodborne infections of population groups with lowered immunity. Previous research in our laboratory indicated that cetylpyridinium chloride (CPC), a chemical safely used for over 30 years in oral hygiene products, was able to reduce Salmonella and other bacterial contamination from poultry tissues. CPC was also effective in preventing bacterial attachment, and has potential to reduce the risk of cross-contamination. The ultimate goal of the research in this proposal is to develop effective methods to control, eliminate and prevent microbial contamination of food products. The specific aims of this project are: 1) to determine the effectiveness of CPC for decontamination of fresh fruits and vegetables; and 2) to assess the organ.

Bacteria for Competitive Exclusion of Salmonella enteric Species in Chickens, University of Delaware, $185,000. The community of bacteria inhabiting the intestinal tract can prevent or impede the establishment of undesirable bacteria such as Salmonella enterica subspecies. Newly hatched chicks lack an intestinal bacterial community. Exposure to intestinal bacteria from adult chickens potentially heightens the resistance of young birds to infection with Salmonella. Such bacterial preparations can therefore contribute to increased microbial food safety of poultry products by reducing the number of chickens in a flock that carry Salmonella into the processing plant. The optimal composition of an effective bacterial preparation is currently not known. The goal of the proposed research is to identify and isolate bacteria from the intestinal tract of chickens and to eventually test their effectiveness in reducing colonization of young chicks with Salmonella. The research will focus on the bacteria that are associated with the inner surface of one of the chickens intestinal organs, the cecum. Since a considerable fraction of intestinal bacteria has been refractory to isolation in pure culture, the bacteria will initially be identified without culturing using genetic means. Identification will be achieved by sequencing of 16S rRNA genes amplified from total DNA extracted from the cecal bacterial community. Denaturing gradient gel electrophoresis of amplified DNA and insitu hybridization with specific probes will provide information on the diversity, location and prevalence of bacteria within the ceca. Once the identity of the cecal bacteria is known, culture conditions for their isolation can be designed and their value in prevention of Salmonella carriage in chickens can be assessed.

Fluorescence-Based Chemical Sensor for Saxitoxin, University of Miami, $95,000. Saxitoxin is the primary constituent of the so-called paralytic shellfish poisons (PSPs). Currently, contamination of shellfish beds by PSPs is monitored by mouse bioassay. Recently, the University of Miami has discovered a molecular receptor that "signals" the presence of saxitoxin in solution by emitting light (technically known as enhanced fluorescence emission). This type of phenomenon is of considerable interest to the chemical community in general, but regarding saxitoxin, it could be the key to developing a photochemical sensor that would complement mouse bioassay. The first stage of this development, funded by this project, is to study the details of the "recognition" and emission phenomenon between saxitoxin and its receptor, both in solution and at a surface (the air-water interface). The University of Miami will begin by examining the fluorescence emissions quantitatively, then modifying the receptor to optimize its binding and signaling properties. The University will modify the receptor to make it amenable to incorporation into a monolayer that, when spread over the surface of water, can be studied in a similar fashion.

Studying the phenomenon in a monolayer is a prerequisite to development of a sensor using fiber optics.

Defining Genomic Sequences Specific to Virulent Vibrio vulnificus Strains to Assess Risk, University of Florida, $90,000. Vibrio vulnificus is the leading cause of reported human death in the U.S. caused by the consumption of seafoods. Since its discovery, V. vulnificus has had a significant impact on public health policy, food regulations, and industry practices. Currently, there is no practical test to determine if seafood products contain hazardous strains of V. vulnificus. The University propose to solve this problem by defining DNA sequences specific to virulent strains, and then developing simple DNA probe test(s) that can be used by industry and public health organizations to assess risk. The University will use two techniques to identify segments of DNA that are unique to virulent strains, 1) by "subtracting" DNA of non-virulent strains from virulent strains, thereby identifying virulent specific DNA sequences, and 2) by allowing the mouse model to directly select for strains that have acquired DNA sequences from virulent V. vulnificus strains that are randomly cloned into non-virulent strains. These approaches will produce virulence-specific gene probe(s) that can be widely used to assess V. vulnificus hazards in seafood products. The University anticipate that this information will be integrated in ongoing CDC-FDA-State efforts to determine the epidemiology of V. vulnificus infections and to develop effective interventions to reduce risk of V. vulnificus disease.

Regulation of Lipopolysaccharide Micro Heterogeneity, USDA Agricultural Research Service; Southeast Poultry Research Laboratory, Athens, GA, $125,000. Bacteria that contaminate food are genetically capable of altering their growth properties and cell surface properties in order to infect susceptible people or animals. One foodborne bacterium that is especially capable of contaminating the contents of eggs is Salmonella enterica serovar Enteritidis (SE). It has been shown that certain strains of SE enter an accelerated phase of growth when environmental conditions provide appropriate signals to the bacterial cell. During enhanced growth, many of the cell surface features of SE alter drastically which contribute collectively to an enhanced ability of the bacteria to grow to high numbers in organs, as measured by increased recovery from the organs of chicks, mice, and eggs. The most prominent molecule composing the outer membrane of SE is lipopolysaccharide (LPS). Previous research indicated that changes in LPS structure can be used to detect strains that are more capable of attaining full virulence. Current research to be conducted under this grant is directed towards understanding the genetic changes that result in strain variation, as measured by the ability of strains to generate particular LPS structures while maintaining accelerated growth. This work is important because it will lead to a better understanding of environmental conditions that favor outgrowth of new strains of SE. Since certain LPS structures alter the production of proteins on the cell surface, this research should also contribute to a more complete understanding of the immunological properties of virulent SE and to the development of improved vaccines.

Mechanism for Inactivation of Microorganisms by High Oxidation Potential Water, University of Georgia, $120,000. Reported cases of outbreak of food-related illnesses as well as severity of infection and cost of treatment are on the increase. An estimated 6.5 to 33 million people are infested annually in the U.S., out of which 9,000 die. The high oxidation potential (HOP) water has been reported by scientists in Japan to have strong bactericidal effect on most pathogenic bacteria. A major advantage of HOP water is that no chemical except water (with very dilute NaC1) is used. Therefore it has less adverse impact on the environment. Also, the treated food is not exposed to heat treatment and will experience minimal change in quality. The overall objective of this project is to study the fundamental principles involved in the inactivation of food microorganisms with HOP water. HOP water with different properties will be used to treat five strains each of three pathogenic bacteria (Bacillus cereus, Listeria monocytogenes and Escherichia coli O157:H7). The HOP water with the most effective combination of properties will then be used to evaluate the effect of different organic materials in food systems on its antimicrobial effect. Bacteria inactivation on food surfaces with HOP water will be evaluated using inoculated food samples. The application of this technology will ensure food safety at reduced cost, high food quality and reduced danger from foodborne illness.

Screening Corn for Resistance to Aspergillus flavus and Aflatoxin Accumulation, Southern Illinois University, $100,000. Two traits in corn genotypes will be used to identify potential resistance sources: 1) sporulation by Aspergillus flavus on intact or endosperm-wounded kernels, and 2) accumulation of norsolorinic acid (NOR) in kernels inoculated with A. parasiticus isolate SKI. NOR is an orange-pigmented intermediate in the aflatoxin biosynthesis pathway. Genotypes that exhibit minimal sporulation and accumulation of orange pigment will be tested for aflatoxin resist-

ance in controlled laboratory inoculations. Genotypes from this pool that prove to be resistant will be evaluated for resistance in field trials. Those that show resistance will be examined for mechanism of resistance. Surface wax will be removed from intact kernels of these resistant genotypes, as well as standard susceptibles, and weighed. Resistant genotypes with large amounts of wax will demonstrate that wax acts as a physical barrier to infection by A. flavus. Wax removed from kernels will be bioassayed for antifungal activity against A. flavus. Resistant genotypes with antifungal properties will demonstrate that wax acts as a physiological barrier to infection by A. flavus. Protein profiles determine whether proteins unique to, or in greater concentration in, resistant genotypes are involved in resistance to A. flavus.

Listeria monocytogenes: Ozone Inactivation, University of Illinois, $95,000. The objectives of this study are to examine the effects of ozone (03) on the pathogen Listeria monocytogenes. Ozone is one of the most powerful oxidizing agents (52 percent stronger than chlorine) and is effective against a broad spectrum of microorganisms, including viruses, bacteria, yeast and molds. Ozone has recently been recommended for approval as Generally Recognized As Safe (GRAS) in food production. Little or no research has been performed on the influence that ozone has on the destruction of L. monocytogenes. This proposal will determine important parameters of ozone-induced injury and death of L. monocytogenes. The optimal conditions of ozone exposure for listerial death will be determined. Initial variables will include time, temperature and ozone concentration. Injury and death will be determined using a dual plating procedure, and by the release of subcellular components. The thermodynamics of ozone inactivation will be determined. Any differences in the phase of growth on the susceptibility of L. monocytogenes to ozone will be examined. Recovery of ozone-injured listerial cells will be studied, as will be the site(s) of ozone damage. The influence of ozone in reducing listerial counts in a food product (cabbage) will also be determined. The influence of ozone on the enzymes catalase and superoxide dismutase in L. monocytogenes will be examined immediately following exposure and during recovery.

Persistence of Salmonella typhimutium in Swine, University of Illinois, $240,000. . typhimurium is one of the major causes of salmonellosis in humans. Pigs persistently infected with S, typhimurium are one of the major reservoir of this pathogen. Generally, pigs persistently infected with . typhimurium are asymptomatic. One means to reduce the risk of foodborne infections caused by . typhimurium is to prevent pigs from becoming persistently infected. This project is designed to understand the mechanisms promoting persistent infections. The initiation of infection requires the attachment of S. typhimurium to the lining of the small intestine. There are two types of cells in the small intestine that are targets for attachment: 1) epithelial cells call enterocytes and 2) epithelial cells call M-cells. The University's current hypothesis, which is based on our previous experiments using mutant . typhimurium that do not attach to enterocytes, is a attachment to enterocytes which is important for the development of persistent infections while attachment to M-cells results in disease. The goals of this study are to confirm that our non-adhesive mutants indeed do not attach to enterocytes in pigs but retain the ability to attach to M-cells. Furthermore, the University have found that a novel mechanism allows . typhimurium to sense its location in the intestine and turn on a set of genes that promote its ability to colonize enterocytes and this results in persistent infections. The University plans to create additional mutants that no longer can control these genes and determine whether the mutants have lost the ability to cause persistent infections.

Analysis of the Osmotic Regulation of Thermotolerance in Salmonella and E. coli O157:H7, Purdue University, $185,000. The addition of moderate or high concentrations of salts or sugars can enhance the high temperature tolerance of food pathogenic bacteria such as Salmonella and E. coli O157:H7. This enhanced thermotolerance is manifested both as increased growth rate at non-lethal high temperatures and increased survival at otherwise lethal high temperatures. These observations indicate that the addition of salts or sugars to food products as preservatives or flavor components can compromise the efficacy of high temperature treatment for the inactivation of contaminant organisms. The University found that betaine, which is found at high levels in edible plants such as spinach and cereal grains, block the ability of salt additives to increase the thermotolerance of bacteria. Part of the research project will be to carry out a comprehensive characterization of all available structural relatives of betaine for their ability to counteract the induction of increased thetmotolerance by salt additives in food pathogenic bacteria. This procedure may uncover new food additives that might be used to increase the efficacy of thermal inactivation in food contaminating bacteria. A second component of the project will be to discover genes which are involved in the induction of increased heat tolerance by salt. The understanding of the mechanistic connection between

high salinity and increased thermotolerance has the potential application that it might lead to the design of new antimicrobial compound that could lead to decreased survival of food pathogens during thermal processing.

Molecular Biology of Aflatoxin Biosynthesis in Aspergillus flavus, Purdue University, $160,000. Aflatoxins produced by the fungus Aspergillus flavus, are toxic and carcinogenic compounds contaminating a variety of food products. In addition to the significant health risks associated with aflatoxins, there is also an economic burden. Millions of dollars are spent each year to test potentially affected food, including corn, peanuts, figs, tree nuts and milk. Aflatoxins are products of fungal secondary metabolism. The genes involved in the biosynthesis of aflatoxin are grouped together in a single cluster. The cluster contains at least 18 genes that code for the pathway enzymes and for regulation of aflatoxin biosynthesis. This research project will investigate an unusual mutation in A. flavus. Strain 649 has a DNA deletion at the afl–1 locus that includes the entire cluster of aflatoxin biosynthesis genes. Diploids formed by crosses between strain 649 and aflatoxin-producing strains do not produce aflatoxin. The goal of the research is to determine the mechanism responsible for this suppression of aflatoxin biosynthesis. The specific objectives are to isolate and characterize the DNA at the deletion break-junction region in strain 649, and to determine the involvement of the regulatory gene aflR in repression of aflatoxin biosynthesis. This research will impact agriculture by furthering our understanding about the regulation of aflatoxin biosynthesis and contribute information leading to development of new strategies for eliminating aflatoxin contamination.

Modeling Food Fluctuating Microbial Populations and Their Aperiodic Outbursts, University of Massachusetts, $90,000. The total number of microorganisms, or of specific types, which are encountered in raw beef or dairy products for example tend to fluctuate. Usually such daily or hourly fluctuations are within a specified range and hence raise little or no safety concern. Only occasionally, and in some cases without an apparent cause the numbers encountered are unusually high and may be considered a safety problem. The University of Massachusetts plans to analyze the fluctuations pattern, and by mathematical models and statistical methods, to estimate the probability of the occurrence of such an outburst. In other words, the University of Massachusetts propose to convert the apparently random sequence of counts into a set of probabilities of encountering outbreaks of a magnitude of safety concern. These calculated probabilities can then be used as indication of an impending microbial outbreak, and as a tool to assess quantitatively the efficacy of preventive methods in reducing the risk.

Genomic Analysis of Escherichia coli O157:H7 Populations from Cattle and Humans, University of Nebraska, $150,000. Genetic fingerprinting of E. coli O157:H7 strains from cattle herds indicates that certain strains can be repeatedly isolated from a given herd over time (persistent population) despite the fact that other genetically distinct E. coliO157:H7 strains may be introduced into the herd but are unable to displace the persistent population. These results suggest that persistent strains are better able to survive and/or propagate in these environments. Are there particular herd management practices that have selected for these persistent populations and are these strains genetically distinct from those isolated from infected humans? The University of Massachusetts has developed a powerful technique, termed high-resolution genotyping (HRGT), that permits identification of even minor genetic differences between different E. coli O157:H7 strains. This procedure will be used to develop a database for rigorous assessment of the genetic relatedness of persistent and non-persistent and non-persistent isolates will be examined in further detail (full genome coverage) by HRGT to identify genetic differences that may be related to persistence. The genes that are marked by these differences will then be examined to begin assessing how their function may contribute to persistence and whether particular herd management practices may have played a role in selecting for alterations in these genes. Ultimately these results may provide a rational basis for understanding the impact of herd management practices on the population structure of this organism.

Antimicrobial Use and Emerging Resistance of Salmonella typhimurium in Dairy Cattle, Cornell University, $120,000. Antibiotic-resistant Salmonella infections in human are an increasing public health problem. The use of antibiotics in food producing animals for disease prevention or treatment and to enhance growth potentially selects for resistant Salmonella strains which may be transmitted to humans. Livestock investigations are needed to identify practices associated with the emergence of Salmonella resistant to antibiotics currently important in human medicine.

This project will investigate the effect of antibiotic treatment of clinical salmonellosis in dairy cattle on the occurrence of antibiotic-resistant Salmonella typhimurium, a major animal and human pathogen. This will be done by identifying

dairy herds with Salmonella typhimurium-infected cattle based on diagnostic laboratory culture results, obtaining antibiotic treatment information from farm records and collecting fecal samples from cattle on the farm for Salmonella isolation and determination or resistance patterns. The association between cattle from the same herd will be analyzed. The characteristics of study farms will be typical of large segment of the U.S. dairy industry.

The study results will provide valuable information on the emergence of antibiotic-resistant Salmonella typhimurium and specific drug-use practices which are associated with resistance. This will allow implementation of changes on farms designed to reduce the development of antibiotic-resistant bacteria and thereby decrease foodborne or direct transmission of resistant strains from dairy cattle to people. The project will also contribute data needed for policy decisions by regulatory agencies related to antibiotic use in food producing animals.

Identification of Human Enteric Viruses in Foods and Fooborne Disease Outbreaks, North Carolina State University, $140, 000. Enteric viruses are significant human pathogens, recently ranked fifth and sixth amongst identified causes of foodborne disease in the U.S. While these agents are responsible for diseases such as gastroenteritis and hepatitis, the true scope and significance of foodborne viral infection is drastically underestimated due to inadequacies in reporting and detection methods. The introduction of molecular biological techniques offers sensitive and specific alternatives for the detection of these previously non-detectable viral agents. The purpose of this research is to refine molecular methods to detect human enteric viruses from foods and to further develop approaches for the investigation of outbreaks of foodborne viral disease. The specific objectives are as follows: (1) Refine methods to extract human enteric viruses from foods, (2) Improve sensitivity, specificity, and speed of virus detection and confirmation, (3) Develop methods specifically for the detection and identification of small-round structured viruses of epidemiological significance to humans, and (4) Develop a comprehensive approach to the investigation of outbreaks of foodborne viral disease by linking detection and identification in clinical (fecal) and food specimens. The successful completion of this project will provide rapid and economical methods for the detection of viral contamination of foods and the investigation of foodborne viral disease outbreaks. These benefits will ultimately improve the safety of food products, protect public health, and minimize financial losses due to viral contamination of foods.

Stress-Induced Resistance to High Pressure in Listeria monocytogenes and Escherichia coli O157:H7, Ohio State University, $90,000. High pressure processing is a novel, non-thermal technique for inactivating pathogens in food by the application of extremely high pressures. Application of pressures in the range of 5000–9000 atmospheres for 1–5 minutes, at room temperature, can significantly reduce the microbial population in food and dramatically extend its shelf life. Since heat is not used in the process, negligible flavor and nutrient changes occur as a result of the high pressure treatment.

During the past two decades, new food-transmitted diseases emerged such as those caused by the enterohemorrhagic E. coli and the meningitis-causing Listeria. Such pathogenic bacteria are more likely to survive during food processing if they were exposed to conditions that make them resistant to preservation methods. For example, bacteria that are normally sensitive to heat may become heat-resistant when they are stressed during production, harvesting or even mild processing of food. Therefore, adaptation of bacteria to various stresses may compromise the safety of food.

This challenge to the food industry needs urgent attention when new processing technologies (such high pressure processing) are introduced. This project will identify the potential causes for increased resistance of pathogens to pressure. Additionally, the study will assess, in quantitative terms, the relationship between stress that foodborne pathogens may encounter and resulting stress-induced resistance to high-pressure processing. The outcome of this project will help food manufacturers develop strategies to overcome and eliminate stress-adaptation in foodborne pathogens.

The Molecular Epidemiology of Clostridium perfringens Type A Food Poisoning, University of Pittsburgh School of Medicine, $160,000. Clostridium perfringens type A food poisoning currently ranks as the second most common foodborne disease in the U.S. The diarrhetic and cramping symptoms of this illness are caused by C perftingens enterotoxin (CPE). Recent studies have shown that the CPE gene encoding this enterotoxin can be located on either chromosomal or extrachromosomal DNA. However, only C. perfringens isolates carrying an extrachromosomal CPE can cause non-foodborne intestinal disease. This project will evaluate four possible explanations for the strong association between chromosomal CPE isolates and food poisoning: i) isolates carrying a chromosomal CPE are predominant in the food poi-

soning environment, ii) chromosomal CPE isolates are more resistant to food-associated stresses (e.g. cooking) than are isolates carrying an extrachromosomal CPE, iii) the chromosomal CPE is more stable to food-related stress than the extrachromosomal CPE, and iv) food-related stress induces migration of the extrachromosomal CPE onto the chromosome. These studies should improve the safety of the American food supply by distinguishing whether only chromosomal CPE isolates are able to cause food poisoning, or if isolates carrying an extrachromosomal CPE can be converted, by food-related stress, into chromosomal CPE isolates. This information will improve the safety of the American Food supply in two ways: 1) it will become possible to specifically detect the presence of C. perfiringens food poisoning isolates in foods before these foods are consumed, and 2) it will elucidate how/when C.perftingens food poisoning isolates enter foods, which will allow the development of strategies to interfere with the introduction of C. perftingens food poisoning isolates into foods.

Inactivation of Foodborne Pathogens Exposed to a Uniform Glow Discharge Plasma, University of Tennessee, $71,442. Increased emphasis on food safety has intensified research efforts to develop and evaluate new and innovative means of inhibiting, destroying, and controlling pathogenic microorganisms in foods. The overall objective of this research is to evaluate the efficacy of a One Atmosphere Uniform Glow Discharge Plasma (OAUGDP) for its ability to destroy foodborne pathogens. The OAUGDP is a newly-invented form of electron discharge which generates a uniform glow discharge plasma (plasma—the fourth state of matter) in atmospheres of various gases such as helium, carbon dioxide, and most importantly air. The sterilization properties of the OAUGDP include ozone and other oxidative species, ultraviolet photons, photons in the visible part of the spectrum, charged particles, and neutral particles. Specific objectives of our proposed work are 1) to determine the susceptibility of ten foodborne pathogenic microorganisms to inactivation upon exposure to the OAUGDP, and 2) to determine the effect of culture age, pH, and growth temperature on the susceptibility of these foodborne pathogens to inactivation. The University of Tennessee's previous studies have shown that the OAUGDP is an effective means of destroying various microorganisms. Furthermore, the University's results indicate that treatment of culture media with the OAUGDP for the times required to kill bacteria does not result in the development of by-products toxic to microbial growth. The OAUGDP unit has the potential to be adapted as an in-line process suitable for application as a mechanism of pasteurizing foods and controlling foodborne pathogens.

Sporulation Control of Enterotoxin Synthesis in Clostridium perfringens, University of Tennessee, $130,000. Clostridium perfringens is a common source of food poisoning in humans, and it is responsible for 10 percent of the outbreaks in the U.S. Most large outbreaks of C. perfringens food poisoning are associated with commercial food services, such as restaurants and institutions, but many infections occur in the home as well. The symptoms of the disease (diarrhea, nausea and vomiting) are due to the production of a potent enterotoxin protein (CPE) in the intestinal tract by sporulating bacteria. The ability of C. perfiringens to produce a heat resistant spore not only leads directly to the production of the enterotoxin, but also leads to increased outbreaks of the disease. Often foods are prepared at high enough temperatures to kill vegetative cells, but not spores. If the food is not refrigerated, the spores germinate and the cells grow rapidly. When the contaminated food is eaten, the cells sporulate in the small intestine, releasing the enterotoxin. The University is interested in determining how the sporulation process regulates cpe gene expression at the transcriptional level. To study this, the University will take two experimental approaches: (1) Purify RNA polymerase enzymes that transcribe cpe gene promoters, and (2) Determine in which cell compartment of the developing spore transcription factors needed for cpe gene expression are made. Together, these studies will contribute to our knowledge of how heat resistant spores and enterotoxin are produced by the cell. This information can then be used to develop better food handling procedures to reduce the incidence of this very common disease.

Novel Antimicrobial Systems for Control of Foodborne Pathogens, University of Wisconsin, $90,000. The microbiological safety of imported and domestic fruits, vegetables, and certain other foods has become a major priority of the USDA, FDA, and HHS. Recent studies from our laboratory have demonstrated that certain food-approved flavorants markedly sensitize foodborne pathogens including Escherichia coli O157:H7, Listeria monocytogenes and Staphylococcus aureus to various classes of food-grade antimicrobials and to certain antibodies. In particular, in the presence of low concentrations (<100 ppm) of the flavorants nerolidol and farnesol, microorganisms are inhibited by markedly lower doses of certain antimicrobial agents and antibiotics. These compounds are derived from natural plant sources. The University's results indicate that these and related compounds could be used to increase

the efficacy of other food-grade antimicrobial agents. In the present study, sensitization by terpenoids and inactivation of foodborne pathogens will be investigated. Gram-negative and gram-positive bacterial pathogens will be exposed to potential sensitizing agents, and then evaluated for extent and kinetics of inactivation by sanitizers, food-grade antimicrobials and antibiotics. Killing will be assayed by traditional plating, and by flow cytometry. Organisms to be tested include strains of E. coli O157:H7, Salmonella serovars Listeria monocytogenes and Clostridium botulinum. The successful completion of this proposal will provide novel elimination and sanitation technologies to reduce the risk of foodborne disease from foods and food contact surfaces and will enhance the public and media image regarding the microbiological safety of raw and minimally processed foods.

DNA-Binding Proteins CspE and Dps Protect DNA at Low pH in Escherichia coli O157:H7, University of Wisconsin, $115,000. An important characteristic of Escherichia coli O157:H7 is the ability of 10 to 100 O157:H7/gram of raw ground beef to survive processing, storage, cooking, and host-defense systems and cause illness. It is hypothesized that acid tolerance is a contributing factor to the low-infectious dose noted for this human pathogen. Sustained acid tolerance in serotype O157:H7 strains is primarily regulated by the stationary-phase sigma factor o38, encoded by rpoS. The University has identified a rpoS-regulated Protein (CspE) that is present in acid tolerant strains of serotype O157:H7 strains and absent, or present at reduced quantities, in acid-sensitive strains. This protein has been previously identified as a cold-shock protein with no known function. Analysis of protein and DNA sequences finds a high proportion of basic amino acids, indicating that CspE is a DNA-bind protein Dps is another previously described rpoS-regulated protein with DNA-binding properties that result in DNA protection against oxidative stress. Because DNA is sensitive to low pH and survival is dependent upon its protection, the goal of this project is to define the contributions of CspE and Dps to DNA protection in low pH environments (i.e. foods and synthetic gastric fluid). Results from this study will provide industry and public health agencies with the much needed data to further refine strategies for control, identify areas of risk, and add to the scientific knowledge on the survival of E. coli O157:H7.

SPECIAL FOOD SAFETY RESEARCH GRANTS FISCAL YEAR 1998

Awards made after competitive peer review process

Nonthermal Processing Alternatives to Ensure the Safety of Apple Cider Cornell University, $86,345. This project will evaluate ultraviolet light, dimethyl carbonate and sulfur dioxide as alternatives to pasteurization of apple cider to reduce or eliminate E. coli O157:H7. These treatments would be cost-effective for small producers and yield a product acceptable to consumers.

Location of S. stanley in Alfalfa Seeds and Sprout; Relation to Treatment Efficacy, Rutgers University, $174,387. This proposal addresses spatial location and survival of almonella stanley in alfalfa seeds and sprouts, and defines new strategies using chlorine to kill . stanley during germination and sprout growth. The contamination of sprouts with seedborne pathogens is an important food safety issue.

Development of Washing Procedures to Reduce the Microbial Numbers on Fresh Produce, North Dakota State University Agricultural Experiment Station, $47,543. The objective of this proposal is to develop simple washing procedures using household ingredients such as vinegar, baking soda, and bleach, usable by consumers to reduce microbial contamination on fresh produce, with an emphasis on E. coli.

Inactivation of Microorganisms in Fruits and Vegetables by Ozone and Chlorine Dioxide Gas, Purdue Research Foundation, $208,873. The objective of this project is to improve the safety of minimally processed and refrigerated fruits and vegetables by combining modified atmosphere packaging with the gaseous disinfectants ozone and chlorine dioxide. The sensory quality of the treated produce will be examined to ensure that it will still be acceptable to consumers.

Reducing Edible Sprout Microbial Contamination Using Foam Seed Mat Technology, Ag Innovations LLC, State College, PA; $112,085. This project will investigate growing edible sprouts in hydrophilic ("water-loving") foam as a method of reducing or eliminating seedborne bacterial pathogens. The researchers believe that the foam can soak up free water that may support the growth of pathogens. In addition, they will attempt to increase the usefulness of the foam by impregnating it with antimicrobial compounds.

Detection of Food Borne Pathogens on Fruits and Vegetables by PCR, University of Delaware, $75,997. This project will assess the usefulness of a commercially available PCR test kit for almonella, E. coli O157:H7 and Listeria monocytogenes in detecting these pathogens on fresh and minimally processed fruits and vegetables. The

investigator plans to develop guidelines or modifications to allow this kit to be used for rapid identification of these pathogens.

New Approaches for Removal of Food Borne Pathogens from Surfaces of Raw, Fresh Produce, University of Arkansas, $153,309. This project will study the effectiveness for different audiences of treatments to remove food borne pathogens from the surfaces of fruits and vegetables. For food service providers and consumers, they will investigate the use of GRAS (generally recognized as safe) household chemicals such as acidified table salt or cooking oil. Research on chelators or edible films in combination with bacteriocins, (antimicrobial proteins) will be directed towards the needs of food processors.

Alternative Processing Techniques for Fresh Juices, University of Tennessee Agricultural Experiment Station, $206,589. This proposal addresses methods to reduce or eliminate the pathogens E coli O157:H7, almonella and Cryptosporidium parvum in apple cider and orange, grape and cranberry juices, by treatments involving UV light and ozone, alone or in combination.

Capacitive Dielectric Heating as a Food Safety Intervention Method for Sprouted Seeds, Oregon State University Agricultural Experiment Station, $171,008. This project will study capacitive dielectric heating as a method to destroy pathogens on or in alfalfa and radish seeds used for sprouting. Capacitive dielectric heating is a technique in which an electric current passed through a mixture of materials with different physical properties, in this case seeds embedded in a gel, can be used to selectively heat the seeds. Much of the proposal is concerned with developing the appropriate treatment conditions to generate sufficient heat to kill pathogens in or on the seeds without affecting seed viability or melting the edible gel in which the seed will be embedded. This research addresses a serious food safety problem, contamination of sprouts with seedborne pathogens, for which there is currently no satisfactory intervention.

Mechanical and Antimicrobial Treatments to Remove Pathogens from Produce, University of Florida, $184,195. This project's objectives are to define how pathogenic bacteria and viruses attach to surfaces of produce, determine the pathogens' survival rates on produce surfaces, and assess the usefulness of selected mechanical and antimicrobial treatments that are practical for industry and consumers to decontaminate ready-to-eat produce. The organisms to be studied are almonella, E. coli O157:H7, and rotavirus SA–11. It is particularly valuable that the researchers have chosen to include a rotavirus in their study, as these viruses are among the major causes of acute gastroenteritis worldwide, yet their ecology is not well understood.

Development of Pathogen Reduction Treatments for Fresh Produce, Auburn University, $251,573. This project will investigate the use of antimicrobial compounds applied in cooling, washing or transportation water, low-dose ionizing radiation, or combinations of the two, to reduce or eliminate microbial pathogens from the surface of fresh fruits and vegetables. Both the antimicrobial compounds and low-dose ionizing radiation have been shown in principle to have antimicrobial activity in foods. The study will analyze the usefulness of these compounds against specific pathogens E. coli O157:H7, Listeria monocytogenes, Salmonella and Giardia lamblia, on fresh fruits and vegetables to develop treatment recommendations, and will assess the effects of the treatments on the quality of the produce.

Liposome Biosensing Devices for Rapid Screening of Food Toxins and Pathogens, Cornell University, $184,449. This project will modify liposome biosensor technology for rapid detection of E. coli in foods. This technology employs encapsulated antibodies or DNA probes in single use "dipstick" devices that can be used in the field.

SPECIAL SITE SPECIFIC FOOD SAFETY RESEARCH GRANTS FISCAL YEAR 1998

Alliance for Food Protection, Nebraska, Georgia, $300,000. This is a collaborative alliance between the University of Georgia Center for Food Safety and Quality Enhancement and the University of Nebraska Department of Food Science and Technology. fiscal year 1998 funds supported research at the University of Nebraska on the detection, identification and characterization of food allergens, the effects of processing on peanut allergens, and investigation of the efficacy of using various types of thermal processes to reduce or destroy the toxicity and mutagenicity of certain Fusarium metabolites in corn and corn products. Research at the University of Georgia was directed toward determining the foodborne significance of Helicobacter pylori, determining the effect of antimicrobials to eliminate Arcobacter from pork, determining the survival of E. coli O157:H7 at reduced water activity, and using extrusion cooking to destroy peanut allergens. The University of Nebraska developed assays for detection of peanut, milk, egg, and almond residues in processed foods; produced high-quality antibodies for these assays; identified a soy-

bean allergen and two sunflower seed allergens; discovered clues as to the reason why Brazil nuts cause severe allergic reactions; discovered that certain types of Fusarium fungi do not produce mutagenic substances; developed a simple liquid chromatographic procedure for determination of moniliformin toxin; found that the corn flake manufacturing process can reduce levels of fungal toxins such as aflatoxin and fumonisins; and also found that low levels of carcinogenic aflatoxins in corn grits might be reduced to less than regulatory actions levels by the corn flake manufacturing process. The University of Georgia has developed methods to culture Helicobacter pylori, and detect the pathogen in foods, the effect of antibiotics on the fate of E. coli O157:H7 in reduced water activity conditions, and found that extrusion cooking can greatly reduce allergens in peanuts.

Center for Innovative Food Technology, Ohio, $281,000. Funds from the fiscal year 1998 grants supported research projects on using neural network/fuzzy logic tools to develop a model of a growing and processing cycle for canning tomatoes, using electrostatic coating for snack foods and baked goods, combining several non-thermal processing techniques to sterilize low acid liquid foods, using Near Infrared reflectance systems to measure protein and ash content in wheat flour, using membrane separation systems to produce extended shelf life milk products, and developing a protocol for testing the microbial load of ingredients in meat processing facilities.

The original goal of the research was to develop innovative processing techniques to increase food safety and quality or reduce processing costs. The neural network project has developed a model for predicting the harvesting time that will optimize product quality and economic return to the grower, processor, and consumer. The coating project has demonstrated the shelf life, sanitation, and product cost advantages available through the use of this technology. The filtration project will allow fluid milk processors to lower their costs and increase water quality by removing high Biological Oxygen Demand materials from municipal treatment systems. The sterilization project will lower processing costs by increasing the shelf life of liquid products. The extended shelf life project has resulted in the marketing of single serving, long shelf life milk products, and the Near Infrared project will allow flour millers to develop improved process control systems.

Food Irradiation, Iowa, $200,000. Since the Linear Accelerator Facility was placed in operation in March 1993, studies on the effect of irradiation on shelf-life extension, safety and quality of ground beef, beef steaks, ham, pork chops from loins, chicken breasts, and turkey have been conducted. Studies combing irradiation with high hydrostatic pressure and cooking, using whole chicken breasts, turkey and ham, have been conducted to determine the combination of these treatments that will yield a shelf-stable product while maintaining high eating quality. Several studies were conducted to determine whether consumers can detect a difference between irradiated and non-irradiated ground beef patties. Experiments were also conducted to investigate consumer acceptance of pork products irradiated to prevent trichinosis. Test markets of irradiated chicken breasts were conducted to determine consumers' willingness to pay for irradiated products. Research on the effect of packaging materials on quality of irradiated meat is in progress.

With the recent FDA clearance of irradiation of red meat, research needs leading to commercialization of this technology have been enhanced. Additionally, researchers from eight other research institutes have used the irradiation facility for research projects. The effectiveness of irradiation, using an electron beam accelerator, in destroying known pathogenic bacteria in pork and beef has been determined. Mathematical models have been developed to predict the growth of bacteria in low-dose irradiated ground pork. Demonstration of irradiation technology has been presented to some commercial firms, and plans are being developed for some large scale test markets.

Food Processing Center, Nebraska, $42,000. The University of Nebraska Food Processing Center has been conducting short-term, highly applied research projects to assist small and mid-sized food processing companies and entrepreneurs to develop or improve processes and products and to develop new food processing enterprises. Projects were selected based on the estimated economic impact of the technical assistance or the criticality of the technical assistance to the future of the firm or venture. Priorities were placed on projects relating to the safety of the food product or process and to the fulfillment of regulatory mandates such as nutrition labeling, use of approved and effective ingredients, and adherence to regulations imposed by foreign governments. In addition, several research projects were conducted to improve or assess the quality, extend the shelf-life, or assess or improve the processing efficiency of specialty food products which impacted several processors or used alternative agricultural products.

The goal of the research, as stated previously, is to assist small and mid-sized food processing companies and entrepreneurs to develop or improve processes and products and to develop new food processing enterprises. Technological evaluations were conducted for 120 individuals or companies interested in developing new food processing businesses. These evaluations included formulations, processes, processing equipment, packaging, shelf-life, sensory, nutritional attributes, microbiological quality, regulatory considerations, and other factors. Additionally, microbiological analysis, shelf-life assessments, sanitation audits, and nutritional analyses were conducted for numerous Nebraska food companies.

Food Quality, Alaska. This is a new grant in fiscal year 1999 ($350,000). Research will be aimed at establishing the Salmon Quality Implementation Project. The project has two parts. The first part is the evaluation, design, and implementation of a voluntary quality seal that can be attached to salmon that meet the existing standards for premium and number one grade. The second part is a series of workshops and training sessions on salmon quality handling and maintenance for workers at all levels of the industry from harvesting to retail.

The original goal of this research was to ensure a consistent and predictable level of handling and quality for Alaska seafood. In doing so, the project will help Alaska seafood processors strengthen or maintain their place in domestic and international markets. Because this is a new grant, no progress has yet been reported.

Institute for Food Science and Engineering, Arkansas, $950,000. As the flagship center for the Institute of Food Science and Engineering, the Center for Food Processing and Engineering has as its objectives to facilitate and encourage value-added research and improve the processing of agricultural products. The Center requires researchers to obtain matching funds from industry to support their research. Research projects have been funded by 39 different companies from 17 states and 4 countries. The next request for proposals to the Institute will be issued in February 1999. The Center for Food Safety and Quality, with a mission to conduct research on the safety and quality of foods relative to microbiological and chemical hazards, was activated on January 1, 1997. Center researchers are presently receiving funding through the Food Safety Consortium. The Institute has also received funding from the United Nations Food and Agriculture Organization to establish a Center of Excellence for Food Quality and Safety.

The original goal of this research is to establish an Institute of Food Science and Engineering at the University of Arkansas-Fayetteville. The Institute for Food Science and Engineering and the Center for Food Processing and Engineering are operating. Research projects at the Center include: postharvest management practices for rice, such as studies of physicochernical properties, bacterial load of rice products, and milling systems, and development of methods to improve the texture and dill flavor of pickles, and the color of acidified pickled vegetables, with estimated impact to the pickle industry of one half million dollars annually. Researchers have developed 12 mechanized systems for total vineyard mechanization which maintain or improve juice and wine quality. Research on physicochernical properties of potatoes and bitterness in carrots and have had estimated economic impacts of several million dollars. Research on elecrochemical flow-through systems for chicken processing water and near infrared/mid-infrared imaging for large scale fruit processing have important applications in industry. Institute staff, including the Descriptive Sensory Panel, have assisted both national food processing companies and small commercial kitchens in process development, with an impact of up to 2 million annually on the Arkansas vegetable processing industry. The Institute's Center of Excellence presents workshops in the United States as well as planning train the trainer courses in Mexico and Central America to improve the safety of imported fresh fruit and vegetables. To date, 70 publications, two IMPACT reports and a quarterly newsletter have served to keep the industry and fellow scientists informed of research and technology transfer activities.

Midwest Advanced Food Manufacturing Alliance, Nebraska, $423,000. The purpose of the Midwest Advanced Food Manufacturing Alliance is to expedite the development of new manufacturing and processing technologies for food and related products derived from United States produced crops and livestock. The Alliance involves research scientists in food science and technology, food engineering, nutrition, microbiology, computer science, and other relevant areas from 12 leading Midwestern universities and private sector researchers from numerous U.S. food processing companies. Specific research projects are awarded on a competitive basis to university scientists with matching funds from non-federal sources for research involving the processing, packaging, storage, and transportation of food products. Projects selected for funding are merit reviewed by non-participating university scientists, industry scientists and scientists from professional organizations. Close cooperation between corporate and university researchers assure that the latest scientific advances are

applied to the most relevant problems and that solutions are efficiently transferred and used by the private sector.

Eleven projects were funded from fiscal year 1997 funds with anticipated completion and final reports due by May 31, 1999. Nine projects were funded from fiscal year 1998 funds with anticipated completion and final reports due by May 31, 2000.

Milk Safety, Pennsylvania, $268,000. The overall goal of the milk safety program is to provide insight into factors that help ensure an adequate and safe milk supply. Toward that end, the research has focused on factors that affect milk production, processing, manufacturing, and consumption. Special attention has been given to ways of preventing and/or treating pathogens that enter the milk supply. Projects are selected for funding each year based on competitive, peer reviews by scientists outside the recipient institution. The research is aimed at minimizing or eliminating future foodborne disease outbreaks from milk and dairy products. Researchers demonstrated that when subjected to a sublethal heat shock prior to pasteurization, Luterta monocytogenes becomes much more heat-resistant than previously thought, likely requiring the design of new pasteurization guidelines to ensure the safety of dairy products. They also developed a simple, fast, sensitive, specific and inexpensive method for the detection of Listeria monocytogenes in dairy products that will allow dairy processors to rapidly and easily screen for the presence of this pathogen in their products and in the processing environment. A computer model of Listeria monocytogenes growth in dairy foods under dynamic refrigeration conditions and during extended storage is under development to provide producers and processors a technology for further enhancing the safety of fluid milk and related products. Researchers have identified potential approaches for enhancing natural defense mechanisms of tile bovine mammary gland through vaccination and immunoregulation. Discoveries of factors influencing growth of taphylococcus aureus could be used to prevent or contain growth of this pathogen in foods. Researchers have identified and sequenced a gene from this bacterium that is essential for growth under stressful conditions. Consumer research has identified characteristics of consumers most likely to have a high general concern about milk and dairy product safety and nutrition.

Preservation and Processing Research, Oklahoma, $226,000. Research has focused on the effects of preharvest and postharvest factors on the market quality of fresh and minimally processed horticultural products, including marigolds, pecans, watermelons, and peaches. Researchers are developing harvester prototypes for marigold flowers and drying and threshing systems for marigold petal drying and separation. A fruit orienting mechanism is being developed for incorporation into an on-line grading system. An integrated harvesting and postharvest handling system is being developed for fresh market and processing market horticultural products. Research continues on methods to determine textural properties of pecans, determine optimum operating parameters for super critical carbon dioxide and other alternative partial oil extraction, and develop and optimize modified atmosphere packaging techniques for pecan shelf life extension.

A systems approach to develop complementary cropping, harvesting, handling and processing operations has resulted in development of improved handling systems for cucurbit and tree fruit crops. Nondestructive processing systems for partial oil reduction of tree nuts have been developed to extend shelf life and lower the calorie content for the raw or processed product. Funding has been secured for construction of a commercial nut extraction facility in Oklahoma, pending successful pilot testing which is underway. Technologies and procedures previously developed for cucurbit and tree fruit systems are being applied to development of okra, pepper, sage, basil, tree nut sweet corn, and marigold cropping, handling, and light processing systems, with a targeted completion date of year 2001. Research from this project provided the basis for commercial high relative humidity storage of peaches and to attract companies to the state to construct new value added food processing facilities.

Seafood Harvesting, Processing, and Marketing, Mississippi, $305,000. Research related to seafood safety, quality and by-product utilization is being performed. For fiscal year 1999, fruits will support research on 1) microbial population changes during retail display of shrimp, 2) development of an impedance-based method to rapidly detect microorganisms on shrimp, 3) determine physical, chemical, microbiological, and sensory differences between pond and tank aquaculture tilapia, and 4) evaluate processes for utilization of uncooked shrimp processing by-products for production of flavor extracts.

The original goals of the research were to improve the quality and safety of catfish and improve the utilization of catfish byproducts and underutilized marine species. Due to successes of the original project, subsequent efforts are focusing on additional uses of seafood and aquaculture foods by improving processing strategies and providing alternative products from waste materials. The project has expanded to include crab, shrimp, oysters, freshwater prawns, hybrid striped bass, tilapia, and

crawfish. FDA has passed rulings affecting the potential viability of Mississippi seafood and aquaculture harvesters and processors. Emphasis is being placed on addressing possible adverse consequences resulting from these changes.

Alternative Salmon Products, Alaska, $400,000. Research was aimed at developing a commercial pin-bone removal machine to reduce production costs of salmon fillets and open markets for salmon fillet shatter packs. The research goal is the development of market-desired salmon products using wild-caught salmon. In 1998, researchers addressed the problem of deboning wild-caught fish so that they can be marketed frozen rather than canned, and compete effectively with pen-reared salmon. Researchers designed, built and tested three prototype pinbone removal machines making sequential improvements in design.

Question. FDA recently provided the Committee a table showing the funding and staffing levels for Food Safety Initiative activities, by Center and field-related activities, funded from the increased funding provided to FDA for food safety in each of fiscal years 1998 and 1999 and proposed for fiscal year 1999. Please provide a copy of this table for the record.

FDA answer. We are happy to provide a copy of this table for the record.

[The information follows:]

FOOD AND DRUG ADMINISTRATION
FOOD SAFETY INITIATIVE ACTIVITIES
(Dollars in millions)

3/12/99

Activity		FY 1998 Enacted		FY 1999 Enacted		Reprogram Changes		FY 1999 Proposed Budget		FY 2000 Requested Increment		FY 2000 Total Budget Request	
		$	FTE	$	FTE	$	FTE	$	FTE	$	FTE	$	FTE
SURVEILLANCE		***$ 3.1***	***8.0***	***$ 3.1***	***8.0***	***$ 0.8***	***2.0***	***$ 3.9***	***10.0***	***$ 6.4***	***40.0***	***$ 10.3***	***50.0***
Foods / Center for Food Safety & Applied Nutirtion		$ 1.6	3.0	$ 1.6	3.0	$ -	-	$ 1.6	3.0	$ 1.8	2.0	$ 3.4	5.0
Foods / Field		$ -	-	$ -	-	$ 0.1	-	$ 0.1	-	$ 3.2	32.0	$ 3.3	32.0
Animal Drugs & Feeds / Center for Veterinary Medicine		$ 1.5	5.0	$ 1.5	5.0	$ 0.7	2.0	$ 2.2	7.0	$ 1.4	6.0	$ 3.6	13.0
Animal Drugs & Feeds / Field		$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-
National Center for Toxicological Research		$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-
Foodnet and PulseNet Support	CFSAN	$ 0.7	-	$ 0.6	-	$ -	-	$ 0.8	-	$ -	-	$ 0.6	-
Retail Food Safety HACCP & Food Code	CFSAN	$ 0.2	2.0	$ 0.3	2.0	$ (0.1)	-	$ 0.2	2.0	$ -	-	$ 0.2	2.0
Integrated Food Safety System	CFSAN	$ 0.1	1.0	$ 0.1	1.0	$ 0.1	-	$ 0.2	1.0	$ 0.8	-	$ 1.0	1.0
Traceback Investigations & Seafood Surveillance	CFSAN	$ 0.2	-	$ 0.2	-	$ (0.1)	-	$ 0.1	-	$ 1.0	2.0	$ 1.1	2.0
Coordination and Day-to-Day Operations	CFSAN	$ 0.4	-	$ 0.4	-	$ 0.1	-	$ 0.5	-	$ -	-	$ 0.5	-
Equipment to link field labs into PulseNet (Field)	CFSAN/Field	$ -	-	$ -	-	$ 0.1	-	$ 0.1	-	$ -	-	$ 0.1	-
Outbreak Response	CFSAN/Field	$ -	-	$ -	-	$ -	-	$ -	-	$ 3.2	32.0	$ 3.2	32.0
BSE Compliance	CVM	$ -	-	$ -	-	$ 0.25	1.0	$ 0.25	1.0	$ -	-	$ 0.25	1.0
National Antimicrobial Resistance Monitoring System	CVM	$ 1.5	5.0	$ 1.5	5.0	$ 0.45	1.0	$ 1.95	6.0	$ 0.85	2.0	$ 2.80	8.0
Enforce import tolerances of veterinary drugs	CVM	$ -	-	$ -	-	$ -	-	$ -	-	$ 0.1	1.0	$ 0.10	1.0
Enhance monitoring of drug & chemical contaminants in meat & poultry	CVM	$ -	-	$ -	-	$ -	-	$ -	-	$ 0.05	-	$ 0.05	-
Improve ability to identify diseases via feed	CVM	$ -	-	$ -	-	$ -	-	$ -	-	$ 0.15	1.0	$ 0.15	1.0
Gather data on drug marketing to use for food animal antimicrobials	CVM	$ -	-	$ -	-	$ -	-	$ -	-	$ 0.10	1.0	$ 0.10	1.0
Develop an enhanced milk safety program with states on pathogens & antimicrobial resistance	CVM	$ -	-	$ -	-	$ -	-	$ -	-	$ 0.15	1.0	$ 0.15	1.0

COORDINATION		***$ 0.5***	***3.0***	***$ 0.5***	***3.0***	***$ 0.2***	***2.0***	***$ 0.7***	***5.0***	***$ -***	***-***	***$ 0.7***	***5.0***
Foods / Center for Food Safety & Applied Nutirtion		$ 0.6	3.0	$ 0.6	3.0	$ 0.2	2.0	$ 0.7	5.0	$ -	-	$ 0.7	5.0
Foods / Field		$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-
Animal Drugs & Feeds / Center for Veterinary Medicine		$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-
Animal Drugs & Feeds / Field		$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-
National Center for Toxicological Research		$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-
Food Safety Council	CFSAN	$ -	-	$ 0.1	-	$ 0.1	1.0	$ 0.2	1.0	$ -	-	$ 0.2	1.0
FORCG	CFSAN	$ -	-	$ 0.1	1.0	$ -	-	$ 0.1	1.0	$ -	-	$ 0.1	-
Outbreak Coordination and Tracebacks	CFSAN	$ 0.2	2.0	$ 0.1	1.0	$ 0.1	1.0	$ 0.2	2.0	$ -	-	$ 0.2	3.0
Coordination and Day-to-Day Operations	CFSAN	$ 0.3	1.0	$ 0.2	1.0	$ -	-	$ 0.2	1.0	$ -	-	$ 0.2	1.0

NOTE: This five page report is designed to display, in detail, the FDA Food Safety Initiative plan from FY 1998 through FY 2000. The report is segregated into the five programmatic parts of the Food Safety initiative (Surveillance, Coordination, Inspections, Education, Research and Risk Assessment) and by program (Foods, Animal Drugs and Feeds, and the National Center for Toxicological Research). Summaries of each program are included at the top of each programmatic section and a grand total is found at the end of the report.

FOOD AND DRUG ADMINISTRATION
FOOD SAFETY INITIATIVE ACTIVITIES
(Dollars in millions)

3/12/99

Activity		FY 1998 Enacted		FY 1999 Enacted		Reprogram Changes		FY 1999 Proposed Budget		FY 2000 Requested Increment		FY 2000 Total Budget Request	
		$	FTE	$	FTE	$	FTE	$	FTE	$	FTE	$	FTE
INSPECTIONS		***$ 9.0***	***85.0***	***$ 33.5***	***####***	***$ (3.4)***	***-***	***$ 30.1***	***####***	***$ 16.9***	***90.0***	***$ 47.0***	***343.0***
Foods / Center for Food Safety & Applied Nutirtion		$ 1.0	5.0	$ 10.6	60.0	$ (1.8)	-	$ 8.8	60.0	$ 4.7	21.0	$ 13.5	81.0
Foods / Field		$ 8.0	80.0	$ 22.9	193.0	$ (1.6)	-	$ 21.3	193.0	$ 12.2	69.0	$ 33.5	262.0
Animal Drugs & Feeds / Center for Veterinary Medicine		$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-
Animal Drugs & Feeds / Field		$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-
National Center for Toxicological Research		$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-
GAP/GMP–Outreach, Guidance Development, Training, Technical Assistance	CFSAN	$ 1.0	5.0	$ 4.4	15.0	$ (1.1)	(1.0)	$ 3.3	14.0	$ 1.0	5.0	$ 4.3	19.0
International Coordination – General Codex, NAFTA, Food Hygiene Committee	CFSAN	$ -	-	$ 0.3	1.0	$ -	-	$ 0.3	1.0	$ -	-	$ 0.3	1.0
HACCP Training, Implementation, and Expansion	CFSAN	$ -	-	$ 2.5	20.0	$ (0.4)	-	$ 2.1	20.0	$ 0.5	1.0	$ 2.6	21.0
Foreign Inspections and Border Surveillance	CFSAN	$ -	-	$ 1.3	12.0	$ (0.1)	-	$ 1.2	12.0	$ 1.2	5.0	$ 2.4	17.0
Foreign Evaluations, Equivalence, and Dispute Resolution	CFSAN	$ -	-	$ 0.6	5.0	$ -	-	$ 0.6	5.0	$ -	-	$ 0.6	5.0
Integrated Food Safety System	CFSAN	$ -	-	$ 0.2	-	$ -	-	$ 0.2	-	$ -	-	$ 0.2	-
Outbreak Response (International and Domestic)	CFSAN	$ -	-	$ 0.3	3.0	$ -	-	$ 0.3	3.0	$ -	-	$ 0.3	3.0
Retail	CFSAN	$ -	-	$ 0.4	2.0	$ (0.1)	-	$ 0.3	2.0	$ -	-	$ 0.3	2.0
Regulations/Policy Development	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-	$ 2.0	10.0	$ 2.0	10.0
Administrative and Legislative Remedies	CFSAN	$ -	-	$ 0.4	-	$ (0.1)	1.0	$ 0.3	1.0	$ -	-	$ 0.3	1.0
Coordination and Day-to-Day Operations	CFSAN	$ -	-	$ 0.2	2.0	$ -	-	$ 0.2	2.0	$ -	-	$ 0.2	2.0
HACCP Seafood (Field)	CFSAN/Field	$ 8.0	80.0	$ 8.0	80.0	$ -	-	$ 8.0	80.0	$ -	-	$ 8.0	80.0
HACCP Juice Training (Field)	CFSAN/Field	$ -	-	$ 0.5	3.0	$ (0.2)	-	$ 0.3	3.0	$ 1.4	4.0	$ 1.7	7.0
State Contracts (Field)	CFSAN/Field	$ -	-	$ 2.4	-	$ (0.8)	-	$ 1.6	-	$ 3.0	-	$ 4.6	-
Retail - States (Field)	CFSAN/Field	$ -	-	$ 0.3	1.0	$ (0.2)	-	$ 0.1	1.0	$ -	-	$ 0.1	1.0
Emergency response (Field)	CFSAN/Field	$ -	-	$ 1.4	15.0	$ -	-	$ 1.4	15.0	$ -	-	$ 1.4	15.0
Technical Assistance (Field)	CFSAN/Field	$ -	-	$ 0.8	4.0	$ (0.4)	-	$ 0.4	4.0	$ -	-	$ 0.4	4.0
Inspections, Sample collections and analyses (Field)	CFSAN/Field	$ -	-	$ 2.6	28.0	$ -	-	$ 2.6	28.0	$ 3.8	35.0	$ 6.4	63.0
Foreign Evaluations/Assessments (Field)	CFSAN/Field	$ -	-	$ 0.6	6.0	$ -	-	$ 0.6	6.0	$ 3.2	22.0	$ 3.8	28.0
Border Surveillance (Field)	CFSAN/Field	$ -	-	$ 6.3	56.0	$ -	-	$ 6.3	56.0	$ 0.8	8.0	$ 7.1	64.0

FOOD AND DRUG ADMINISTRATION
FOOD SAFETY INITIATIVE ACTIVITIES
(Dollars in millions)

3/12/99

Activity		FY 1998 Enacted		FY 1999 Enacted		Reprogram Changes		FY 1999 Proposed Budget		FY 2000 Requested Increment		FY 2000 Total Budget Request	
		$	FTE	$	FTE	$	FTE	$	FTE	$	FTE	$	FTE
EDUCATION		***$ 1.8***	***6.0***	***$ 1.8***	***10.0***	***$ 0.5***	***-***	***$ 2.3***	***10.0***	***$ 1.5***	***8.0***	***$ 3.8***	***18.0***
Foods / Center for Food Safety & Applied Nutirtion		$ 1.8	6.0	$ 1.8	7.0	$ 0.1	-	$ 1.9	7.0	$ 0.6	1.0	$ 2.4	8.0
Foods / Field		$ -	-	$ -	3.0	$ 0.3	-	$ 0.3	3.0	$ 0.5	5.0	$ 0.8	8.0
Animal Drugs & Feeds / Center for Veterinary Medicine		$ -	-	$ -	-	$ 0.1	-	$ 0.1	-	$ 0.5	2.0	$ 0.6	2.0
Animal Drugs & Feeds / Field		$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-
National Center for Toxicological Research		$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-
Consumer Hotline Operations	CFSAN	$ 0.2	-	$ 0.2	-	$ (0.15)	-	$ 0.05	-	$ -	-	$ 0.05	-
Public Affairs Specialist Grant Program for Grassroots Effort	CFSAN	$ -	-	$ -	-	$ 0.05	-	$ 0.05	-	$ -	-	$ 0.05	-
Consumer Advisory & Customer Focus Group Research and Education	CFSAN	$ 0.5	2.0	$ 0.3	2.0	$ -	-	$ 0.3	2.0	$ -	-	$ 0.3	2.0
School-Based Food Safety Education	CFSAN	$ 0.3	-	$ 0.3	1.0	$ -	-	$ 0.3	1.0	$ -	-	$ 0.3	1.0
Food Safety Education Materials Distribution	CFSAN	$ 0.3	1.0	$ 0.2	-	$ -	-	$ 0.2	-	$ -	-	$ 0.2	-
Retail Food Safety Alliance & Education	CFSAN	$ 0.2	-	$ 0.2	-	$ (0.1)	-	$ 0.1	-	$ 0.5	1.0	$ 0.6	1.0
Special Need Education (Populations, Products, etc)	CFSAN	$ 0.1	1.0	$ 0.2	2.0	$ 0.2	-	$ 0.4	2.0	$ -	-	$ 0.4	2.0
In Home Preparation & Food Safety	CFSAN	$ -	-	$ 0.1	-	$ (0.05)	-	$ 0.05	-	$ -	-	$ 0.05	-
Fight BAC! Education Campaign Materials	CFSAN	$ -	-	$ 0.1	-	$ -	-	$ 0.1	-	$ -	-	$ 0.1	-
Food Safety Education Month	CFSAN	$ -	-	$ -	-	$ 0.05	-	$ 0.05	-	$ -	-	$ 0.05	-
Outreach/Exhibit Displays & Conference Support	CFSAN	$ -	-	$ -	-	$ 0.1	-	$ 0.1	-	$ -	-	$ 0.1	-
Coordination and Day-to-Day Operations	CFSAN	$ 0.2	2.0	$ 0.2	2.0	$ -	-	$ 0.2	2.0	$ -	-	$ 0.2	2.0
Coordination of education activities with CDC and USDA (Field)	CFSAN/Field	$ -	-	$ -	3.0	$ 0.3	-	$ 0.3	3.0	$ 0.5	5.0	$ 0.8	8.0
Implement "Prudent Use" principles in antimicrobial use for animals	CVM	$ -	-	$ -	-	$ 0.1	-	$ 0.1	-	$ 0.5	2.0	$ 0.6	2.0

FOOD AND DRUG ADMINISTRATION
FOOD SAFETY INITIATIVE ACTIVITIES
(Dollars in millions)

3/12/99

Activity		FY 1998 Enacted		FY 1999 Enacted		Reprogram Changes		FY 1999 Proposed Budget		FY 2000 Requested Increment		FY 2000 Total Budget Request	
		$	FTE	$	FTE	$	FTE	$	FTE	$	FTE	$	FTE
RESEARCH/RISK ASSESSMENT		*$ 9.6*	*13.0*	*$ 10.1*	*13.0*	*$ 1.9*	*15.0*	*$ 12.0*	*28.0*	*$ 5.2*	*18.0*	*$ 17.2*	*46.0*
Foods / Center for Food Safety & Applied Nutirtion		$ 7.1	2.0	$ 7.1	2.0	$ 0.9	7.0	$ 8.0	9.0	$ 2.0	3.0	$ 10.0	12.0
Foods / Field		$ -	-	$ -	-	$ 0.5	5.0	$ 0.5	5.0	$ 1.0	8.0	$ 1.5	13.0
Animal Drugs & Feeds / Center for Veterinary Medicine		$ 2.5	11.0	$ 2.5	11.0	$ 0.5	3.0	$ 3.0	14.0	$ 1.7	5.0	$ 4.7	19.0
Animal Drugs & Feeds / Field		$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-
National Center for Toxicological Research		$ -	-	$ 0.5	-	$ -	-	$ 0.5	-	$ 0.5	2.0	$ 1.0	2.0
Contracts: HACCP, Dose Response, Quantification of Pathogens, Prevention	CFSAN	$ 4.9	-	$ 2.9	-	$ -	-	$ 2.9	-	$ -	-	$ 2.9	-
HACCP Implementation	CFSAN	$ -	-	$ -	-	$ 0.1	-	$ 0.1	-	$ -	-	$ 0.1	-
Postdoctoral Fellowship Program & Competitive Grants	CFSAN	$ -	-	$ 0.1	-	$ -	-	$ 0.1	-	$ -	-	$ 0.1	-
Risk Assessments (Clearinghouse & Risk Assessment Consortium)	CFSAN	$ 0.2	-	$ 1.1	-	$ (0.6)	-	$ 0.5	-	$ 0.6	1.0	$ 1.1	1.0
Intramural Risk Assessment and Research Projects	CFSAN	$ 0.8	2.0	$ 0.8	2.0	$ 1.5	7.0	$ 2.3	9.0	$ 1.0	2.0	$ 3.3	11.0
Equipment	CFSAN	$ 1.0	-	$ 2.0	-	$ -	-	$ 2.0	-	$ 0.4	-	$ 2.4	-
Coordination and Day-to-Day Operations	CFSAN	$ 0.2	-	$ 0.2	-	$ (0.1)	-	$ 0.1	-	$ -	-	$ 0.1	-
Laboratory Methods (Field)	CFSAN/Field	$ -	-	$ -	-	$ 0.5	5.0	$ 0.5	5.0	$ 1.0	8.0	$ 1.5	13.0
Import tolerances - edible animal products	CVM	$ -	-	$ -	-	$ 0.2	1.0	$ 0.2	1.0	$ -	-	$ 0.2	1.0
Risk assessment of animal drug impact on pathogen load & resistance development	CVM	$ -	-	$ -	-	$ 0.3	2.0	$ 0.3	2.0	$ -	-	$ 0.3	2.0
Develop & validate models for microbiological hazards	CVM	$ -	-	$ -	-	$ -	-	$ -	-	$ 0.5	2.0	$ 0.5	2.0
Detection procedures - meat, milk, eggs, animal feed, feces and the environemnt	CVM	$ 0.5	2.0	$ 0.4	2.0	$ -	-	$ 0.4	2.0	$ 0.4	1.0	$ 0.8	3.0
Pathogen reduction research in animal feeds	CVM	$ 0.3	2.5	$ 0.3	2.5	$ -	-	$ 0.3	2.5	$ -	-	$ 0.3	2.5
Pathogen reduction research on food producing animals	CVM	$ 0.6	2.0	$ 0.8	2.0	$ -	-	$ 0.8	2.0	$ -	-	$ 0.8	2.0
Determine impact of animal feed pathogens of food supply	CVM	$ 0.2	0.5	$ 0.3	0.5	$ -	-	$ 0.3	0.5	$ -	-	$ 0.3	0.5
Evaluate effects of multiple drugs / routes of administration on resistance and pathogen loads	CVM	$ 0.9	4.0	$ 0.7	4.0	$ -	-	$ 0.7	4.0	$ 0.3	-	$ 1.0	4.0
Characterization of bacterial multiple antimicrobial resistance mechanisms in animals & the environment	CVM	$ -	-	$ -	-	$ -	-	$ -	-	$ 0.5	2.0	$ 0.5	2.0
Fluoroquinolone resistance	NCTR	$ -	-	$ 0.2	-	$ -	-	$ 0.2	-	$ 0.3	1.0	$ 0.5	1.0
Competitive exclusion	NCTR	$ -	-	$ 0.2	-	$ -	-	$ 0.2	-	$ 0.1	-	$ 0.3	-
Dose response modeling	NCTR	$ -	-	$ 0.1	-	$ -	-	$ 0.1	-	$ 0.1	1.0	$ 0.2	1.0
TOTAL FSI		*$ 24.0*	*#####*	*$49.0*	*####*	*$ -*	*19.0*	*$ 49.0*	*####*	*$30.0*	*156.0*	*$ 79.0*	*462.0*

3/12/99

FOOD AND DRUG ADMINISTRATION
FOOD SAFETY INITIATIVE ACTIVITIES
(Dollars in millions)

Activity	FY 1998 Enacted $	FY 1998 Enacted FTE	FY 1999 Enacted $	FY 1999 Enacted FTE	Reprogram Changes $	Reprogram Changes FTE	FY 1999 Proposed Budget $	FY 1999 Proposed Budget FTE	FY 2000 Requested Increment $	FY 2000 Requested Increment FTE	FY 2000 Total Budget Request $	FY 2000 Total Budget Request FTE
Subtotal by Center												
CFSAN	$ 12.0	19.0	$ 21.6	75.0	$ (0.6)	9.0	$ 21.0	84.0	$ 9.0	27.0	$ 30.0	111.0
CVM	$ 4.0	16.0	$ 4.0	16.0	$ 1.3	5.0	$ 5.3	21.0	$ 3.6	13.0	$ 8.9	34.0
ORA	$ 8.0	80.0	$ 22.9	196.0	$ (0.7)	5.0	$ 22.2	201.0	$ 16.9	114.0	$ 39.1	315.0
NCTR	$ -	0.0	$ 0.5	0.0	$ -	0.0	$ 0.5	0.0	$ 0.5	2.0	$ 1.0	2.0
TOTAL	$ 24.0	115.0	$ 49.0	287.0	$ (0.0)	19.0	$ 49.0	306.0	$ 30.0	156.0	$ 79.0	462.0
Subtotal by Program												
Foods	$ 20.0	99.0	$ 44.5	271.0	$ (1.3)	14.0	$ 43.2	285.0	$ 25.9	141.0	$ 69.1	426.0
Animal Drugs & Feeds	$ 4.0	16.0	$ 4.0	16.0	$ 1.3	5.0	$ 5.3	21.0	$ 3.6	13.0	$ 8.9	34.0
NCTR	$ -	0.0	$ 0.5	0.0	$ -	0.0	$ 0.5	0.0	$ 0.5	2.0	$ 1.0	2.0
TOTAL	$ 24.0	115.0	$ 49.0	287.0	$ (0.0)	19.0	$ 49.0	306.0	$ 30.0	156.0	$ 79.0	462.0

Question. The FDA Food Safety Initiative funding includes $109,335,000 million in funding for food safety activities funded for fiscal year 1997 and carried over as the Food Safety Initiative base for each of fiscal years 1998, 1999, and 2000. This base includes $100,476,000 for Foods", $100,000 for Animal Drugs, and $8,759,000 for Other Activities. For each of fiscal years 1998, 1999, and proposed for fiscal year 2000, please indicate the food safety activities being supported (both FTE and funding level) from the base amounts listed above for the Food Safety Initiative.

Answer. The food safety activities being supported from the base amounts for the Food Safety Initiative are listed in the following table.

[The information follows:]

FOOD AND DRUG ADMINISTRATION
FOOD SAFETY INITIATIVE BASE ACTIVITIES
(Dollars in millions)

Date: 3/26/99

Activity		FY 1997 Base $	FY 1997 Base FTE	FY 1997 base as applied in FY1998 $	FY 1997 base as applied in FY1998 FTE	FY 1997 Base as applied in FY 1999 $	FY 1997 Base as applied in FY 1999 FTE	FY 1997 Base as Applied in FY 2000 $	FY 1997 Base as Applied in FY 2000 FTE
SURVEILLANCE		*$ 0.7*	*1*	*$ 0.7*	*1*	*$ 0.7*	*1*	*$ 0.7*	*1*
Foods / Center for Food Safety & Applied Nutrition		$ 0.6	-	$ 0.6	-	$ 0.6	-	$ 0.6	-
Foods / Field		$ -	-	$ -	-	$ -	-	$ -	-
Animal Drugs & Feeds / Center for Veterinary Medicine		$ 0.1	1	$ 0.1	1	$ 0.1	1	$ 0.1	1
Animal Drugs & Feeds / Field		$ -	-	$ -	-	$ -	-	$ -	-
National Center for Toxicological Research		$ -	-	$ -	-	$ -	-	$ -	-
Other Activities		$ -	-	$ -	-	$ -	-	$ -	-
Foodnet and PulseNet Support	CFSAN	$ 0.6	-	$ 0.6	-	$ 0.6	-	$ 0.6	-
Retail Food Safety HACCP & Food Code	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
Integrated Food Safety System	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
Traceback Investigations & Seafood Surveillance	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
Coordination and Day-to-Day Operations	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
Equipment to link field labs into PulseNet (Field)	CFSAN/Field	$ -	-	$ -	-	$ -	-	$ -	-
Outbreak Response	CFSAN/Field	$ -	-	$ -	-	$ -	-	$ -	-
BSE Compliance	CVM	$ -	-	$ -	-	$ -	-	$ -	-
National Antimicrobial Resistance Monitoring System	CVM	$ 0.1	1	$ 0.1	1	$ 0.1	1	$ 0.1	1
Enforce import tolerances of veterinary drugs	CVM	$ -	-	$ -	-	$ -	-	$ -	-
Enhance monitoring of drug & chemical contaminants in meat & poultry	CVM	$ -	-	$ -	-	$ -	-	$ -	-
Improve ability to identify diseases via feed	CVM	$ -	-	$ -	-	$ -	-	$ -	-
Gather data on drug marketing to use for food animal antimicrobials	CVM	$ -	-	$ -	-	$ -	-	$ -	-
Develop an enhanced milk safety program with states on pathogens & antimicrobial resistance	CVM	$ -	-	$ -	-	$ -	-	$ -	-
Coordination and Day-to-Day Operations	Other Activities	$ -	-	$ -	-	$ -	-	$ -	-
COORDINATION		*$ 7.2*	*78*	*$ 7.2*	*76*	*$ 7.2*	*73*	*$ 7.2*	*71*
Foods / Center for Food Safety & Applied Nutrition		$ 3.6	34	$ 3.6	34	$ 3.6	34	$ 3.6	34
Foods / Field		$ 3.0	38	$ 3.0	36	$ 3.0	34	$ 3.0	32
Animal Drugs & Feeds / Center for Veterinary Medicine		$ -	-	$ -	-	$ -	-	$ -	-
Animal Drugs & Feeds / Field		$ -	-	$ -	-	$ -	-	$ -	-
National Center for Toxicological Research		$ -	-	$ -	-	$ -	-	$ -	-
Other Activities		$ 0.6	6	$ 0.6	6	$ 0.6	5	$ 0.6	5
Food Safety Council	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
FORCG	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
Outbreak Coordination and Tracebacks	CFSAN	$ 2.5	24	$ 2.5	24	$ 2.5	24	$ 2.5	24
Coordination and Day-to-Day Operations	CFSAN	$ 1.1	10	$ 1.1	10	$ 1.1	10	$ 1.1	10
Technical Assistance & Coordination	CFSAN/Field	$ 3.0	38	$ 3.0	36	$ 3.0	34	$ 3.0	32
Coordination and Day-to-Day Operations	Other Activities	$ 0.6	6	$ 0.6	6	$ 0.6	5	$ 0.6	5

FOOD AND DRUG ADMINISTRATION
FOOD SAFETY INITIATIVE BASE ACTIVITIES
(Dollars in millions)

Date: 3/26/99

Activity		FY 1997 Base $	FY 1997 Base FTE	FY 1997 base as applied in FY1998 $	FY 1997 base as applied in FY1998 FTE	FY 1997 Base as applied in FY 1999 $	FY 1997 Base as applied in FY 1999 FTE	FY 1997 Base as Applied in FY 2000 $	FY 1997 Base as Applied in FY 2000 FTE
INSPECTIONS		***$ 73.2***	***896***	***$ 73.2***	***867***	***$ 73.2***	***818***	***$ 73.2***	***783***
Foods / Center for Food Safety & Applied Nutrition		$ 9.9	99	$ 9.9	99	$ 9.9	99	$ 9.9	99
Foods / Field		$ 57.5	738	$ 57.5	712	$ 57.5	666	$ 57.5	633
Animal Drugs & Feeds / Center for Veterinary Medicine		$ -	-	$ -	-	$ -	-	$ -	-
Animal Drugs & Feeds / Field		$ -	-	$ -	-	$ -	-	$ -	-
National Center for Toxicological Research		$ -	-	$ -	-	$ -	-	$ -	-
Other Activities		$ 5.8	59	$ 5.8	56	$ 5.8	53	$ 5.8	51
GAP/GMP--Outreach, Guidance Development, Training, Technical Assistance	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
International Coordination -- General Codex, NAFTA, Food Hygiene Committee	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
HACCP Training, Implementation, and Expansion	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
Foreign Inspections and Border Surveillance	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
Foreign Evaluations, Equivalence, and Dispute Resolution	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
Integrated Food Safety System	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
Outbreak Response (International and Domestic)	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
Retail/Milk/Shellfish (Cooperative Programs/Standard Setting)	CFSAN	$ 4.1	41	$ 4.1	41	$ 4.1	41	$ 4.1	41
Regulations/Policy Development	CFSAN	$ 4.5	45	$ 4.5	45	$ 4.5	45	$ 4.5	45
Administrative and Legislative Remedies	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
Seafood HACCP Training	CFSAN	$ 1.3	13	$ 1.3	13	$ 1.3	13	$ 1.3	13
Coordination and Day-to-Day Operations	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
HACCP Seafood (Field)	CFSAN/Field	$ -	-	$ -	-	$ -	-	$ -	-
Seafood non-HACCP (Field)	CFSAN/Field	$ 26.4	339	$ 26.4	332	$ 26.4	306	$ 26.4	291
HACCP Juice Training (Field)	CFSAN/Field	$ -	-	$ -	-	$ -	-	$ -	-
State Contracts (Field)	CFSAN/Field	$ -	-	$ -	-	$ -	-	$ -	-
Retail - States (Field)	CFSAN/Field	$ 6.9	89	$ 6.9	85	$ 6.9	80	$ 6.9	76
Emergency response (Domestic & Import) (Field)	CFSAN/Field	$ 7.8	100	$ 7.8	95	$ 7.8	90	$ 7.8	86
Technical Assistance Foreign (Field)	CFSAN/Field	$ -	-	$ -	-	$ -	-	$ -	-
Domestic Inspections, Sample collections and analyses (Field)	CFSAN/Field	$ 9.8	126	$ 9.8	120	$ 9.8	114	$ 9.8	108
Foreign Inspections (field)	CFSAN/Field	$ 0.3	3	$ 0.3	3	$ 0.3	3	$ 0.3	3
Foreign Evaluations/Assessments (Field)	CFSAN/Field	$ -	-	$ -	-	$ -	-	$ -	-
Border Surveillance (includes samples & analysis) (Field)	CFSAN/Field	$ 6.3	81	$ 6.3	77	$ 6.3	73	$ 6.3	69
Coordination and Day-to-Day Operations	Other Activities	$ 5.8	59	$ 5.8	56	$ 5.8	53	$ 5.8	51

FOOD AND DRUG ADMINISTRATION
FOOD SAFETY INITIATIVE BASE ACTIVITIES
(Dollars in millions)

Date: 3/26/99

Activity		FY 1997 Base $	FY 1997 Base FTE	FY 1997 base as applied in FY1998 $	FY 1997 base as applied in FY1998 FTE	FY 1997 Base as applied in FY 1999 $	FY 1997 Base as applied in FY 1999 FTE	FY 1997 Base as Applied in FY 2000 $	FY 1997 Base as Applied in FY 2000 FTE
EDUCATION		***$ 4.8***	***53***	***$ 4.8***	***52***	***$ 4.8***	***51***	***$ 4.8***	***49***
Foods / Center for Food Safety & Applied Nutrition		$ 2.4	23	$ 2.4	23	$ 2.4	23	$ 2.4	23
Foods / Field		$ 2.0	26	$ 2.0	25	$ 2.0	24	$ 2.0	23
Animal Drugs & Feeds / Center for Veterinary Medicine		$ -	-	$ -	-	$ -	-	$ -	-
Animal Drugs & Feeds / Field		$ -	-	$ -	-	$ -	-	$ -	-
National Center for Toxicological Research		$ -	-	$ -	-	$ -	-	$ -	-
Other Activities		$ 0.4	4	$ 0.4	4	$ 0.4	4	$ 0.4	3
Consumer Hotline Operations	CFSAN	$ 0.2	2	$ 0.2	2	$ 0.2	2	$ 0.2	2
Public Affairs Specialist Grant Program for Grassroots Efforts	CFSAN	$ 0.2	2	$ 0.2	2	$ 0.2	2	$ 0.2	2
Consumer Advisory & Customer Focus Group Research and Education	CFSAN	$ 0.3	3	$ 0.3	3	$ 0.3	3	$ 0.3	3
School-Based Food Safety Education	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
Food Safety Education Materials Distribution	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
Retail Food Safety Alliance & Education	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
Special Need Education (Populations, Products, etc)	CFSAN	$ 0.5	4	$ 0.5	4	$ 0.5	4	$ 0.5	4
In Home Preparation & Food Safety	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
Fight BAC! Education Campaign Materials	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
Food Safety Education Month	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
Outreach/Exhibit Displays & Conference Support	CFSAN	$ 1.2	12	$ 1.2	12	$ 1.2	12	$ 1.2	12
Coordination and Day-to-Day Operations	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
Coordinatiuon with Stakeholders	CFSAN/Field	$ 2.0	26	$ 2.0	25	$ 2.0	24	$ 2.0	23
Coordination of education activities with CDC and USDA (Field)	CFSAN/Field	$ -	-	$ -	-			$ -	-
Implement "Prudent Use" principles in antimicrobial use for animals	CVM	$ -	-					$ -	-
Coordination and Day-to-Day Operations	Other Activities	$ 0.4	4	$ 0.4	4	$ 0.4	4	$ 0.4	3

FOOD AND DRUG ADMINISTRATION
FOOD SAFETY INITIATIVE BASE ACTIVITIES
(Dollars in millions)

Date: 3/26/99

Activity		FY 1997 Base $	FY 1997 Base FTE	FY 1997 base as applied in FY1998 $	FY 1997 base as applied in FY1998 FTE	FY 1997 Base as applied in FY 1999 $	FY 1997 Base as applied in FY 1999 FTE	FY 1997 Base as Applied in FY 2000 $	FY 1997 Base as Applied in FY 2000 FTE
RESEARCH/RISK ASSESSMENT		***$ 23.4***	***247***	***$ 23.4***	***241***	***$ 23.4***	***236***	***$ 23.4***	***232***
Foods / Center for Food Safety & Applied Nutrition		$ 14.2	137	$ 14.2	137	$ 14.2	137	$ 14.2	137
Foods / Field		$ 7.3	94	$ 7.3	89	$ 7.3	85	$ 7.3	81
Animal Drugs & Feeds / Center for Veterinary Medicine		$ -	-	$ -	-	$ -	-	$ -	-
Animal Drugs & Feeds / Field		$ -		$ -		$ -		$ -	
National Center for Toxicological Research		$ -		$ -		$ -		$ -	
Other Activities		$ 1.9	16	$ 1.9	15	$ 1.9	14	$ 1.9	14
Contracts: HACCP, Dose Response, Quantification of Pathogens, Prevention	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
HACCP Implementation	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
Postdoctoral Fellowship Program & Competitive Grants	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
Risk Assessments (Clearinghouse & Risk Assessment Consortium)	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
Intramural Risk Assessment and Research Projects	CFSAN	$ 14.2	137	$ 14.2	137	$ 14.2	137	$ 14.2	137
Equipment	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
Coordination and Day-to-Day Operations	CFSAN	$ -	-	$ -	-	$ -	-	$ -	-
Laboratory Methods (Field)	CFSAN/Field	$ 7.3	94	$ 4.7	57	$ 5.5	64	$ 5.8	64
Sample Analyses (Field)	CFSAN/Field	$ -	-	$ 2.6	32	$ 1.8	21	$ 1.5	17
Import tolerances - edible animal products	CVM	$ -	-	$ -	-	$ -	-	$ -	-
Risk assessment of animal drug impact on pathogen load & resistance development	CVM	$ -	-	$ -	-	$ -	-	$ -	-
Develop & validate models for microbiological hazards	CVM	$ -	-	$ -	-	$ -	-	$ -	-
Detection procedures for pathogens in meat, milk, eggs, animal feed, feces and the environment	CVM	$ -	-	$ -	-	$ -	-	$ -	-
Pathogen reduction research in animal feeds	CVM	$ -	-	$ -	-	$ -	-	$ -	-
Pathogen reduction research on food producing animals and	CVM	$ -	-	$ -	-	$ -	-	$ -	-
Determine the impact of antibiotic use in feed on bacterial	CVM	$ -	-	$ -	-	$ -	-	$ -	-
Evaluate effects of various drug doses and routes of administration on bacterial antibiotic resistance development and dissemination	CVM	$ -	-	$ -	-	$ -	-	$ -	-
Characterization of bacterial multiple antimicrobial resistance mechanisms in animals & the environment	CVM	$ -	-	$ -	-	$ -	-	$ -	-
Fluoroquinolone resistance	NCTR	$ -	-	$ -	-	$ -	-		
Competitive exclusion	NCTR	$ -	-	$ -	-	$ -	-		
Dose response modeling	NCTR	$ -		$ -	-	$ -	-		
Coordination and Day-to-Day Operations	Other Activities	$ 1.9	16	$ 1.9	15	$ 1.9	14	$ 1.9	14
TOTAL FSI		***$109.3***	***1,275***	***$109.3***	***1,237***	***$109.3***	***1,179***	***$ 109.3***	***1,136***

FOOD AND DRUG ADMINISTRATION
FOOD SAFETY INITIATIVE BASE ACTIVITIES
(Dollars in millions)

Date: 3/26/99

Activity	FY 1997 Base $	FY 1997 Base FTE	FY 1997 base as applied in FY1998 $	FY 1997 base as applied in FY1998 FTE	FY 1997 Base as applied in FY 1999 $	FY 1997 Base as applied in FY 1999 FTE	FY 1997 Base as Applied in FY 2000 $	FY 1997 Base as Applied in FY 2000 FTE
Subtotal by Program								
Foods (CFSAN)	$ 30.7	293	$ 30.7	293	$ 30.7	293	$ 30.7	293
Foods (Field Activities)	$ 69.8	896	$ 69.8	862	$ 69.8	809	$ 69.8	769
Foods (Total)	$ 100.5	1,189	$ 100.5	1,155	$ 100.5	1,102	$ 100.5	1,062
Animal Drugs & Feeds	$ 0.1	1	$ 0.1	1	$ 0.1	1	$ 0.1	1
NCTR	$ -	-	$ -	-	$ -	-	$ -	-
Other Activities	$ 8.7	85	$ 8.7	81	$ 8.7	76	$ 8.7	73
TOTAL	$ 109.3	1,275	$ 109.3	1,237	$ 109.3	1,179	$ 109.3	1,136

Question. Please list the increases requested in the President's fiscal year 2000 budget for the Food Safety Initiative in order of priority.

USDA answer. The goal of the President's Food Safety Initiative is to further reduce the incidence of foodborne illness to the greatest extent feasible. USDA, FDA, CDC, and EPA have worked to build consensus and to identify opportunities to better utilize their resources and expertise, and to strengthen partnerships with private organizations. As directed by the President, the agencies have identified ways to strengthen the systems of coordination, surveillance, inspections, research, risk assessment, and education. The fiscal year 2000 budget therefore represents an integrated package that must be viewed as a unified, critical initiative.

FDA answer. The Food and Drug Administration is requesting an increase of $30.0 million in fiscal year 2000. Surveillance, coordination, inspections, education,

research and risk assessment are the interrelated building blocks of a strong science-based food safety system. By meeting objectives identified in these six areas, FDA will be able to better identify, track, and control food-related illness, or prevent, to the extent possible, future illnesses. Because surveillance, coordination, inspections, education, research, and risk assessment are the interrelated building blocks of a strong science-based food safety system, it is difficult to prioritize the categories. Advances in research and risk assessment, in addition to surveillance, must be successful before education programs and inspections based on science-based solutions can be derived and implemented since research and risk assessments and surveillance activities will provide the basis for these science-based solutions. Activities within each FSI category provide or rely on data or activities from other categories. For example, Food safety research provides critically needed information to develop the means to identify and characterize more rapidly and accurately foodborne hazards; to develop food safety policy and set standards for safe food handling; to provide science-based tools for regulatory enforcement, including inspections based on preventative strategies such as HACCP; and to develop effective interventions that can be used, as appropriate, to prevent hazards at each step from production to consumption.

Scientists and other food safety experts have concluded that the most effective and efficient mechanism to ensure that food processors identify and control hazards that could threaten the food supply is the application of preventive controls—HACCP principles. These science-based technologies, standards, and strategies of the Food Safety Initiative are developed through several means, including the surveillance data collected to recognize trends and target prevention strategies that form the basis of inspections that are used to evaluate the effectiveness and efficiency of the industry's preventive controls; the conduct of research and risk assessments to determine the hazards which are used to identify critical control points for industry application of HACCP systems; and the conduct of research and risk assessments to verify that critical control points in HACCP systems are working, as well as, to target the data gaps that hamper preventive control systems from working. The Food Safety Initiative and implementation of HACCP systems, along with education programs, which will provide a more efficient and effective system for monitoring the nation's food supply to ensure safety and ultimately result in the reduction of foodborne illness.

Question. If the caps on discretionary appropriations are enforced, as we expect, funding for nondiscretionary appropriations will be less than the fiscal year 1999 levels. Is increased funding for the Food Safety Initiative a priority if it must come at the expense of reducing funding for ongoing programs? What reductions in funding for existing programs would you recommend in addition to those requested in the President's fiscal year 2000 budget to offset necessary increases in funding for the Food Safety Initiative?

USDA answer. The President's fiscal year 2000 budget includes proposals for financing discretionary programs within the statutory discretionary caps. Changes in authorizing legislation are proposed that would reduce mandatory spending, establish user fees or raise revenues where the savings would be designated as offsets to the discretionary caps and provide for increases in priorities such as the President's Food Safety initiative.

FDA answer. Without knowing the exact impact of such reductions, I would be unable to speculate at this time on any reductions that might result from caps on discretionary appropriations. I would note that the President's budget request for fiscal year 2000 includes increases for all of FDA's major programs, recognizing the limits of FDA's ability to protect the public health in all of our program areas. I would also note that all of our program areas have taken effective cuts, including staffing reductions, in recent years as we have had to absorb pay raises and other inflationary costs. Therefore, I don't believe we could reduce other program areas to provide funding for the Food Safety Initiative without jeopardizing the effectiveness of our other programs.

While improving the safety of the food supply is of the utmost importance, and is a high priority of this Administration, our other programs to promote and protect the public health in the areas of foods, drugs, biologics, and medical devices are also of vital importance.

QUESTIONS SUBMITTED BY SENATOR GORTON

Question. USDA has requested more than $24 million for food safety research in the fiscal year 2000 budget. These research dollars are allocated by either eliminating or decreasing Agriculture Research Service and Cooperative State Research, Education and Extension Service programs consistently funded by Congress. What

additional food safety research will be conducted by USDA that is not already being performed by the Centers for Disease Control, the National Institutes of Health, and the Food and Drug Administration? I am concerned that production agriculture research is being eliminated at USDA for the sake of food safety research that may already be ongoing at other federal agencies.

USDA answer. Food safety research conducted by USDA agencies (ARS, CSREES, and ERS) is complementary to that conducted by DHHS agencies (CDC, NIH, and FDA). USDA agencies address agricultural production-related issues of food safety and the early processing segments of the food chain. Increasingly, this research is important to farmers and ranchers to insure the quality and safety of their production. USDA research, in addition to being targeted to the technology needs of farmers and the food processing industry, provides science based technologies and risk assessments to enable FSIS to carry out its inspection and regulatory policies for meat, poultry, and eggs. Within DHHS, FDA research is focused on issues related to its regulatory responsibility for the safety of marketed domestic and imported foods other than meat and poultry products. The CDC and NIH focus their research activities on the surveillance and epidemiology of food borne illness outbreaks and fundamental work on the pathogenesis of enteric diseases in humans, respectively. The additional food safety research funding requested by USDA in fiscal year 2000 will not address activities already performed by CDC, NIH, and FDA, but instead will focus on improved pathogen detection and prevention technologies for meat, poultry, and horticultural crop production and processing, as well as understanding antimicrobial and antibiotic drug resistance of microbial pathogens that can infect both food producing animals and humans.

Question. Your testimony suggests that Americans have a greater chance of encountering food borne illnesses due to increased consumer food choices and additional access to prepared foods. Recognizing the changes each agency has to make in order to address this new scenario, would you consider our food source less safe today than ten years ago? Five years go? Could you (USDA, FDA, or CDC) provide statistics or figures relating to how many illnesses and deaths a year can be attributed to food borne illnesses? Do the statistics suggest that the problem is being addressed?

USDA answer: The statistics from FoodNet show that during 1998, 9,787 laboratory-confirmed cases of 9 diseases under surveillance were identified: 4,031 of camplyobacteriosis, 2,849 of salmonellosis, 1,483 of shigellosis, 565 of cryptosporidiosis, 508 of E. coli O157:H7 infections, 186 of yersiniosis, 106 of listeriosis, 50 of vibrio infections, and 9 of cyclosporiasis. Although these data don't reflect all foodborne illnesses that occur, we suggest that they are representative of the nationwide pattern of foodborne illnesses.

CDC collects epidemiological data relating to the incidence and type of food borne illness that occur within the United States. ARS provides research information relating to risk factor analysis that are used by CDC in determining the risk of sustaining a food borne illness from a specific food type. For example, ARS released the Salmonella Risk Assessment Modeling Program for Poultry (S-RAMP), and the Food Animal Risk Model for Poultry Pathogens (FARM-PP) which predicts the severity of outcomes from consumption of poultry products with Salmonella and Campylobacter.

ARS does not collect human epidemiological statistical data relating to illnesses or deaths attributed to food borne illnesses.

FDA answer. Estimates of foodborne illness and death are imprecise and widely diverse. The Council for Agricultural Science and Technology (CAST) estimates that 9,000 deaths and 6.5 to 33 million illnesses in the United States each year are food related. CDC is in the process of analyzing and updating estimates of foodborne illness and death. Statistics suggest that, despite advances to produce safe food and protect consumers, foodborne illness remain a significant public health problem. FDA will carefully review the analysis and will provide additional data when possible.

It also is important to recognize that, as surveillance and laboratory methods improve, we may see an increase in foodborne illness. Better surveillance leads to better and more accurate disease detection, which in turn leads to more investigations. As surveillance improves, more outbreaks, not fewer, will be detected. By finding and investigating such outbreaks, CDC can define risks, develop and implement interventions, and over the long term target and ultimately eliminate the risk.

In order to determine whether our food source is safer today than it was five or ten years ago, we need to compare the incidence of death and illness from foodborne pathogens over that particular time period. However, estimates of foodborne illness

and death are imprecise and widely diverse. The number of deaths and illnesses attributed to foodborne disease are estimates—calculated from the number of individual cases that come to the attention of CDC and other public health agencies—from clinicians, laboratory analyses and surveys. Only 1 to 10 percent of actual cases of foodborne illness are reported. Therefore, multiplication factors are obtained from small studies to allow estimates of the total illness. These values all have an uncertainty range about them, and the final estimate will be the most likely value with an accompanying range of possible values. The widely quoted estimates of 6.5 million to 33 million annual cases and 9,000 deaths come from the 1994 Council for Agricultural Science and Technology or CAST report on Foodborne Pathogens.

The recently developed FoodNet system is designed to be more comprehensive in collecting the incidence of illnesses and to determine the various factors more accurately. As additional FoodNet information is collected, the estimates of illness should become more accurate and the ranges should be reduced. We would be happy to provide information for the record on the rate of detection of selected pathogens.

[The information follows:]

RATE [1] OF SELECTED PATHOGENS DETECTED BY THE FOODBORNE DISEASES ACTIVE SURVEILLANCE NETWORK (FOODNET) [2] ILLNESS RATES OF FOODBORNE PATHOGENS FROM THE 1996–1998 FOODNET SYSTEM

Isolate	1996	1997	1998
Campylobacter	23.5	25.2	21.7
Cryptosporidium	([3])	2.7	2.5
Cyclospora	([3])	0.3	0
E.coli O157:H7	2.7	2.3	2.8
Listeria	0.5	0.5	0.5
Salmonella	14.5	13.6	12.4
Shigella	8.9	7.5	8.5
Vibrio	0.1	0.3	0.3
Yersinia	1.0	0.9	1.0
Total	[4] 51.2	[4] 50.3	47.2

[1] In 1996, active surveillance was initiated for laboratory-confirmed cases of Campylobacter, Shiga toxin-producing E.coli O157, Listeria, Salmonella, Shigella, Vibrio, and Yersinia infections in Minnesota and Oregon and in selected counties in California, Connecticut, and Georgia. In 1997, surveillance for laboratory-confirmed cases of Cryptosporidium and Cyclospora infections was initiated in Minnesota and Oregon and in selected counties in California and Connecticut. Data presented in this table are from these original FoodNet sites only.

[2] Values are illnesses per 100,000 population.

[3] Not reported.

[4] Excludes Crytosporidum and Cyclospora.

NOTE: This table is based upon information provided in CDC's March 12, 1999 Morbidity and Mortality Weekly Report (MMWR).

Although the development of baseline data from FoodNet is still in its early stages, the figures from the CDC report of March 12 may indicate that the Food Safety Initiative efforts are having an affect in some areas. Comparing data from the five original FoodNet sites, overall incidence of laboratory-confirmed infections caused by the pathogens under surveillance declined from 1996 to 1998.

Although the U.S. systems for reporting foodborne disease are globally pre-eminent, they only capture a fraction of the cases that occur. This limitation reflects the fact that for sporadic cases of foodborne disease, only a small percentage of these medical events are reported. Even with outbreaks involving multiple victims, only about 40 percent are investigated sufficiently to identify the causative agent. One goal of the Food Safety Initiative has been to improve this reporting system, while simultaneously initiating programs to prevent foodborne disease. It is also important to recognize that, as surveillance and laboratory methods improve, we may see an increase in foodborne illness. Better surveillance leads to better and more accurate disease detection, which in turn leads to more investigations. As surveillance improves, more outbreaks, not fewer, will be detected. By finding and investigating such outbreaks, FDA, CDC, and USDA can define risks, develop and implement interventions, and over the long term target and ultimately eliminate the risk.

Question. Where do you believe the biggest food safety threat lies—in domestic produced crops, imported commodities, consumer preparation, or a mix? Where would the emphasis of the U.S. tax dollar be best spent?

FDA answer. Risk and benefits cost analyses have been done or are being done for some food safety risks such as E. coli O157:H7 in ground beef and Salmonella in eggs. Much more needs to be done for other food safety risks. Unfortunately, risk assessment is far less developed for foodborne pathogens than for chemical hazards. Even chemical hazards, for which risk assessment methods have been the most thoroughly developed, data gaps force continued use of assumptions about exposure, hazard potency, and characteristics of the populations at risk.

The President's Council on Food Safety has requested that the Interagency Food Safety Risk Assessment Consortium consider how to develop a comparative risk analysis for food safety strategic planning. Various steps may need to be taken to evaluate risks including a ranking of foodborne pathogen risks based on surveillance and economic data; consideration of a broader range of food safety hazards including not only microbial risks, but also pesticides and chemicals; and finally, selection of highly ranked hazards, an evaluation of control measures, and an evaluations of net benefits.

Risk assessment provides a strong foundation upon which efficient allocation of scarce food safety resources can be made. It plays a central role in the development of any science-based system of preventive controls. Risk assessment also provides essential information for estimating and analyzing the costs and benefits of policy alternatives. We are continuing to emphasize the development, testing, and validation of microbial risk assessments and foodborne illness evaluation methods. Improving risk assessment will allow us, in the future, to target the prevention of foodborne disease by informing surveillance plans, prevention strategies for process control systems and for food inspections based on HACCP principles, and research programs to fill critical food safety information gaps. By incorporating the results of risk assessments with economic analyses, we will enhance our understanding of the economic consequences of specific food safety policies and make better-informed choices among alternative and policy options.

Question. Pending at FDA is a proposed rule to require the imposition of mandatory HACCP on juice processors. Recognizing that 98 percent of all juices are pasteurized, what is FDA's rationale for the imposition of HACCP on juice processors that use a guaranteed pathogen kill step?

FDA answer. While pasteurization effectively controls pathogens in juice, there are other hazards associated with juice that are not heat-treatable. Hazard Analysis and Critical Control Point or HACCP is a preventive strategy for food safety that addresses microbiological, physical and chemical hazards. Because of the variety of hazards associated with juice, FDA tentatively concluded that HACCP and safety performance criteria offer the most effective way to control the significant microbial hazards, along with other potential hazards, that may affect public health. The Agency's decision was based on a recommendation by the National Advisory Committee on Microbiological Criteria for Foods that HACCP with a performance standard could form the general framework needed to ensure the safety of juices. The HACCP proposal for juice includes a 5-log performance standard for pathogen control that producers must meet in order to have a valid HACCP plan.

FDA proposed on April 24, 1998, that HACCP be mandatory for the juice industry and is currently involved in rule making on this matter. HACCP also considers chemical and physical hazards in addition to the microbiological hazards. The proposal gives excellent examples of instances in which non-microbiological hazards occurred in juice products. These examples were tin, poisonous plant parts, lead, patulin, unapproved use of food and color additives, improper sanitation procedures or faulty equipment, glass, plastic and a more recent 1999 recall with undeclared sulfites in grape juice.

Question. Where do you believe the biggest food safety threat lies—in domestic produced crops, imported commodities, consumer preparation, or a mix? Where would the emphasis of the U.S. tax dollar be best spent?

FDA answer. FDA believes that the biggest threat to food safety lies within a mix of factors. As a result of this mix of factors, U.S. dollars are best spent on a mix of the six FSI categories—surveillance, coordination, inspections and compliance, risk assessment, research and education. Each of the categories are intertwined and serve a unique function in addressing the threats to domestic crops, imported commodities, consumer preparation, and other sources such as retail establishments, including food restaurants, vending operations, and institutional feeding operations such as schools, hospitals and nursing homes.

Surveillance and investigation are powerful tools to detect new foodborne disease challenges, to determine what specific food sources are implicated in foodborne illness, and to learn how best to keep foods from becoming contaminated. Enhancing the capacity of states to monitor foodborne disease and to investigate and control outbreaks will lead to better general control measures and fewer illnesses.

Federal and state inspection programs are an important component of the nation's food safety inspection system that cover domestic and imported products. The move toward HACCP will pose a challenge to the states to implement. Federal agencies can help the state systems meet that challenge. If HACCP is to be an effective program for ensuring that food processors have modern, state-of-the-art procedures in effect, FDA must improve its inspection capabilities, so that the highest—risk food plants are inspected at least once per year.

Risk assessment is far less developed for foodborne pathogens than for chemical contaminants. Intensive commitment is necessary to develop critically needed methods of analyzing the available data and addressing its uncertainty; methods that account for variability, specifically of living microbial pathogens, are essential.

Food safety research is critically needed to develop the means to identify and characterize more rapidly and accurately foodborne hazards, to provide the tools for regulatory enforcement, and to develop effective interventions that can be used as appropriate to prevent hazards at each step from production to consumption.

An integral part of the overall food safety initiative is providing food safety education to a variety of audiences: consumers, that is the general public and specific groups at risk for foodborne illness; public health professionals and physicians; retail, food-service, and institutional food preparers; veterinarians, animal and other food producers; and food transportation workers. The challenge is to create educational messages that address the risks relevant to each audience throughout the food chain.

QUESTIONS SUBMITTED BY SENATOR MCCONNELL

Question. In 1998 FSIS and FAS estimated implementation and enforcement of new country of origin labeling requirements for imported meat would cost USDA $60 million. There are no funding requests for implementation of such a program in USDA's fiscal year 2000 budget. Should Congress pass imported meat country of origin labeling legislation, how will USDA pay for the costs associated with the establishment and enforcement of such a program?

USDA answer. The cost estimates to which you refer were preliminary, and based on the fact that the greatest impact would appear to be at the retail level, since most labels on fresh meat cuts are applied at retail and FSIS has limited presence at the retail level. Should this legislation be enacted, we would have to examine what resources would be necessary for implementation.

The country of origin labeling report currently being developed will propose various monitoring and enforcement regimes. Briefly, those options include: (1) enforcement by USDA at retail; (2) limited enforcement at wholesale establishments, which are already regulated by USDA; (3) enforcement at retail by States or other Federal agencies involved in marketing; (4) monitoring and referral through private, third-party certifiers; or (5) enforcement through a whistleblower or competitor complaint system. Depending on the regulatory regime Congress chooses, other Federal or State agencies or third parties may be able to perform these tasks at a lesser cost.

Question. What offsets would have to be made in other program areas?

USDA answer. The broad issue of country of origin labeling is primarily a marketing issue, not a food safety issue. FSIS must apply its resources to ensure the safety of meat, poultry, and egg products.

Question. If the price of meat rises as a result of country of origin labeling mandates, how will this impact individuals who rely on government assistance for their family food purchases?

USDA answer. From preliminary information, it would be expected that, if the price of meat increases as a result of mandatory country of origin labeling, all consumers of meat products would experience a corresponding price increase, at least in the short term, including those who rely on government assistance programs. According to data from USDA's Economic Research Service (ERS), the amount of imported fresh muscle cuts of beef consumed in the U.S. is very small compared to consumption of the same domestically produced product. The volume of imported beef muscle cuts represents about one percent of domestic beef production.

Question. Will country of origin labeling for imported meat result in higher cattle or sheep prices or higher profits for products?

USDA answer. Information from USDA's the Economic Research Service (ERS) and the Foreign Agricultural Service (FAS) that a country of origin labeling requirement would probably increase some costs to packers, processors, and retailers. These would include the cost of preserving the identity of domestic and imported products, the direct costs of new or revised labels, and possible shifted costs if firms cease using imported products as a result of a new labeling regime. Domestic prod-

ucts would have to be labeled, too. It is reasonable to expect that those costs would be passed along to consumers to some extent. The profits realized by the sale of those products would depend on the increased cost of processing and distribution in relation to the costs incurred as a result of new requirements, and the degree to which product manufacturers believe they can pass along those costs to consumers and still remain competitive in the marketplace.

Question. Is the United States a net exporter or net importer of meat products? What has been the trend over the past several years?

USDA answer. The United States is a net exporter of all meat products, including all red meat and poultry meat. In 1998, U.S. meat exports were 4.2 million tons valued at $6.4 billion and imports were 1.3 million tons valued at nearly $2.8 billion. The U.S. meat trade surplus in 1998 was about 3 million tons valued at $3.6 billion.

Poultry meat exports account for most of the surplus as the United States is the world's largest poultry meat exporter but imports only minimal amounts. The United States is a significant importer of beef and pork. In 1998, U.S. net exports of beef and pork, including variety meat, were 317,000 tons and $1.3 billion. In comparison, the U.S. poultry meat trade surplus was 2.5 million tons and $2.1 billion.

The meat trade surplus has grown significantly since 1994. In value terms, the meat surplus was $2.6 billion in 1994, peaking at $4.7 billion in 1996. The recent decline in the value of the meat trade surplus is due to lower meat prices during the past 2 years and a sharp drop in Russian imports of poultry meat at the end of 1998. The trade balance in volume terms had been steadily increasing until the onset of the Russian ruble crisis. The balance in volume terms was slightly lower in 1998.

Question. Which countries represent the largest markets for U.S. meat exports?

USDA answer. The leading markets for U.S. meat exports are Japan, Russia, Mexico, Canada, Hong Kong, Korea, and Taiwan. In volume terms, Russia is the leading U.S. meat export market because of the large quantities of poultry meat exported there—more than 715,000 tons in 1998 and 981,000 tons in 1997. However, in terms of value, Japan is the leading U. S. market by a large margin. U.S. meat exports to Japan were $2.4 billion in 1998, accounting for 37 percent of the total value of U.S. meat exports. Mexico at $860 million was the second leading market for the United States, followed by Russia at $708 million and Canada at $681 million. Russia and Hong Kong are primarily markets for U.S. poultry meat, while Japan, Canada, and Mexico are leading destinations for both poultry and red meat. The United States exports red meat to Korea and Taiwan.

Question. Would the establishment of a new meat labeling regime in the United States be viewed as a non-tariff barrier by our trading partners?

USDA answer. FSIS requires that all meat imported into the United States bear the name of the country of origin, which remains with the product to the retail level—unless it is further processed under U.S. inspection. Meat and poultry products can only be imported into the United States from countries and plants approved by and recognized as imposing inspection requirements "at least equal to" those of the U.S. To this end, labeling is approved prior to entry. The proposed legislation would set a new precedent regarding the rules of origin and product labeling which could invite mirror action by U.S. trading partners. Mandatory country of origin requirements could change the way both domestic and foreign meat retailers and others involved in production and distribution do business, thereby affecting their costs and consumer choices. Article IX of the GATT 1994 allows countries to require marks of origin on imported products, so long as the marking requirement does not seriously damage the imported products, materially reduce their value, or unreasonably increase their cost. However, if the new labeling requirement does not qualify under GATT-permitted marking rules, i.e. if the label requires the word "imported" rather than the specific country name, it might be challenged as violating national treatment and constituting a prohibited restriction. In addition, if the effect on imports is severe enough, a protesting country could bring a WTO non-violation nullification or impairment challenge against the new labeling requirement.

Question. Would the establishment of such a labeling requirement affect U.S. exports?

USDA answer. The effect on U.S. exports would depend upon the types of labeling requirements established by foreign countries.

Question. Has the United States challenged labeling or other non-tariff barriers proposed in other countries?

USDA answer. The United States continues to oppose mandatory labeling of foods obtained through biotechnology—European Union (EU) biotechnology labeling. It has also criticized other foreign nations, i.e. Korea and EU, for attempting to adopt similar country of origin requirements for meat products, and has challenged Korea,

the Kingdom of Saudi Arabia and the other Gulf Cooperation Council countries—Kuwait, Qatar, Bahrain, Oman, UAE—for imposing mandatory government set shelf-life labeling requirements which impede U.S. food imports. In each case, the new labeling requirements were inappropriate remedies unrelated to either the safety or quality attributes of imported food products being marketed.

Question. You recently told the House Agriculture Appropriations Subcommittee that some meat and poultry plants are resisting the effort to remove unnecessary layers of the old inspection system. Could you please provide the Senate Agriculture Appropriations Subcommittee with more complete detail about the types of plants that are resisting de-layering and a list of specific regulations that plants have told the agency they do not want removed?

USDA answer. A number of establishments have strongly opposed FSIS regulatory reform efforts regarding certain regulations. The elimination of prior approval for proprietary substances and nonfood compounds included within the proposed rule on "Sanitation Requirements for Official Meat and Poultry Establishments" (62 FR 45045); the conversion of the historically prescriptive thermal processing (canning) requirements into performance standards (9 CFR 318.300 and 381.300); and the elimination of prior approval for equipment included within the final rule on "Eliminating of Prior Approval Requirements for Establishment Drawings and Specifications, Equipment, and Certain Partial Quality Control Programs" (62 FR 45016) are among those reforms opposed by various segments of the industry.

Question. Is imported meat, or meat derived from imported cattle, less safe than meat of domestic origin?

USDA answer. FSIS has measures to ensure that imported meat is safe through its stringent equivalence requirements including reinspection activities at ports of entry. Approximately 9,000,000 pounds of product are rejected each year due to reinspection. In 1998 9,923,000 pounds were refused.

Question. Would country of origin labeling enhance food safety?

USDA answer. There are no data that support a link to food safety.

Question. FSIS has been testing ground beef for E. coli O157:H7 since 1996. Out of 26,088 samples, they have found only 25 positives. How much is it costing USDA to look for something they only find 0.096 percent of the time, or less than once in every one-thousand samples tested.

USDA answer. The Food Safety and Inspection Service (FSIS) spends approximately $10.4 million per year on testing meat and poultry products for 9 potentially deadly pathogens, including E. coli O157:H7, Salmonella, Campylobacter, and Listeria.

Question. None of these samples were connected to an outbreak or illness—so what is the val ue of this testing?

USDA answer. The testing program for E. coli O157:H7 began after the tragic outbreak of foodborne illness associated with this pathogen in the State of Washington. USDA estimates that over 10,000 illnesses per year result from consuming foods contaminated with E. coli O157:H7.

As the Washington outbreak demonstrated, the most susceptible to this pathogen include children, the elderly, and the immune compromised. Testing programs like that for E. coli O157:H7 assist FSIS in controlling deadly pathogens by identifying contaminated product in time to remove it from the market before it can cause foodborne illness. The justification for continuing this program is that the agency believes this testing program is reducing the risk of illnesses/outbreaks caused by E. coli O157:H7 in raw ground beef. The FSIS program of random sampling at federal, State, and import establishments and at the retail level, as well as the implications of a positive finding, encourage the meat industry to use good manufacturing practices, good sanitation procedures, antimicrobial interventions, microbial testing, and other measures to eliminate this serious pathogen from the nation's meat supply.

Question. Most of the 26,088 samples were collected from grocery stores. How can testing at grocery stores for E. coli O157:H7 or any pathogen contribute to the protection of the public's health if the consumer has already eaten the food by the time you get the test results back? Shouldn't the testing be done before the food reaches stores?

USDA answer. The FSIS Raw Ground Beef Products Testing Program collects approximately 60 percent of the samples from retail stores and approximately 40 percent of the samples directly from processing plants. Many retail stores further process ground beef from a federal plant, and the testing program is targeted to detect contamination problems at this level. Further, FSIS conducts a variety of separate testing—monitoring—programs for foodborne pathogens in ready-to-eat products, and all of these monitoring samples are collected at the processing plant level. Detection and removal of pathogen-contaminated foods at any point of distribution will

serve to protect the public from foodborne illness, if an effective recall can be accomplished. Again, knowledge of food contamination problems promotes corrective actions on the part of producers, and serves to prevent future foodborne health hazards.

Question. I understand that FSIS has announced a plan to test moving its food inspectors out of the Federal slaughter and processing plants and move them into retail such as into grocery stores. Grocery stores are already under inspection by FDA and the state and local public health departments. This doesn't seem very efficient or productive given that other areas are in greater need of food safety inspection. For example, Senator Susan Collins and the Government Accounting Office have identified a real need for increased inspection of imported foods at the ports of entry. Why not put these inspectors where there is a need rather than where you will just be duplicating effort? Do you have any data to show that grocery stores need more inspect ion than imported foods?

USDA answer. Reassigning FSIS inspectors to FDA for port-of-entry inspection is not a viable option for these reasons. Under HACCP implementation, FSIS does not contemplate any change in the continuous inspection requirements of the statutes or in the overall number of inspection personnel. FSIS anticipates full productive use of its inspection resources in pursuing food safety work for meat, poultry, and egg products.

The implementation of HACCP involves overseeing industry implementation and compliance with the regulatory requirements outlined in the Pathogen Reduction and HACCP final rule that was promulgated in July 1996. The HACCP provisions of that rule have different effective dates based on the size of establishments, e.g., large, small, and very small. The last phase of implementation does not occur until January 2000 when very small plants are required to implement HACCP systems.

During fiscal year 1999, FSIS redeployed approximately 100 employees from large HACCP plants to cover critical vacancies in small HACCP plants. This redeployment of inspection personnel was done to assure that adequate resources were available to oversee successful implementation of HACCP in small plants. We do not anticipate any further need to redeploy inspection personnel prior to implementation of HACCP in very small plants in January 2000.

Under the slaughter models component of the HACCP-based Inspection Models Project, FSIS is exploring alternative ways in which slaughter inspection might be accomplished in establishments that have already implemented HACCP systems and that exclusively slaughter certain market classes of animals. These market classes are young poultry, steers and heifers, and market hogs. In all cases, these are young, healthy animals that do not exhibit the same disease and public health concerns that may be present in older animals. The alternative slaughter inspection models under consideration meet current statutory requirements for continuous inspection, but may require fewer inspection personnel within the slaughter department of some establishments.

FSIS has food safety and other statutory obligations that are sufficient to fully occupy the inspection resources that may become available through this project. It is necessary as part of the verification of industry HACCP systems to assure that product bearing the Federal marks of inspection continues to move through transportation, distribution, and marketing channels in a manner that does not cause such product to become adulterated or misbranded. The second component of the HACCP-based Inspection Models project, the in-distribution model, addresses this issue by using a limited number of inspection resources to expand existing oversight of Federal product in-distribution channels.

For the record, FSIS and the National Joint Council of Food Inspection Locals have reached an impasse in negotiations necessary to begin the pilot tests for both the slaughter models and the in-distribution models. The parties have jointly requested assistance from the Federal Service Impasses Panel to resolve the impasse. Until such resolution occurs, the pilot tests will not be started and it would be premature to determine the number of resources that may be available for other FSIS food safety and economic adulteration concerns.

QUESTIONS SUBMITTED TO DR. CATHERINE E. WOTEKI, UNDER SECRETARY FOR FOOD SAFETY

QUESTIONS SUBMITTED BY SENATOR BURNS

CODEX ALIMENTARIUS STANDARDS

Question. Codex Alimentarius is a program to encourage fair international trade in food and promote the health and economic interests of consumers. What effects do you expect Codex Alimentarius to have on international uniformity in food safety standards in the long-term?

USDA answer. Codex standards have value as reference points. The food safety measures embodied in the standards, guidelines and codes of practice that constitute the Codex Alimentarius, if developed in accordance with principles that hold bases in sound science as the predominant value, will have unquestioned value to nations as bases for their own development of mandatory food safety measures. Nations could then act under the premise that the measure is scientifically linked to a specified public health concern. The value of Codex Alimentarius in the long term will be dependent on how true it remains to the principles of sound science. Codex standards are recognized as international standards for purposes of the Sanitary/Phyto-Sanitary (SPS) agreement and impact decisions of the World Trade Organization (WTO).

Question. You stated that REE has conducted $64 million in food safety research, under ARS and CSREES. What were the primary findings and what do you intend to do with the results of this research?

USDA answer. In fiscal year 1998 the USDA (ARS/CSREES/ERS) undertook $61.4 million in food safety research related to pathogens and chemical residues. A brief summary of ARS accomplishments during this fiscal year follows:

ACCOMPLISHMENTS IN THE AREA OF DETECTION METHODS

A. Human Pathogens

—Monoclonal antibodies (MAbs) that bind specifically to Campylobacter jejuni and Campylobacter coli have been developed, and patented. These antibodies will be used in an immunologically based method (ELISA) to improve the current specific detection methods for Campylobacter.

—A laser assisted method (MALDI) has been developed for the rapid detection of Campylobacter. The methods advantage is that only a single bacterial colony is needed for analysis. The MALDI technique also has the potential to be widely used for confirmatory analysis of other pathogenic bacteria.

—A nucleic acid based (PCR) method was developed which simultaneously detects enterotoxigenic and Shiga toxin-producing E. coli (O157:H7) strains from calves. The method is being used by diagnostic laboratories to rapidly identify, differentiate and characterize pathogenic E. coli. will be useful for to producers and veterinarians for the rapid diagnosis of all the diseases caused by E. coli in calves.

—An ELISA based test (immuno-precipitation pregnancy test design) called Meridian was developed. The test uses monoclonal antibodies to specifically detect all E. coli O157 strains, not just O157:H7. Meridian has found widespread use by food companies since it has a much lower incidence of false negatives than other comparable tests.

—In cooperation with IGEN of Gaithersburg, MD, ARS has developed an immunomagnetic electro-chemiluminescent (IM-EC) method for the detection of E. coli O157:H7. The test is rapid, sensitive to low numbers of bacteria, inexpensive, and user-friendly. The technology is currently under evaluation by the FSIS.

—Optimized methods to identify, differentiate, and characterize pathogenic E. coli isolates from bovine sources were developed. Anti-O157 MAbs in an ELISA format accurately detected serum antibodies to E. coli O157, as well as to the important non-O157 EHEC serotypes, E. coli O26 and E. coli O111, in cattle and other livestock. Serum detection of antibodies to E. coli O157:H7 will allow accurate detection of all animals exposed to this pathogen at any time during animal growth.

—A laser based detector that illuminates fecal contamination on meat was developed and patented. The instrument could be used to immediately alert meat packers to contamination, allowing carcasses to be promptly decontaminated.

—Research by ARS determined that automated nucleic acid based ribotyping of Salmonella was a better discriminator between isolates than serotyping. Ribotyping however, is not a replacement for serotyping. It was recommended

that for epidemiological investigations, both techniques should be used simultaneously.

B. Chemical Contaminants

—A method of analysis for multiple diverse pesticides was developed for fatty samples using chromatography/ion trap mass spectrometric detection. The method enables extraction of meat tissue as well as fat, expands the range of pesticides that can be analyzed. The method uses no chlorinated solvents, and provides a single step quantitation and confirmation analysis. This method will increase the capabilities of regulatory and other laboratories to analyze pesticide residues in food, and will provide more accurate data for risk assessment purposes.

—A monoclonal antibody capable of detecting the antibiotic Hygromycin B was formatted into a rapid ELISA assay, and a patent was issued and the antibodies licensed to a private kit manufacturing company. The method will allow the detection of drug residues in poultry by regulatory agencies.

—Supercritical fluid extraction and microdialysis methodologies have been developed to isolate and detect prohibited drug and other chemical residues in eggs. The methods have been transferred to the FDA and the FSIS for their evaluation, and use, as dictated by their regulatory programs.

—Valid and reliable laboratory methods for assaying iron were established as an indicator of soft bone constituents in trim beef derived form advanced meat recovery systems (AMRS). Studies indicated that iron content of AMR trim beef could be determined by either dry ash or wet ash (nitric/sulfuric) procedures, although the dry ash method was selected for routine analysis. The procedure will be implemented by the FSIS.

—An instrument for monitoring chlorine dioxide during disinfection of food processing water was developed. The membrane sensor can determine chlorine dioxide in the presence of chlorine and/or other oxidants and provide instantaneous analytical results. The instrument can be used to assure both adequate residual levels and to minimize unnecessary water overuse.

Progress in the area of pathogen reduction:

—In order to determine the effectiveness of a pathogen reduction method bacteria need to be modified to allow their identification and discrimination from background microflora. ARS has developed a genetic technique that allows the construction of (model) pathogens that bioluminesce under UV light due to production of a green fluorescent protein (GFP). Various model strains of E. coli O157:H7 and Salmonella were constructed having the same growth and attachment characteristics as the wild type strain. This research technology will aid in understanding the basis of microbial attachment and detachment to animal carcasses in real-time. The technology also offers a more rapid means to evaluate antimicrobial carcass treatments that do not rely on sampling, culturing and back-extrapolation of the resulting plate counts to large surface areas.

—ARS concluded research on washing and sanitizing hog hauling trailers and holding pens. The results have led to procedures to significantly reduce Salmonella, Campylobacter and E. coli contamination on animals entering slaughter plants.

—A surface pasteurization technique was developed to reduce microbial contamination (Salmonella, Campylobacter and Listeria) on the surface of solid foods without loss of quality. A prototype design to briefly steam fresh whole broiler carcasses, so that surface organisms are killed but with no appreciable cooking of the meat, was built, tested and patented.

—Various conventional and experimental wash formulations were evaluated to determine their efficacy in decontaminating apples of human pathogens (Salmonella, E. coli O157:H7, Listeria). Solutions containing 5 percent hydrogen peroxide, alone or in combination with acidic detergents achieved a 3–4 log pathogen reduction. These studies demonstrated that current conventional methods of washing apples are largely ineffective. Development of efficacious cleaning methods for fruit are crucial for the production of unpasteurized juices.

—Low dose gamma irradiation was found to be efficacious for destroying the human bacterial pathogens E. coli O157:H7, Listeria and Salmonella on seed used for the growth of sprouts. Irradiation is a useful technology that significantly reduces pathogens in certain food commodities, while increasing shelf life and maintaining freshness, all major consumer demands.

Progress in the area of pathogen control through intervention strategies:

—A competitive exclusion culture (CEC) to control Salmonella on commercial broiler farms was developed. The FDA approved this CEC under the trade

name PREEMPTTM for use in commercially produced broiler chickens. This was the first CEC to receive FDA approval for use in commercial poultry flocks, and is a major milestone in an integrated program to prevent Salmonella contamination in food products from poultry.

—Feed withdrawal in broilers prior to slaughter is used to induce molt and to stimulate egg laying in aged flocks, however, withdrawal increased infection rates in their crops by Salmonella and Campylobacter. Research showed that methods such as adding lactose to drinking water had the ability to restore resistance, and reduce infection rates.

—Electrostatic ionization of the air in an area housing S. enteritidis-infected adult birds was found to reduce the number of S. enteritidis in the air environment. Airborne transmission of Salmonella has gained considerable recognition as an important mechanism of spread of this pathogen within poultry houses.

—A porcine lymphokine (IL–12) that activates a protective responses in neonatal pigs has been isolated from the splenic T cells of S. enteritidis—immune pigs. Oral administration of the lymphokine will protect weaned pigs from S. choleraesuis organ invasion, cecal colonization, and will enhance growth performance and neutrophil function. Enhancing the host immune response to bacterial and parasitic infection will decrease the dependence on antibiotic administration.

—Cattle fed large amounts of grain (> 45 percent of DM), accumulate volatile fatty acids in the colons resulting in a decline in gut pH. This causes a significant increase in total E. coli numbers and acid resistance. However, cattle fed hay appeared to have decreased total E. coli numbers, and decreased acid-resistance. Although additional studies are required, it is possible that feeding hay to cattle prior to slaughter may significantly reduce post harvest contamination by pathogenic E. coli.

—It was discovered that some naturally occurring food additives blocked the attachment of E. coli to bovine fascia and connective tissues. Inhibition of E. coli O157:H7 attachment to intact meat tissues by use of these substances will offer an processors additional means to help to prevent E. coli O157:H7 contamination of meats.

—ARS in collaboration with FSIS conducted a nationwide evaluation of color of cooked beef patties relative to potential food safety risk for E. coli O157:H7. The study provided solid evidence that cooked beef patty color is not a good indicator of internal patty temperature. The results were a major factor in the development of the new FSIS consumer message that "consumers should not eat ground beef patties that are pink or red in the middle unless a food thermometer has been used to verify cooked temperature."

—The discovery that electropolishing surfaces significantly reduces attachment of pathogens such as Campylobacter and subsequent biofilm formation. This finding will aid equipment manufacturers in developing methods and selecting materials to be used in processing foods.

—Controlled atmospheric storage of fresh produce does not appear to offer a viable method for controlling Listeria monocytogenes. Therefore the fresh cut industry should consider alternate methods for controlling this pathogen.

—Low dose gamma irradiation was found to be efficacious for the control of parasitic pathogens, such as, the coccidia Cyclosporidium and Cryptosporidium, on soft fruits such as berries, while increasing shelf life and maintaining freshness, all major consumer demands.

Progress in the area of antimicrobial/antibiotic resistance:

—The acid tolerance of E. coli O157:H7 contributes to its ability to cause disease by increasing both its ability to persist in food, and its infectivity. ARS developed a technique to induce maximum acid tolerance in these microorganisms, and identified that the sensitivity to acid inactivation is dependent on acidulant identity, prior exposure to an acid environment, and strain identity.

—Over 5,000 clinical, non-clinical and slaughter Salmonella isolates were analyzed under the National Antimicrobial Susceptibility Monitoring System. This monitoring program in collaboration with the FDA and CDC provides critical information to prolong the useful life of antibiotics for both human and animal use, and its success has allowed expansion of the program to include testing of Campylobacter and E. coli.

Progress in the area of risk assessment:

—Bioluminescent strains of Salmonella were used as a tool for modeling behavior of Salmonella in raw and cooked poultry products. The data were incorporated into version 2.0 of the Salmonella—Risk Assessment Modeling Program for

Poultry (S-RAMPP). A new simulation model, the Food Animal Risk Model for Poultry Pathogens (FARM-PP) was also developed which predicts the severity of outcomes from consumption of poultry products contaminated with Salmonella and/or Campylobacter.

The results of this research will be shared and utilized among the various governmental agencies involved in food safety research. The staff members of the various agencies are in frequent contact with one another regarding research agenda in their respective programs. They also participate with each other in workshops, and committee meetings. The results will also be shared with Universities scientists at professional meetings, producers and processors at national, state and regional meetings, as well as through manuscripts published in refereed, trade or government publications.

Because CSREES provides funding via extramural grants to various universities, research institutes and laboratories, it is difficult to provide a complete accomplishment for specific grants which were awarded in 1998 for periods of 2–3 years. Therefore, we have provided some outcomes which are directly related to food safety research grants made by CSREES within the past 2–3 years. We would anticipate even greater accomplishments with the current portfolio of research projects now in progress as a result of the increased funding in 1998.

National Research Initiative

The Food Safety program of the National Research Initiative has several significant results from research funded in prior fiscal years. These results can be grouped in five areas: bacteriocins, basic microbial physiology, prevention of microbial colonization, biosensor development and production system epidemiology. In the following examples, more than one university usually has been involved in the research which has culminated in the outcomes cited. Where feasible, specific states have been mentioned in the text.

Bacteriocins.—Bacteriocins are proteins produced by lactic acid bacteria (the kind responsible for producing cheeses and yogurt) that have the property of inhibiting the growth of other, possibly pathogenic, bacteria. Investigators have been able to extract and purify these proteins from several kinds of lactic acid bacteria. One of these bacteriocins, called nisin, has been adapted as a coating for machine parts in processing plants and has been demonstrated to retard the growth of pathogenic bacteria in this setting.

Microbial Physiology.—Genetic and physiologic studies on microbial contaminants increase our understanding of their disease producing capabilities. Listeria monocytogenes is a bacteria that can normally grow at refrigeration temperatures. Investigators have found mutants of these bacteria that are cold-sensitive and produce so called "cold-shock" proteins. These cold-shock proteins are being studied to see if they inhibit the growth of normal L. monocytogenes and if they can be produced in quantities sufficient to be useful as antibacterial washes. Several studies on Escherichia coli O157:H7 have demonstrated that some of its pathogenic potential results from tolerating acid levels present in some foods that would normally inhibit the growth of bacteria. Further work on this has been funded.

Prevention of Microbial Colonization.—If pathogenic microbes cannot attach themselves to tissue surfaces, their ability to produce disease is severely reduced. Two ways that have been investigated are competitive exclusion and immunization. The principle of competitive exclusion is to block the tissue receptors to which the microbes would normally attach. Investigators have demonstrated that the inclusion of a yeast, Saccharomyces cerevisiae, in the drinking water in poultry raising facilities will keep pathogenic Salmonella enteritidis from colonizing the chicken gastrointestinal tract. Research has also been funded to test a vaccine against E. coli O157:H7 in cattle. Preliminary results have demonstrated a level of serum antibody sufficient to keep the bacteria from binding in calves.

Biosensor Development.—Fusarium moniliforme is a fungus that infects corn and corn-products resulting in the production of a mycotoxin, fumonisin, which is both poisonous and carcinogenic. Investigators report that they have developed an ELISA assay for fumonisin that detects in the 10–100 ppm range with an accuracy of 65 percent. This is ten times more sensitive than the standard test. Another research group developed a PCR-ELISA for E. coli O157:H7 that was 100 times more sensitive than the current test and also suitable for large-scale screening tests. Another ELISA was developed to detect Staphylococcus aureus toxin in foods. The test can be run in four minutes in a processing plant environment. Development of a piezoelectric sensor for Salmonella species has been successfully tested and is being combined with other multi-probe biosensors on a commercial line.

Production System Epidemiology.—A survey for Salmonella bacteria was conducted on 18 swine finishing farms in North Carolina. The field study revealed that

all the farms had Salmonella of varying species and serotypes present in both the adult and nursery swine. The most important finding was, however, that current cleaning and disinfection procedures are insufficient to kill all of the Salmonella bacteria present in one group of pigs from infecting the next group of pigs placed in the "clean" facility. This was confirmed on 5 of the 18 finishing farms.

SPECIAL RESEARCH GRANTS

Epidemiology of Escherichia coli (E. coli) in beef cattle—Kansas State University

This research is now entering its fourth year. Shedding of E. coli has been monitored on a frequent basis for more than 24 months in both small and large cow-calf operations. Percent of cattle shedding bacteria varies among times of the year and has appeared to be associated with certain management practices. Shedding is especially high during the calving period when cattle are brought together in closer proximity. Management systems to reduce the frequency of shedding are now being evaluated. It appears that contaminated water sources are a major source of exposure for the cattle.

Fresh Fruits and Vegetables—several universities

The Food Safety Research Grants program funded 12 projects directed at food safety problems involving fresh fruits and vegetables in the fiscal year 1998 funding cycle. These projects were directed at detection systems, methods for pathogen reduction on fresh produce, and non-thermal treatments for juices. A variety of institutions received these grants representing all sectors of the U. S. (Indiana, Delaware, North Dakota, New Jersey, New York (Cornell), Tennessee, Arkansas, Florida, Oregon, and Alabama).

Outcomes from this research are being used as the basis for development of educational programs which are delivered to a variety of constituents including consumers, food handlers, producers, production advisors, veterinarians, and others.

ERS accomplishments related to food safety include:

Costs associated with campylobacter.—As detailed in an article in Food Review, ERS research showed that the estimated annual costs of Campylobacter-associated Guillan-Barre Syndrome (GBS) are $0.2–$1.8 billion. When these costs are added to the previously ERS-estimated costs of campylobacteriosis ($1.3–$6.2 billion), total annual costs from Campylobacter are $1.5–$8.0 billion (1995 dollars). Assuming 55–70 percent of costs are attributable to food borne sources, costs of campylobacteriosis from food sources ($0.7–$4.3 billion) and costs of associated GBS ($0.1–$1.3 billion) combined equal total annual costs of $0.8–$5.6 billion from food borne Campylobacter. Reducing Campylobacter in food could prevent up to $5.6 billion in costs annually.

Distributional consequences of food borne illness.—The economic impact of the costs of food borne disease on the U.S. economy was reported in an article, "A Distributional Analysis of the Costs of Food borne Illness: Who Ultimately Pays," Journal of Agricultural and Applied Economics. Previous estimates of the costs of seven food borne pathogens were disaggregated by type and distributed across the population. Initial income losses resulting from premature death cause a decrease in economic activity. Medical costs, in contrast, result in economic growth, though this does not outweigh the total costs of a premature death. This accounting of how costs and illnesses are diffused through the economy provides useful information for policy makers.

Methods for valuing food safety risk reductions.—Food borne diseases caused by microbial pathogens impose an economic burden on society by causing premature death and productivity losses when people made sick are unable to return to work. An article, "Measuring the Consumer Benefits of Food Safety Risk Reduction," Journal of Agricultural and Applied Economics explored three valuation methodologies that place a monetary value on food safety risk reduction, and presented a case study for each. These techniques include contingent valuation models (where consumers are asked in surveys their willingness to pay for food-safety risk reductions), experimental auctions (where people actually exchange money for products with varying levels of food-safety risk), and the cost-of-illness approach (which values health risks on the basis of medical costs and productivity losses assigned to food borne illness).

ARS research has also been valuable to FSIS in areas over which FSIS has no jurisdiction. For instance, research that ARS completed for food animal production and transport is currently aiding the industry in meeting pathogen reduction guidelines. Indeed, both the results of ARS research plus advice received from ARS scientists aided FSIS in making the HACCP rule an effective and practical instrument.

Question. The President's goal is to "develop a comprehensive food safety strategy and coordinate food safety budgets that will result in further improvements in the safety of the food supply and will ensure the most effective use of Federal resources". Can you outline, the specific steps that have been taken to ensure this happens and how you plan to implement them?

USDA answer. On August 25, 1998, through Executive Order 13100, the President established the Council on Food Safety. The Council is co-chaired by the Secretaries of Agriculture and of Health and Human Services and the Assistant to the President for Science and Technology/Director of the Office of Science and Technology policy. The President charged the Council to develop a comprehensive strategic plan for federal food safety activities and to make recommendations to the President on how to implement the plan. In addition, the Council will advise Federal agencies in setting priority areas for investment in food safety and developing a coordinated budget for the Administration. Finally, the Council will oversee the research efforts of the Joint Institute for Food Safety Research. The development of a strategic plan is already underway. In fact, the President's Food Safety Initiative was an initial step towards a national food safety plan. The plan's principal goal is to enhance the safety of the nations food supply and protect the public health through a seamless science-and risk-based food safety system. The plan will set priorities, improve coordination and efficiency, and identify gaps in the current system and mechanisms to fill those gaps, continue to strengthen and enhance prevention strategies, and develop performance measures to show progress.

The implementation process will certainly pose some significant challenges because of the diversity of stakeholders in food safety. There will be a need to have a high degree of cooperation, coordination, and communication, since each Federal, state and local agency has unique mandates, authorities, history, culture, and operating procedures. The Council plans to use an open process in developing the plan—a process that will be responsive to all stakeholder concerns—in order to have credibility and obtain public support.

Question. The National Academy of Sciences (NAS) has found that successful integrated operation of a food safety system requires that officials at all levels of government work together in support of common goals of a science-based system. How do you intend to facilitate interagency cooperation?

USDA answer. Federal food safety agencies and State and local agencies have expertise and resources that, when combined in an integrated program, significantly enhance the impact of food safety programs. While more needs to be done to optimize and develop new partnerships, the Federal food safety agencies have already established extensive interactions with state and local regulatory agencies. We believe that the strategic planning process under the direction of the President's Council will provide new opportunities for officials at all levels of government to participate as primary and equal partners in the development of the future food safety system.

Question. On October 5, 1998 USDA's Recall Policy Working Group issued a report making several recommendations for improvements in the operation of food recalls. What is the status of USDA's implementation of the Recall Policy Working Group's recommendations?

USDA answer. The Agency provided an opportunity for public comment on the working group's report. It has evaluated the comments that it received and is now in the process of preparing a set of recommendations for the Secretary. The Agency will take appropriate action based on the Secretary's decision.

QUESTIONS SUBMITTED TO THOMAS J. BILLY, ADMINISTRATOR, FOOD SAFETY AND INSPECTION SERVICE

Question. E. coli outbreaks continue to be a problem in the agricultural sector. Although numbers of incidences are down, public perception of beef and beef products do not appear to have improved significantly. How does the FSIS intend to work further with industry and consumer groups to reduce illness and improve consumer perception?

USDA answer. The Agency's Meat and Poultry Hotline and consumer education program have long provided answers to questions and basic consumer information about E. coli and safe practices for preparing foods. In fiscal year 1998, the Agency partnered with the Agricultural Research Service to study the color of ground beef—as it relates to reaching a safe internal temperature of 160 degrees. As a result of the study's findings, the Agency published new consumer information about safely preparing hamburgers using a thermometer instead of using color as an indicator of doneness.

The Agency has also began work with the thermometer industry and retail establishments to encourage them to make thermometers easily available to consumers and make their packaging carry correct and consistent information about safe temperatures.

Question. Listeria monocytogenes is estimated to have affected 1100 people. How will FSIS continue to address the listeriosis issue and reduce the rate of illnesses?

USDA answer. FSIS has undertaken an aggressive strategy to decrease the risks from Listeria on ready-to-eat products. Included in this strategy is: developing guidance to industry on "best practices" that can help to reduce the potential of product contamination; targeting consumer education for high-risk groups; initiating a study to address shelf-life and Listeria risks; and, conducting a quantitative risk assessment for Listeria that will determine the foods that pose the greatest risk to consumers and specific subpopulations at increased risk of contracting listeriosis.

Question. I congratulate you on your timely address of the Y2K issue. I urge you to continue to raise awareness of the Y2K problem and the threat it may pose to our nation's food supply, as well as to plan to address any problems that may occur within the food safety industry. When will you have Y2K revisions completed?

USDA answer. The Food Safety and Inspection Service (FSIS) is continuing to raise awareness of the Year 2000 (Y2K) problem through its outreach efforts to the public and industry. The Agency is participating in USDA's Food Supply Working Group (FSWG) and operates its own Year 2000 Homepage, which is linked to that of the FSWG.

FSIS has recently issued a letter to managers of Federally-inspected meat, poultry and egg establishments, updating them on Agency progress in achieving Y2K compliance and alerting them to the needs to ensure that their own systems will not experience Y2K problems.

The Agency has completed Y2K revisions and testing for its mission critical systems. We plan to complete Y2K work on our remaining non-mission critical systems, telecommunications and vulnerable systems and processes by September 30, 1999.

Question. What are the specific implications of having AMS assume part of the certification responsibility in the exporting industry?

USDA answer. As long as the export service remains voluntary and fee-based, there is no implication of having AMS assume a part of the certification. Although AMS is not a regulatory agency, its mission is to foster and assist in the development of new or expanded domestic and foreign markets. AMS partially accomplishes this through voluntary, user-funded grading, certification, and inspection of agricultural commodities, some of which are exported. It is the policy of AMS to immediately notify APHIS, FDA, or FSIS regarding any hazards observed during the performance of our services.

Question. User fees, or a food safety tax, such as the one proposed, could hurt the 500,000 workers who depend on the economic well-being of the agriculture industry. It would lead to a loss of jobs and damage businesses, large and small, that depend on the economy of rural America. Agricultural producers are struggling to make ends meet. They cannot afford the effects new user fees will have on the already depressed market. What other means will FSIS employ to gain funding that user fees would provide?

USDA answer. If the proposed user fee funding structure is not approved by the Congress, FSIS will pursue obtaining appropriated funds to continue its mission of ensuring the safety of meat, poultry, and egg products that are supplied to the general public.

Question. I understand you have been in discussions with the FDA about the possibility of a cooperative effort between the agencies where resources freed-up by the implementation of HACCP in meat and poultry facilities would be utilized at ports of entry for inspecting imported foods. What is the status of those discussions?

USDA answer. Reassigning FSIS inspectors to FDA for port-of-entry inspection is not a viable option for these reasons. Under HACCP implementation, FSIS does not contemplate any change in the continuous inspection requirements of the statutes or in the overall number of inspection personnel. FSIS anticipates full productive use of its inspection resources in pursuing food safety work for meat, poultry, and egg products.

The implementation of HACCP involves overseeing industry implementation and compliance with the regulatory requirements outlined in the Pathogen Reduction and HACCP final rule that was promulgated in July 1996. The HACCP provisions of that rule have different effective dates based on the size of establishments, e.g., large, small, and very small. The last phase of implementation does not occur until January 2000 when very small plants are required to implement HACCP systems.

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ment of inspection personnel was done to assure that adequate resources were available to oversee successful implementation of HACCP in small plants. We do not anticipate any further need to redeploy inspection personnel prior to implementation of HACCP in very small plants in January 2000.

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FSIS has food safety and other statutory obligations that are sufficient to fully occupy the inspection resources that may become available through this project. It is necessary as part of the verification of industry HACCP systems to assure that product bearing the Federal marks of inspection continues to move through transportation, distribution, and marketing channels in a manner that does not cause such product to become adulterated or misbranded. The second component of the HACCP-based Inspection Models project, the in-distribution model, addresses this issue by using a limited number of inspection resources to expand existing oversight of Federal product in-distribution channels.

For the record, FSIS and the National Joint Council of Food Inspection Locals have reached an impasse in negotiations necessary to begin the pilot tests for both the slaughter models and the in-distribution models. The parties have jointly requested assistance from the Federal Service Impasses Panel to resolve the impasse. Until such resolution occurs, the pilot tests will not be started and it would be premature to determine the number of resources that may be available for other FSIS food safety and economic adulteration concerns.

Question. HACCP inspections for very small plants are scheduled for January 25, 2000. "There are about 40 state inspected plants in Montana; most already above federally inspected standards. Some of the state inspected plants in fact are larger than the approximately three federally inspected plants. Under the FSIS program, state inspected plants must meet standards greater than or equal to federal standards. Will the FSIS use discretion and common sense in examination of these plants?

USDA answer. FSIS has been very proactive is supporting the transition to HACCP for small and very small State and federal plants. Examples of FSIS assistance include:

—FSIS provided training and training materials to State program trainers who are presenting the training to State inspectors.

—FSIS has put on "HACCP demonstration projects" and public meetings for industry groups including state and federal plants.

—FSIS provided training materials for use by States in working with industry in HACCP training.

—FSIS has a National HACCP Coordinator—for HACCP in small and very small plants—who is accessible to State inspection programs and plants.

—A State HACCP network is in place that is a cooperative undertaking. Each State has a primary contact, often the State inspection program director and a coordinator, often a technical person from a university.

—The National HACCP Coordinator—for HACCP in small and very small plants—holds periodic nationwide conference calls with the State HACCP contacts to address any and all HACCP issues.

—FSIS prepared a letter that was sent to all federal very small plants regarding a recommended HACCP preparation time-table and assistance for HACCP implementation. The same information is being provided to all State programs for their use.

The FSIS Technical Service Center (TSC) is responsible for in-plant reviews for foreign plants, federal plants and State plants. The procedure used to review or "examine" State HACCP plants is consistent with the process used for foreign and federal plants and has been in place since January of 1999. Furthermore, in-plant reviews are performed using a team concept. The team is made up of the FSIS, TSC reviewer, the director of the State program, or his/her designee, the relevant State supervisor and the inspector-in-charge. The State program has the option to take the lead during the review. The findings are reviewed prior to leaving a plant and, to date, consensus has consistently been reached.

QUESTIONS SUBMITTED BY SENATOR CONRAD BURNS

Question. It is extremely important to have all state laboratories included in a system such as PulseNet, which is a program to enhance the ability of laboratory-based surveillance to rapidly identify clusters of related foodborne infections. How will CDC gain participation in all states in order to increase awareness and decrease foodborne illnesses?

FDA/CDC answer. CDC agrees that it is important to include all States in the PulseNet system in view of PulseNet's vital role in surveillance and investigation of foodborne illness outbreaks. States area critical element in the Nation's public health system, and are eager to participate in PulseNet and other systems to improve capacity to protect public health. Prior to PulseNet, most public health laboratories recognized the value of DNA fingerprinting, but few had ability to do such fingerprinting. Those that did have the capability did not use standardized techniques. PulseNet participants use a standardized protocol and have the capability to exchange information quickly.

Through its Emerging Infections Programs and Epidemiology and Laboratory Capacity cooperative agreements, CDC provides funds to public health laboratories for PulseNet training and technology transfer. Additional states are participating in PulseNet each year.

Question. A strong science base, as you mentioned, is vital to the Food Safety Initiative. Unfounded reports hurt agricultural producers immensely and must be stopped. How does the FDA plan to work with industry groups to ensure that science is used as a basis for a ll reports of outbreaks?

FDA/CDC answer. In fiscal year 1998, the foundation was set for creating a state-of-the art science-based food safety system. The system focuses on early detection and containment of foodborne hazards, and prevention, education and verification. As part of the Food Safety Initiative or FSI, FDA has met with representatives of producers, wholesale/distributors and retail agricultural commodities to solicit their input and support to develop more effective and timely tracebacks of agricultural commodities implicated in foodborne outbreaks.

The level of science being applied to foodborne disease through FSI resources is rapidly identifying clusters of related cases and contaminated foods that would have been missed just a few years ago. To develop a comprehensive, coordinated national foodborne illness outbreak response system among federal, state and local agencies, DHHS, USDA, and EPA signed, in May 1998, a memorandum of understanding to create the Foodborne Outbreak Response Coordinating Group, or FORC-G. This group's objective is to enhance coordination and communication among federal, state and local agencies, guide efficient use of resources and expertise during an outbreak, and prepare for new and emerging threats to the U.S. food supply. In addition to federal officials, other members of FORC-G include the Association of Food and Drug Officials, Association of Public Health Laboratory Directors, Council of State and Territorial Epidemiologists, and the National Association of State Departments of Agriculture.

In June 1998, FDA participated in a workshop at the annual meeting of the Association of Food and Drug Officials, or AFDO, on the need to improve outbreak coordination and investigations. Participants agreed that improved coordination of communication between the epidemiologists who investigate systematic and emerging food safety system failures and food regulatory officials who control the preventive and corrective facets as well as the food product and production environment of the food regulatory system is critically needed.

In September 1998, FDA hosted an important meeting of food safety officials from all 50 states, the District of Columbia and other localities, Puerto Rico, USDA and CDC to better integrate appropriate food safety functions at the local, state and federal levels. Integration efforts are focusing on inspection, analytical methodology, laboratory utilization, and response to disease outbreaks. The goals of this integration effort are better use of laboratory resources and investigative expertise and faster response to and control of foodborne illness outbreaks. FDA will seek input from industry and consumers on their recommendations for a science-based national food safety system.

In those instances where agricultural commodities are thought to be the vehicle, FDA and CDC will work with the state and local investigators to assure that on-site causes for the outbreak are carefully considered and illuminated before issuing reports or statements that the agricultural commodity was contaminated in distribution or at its source.

Additionally, we are equally concerned that the information released to the public on an outbreak be as consistent, accurate, validated, and timely as possible. While it is sometimes impossible to have all the information verified at the moment a pub-

lic health regulatory intervention must be communicated, it is a goal we always strive to achieve. FDA will work with appropriate local, state and federal agencies, and affected industries drawing on the available scientific expertise to make sound decisions. Some reports which question the safety of food originate from sources other than FDA. In these instances, the FDA Press Office and the Center for Food Safety and Applied Nutrition/Center for Veterinary Medicine/Office of Regulatory Affairs organizations work together to communicate the scientifically accurate information to the public. In addition, the Center for Veterinary Medicine, or CVM, issues CVM updates and also places this information on the CVM's internet home page.

Question. FDA has consistently failed to meet deadlines on reviews. While the statutory deadline on approval of generic drugs is 6 months, the FDA continues to drag its feet and take up to 32 months for approval. It is vitally important to both drug companies and consumers to have these drugs approved and on the market. Many consumers cannot afford the high cost of brand name prescriptions, while drug companies lose enormous profits waiting on FDA approval. How will the FDA find a way to complete reviews on time?

FDA/CDC answer. As background regarding Abbreviated New Animal Drug Applications or ANDAs, either an approval or disapproval is considered by FDA to be a final action. The agency makes every attempt to meet this requirement; however, for a number of reasons it is not always possible to do so. After receiving a disapproval action, manufacturers frequently resubmit applications that address the deficiencies indicated in the disapproval action.

Neither the Center nor the Office of Generic Drugs has conducted a study on the budgetary needs to review the majority of applications within 180 days given the current review environment. However, it believes the needs are substantial and would have to include the needs of other Agency components that play a supporting but critical role in the generic drug review process.

At this time, the Center believes that the key to addressing current review backlog and improving action times is increasing the number of chemistry, microbiology, and labeling reviewers as well as support staff within OGD.

Question. Dr. Henney, I understand that Bill Schultz has left to go over to the Justice Department. What are your plans for his position and the Office of Policy?

FDA/CDC answer. Mr. William K. Hubbard, Associate Commissioner for Policy Coordination, has assumed the responsibilities of Mr. Schulz's position. The Office of Policy will be included with all other components of the Office of the Commissioner in the organizational review that I committed to in my confirmation hearing in September 1998. This study is underway, and I expect to make decisions on the future structure of the Office of the Commissioner in the near future.

Question. The Food and Drug Administration Modernization Act (FDAMA) directed FDA to publish for pubic comment a proposed amendment to current regulation relating to the labeling of foods treated with ionizing radiation. The Conferees further directed that final regulations could be issued not more than 12 months after the date of enactment of FDAMA, which was November 21, 1997. FDA just recently published an Announced Notice of Proposed Rulemaking on the labeling of irradiated foods, an action that was clearly overdue. Why has it taken FDA so long to follow Congress' intent?

FDA/CDC answer. FDAMA imposed on FDA several foods-related tasks both in the statutory language of FDAMA and its accompanying Conferees' report. FDA was able to complete virtually all of its statutorily mandated tasks within the time frames specified in FDAMA. FDA was also able to complete some of the tasks discussed in the Conferees' report within the specified time frames. FDA will continue to work diligently to accomplish all tasks in a timely manner.

Congress addressed three specific tasks regarding food irradiation; timely decision by FDA on the petition to permit irradiation of meat; limitations on FDA's authority regarding disclosure statements; and a public comment process on the amendment of the irradiation labeling regulations. FDA's actions for each of these tasks is addressed below. As indicated, first priority was placed on the two irradiation tasks required by the statutory language of FDAMA.

First, Congress mandated FDA to reach a timely decision on the petition to permit irradiation of meat. FDA issued its final decision on December 3, 1997, approximately two weeks after the enactment of FDAMA, which was well within the 60 days specified in the Act.

Second, Congress established limits on the prominence of a radiation disclosure statement. To conform FDA regulations with the statutory language of FDAMA, on August 17, 1998, FDA issued a final rule that amended its regulations to ensure that the disclosure statement would not be presumed to be required to be more prominent than the ingredient statement.

Last, the Conferees Report directed FDA to use the public comment process to provide an opportunity for the public to comment on whether the regulations should be amended further to revise the proposed nomenclature for the labeling of irradiated foods. The conferees gave general guidance, such as labeling should not be perceived as a warning or give rise to inappropriate consumer anxiety, but gave no specific instructions regarding how these objectives should be accomplished. On February 17, 1999, FDA published an advanced notice of proposed rulemaking soliciting comment on the appropriate labeling for irradiated foods. The comment period is open until May 18, 1999. FDA has not addressed the directive to consider whether the regulation should be revised since the comment period on the notice has not yet closed.

Question. Under the Food, Drug and Cosmetic Act, irradiation is regulated as a food additive. Is this a necessary requirement in light of what we know today about this food processing technology?

FDA/CDC answer. The legislative history for the Food Additives Amendment makes it clear that it is the equipment used to irradiate food, not the process of irradiation itself, that is regulated as a food additive. The various reports explicitly cite radioactive isotopes, particle accelerators and X-ray machines as the additives whose use is regulated. This was done to ensure that the safety of the process be established before it was used on food in commerce. At that time, the effects of radiation on food were not at all well understood.

Food irradiation involves exposing a food to a source of ionizing radiation. It does not involve adding radioactive isotopes to food nor does it make food radioactive when the process is properly conducted under the limitations in FDA's regulations. The other important safety issues—chemical change, nutrient losses, and differential effects on different microorganisms—are important in all food processes. FDA has not evaluated in depth all possible applications of food irradiation. However, from what FDA has evaluated, nothing has been discovered that would distinguish irradiation from other processes.

FDA recognizes that some expert bodies throughout the world have concluded that irradiation processing does not raise concerns different from other processing. Others have emphasized the need for close monitoring consistent with the caution in adopting any new technology. No expert body anywhere has concluded that irradiation is unsafe, but not all have endorsed it either.

Certainly, as with the adoption of all new technologies, caution is needed to avoid making preventable mistakes. FDA can work to ensure safe application either through the current premarket approval route or by general oversight.

Question. Dr. Henney, every year FDA comes before this Subcommittee with a presentation that generally includes a discussion of the agency's successes over the past year in reducing the time it takes the agency to review applications for foods, drugs, and medical devices. In order to help Subcommittee members more accurately compare the agency's performance in this regard from year to year, please provide answers to the following questions:

In FDA's reports and statements to Congress over the last five years, has there been any change in the method (e.g., mean vs. median) FDA uses to measure the time it takes to review: food additive petitions; new drug applications; abbreviated new drug applications; 510(k)s; premarket approval applications; new animal drug applications; and abbreviated new animal drug applications? If yes for any type of petition or application, please explain.

FDA/CDC answer. Over the past five years, methods of measurement for most programs have changed only slightly. For the new drug and abbreviated drug applications, no changes have occurred. FDA has added a measurement of median times to the 510(k), premarket approval applications, new animal drug applications and abbreviated new animal drug applications. For those applications, averages are still measured and reported, but the Agency believes that the median can give a better representation of Agency performance in those cases in which outliers skew the mean. The median is a particularly valuable piece of data in program areas with a small number of applications.

The Foods Program has altered its definition of the term first action in recent years. Historically, for food additive petitions, the Program has considered a first action to be when it notifies an applicant that a substantive deficiency has been noted, even if reviews of other parts of the application have not been completed. Thus there could have been multiple first action responses to a sponsor as reviews of additional parts of the application were completed. However, the Foods Program is now establishing performance goals for the timely review of a complete package, and is measuring timeliness of review of food additives from the date of receipt of a fileable petition to a complete first action as defined in the Foods Program per-

formance goals. This measure started with the applications received in fiscal year 1998.

In the Animal Drugs and Feeds Program, measures of performance are evolving to reflect the improved drug review process. The Program has significantly improved its review process by reviewing data submitted to the investigational new animal drug file prior to the filing of the new animal drug application. This allows the Agency to evaluate and comment on data as they are collected, as opposed to the earlier process of waiting until the sponsor developed and collected the entirety of the data at considerable expense before the FDA made an approval or deficient decision. In the old process, there was no chance to recognize and resolve an early critical deficiency, such one involving the effective dose, before other required work was done, such as other dose-dependent studies or developing and validating manufacturing processes. This new process has allowed the Agency and sponsors to interact more effectively so that sponsors can make necessary modifications to the drug development plan, based on the FDA evaluation of initial data submissions.

The Agency currently working with its stakeholders to develop new measures or metrics that will satisfy both Agency and stakeholders' needs. These measures may replace traditional metrics that no longer are as valid in measuring the improved drug review process. This cooperative effort to develop more meaningful measures is being conducted in the spirit of the FDA Modernization Act. The new measures will also allow the Animal Drugs and Feeds Program to better fulfill its responsibilities under GPRA, because they are being developed to more appropriately measure outcome-based performance.

Question. How does FDA currently define the term "filing" for: food additive petitions; new drug applications; abbreviated new drug applications; 510(k)s; premarket approval applications; new animal drug applications; and abbreviated new animal drug applications?

FDA/CDC answer. For the Foods Program, regulations concerning the acceptance or nonacceptance of food additive petitions (filing) are laid out in the Code of Federal Regulations (21CFR 171.1). Filing of food additive petitions in the Animal Drugs and Feeds Program is defined in 571.1(I)(1). For both programs, upon receipt of an application, the information is examined to see if the petition requirements from the stature have been addressed. The petitioner is informed of the filing decision within 15 working days. If the petition is accepted for filing, the date of the notification letter to the sponsor becomes the date of filing, and a notice of the filing acceptance is published in the Federal Register.

For new drug applications or abbreviated new drug application, the agency will determine if the application may be filed within 60 days of receipt. The filing of a new drug application, or NDA, or abbreviated new drug application, or ANDA means that FDA has made a threshold determination that the application is sufficiently complete to permit a substantive review.

There is no definition of filing for 510(k)s. They are not filed, rather they are received by the agency and reviewed. For premarket approval applications, under 21 CFR 814.42, the filing of an application means that FDA has made a determination that the application is sufficiently complete to permit a substantive review.

In virtually all cases of new animal drug applications and abbreviated new animal drug applications, the filing as defined in 514.110 [a] is denoted by the date the application is initially received by the Document Control Unit of the Center. The only exception is for rare instances in which a sponsor withdraws an application before the Program's initial evaluation is complete, or the application is so deficient on its face that the Program retroactively refuses to file the application. In these cases, the filing date is that on which the application is resubmitted or reactivated.

Question. In FDA's report and statements to Congress over the last five fiscal years has there been any change to FDA's definition for the term "filing" for: food additive petitions; new drug applications; abbreviated new drug applications; 510(k)s premarket approval applications; new animal drug applications; and abbreviated new animal drug applications? If yes for any type of petition or application. Please explain.

FDA/CDC answer. There has been no change in the agency's definition of the term filing for food additive petitions; new drug applications; abbreviated new drug applications; 510(k)s or premarket approval applications in the past five fiscal years. The minor change in new animal drug applications and abbreviated new animal drug applications is in which a sponsor withdraws an application before the Program's initial evaluation is complete, or the application is so deficient on its face that the Program refuses to file the application. In those cases, the filing date is adjusted to the date on which the application is resubmitted/reactivated. This filing date adjustment was not used prior to 1997 and is rarely employed. This change in the definition of filing for this small number of applications makes the filing-to-

approval-time measure equivalent to the first-substantive-review-to-approval measure.

Question. How does FDA currently define the term "review cycle" for: food additive petitions; new drug applications; abbreviated new drug applications; 510(k)s; premarket approval applications; new animal drug applications; and abbreviated new animal drug applications?

FDA/CDC answer. The review cycle has not been a metric the Agency has used to measure performance for food additive petitions, new animal drug applications or abbreviated new animal drug applications, so there is no definition of the term for those areas.

A review cycle for a new drug application and an abbreviated new drug application begins when an application is filed by FDA and ends when the agency issues an action letter. Generally, these letters communicate to the sponsor that their application is approved or not approved. If not approved, the sponsor is provided with the reasons why and has an opportunity to submit information needed to address these deficiencies. When this information is received a new cycle begins.

For 510(k)s, section 510(k) of the Federal Food, Drug and Cosmetic Act establishes a 90-day benchmark for the review of a premarket notification. In addition, 21 CFR 807.81(a) and 21 CFR 807.87(l) reference the 90-day benchmark for 510(k)s. If a final decision on the notification cannot be made on the basis of information supplied, it is placed on hold and a new 90-day review period (cycle) begins when the requested information is received. For premarket approval applications, section 515(d)(1)(A) of the Federal Food, Drug and Cosmetic Act establishes a 180-day benchmark for Agency action on a PMA. In addition, 21 CFR 814.37(c)(1) and 21 CFR 814.40 reference a 180-day review period, or cycle, for a PMA. A new 180-day review period, or cycle, begins when a major amendment containing significant new or updated data, detailed new analyses, or information previously omitted is received.

Question. In FDA's reports and statements to Congress over the last five fiscal years, has there been any change to FDA's definition for the term "review cycle" for: food additive petitions; new drug applications; abbreviated new drug applications; 510(k)s; premarket approval applications; new animal drug applications; and abbreviated new animal drug applications? If yes for any type of petition or application, please explain.

FDA/CDC answer. FDA has not changed the definition for the term review cycle over the last five fiscal years in any Program where review cycle is measured.

Question. How does FDA currently define the term "approval" for: food additive petitions; new drug applications; abbreviated new drug applications; 510(k)s; premarket approval applications; new animal drug applications; and abbreviated new animal drug applications?

FDA/CDC answer. The definitions of approval vary, often due to requirements of the statute. For food additive petitions under review by the Foods or Veterinary Medicine Programs, current law states that a food additive may be marketed only when a regulation for the food additive exists, specifying the conditions for safe use of the additive. Approval of a food additive petition occurs when a regulation authorizing the use of the additive is published in the Federal Register.

For new drug applications and abbreviated new drug applications, a firm gains permission to market a product when an approval letter is issued.

For 510(k)s, the term approval is not relevant. Under 21 CFR § 807.97, the 510(k) is a clearance and not an approval. A device for which premarket notification is submitted is found substantially equivalent to a legally marketed predicate device and a letter is sent to the applicant informing them of FDA's determination. The letter gives the applicant clearance to market the device.

In the case of premarket approval applications, Section FD&C § 515(d)(1)(A)(I) states that FDA will issue an order approving a PMA if none of the grounds for denying approval apply specified in section 515(d)(2) and 21 CFR 814.44(d)(1). FDA issues an order approving the application if there is reasonable assurance that the device is safe and effective for the intended use for the target population.

For new animal drug applications and abbreviated new animal drug applications, approval is the status an application acquires when the drug product has been deemed safe and effective and the sponsor of the application is informed by letter and Federal Register notice that the application has met all of the requirements for approval under the FD&C Act.

Question. In FDA's reports and statements to Congress over the last five fiscal years, has there been any change to FDA's definition of the term "approval" for: food additive petitions; new drug applications; abbreviated new drug applications; 510(k)s; premarket approval applications; new animal drug applications; and abbre-

viated new animal drug applications? If yes for and type of petition or application, please explain.

FDA/CDC answer. The use of the term approval has been consistently applied by FDA for food additive petitions, new drug applications, abbreviated new drug applications, 510(k)s and premarket approval applications in the last five fiscal years. However, a provision was established in the Food and Drug Modernization Act, or FDAMA, for the premarket notification of food additives that fit the definition of food contact substances, e.g., food packaging materials. If certain funding provisions of the Act are fulfilled, and the Premarket Notification Program for Food Contact Substances becomes operational, eligible substances may be lawfully marketed 120 days after submitting a notification, absent an objection by the Agency.

For new animal drug applications and abbreviated new animal drug applications, there has been a change in the date some applications are considered approved. For an application to be considered approved, both the sponsor and the public have to be notified. The sponsor is notified in a letter of the Agency decision to approve, while the public is notified by publication of the information in the Federal Register. Because of recent changes in legislation, the Animal Drug Availability Act of 1996, some animal feed drugs are now considered approved as of the date of the letter to the sponsor and sponsors are not required to wait for Federal Register publication to market the drug.

Question. How does FDA currently define the term "mean" concerning the review of: food additive petitions; new drug applications; abbreviated new drug applications; 510(k)s; premarket approval applications; new animal drug applications; and abbreviated new animal drug applications?

FDA/CDC answer. FDA defines the mean as the sum of all values in a group of data, divided by the number of values. This definition is used across all program areas.

Question. In FDA's reports and statements to Congress over the last five fiscal years, has there been any change to FDA's definition for the term "mean" concerning the review of: food additive petitions; new drug applications; abbreviated new drug applications; 510(k)s; premarket approval applications; new animal drug applications and abbreviated new animal drug applications? If yes for any type of petition or application, please explain.

FDA/CDC answer. There has been no change in the agency's definition of the term mean in the last five fiscal years.

Question. How does FDA currently define the term "median" concerning the review of: food additive petitions; new drug applications; abbreviated new drug applications; 510(k)s; premarket approval applications; new animal drug applications; and abbreviated new animal drug applications?

FDA/CDC answer. FDA defines the median as the point in an ordered group of data at which half of the data falls above and half below. The median is the exact midpoint of the collected information. If the number of values is even, the median is the average of the two middle values.

Question. In FDA's reports and statements to Congress over the last five fiscal years, has there been a change to FDA's definition for the term "median" concerning the review of: food additive petitions; new drug applications; abbreviated new drug applications; 510(k)s; premarket approval applications; new animal drug applications; and abbreviated new animal drug applications? If yes for any type of petition or application, please explain.

FDA/CDC answer. There has been no change to FDA's definition for the term median in the last five fiscal years.

Question. How does FDA currently define the term "average" concerning the review of: food additive petitions; new drug applications; abbreviated new drug applications; 510(k)s; premarket approval applications; new animal drug applications; and abbreviated new animal drug applications?

FDA/CDC answer. FDA defines the term average as the sum of all values in a group of data, divided by the number of values. The terms mean and average are used interchangeably.

Question. In FDA's reports and statements to Congress over the last five fiscal years, has there been any change to FDA's definition for the term "average" concerning the review of: food additive petitions; new drug applications; abbreviated new drug applications; 510(k)s; premarket approval applications; new animal drug applications; abbreviated new animal drug applications? If yes for any type of petition or application, please explain.

FDA/CDC answer. No, there has been no change in the agency's definition of the term average in the last five fiscal years.

Question. How does FDA currently define the term "receipt" for: food additive petitions; new drug applications; abbreviated new drug applications; 510(k)s; pre-

market approval applications; new animal drug applications; and abbreviated new animal drug applications?

FDA/CDC answer. Across the Agency, there are only minor, technical variations in how the receipt of a petition or applications is defined. For food additive petitions, receipt is defined as the day the petition is logged in to the Office of Premarket Approval and an acknowledgment letter is forwarded to the petitioner on the day of arrival or the following business day.

Receipt of a New Drug Application is considered to be when it is received by the agency and when it is accompanied by any required user fee payment, 5-day grace period, where applicable.

Receipt of an abbreviated new drug application or ANDA is defined as when a sponsor or applicant physically submits an ANDA to the Office of Generic Drugs. Receipt is independent of the filing status of an ANDA.

For 510(k) and premarket applications, FDA defines the term receipt as the date that a submission is received and date stamped in FDA's Document Mail Center. Similarly, the receipt of an animal drug application or abbreviated new animal drug application is considered to be when an application is received at the Document Control Unit of the Center for Veterinary Medicine and date stamped. Since processing of new submissions ceases for the day at 2:00 p.m., submissions received after 2:00 p.m. are stamped with the receipt date of the next business day.

Question. In FDA's reports and statements to Congress over the last five fiscal years, has there been any change to FDA's definition for the term "receipt" for: food additive petitions; new drug applications; abbreviated new drug applications; 510(k)s; premarket approval applications; new animal drug applications; and abbreviated new animal drug applications? If yes for any type of petition or application, please explain.

FDA/CDC answer. No, there has been no change to FDA's definition for the term "receipt" in reports and statements to Congress over the last five fiscal years.

Question. How does FDA currently define the term "overdue" concerning the review of food additive petitions?

FDA/CDC answer. In previous years, overdue petitions have been defined and reported as those pending before the agency for more than 180 days after filing without any action taken on them by the Agency. However, approval of a food additive requires complete review of a petition, preparation and review of an order that specifies the regulation and lays out the basis for Agency's decision, and publication of the document in the Federal Register. Most commentators and stakeholders in the food additive petition review process have agreed that 180 days is an impractical timeframe to complete each of the steps in the process. Accordingly, the agency has begun using 360 days after filing in its GPRA performance goals as the time period after which a petition would be considered overdue.

Question. In FDA's reports and statements to Congress over the last five fiscal years, has there been any change to FDA's definition for the term "overdue" concerning the review of food additive petitions? If yes, please explain.

FDA/CDC answer. In previous years, overdue petitions have been defined and reported as those pending before the agency for more than 180 days after filing.

Nevertheless, because approval of a food additive requires not only complete review of a petition, but also preparation and review of an order that specifies the regulation and lays out the agency's basis for its decision, and publication of the document in the Federal Register, most commentators and stakeholders on this process agree that 180 days is impractical. The agency has begun using 360 days in its GPRA performance goals for time to first action. In any future reporting, overdues calculated in terms of GPRA goals will be clearly defined and delineated.

Question. How does FDA currently define the term "completed" concerning the review of new animal drug applications and abbreviated new animal drug applications?

FDA/CDC answer. A submission involving a New Animal Drug Application (NADA) or Abbreviated New Animal Drug Application (ANADA) is completed when the Animal Drugs and Feeds Program has finished the review of the information contained, or referenced, in the submission and informed the sponsor by letter of its findings. A favorable letter regarding the final submission to an NADA or ANADA will reflect approval of the application.

Depending on the information and data submitted, the application may be judged to be either approved or deficient. If the application is approved, then notification of the approval is sent by letter and subsequently published in the Federal Register and the drug may be marketed consistent with the conditions of approval. If deficiencies are found in the application i.e., the information submitted is inadequate to show the drug to be safe and effective, then the sponsor is notified of the deficiencies and can address these deficiencies and reactivate the application with that

information. The Animal Drugs and Feeds Program will then review the reactivated application.

Question. In FDA's reports and statements to Congress over the last five fiscal years, has there been any change to FDA's definition for the term "completed" concerning the review of new animal drug applications and abbreviated new animal drug applications? If yes, please explain.

FDA/CDC answer. The definition of completed has not changed in the last five years.

Question. How does FDA currently define the term "processed original" when describing new animal drug applications?

FDA/CDC answer. The phrase processed original as used in the budget report is synonymous with the phrase original applications or simply originals in the context of original applications received, completed, or approved.

Question. When and why did FDA start using the term "processed original" in agency reports and statements to Congress when describing new animal applications?

FDA/CDC answer. In fiscal year 1999 the Animal Drugs and Feeds program revised the format for reporting program activity data in the Justification of Estimates for Appropriations Committees—President's Budget. Prior, to fiscal year 1999, data was not reported in a consistent manner. For example, we reported medicated Feed Applications Processed, New Animal Drug Application Submissions Received and Completed and Original New Animal Drug Applications Approved. In fiscal year 1999 we began reporting program workload and output as Received, Completed and Approved. Processed original is redundant and provides no meaning, therefore we will omit it in future documents.

Question. How does FDA currently define the phrase "FDA days-approval" concerning the review of premarket approval applications and premarket approval application supplements?

FDA/CDC answer. FDA does not currently use the phrase FDA days-approval. FDA reports several measures for PMAs that include average review time and average elapsed time to approval. FDA also reports three components of time-FDA, non-FDA and total time. The FDA portion is the number of days FDA took to review the application in the last review cycle that led to a final approval decision.

Question. When and why did FDA start using the phrase "FDA days-approval" concerning the review of premarket approval applications and premarket approval application supplements?

FDA/CDC answer. FDA has not used the phrase FDA days-approval concerning the review of premarket approval applications and premarket approval application supplements.

Question. How does FDA currently define the phrase "FDA days-clearance" concerning the review of 510(k)s?

FDA/CDC answer. FDA does not currently use the phrase FDA-days clearance concerning the review of 510(k)s. FDA reports several measures for 510(k)s that include average review time, and median review time. The review time for a 510(k) is the number of days FDA was reviewing the 510(k) from the day of receipt of the submission until the date of issuance of the substantially equivalent letter.

Question. When and why did FDA start using the phrase "FDA days-clearance" concerning the review of 510(k)s?

FDA/CDC answer. FDA has not used the phrase FDA days-clearance concerning the review of 510(k)s.

Question. How does FDA currently define the phrase "review and act on" concerning the review of abbreviated new drug applications?

FDA/CDC answer. The phrase review and act on is defined by FDA as the examination of the chemistry data submitted in an ANDA and the communication with the sponsor or applicant that the ANDA is approved or disapproved. ANDA's that are disapproved are sent deficiencies in the form of not approvable or other types of letters.

Question. When and why did FDA start using the phrase "review and act on" concerning the review of abbreviated new drug applications?

FDA/CDC answer. The phrase "review and act on" originated with the implementation of PDUFA. The industry and Congress requested an affirmative statement to communicate the result of a review to the sponsor. The term and act on was added to review to meet this industry request. The phrase is meant to communicate both meeting the required time frame of the review as well as the result. Act on is defined as the issuance of a complete action letter after filing of an application. FDA issues three types of action letters: Approval letters, Approvable letters, and Not Approvable letters. The action letter, if it is not an approval, must set forth in detail the specific deficiencies, and, where appropriate, the actions necessary to place the

application in a condition for approval. For the past few years FDA has used the phrase review and act on with non-PDUFA abbreviated new drug applications to communicate similar information to their sponsors.

Question. Dr. Henney, this Committee has made it clear that we expect your agency to meet its statutory deadlines for review of all applications and petitions. However, we are also aware that resources are limited. For each type of application listed below, could you please provide the Committee with your best estimates of how much money and the number of FTEs the agency would need to meet 100 percent of its statutory deadlines for: food additive petitions; new drug applications; abbreviated new drug applications; 510(k)s; premarket approval applications; new animal drug applications; and abbreviated new animal drug applications?

FDA/CDC answer. Preparing the FDAMA implementation plan made it quite apparent to us that FDA is responsible for managing a rather complex triad of statutory expectations regarding the performance of review processes. First, and perhaps foremost, the agency's FDAMA mission statement directs us to the intended outcome of a successful review process—promotion of the public health by ensuring the timely marketing of new regulated products. In addition to this results-oriented goal, the statutory requirements for the FDAMA plan specify two enabling objectives. The first is to maximize the availability and clarity of information about the application review processes, and the second is to establish mechanisms for meeting the review time periods specified in the Act. The fiscal year 2000 budget request reflects our closely integrated approach to these three statutory requirements. Because of their confluence, it is not appropriate to develop separate cost estimates for the individual objectives.

We are fortunate to have an extremely robust template for this triad of statutory expectations. Beginning with the design of the initial Prescription Drug User Fee Act in 1992, and as it was updated the FDA Modernization Act, FDA's drug and biologic review processes have been striving to ensure that safe and effective new products are actually available to the publicnot just reviewed—as quickly as possible. This results-oriented societal goal has effectively made FDA and sponsors of new products collaborators during the entire development process, as well as during the final review steps, to ensure that the maximum possible number of safe and effective products are commercialized as quickly as possible.

The PDUFA results have given us a deeper understanding of the relationship between results measures, new product availability, and process measures, review timeliness. Measuring from the year before PDUFA in 1992, approval times for new drugs have been reduced by a year, clinical development times are two years quicker and the success rate, the percentage of applications approved, are up from less than 60 percent to 85 percent now. Yet, review time, the statutory time interval, has only decreased by about 2 months from the median interval of 12.5 months in 1992. This apparent paradox can be explained by the benefits realized by sponsors from a more transparent process affording more effective pre-submission collaboration with FDA that results in quicker preparation of higher quality submissions that can be approved by FDA on the first try. In the reauthorization of PDUFA through 2002, the pharmaceutical industry focused its willingness to pay additional fees on further expanded FDA collaboration within the development process. Their projections for 2002 predict an overall drug development time that is a year faster, but only a small fraction of that time savings is expected from quicker review times. The industry's acceptance of review timeframes that are longer than statutory goals acknowledges the amount of work that must be done within the review process, and the desirability of resolving problems within the first review cycle rather than churn through multiple review cycles, even if each might be within the statutory timeframe.

This collaborative approach that has effectively demonstrated its ability to ensure more timely access to the greatest number of safe and effective new products is evident in the fiscal year 2000 budget request for other FDA review processes. The President's specific funding requests for additional review capabilities in the device review process and the food additive process invite the sponsors of these submissions to collaborate with the agency, with both their energy and user fee funding, to achieve the jointly desired goal of more timely consumer access to new products. Looking forward, I believe the eventual level of funding for these FDA review processes will increase proportionally with the degree of industry confidence in the collaborative paradigm demonstrated by the success of PDUFA. This is necessarily an incremental process where initial commitments of industry collaboration and fee funding prove their worth in terms of quicker and more certain new product development cycles. Eventually, I believe full implementation of this new collaborative review paradigm will effectively achieve most of the regulatory review timeframes in the course of satisfying the broader FDAMA goals. However, I will not be surprised

if this step-wise proof by experience in the various FDA product areas will suggest that some of the present statutory review timeframes are not the optimal intervals for realization of the broader FDAMA objectives.

QUESTIONS SUBMITTED BY SENATOR KOHL

Question. Any initiative such as the Food Safety Initiative, that crosses agency and departmental lines requires high levels of agency coordination and cooperation. What steps are being taken to ensure that all food safety activities are properly coordinated? Is there any one agency or person responsible for taking the lead on food safety activities? What steps are needed to improve communication and cooperation among the agencies?

USDA answer. On August 25, 1998, the President, by Executive Order 13100, established the President's Council on Food Safety. The purpose of the Council is to protect the health of the American people by preventing foodborne illness through improving the safety of the food supply by means of sciencebased regulation and well-coordinated investigation, inspection, enforcement, research, and educational programs. The Secretaries of Agriculture and of Health and Human Services and the Assistant to the President for Science and Technology/Director of the Office of Science and Technology Policy serve as co-chairs of the Council.

The Council is charged with:

—the development and periodic update of a comprehensive strategic plan for food safety activities;

—making recommendations to the President on how to implement the comprehensive strategy and enhance coordination among Federal agencies, State, local and tribal governments, and the private sector;

—advising federal agencies in setting priority areas for investment in food safety and developing a coordinated food safety budget for the administration; and

—overseeing research efforts of the Joint Institute for Food Safety Research.

In recent years, we have made tremendous progress in strengthening ties among food safety agencies at all levels of government, industry, academia, and the public sharing a common public health mission and fulfilling that mission more effectively by continuing to build partnerships in so many food safety areas. The development of the comprehensive strategic plan for food safety and the development of coordinated food safety budgets under the guidance of the President's Council will be major steps in improving coordination and cooperation among agencies.

FDA answer. Since the implementation of the Food Safety Initiative, with release of the "Farm-to-Table" plan in May, 1997, the food safety agencies have worked to coordinate activities in every area of the initiative. The Partnership for Food Safety Education was formed by the agencies, industry, states, and consumer groups, to mount a coordinated approach to changing consumers' food practices. Representatives of federal and state agencies joined to form the Foodborne Outbreak Response Coordinating Group, or FORCG, as a means of improving the response to foodborne outbreaks whether they are multi-state outbreaks or occur at the state or local level, and improving consumer safe food practices. Interagency working groups were also formed to set up the Risk Assessment Consortium and to coordinate research planning.

FDA, in a coordinated effort with CDC, USDA, and EPA, developed a joint research plan. The plan provides a broad, uniform, and complementary approach to research that is intended to fill critical gaps in our scientific understanding of foodborne illness. To further assure that there is a mutual understanding of the issues surrounding foodborne illness. FDA and USDA participate on the National Advisory Committee for Microbiological Criteria for Foods, or NAMCF. This committee discusses scientific issues and research program needs for pathogens that may wind up in or on foods. FDA and USDA have also cooperated in joint food safety training programs such as the recent training on the application of Good Agricultural Practices. In order to assure that consumers and others keep abreast of food safety initiatives, the participating agencies have sponsored and will continue to sponsor a series of food safety education conferences.

On July 3, 1998, President Clinton directed the Department of Health and Human Services, DHHS, and the Department of Agriculture, USDA, to report back within 90 days with a plan to create a Joint Institute for Food Safety Research. The Institute is to coordinate planning and priority setting for food safety research among the two Departments, other government agencies, and the private sector and foster effective translation of research results into practice along the farm-to-table continuum. Enhanced and more efficient national investment in food safety research will do much to lower incidence of foodborne illness in the United States.

DHHS and USDA will have joint leadership of the Institute and will use existing resources to support it. This acknowledgment of the critical need to expand and coordinate food safety research also emphasizes the companion needs to expand and strengthen public-private partnerships and to augment collaboration among state, local, and other Federal agencies, thereby providing effective scientific information required to help achieve public health goals.

Likewise, Executive Order 13100 establishing the Food Safety Council has formalized interagency food safety budget planning and overall strategic planning. These processes are augmented by the numerous interagency working groups formed to coordinate food safety activities.

Question. Is there any one agency or person responsible for taking the lead on food safety activities?

FDA answer. No, no one person or agency has the lead or the responsibility on food safety activities. All the food safety agencies—FDA, CDC, USDA, and EPA—are working together, in a coordinated effort to achieve the goals of the Food Safety Initiative. The President's Food Safety Council released its response to the National Academy of Sciences, or NAS, report "Ensuring Safe Food from Production to Consumption" on March 15, 1999. One of the recommendations within the NAS report called for Congress to "establish by statute a unified and central framework for managing federal food safety programs, one that is headed by a single official and which has the responsibility and control of resources for all federal food safety activities . . ." The Council strongly agrees with the goal of a unified framework for the food safety programs, while noting that there may be many organizational approaches to achieving a "single voice" for federal food safety activities. The Council will conduct an assessment of structural models and other mechanisms that could strengthen the federal food safety system through better coordination, planning and resources allocation.

Question. What steps are needed to improve communication and cooperation among the agencies?

FDA answer. In the interests of solidifying interagency coordination and communication, numerous interagency committees have been formed with representatives ranging from the working level to the agency's senior decision makers. We believe that the strategic planning process, conducted by the Food Safety Council, will further solidify lines of communication between the agencies as they work together to develop the national food safety plan described in the Council response to the National Academy of Science's report Ensuring Safe Food.

Question. I have been provided by the Food and Drug Administration a map of the United States which shows Food-Borne Disease Outbreaks from the period of January to July, 1998. I understand this map is based on information provided by the Centers for Disease Control and Prevention. This map indicates that some states with relatively low populations, such as Wisconsin and Kansas, have a large number of outbreaks compared to states with relatively high populations, such as Texas, Florida, and New York. What is the actual definition of a "Food-Borne Disease Outbreak"?

USDA answer. The definition of a foodborne disease outbreak is the occurrence of two or more cases of a similar illness resulting from the ingestion of a common food.

Question. Is the period shown on this map (January to July, 1998) representative of incidents of outbreaks generally?

USDA answer. The period shown on the map—January to July 1998—is not representative of outbreaks, generally. Rather, it is probably more representative of the reporting of outbreaks to the CDC. Thus, the number of outbreaks in some States may be higher because they are more likely to report their outbreaks than other States.

Question. I have been provided by the Food and Drug Administration a map of the United States which shows Foodborne Disease Outbreaks from the period of January to July, 1998. I understand this map is based on information provided by the Centers for Disease Control and Prevention. This map indicates that some states with relatively low populations, such as Wisconsin and Kansas, have a large number of outbreaks compared to states with relatively high populations, such as Texas, Florida, and New York.

What is the actual definition of a "Foodborne Disease Outbreak"?

FDA answer. An outbreak is defined as an occurrence of 2 or more cases of a similar illness resulting from the ingestion of a common food. (MMWR V45, #SS–5, 10/25/96)

FDA answer. The map illustrates outbreaks during that period of time; it is not generalizable to other time periods.

Question. To the extent outbreaks were a problem in Wisconsin during the period shown on this map, what is FDA or any other agency doing to help control this problem?

USDA answer. FSIS staff is available to help investigate plants that may be associated with foodborne illness in Wisconsin at the request of the Wisconsin state epidemiologist. This is usually done in collaboration with the local health department and CDC. FSIS assisted Wisconsin in this fashion once during 1998.

FDA answer. In general, CDC supports strengthening states' ability to detect and investigate outbreaks of foodborne illness through enhanced surveillance capacity.

Wisconsin is sophisticated in laboratory methods and epidemiology, with the aid of Epidemiology and Laboratory Capacity (ELC) cooperative agreements and as a member of PulseNet. The result of epidemiologic sophistication is better surveillance, which leads to better and more accurate disease detection. It is important to note that the outbreaks in Wisconsin illustrated by the map are the result of techniques that have allowed for detection of widely dispersed outbreaks and small clusters that would have previously been missed. FDA or USDA will investigate those outbreaks that involve regulated products under their corresponding jurisdictions. A renewed Memorandum of Understanding, or MOU, between the two agencies was signed in February 1999 that will facilitate enhanced exchange of information at the field level about food establishments and operations that are subject to the jurisdiction of both agencies. Most foodborne outbreaks involve mishandling at the point of preparation and/or two products that would have traveled in intrastate commerce. In such cases, the state public health agencies would respond at the state or local levels, as appropriate. States that show an apparent disproportionately large number of outbreaks, most likely indicate more active surveillance investigation and reporting by the State and public health agencies. In general, FDA and CDC support strengthening states' ability to detect and investigate outbreaks of foodborne illness through enhanced surveillance capacity. Specifically, Wisconsin's state public health agencies are sophisticated in laboratory methods and epidemiology, with the aid of Epidemiology and Laboratory Capacity, or ELC, cooperative agreements and as a member of Pulsenet. The result of epidemiologic sophistication is better surveillance, which leads to better and more accurate disease detection. It is important to note that the outbreaks in Wisconsin illustrated by the map are the result of techniques that have allowed for detection of widely dispersed outbreaks and small clusters that previously would have been missed.

Question. Last year, USDA began implementation of the Hazard Analysis Critical Control Point (HACCP) program for large meat and poultry processing plants both in the United States and foreign countries who export to the U.S. Earlier this month, similar programs were implemented for small firms both here and abroad. Although the inspection programs in foreign countries do not have to be identical to those in the U.S., they must be equivalent. What changes have occurred in the safety of meat and poultry products from foreign nations since the implementation of HACCP? How has implementation of HACCP in foreign plants compared to implementation in U.S. plants?

USDA answer. For the record, the following chart summarizes the status of eligible foreign countries with regard to the implementation of HACCP Sanitation Standard Operating Procedures (SSOPs) and generic E. coli testing. FSIS is in the process of its review of the implementation of HACCP and Salmonella testing in eligible foreign countries.

[The information follows:]

STATUS OF PR/HACCP EQUIVALENCE DETERMINATIONS

COUNTRY	1998 Import Volume	SSOP and E. coli Testing			
		"Identical" SSOP & E. coli Testing?	Alternate Sanitary Measures?	Were Measures Equivalent?	Was data/info. received and NO equivalence determination made?
Argentina	73,718,507	Yes	No		No
Australia	706,370,059	Yes	Yes	No [1]	No
Austria	7,291	Yes	No		No
Belgium	10,479,587	Yes	No		No
Brazil	69,991,833	Yes	No		No
Canada	1,413,660,410	Yes	No		No
Costa Rica	19,750,003	Yes	No		No
Croatia	2,013,764	Yes	No		No
Czech Republic		SSOP—yes E. coli—see→.	No		Yes, more E. coli testing information needed.
Denmark	114,653,909	Yes	Yes	Yes [3]	No

STATUS OF PR/HACCP EQUIVALENCE DETERMINATIONS—Continued

COUNTRY	1998 Import Volume	SSOP and E. coli Testing			
		''Identical'' SSOP & E. coli Testing?	Alternate Sanitary Measures?	Were Measures Equivalent?	Was data/info. received and NO equivalence determination made?
Dominican Republic	122,064	Yes	No		No
Finland	550,321	Yes	No		No
France	684,770	Yes	No		No
Germany	213,500	Yes	No		No
Guatemala	([2])	Unknown	Unknown		Yes, more info. needed.
Honduras	2,224,014	Yes	No		No
Hong Kong	1,136,931	Yes	No		No
Hungary	6,897,146	Yes	No		No
Iceland	58,923	Yes	No		No
Ireland	4,942,705	Yes	No		No
Israel	795,895	Yes	No		No
Italy	3,243,499	Yes	No		No
Japan	20,594	Yes	No		No
Mexico	9,355,525	Yes	No		No
Netherlands	11,916,449	No	Yes	Yes[4]	No
New Zealand	477,162,848	No	Yes	Yes[5]	No
Nicaragua	16,282,222	Yes	No		No
Northern Ireland	([2])	Yes	No		No
Poland	12,582,516	Yes	No		No
Romania	([2])	Yes	No		No
Slovenia	56	Yes	No		No
Spain	176,002	Yes	No		No
Sweden	1,121,066	Yes	No		No
Switzerland	43,885	Yes	No		No
United Kingdom	8,645,008	Yes	No		No
Uruguay	3,006,695,218	Yes	No		No

[1] Australia provided a scientific document comparing their E. coli testing program (two sampling sites) with a three-site sampling technique. After a thorough review of the research, in which the rump site was not sampled in the two-site technique and positive results of less that 1 CFU/cm^2 were omitted, FSIS determined the two techniques as not equivalent. Australia agreed to perform E. coli testing as identical to FSIS method.

[2] None.

[3] Denmark has recently submitted information in support of an NMKL method of analysis for generic E. coli. Based upon a review of the information and on an agreement between Denmark and the AOAC International, FSIS has determined the analytical method to be equivalent

[4] The Netherlands submitted scientific data in support of their testing program for Enterobacteriaceae as an alternative to E. coli testing. Their original submission included fewer sample sites, less frequent sampling, a smaller sample collection area, non-random sampling, and sampling prior to chilling. Based on the information provided, FSIS determined that the Netherlands could use Enterobacteriaceae and sample prior to the chiller (using statistical process control techniques). The other alternative sanitary measures were determined as not equivalent. The Netherlands recently submitted a research protocol to provide data in support of a 5cm^2 sample collection area for their Enterobacteriaceae testing program. FSIS has not received the data and has, therefore, not made an alternative equivalence determination on this issue.)

[5] New Zealand submitted scientific data in support of a smaller sampling area (5cm^2 vs 100cm^2) for E. coli testing. Additional information was submitted regarding alternative sampling frequencies, sampling tool, and sampling sites (outside hind leg instead of rump). Based on the data provided, FSIS determined that the smaller sampling area was not equivalent to the FSIS sampling area. Based on the additional information provided, FSIS determined that the outside hind leg site was equivalent to the rump if the anus is bagged prior to dropping, the site is no more than 5 cm from the FSIS rump site, and the NZ site is expanded to 100 cm^2 in the direction of the anus. It was also determined that the alternative sampling tool (swab) and the sampling frequency (5 bovine per week) were equivalent; based on generally recognized and accepted methods of sample collection and a history indicating a relatively low volume of slaughter production in New Zealand's export establishments, respectively.)

(NOTE: Information has been received from each of the countries listed and each is under review for an equivalence determination for HACCP plans and Salmonella testing. However, more information is required from each country before a provisional determination can be made. As was the case when considering the equivalence of a country's SSOP and E. coli testing programs, once a provisional determination is made, an on-site audit will be scheduled. Before, during, and after the determination process, audits are scheduled and performed on an on-going basis. Each audit provides information and feedback to FSIS covering inspection operations and equivalence issues, as necessary. Before a final equivalence determination is made, another on-site audit is completed and the findings and subsequent documents are thoroughly reviewed.)

Source: FSIS.

Question. Earlier this year, USDA began implementation of HACCP for small plants. There had been concern that the regulatory changes called for by HACCP might be economically difficult for small operations with limited capital. Wisconsin ranks 8th in the nation in the number of small plants that came under HACCP in January. Please describe how implementation of HACCP for these small plants is proceeding.

USDA answer. HACCP implementation for small plants has been very successful. As of February 24 of this year, only 13 out of 2,211 small plants have had FSIS take enforcement action against them for failure to fully meet HACCP requirements. All of these plants have provided FSIS with corrective action plans and have

been approved to continue operating. Eight other plants have voluntarily requested that inspection be suspended or withdrawn.

FSIS uses a tracking system on the number of calls made by the industry to the HACCP Hotline, which is managed by the agency's Technical Service Center at Omaha, NE, to monitor HACCP implementation. Because of the preparation by the industry and the Agency, there have not been more calls received from the approximately 2,200 small plants that implemented HACCP on January 25, 1999, than received from the 300 large plants that implemented during January 1998.

Question. How does the FDA program for import inspection compare to that of USDA? Are your standards similar and do your results show similar success?

FDA answer. We assume that your question refers to the FDA and USDA foreign inspection programs whereby the Agencies inspect foreign producers of products offered for entry into the U.S. The import program is commonly used to describe the review and testing of products offered for entry into the US at our borders.

Until fiscal year 1999, when additional resources were allocated to FDA under the President's Food Safety Initiative, or FSI, the Agency's inspection of foreign producers was limited primarily to manufacturers of low acid canned foods and acidified foods. FDA conducted an average of only 40 inspections a year of foreign producers. Unlike the USDA, FDA does not have statutory authority to require inspection of a foreign facility offering product for entry into the U.S. FDA must request permission from the foreign facility to conduct an inspection. USDA on the other hand routinely inspects all foreign facilities that wish to import products regulated by USDA into the U.S. The USDA has veterinarians and a foreign inspection cadre stationed overseas, FDA has none.

The USDA and FDA programs are not similar. Under its new HACCP regulations, USDA-regulated products offered for entry into the U.S. must be produced under an equivalent system to that of American products and then must be inspected upon entry. The FDA HACCP program currently covers only seafood products. FDA is in the process of determining equivalency in several countries, however, the primary focus of the program currently resides with importers. FDA requires that importers must have a HACCP verification plan for products they wish to bring into the US. Since FDA does not have staff located in foreign countries, nor resources to perform equivalency assessments in all countries offering product for entry to the U.S., it is not possible to compare the success rate of the FDA and USDA programs.

Importers of seafood must also demonstrate through affirmative steps that their foreign suppliers have implemented an effective HACCP plan. To insure that importers are meeting these new requirements, FDA has begun conducting inspections of importers of seafood in this country. We will also be conducting inspections of seafood processors in other countries who export to the U.S. to ensure that they are meeting U.S. requirements including the new HACCP regulation.

The seafood HACCP regulation relieves the importer from these obligations if there is an active agreement between FDA and the country that covers the fish or fishery product and documents the equivalency or compliance of the inspection system of the foreign country with U.S. system. We have started equivalence determinations with some of our trading partners including Canada, Australia, New Zealand, Norway, Iceland and Japan. None of these determinations has been completed.

FDA has increased the number of foreign inspections from 40 to 100 in fiscal year 1999, and an additional 150 foreign inspections has been recommended for fiscal year 2000.

The Agency also provided resources to FDA's Office of Regulatory Affair's Import Operations to ensure that regulated animal products (animal feeds and veterinary drug products) are examined.

Earlier this year, USDA began implementation of HACCP for small plants. There had been concern that the regulatory changes call for by HACCP might be economically difficult for small operations with limited capital. Wisconsin ranks 8th in the nation in the number of small plants that came under HACCP in January.

Question. Please describe the implementation of FDA's HACCP program as it applies to both large and small operations.

FDA answer. We would be happy to provide that information for the record.

[The information follows:]

In developing its seafood HACCP program, FDA did not distinguish between large and small operations; rather, FDA attempted to tailor both the requirements and the implementation of the program so that they would be feasible regardless of the size of the processing operation. FDA adopted this strategy after soliciting comment on the treatment of small businesses through the notice of proposed rulemaking for the program. The comments generally recommended against differentiating between large and small processors. Further, the preamble to FDA's final regulations requested that any processor that was having financial or similar difficulties imple-

menting HACCP should notify FDA so that the agency could consider adjusting the time frame available for implementation or making other changes to accommodate problems of this nature. FDA received no such requests.

A major philosophical underpinning for FDA's program is that it should be within reach of all commercial food processors to understand the food safety hazards that could affect their products so as to take reasonable, cost-effective measures to keep those hazards from occurring. In keeping with that philosophy, FDA took small businesses into account in the following ways:

—The program requirements were crafted to allow processors as much flexibility as possible to tailor their HACCP systems to their circumstances.

—All processors were given two years to implement their HACCP systems.

—The heart of each HACCP system is monitoring "critical control points" where a breakdown could cause a safety hazard to occur, and then recording the results of that monitoring. FDA encouraged processors to keep record keeping simple and inexpensive and provided advice and guidance on how to avoid unnecessary cost and complexity.

—FDA worked with the Seafood HACCP Alliance, a consortium of Federal agencies, the Association of Food and Drug Officials, academia, and industry trade associations, to develop an extremely low cost basic seafood HACCP training course for industry that has been taught around the country, especially in locations with many seafood processors.

—FDA developed a guidance package for processors that contains the agency's best advice on how to establish and operate a HACCP system in virtually any processing situation. The intended beneficiaries of this guidance were primarily small processors that lack the in-house expertise that larger processors possess. The guidance package contains a fill-in-the-blank HACCP plan that a processor could develop with information provided in the guidance package.

Question. Please outline specific problems you are hearing from these plants.

USDA answer. For the record, the HACCP Hotline has identified the following items as the principal concerns expressed by owners and operators of small plants.

[The information follows:]

1. Inclusion of critical control points for identified food hazards.

2. The use of control programs/good manufacturing practices in lieu of critical control points.

3. The process for completing the pre-shipment review for plants supplying products to hotels, restaurants, and institutions.

Question. Please describe the role you are playing in the administration's overall policy to counter bio-terrorism as it relates to the food supply.

USDA answer. The Food Safety and Inspection service (FSIS) and the Office of the Under secretary for Food Safety are actively involved in the administration's overall policy initiatives to counter bio-terrorism as required under Presidential decision Directives 39, 62, 63 and 67. Currently, the Under Secretary co-chairs the USDA task force charged to develop and test the Department's Continuity of Operations Plan (COOP). FSIS is a member of the taks force and has completed the first draft of it COOP.

USDA has organized an intra-departmental Food Emergency Rapid Response & Evaluation Team to respond to food emergencies, which may include some bioterrorism emergencies. This team, headed by the Under Secretary for Food Safety at USDA, is a coordinating mechanism for developing prompt departmental responses to food safety emergencies. FSIS also developed strong ties with CDC, FDA, and the state and local public health departments through working together on the Foodborne Outbreak Response Coordination Group. This group has developed a white paper describing foodborne outbreak response coordination.

FDA answer. CDC is the lead agency for efforts to upgrade national public health capability to detect, investigate, and control outbreaks of human illness related to bioterrorist attacks, whether or not the food supply is implicated. The focus of FDA and USDA is the food supply itself.

CDC's role is to build national capacity to detect and determine causes of human illness; strengthen state and local public health surveillance; improve diagnostic methods; enhance public health training, and transfer laboratory and other technology. These activities build upon the framework of CDC's Emerging Infections Plan and action to date to strengthen state and local emergency response capability.

FDA has formed an intra agency working group to coordinate bioterrorism activities and is moving to address the special technical and personnel safety issues associated with biological agents. These activities are being coordinated with the Food Safety Initiative. The Agency has maintained its capabilities to respond to incidents of food tampering, including bioterrorism. FDA is continuing cooperation in research and development with other Federal agencies as a member of the Bioterrorism

Technical Support Working Group. Current research efforts are directed toward the development of improved methods to detect bio-terrorism agents in foods. Some of these methods involve the transfer of technologies developed by the Department of Defense for biological weapons to detection of these agents in foods.

In the last two years, representatives of government and non-government personnel have participated in several meetings to consider bioterrorism issues, e.g., attack, threat, or hoax and the risk to animal agriculture, including the safety of feedstuffs and food from food-producing animals. Discussions at these meetings conclude that agriculture and food should be considered as a critical sector in the national strategy of defense against acts of bioterrorism.

FDA is participating in meetings with officials from the US Department of Agriculture's Agriculture Research Service and non-governmental organizations to address the need for relevant information on bioterrorism, such as effective lines of communication among anti-bioterrorism units of federal and state governments, to facilitate timely reporting of events, diagnoses, and to identify research needs, e.g. analytical methods to detect agents of bioterrorism in feeds. FDA's fiscal year 2000 request for funding for programs to combat bioterrorism does not include money for the Animal Drugs and Feeds Program.

Question. The implementation of HACCP was intended, in time, to replace the old Organoleptic system of inspection for meat and poultry process. What steps have been taken to remove requirements of the old system? What is the timetable to replace the old system with new procedures? To what extent will the organoleptic system be eliminated?

USDA answer. FSIS would not agree that the purpose of HACCP was to replace organoleptic inspection techniques, although FSIS certainly did expect that HACCP systems would enable inspected establishments to focus on a full range of food safety hazards including those which are not identified by organoleptic techniques, e.g., microbiological pathogens.

Certain undesirable features of meat and poultry products are readily identified using organoleptic techniques, including sight. For example, FSIS maintains zero tolerance standards for fecal contamination on carcasses for both livestock and poultry, and expects that organoleptic techniques will remain viable and efficient for identifying these defects. FSIS expects to propose an organoleptic performance standard for the presence of ingesta on poultry carcasses by the end of 1999. Organoleptic techniques may be extended to address other defects.

At the same time, FSIS is actively considering alternatives to organoleptic techniques which may themselves be a source of product contamination. Recently, FSIS published a Notice regarding its intention to change the procedures for inspecting lamb carcasses because those procedures relied extensively, and unnecessarily, on palpation that was causing cross-contamination—"Notice of Change of Inspection Procedures; Adoption of Selective Carcass Palpation Procedures for Lambs" (63 FR 63282). Other inspection procedures may need to be reviewed in the same light.

QUESTIONS SUBMITTED BY SENATOR HARKIN

Question. To Dr. Woteki, re: recall authority: Since we've seen emergence of many pathogens in the last 20 years, our food safety system must be responsive to the "unknown," the illness for which we haven't yet identified a cause. If we're successful in giving you mandatory recall authority, please explain your thinking about whether you could require recall based upon a positive test, or more broadly such as when people are getting sick from a specific food, even if we don't know why.

USDA answer. If there existed a strong epidemiological link between consumption of a particular food and illnesses, that is we knew the vehicle of the illness but not the specific agent, we would, as we have in the past, request that the producing firm voluntarily recall the product even without mandatory recall authority. However, if the firm chose not to recall, we would face significant problems in any action that we brought to detain or seize the product in order to prevent further consumption and illnesses. If we were to lose such a case, we may be confronted with significantly less willingness on the part of establishments to cooperate with Agency recall requirements. Mandatory recall authority would specify the circumstances and evidence needed for the Agency to order a product recall. Mandatory recall authority would provide us with an important tool of public health protection. It would also provide the regulated industry with a full understanding of the qualifying factors under which the Agency would move to order a recall.

Question. Follow-up: Should mandatory recall authority explicitly state that the Agency cannot be held accountable for decisions made based upon existing evidence, even if future evidence may provide different information?

USDA answer. The Agency never has taken lightly nor ever will take lightly, a decision to ask a firm to recall products. However, FSIS must be able to act, even without perfect evidence, to protect the public health. Mandatory recall authority and its supporting regulations should spell out to the extent possible the circumstances and qualifying factors under which the Agency would order a recall. If a given set of facts met the test set forth in the law and regulations, the Agency would be sure to act. The Agency would be held accountable for having acted within the scope of its mandate and regulations. If some future evidence comes to light on a given case, the Agency would evaluate the information and again act within the scope of its mandate and regulations.

Question. Follow-up: I was disturbed by a series in the Detroit Free Press a few weeks ago, stating that the Agency was limited in its ability to inform consumers of distribution patterns of recalled food, because such information is proprietary. Is this a correct statement? Should the Agency be able to release such information in the face of an imminent health hazard?

USDA answer. FSIS does provide public notification by posting a recall notification report (RNR) on its website for all recalls it coordinates. The report provides specific information regarding the recalled products such as, recalling firm, reason for recall, identifying product codes, company contacts, geographic distribution, quantity recalled, and classification. The main purpose of the RNR is to alert state and local public health officials and other responsible parties working in the public health area of product that may be hazardous to health. FSIS does not issue press releases in all cases. The purpose of Agency recall press releases is to quickly alert the public about product that may present a serious health hazard that they may have in their possession. Through this tool, the public is alerted to the potential problem and advised to return the product to the point of purchase. In general, FSIS issues press releases for all Class I Recalls dealing with products that may be in the hands of the consuming public. A Class I Recall may involve only product that is packaged and marketed for food service. In these cases, FSIS would not normally issue press releases since the product is not in the public's possession, nor is it readily identifiable to the public. FSIS does conduct recall effectiveness checks to verify that the recalling firms, and any subsequent distributors, contact any potential holders of the recalled product with instructions to immediately stop serving it and to dispose of it appropriately.

Question. Follow-up: I understand that we don't want to harm companies whose products are not hazardous, but public notification has fallen short at times. In a recall last April, the decision was made not to issue press releases because affected ground beef was not identifiable by the consumer. So, consumers may have tainted food in their freezer, but there is no public notification. What we are balancing is the risk that consumers discard all their stores of ground beef, because some of it might be affected, against the risk that some consumers who do have the tainted product become sick. What is the Agency's thinking about the "identifiable to consumers" standard at this time?

USDA answer. First, it should be noted that the Agency does provide public notification of all recalls by posting recall notifications reports on the FSIS website. Also, the recall notification reports are provided via fax and e-mail to public health and food safety officials throughout the country on the federal, state, and local levels. This notification provides the public health community with important data to use in following-up on any reported illnesses and determining if they were caused by recalled products.

The term "identifiable to the consumer" may cause some confusion. FSIS decisions to issue press releases turn on the relative health risk associated with use of the products, and on whether or not the particular products being recalled are in the hands of individual consumers. The purpose of the press release is to advise consumers who may have the products not to use them and to return them to point of purchase. For example, a recall involving products such as one or two pound packages of processed meats that are contaminated with Listeria monocytogenes and that are sold at retail stores will be the subject of a press release. A recall involving products that are sold only to food service establishments or further processors generally would not have a press release issued. In those cases, we rely on our recall effectiveness checks to verify that firms provide appropriate notification to all holders of recalled products. The notification must include appropriate instructions to stop serving or further distributing the products and to return or appropriately dispose of them. Issuing press releases in cases where consumers would not have the products involved in the recall might in fact be counter productive by causing confusion among consumers.

It should also be noted that FSIS is currently in the process of reviewing all of its recall policies and practices. It held a public meeting on the subject and is ana-

lyzing comments from stakeholders. Upon completion of analysis, recommendations on policy changes will be submitted to the Department.

Question. Last year, FDA, working with industry, produced a guidance document to assist growers in making fresh fruits and vegetables safer for consumers. Can you discuss ways that USDA and FDA are working together to get this production information to the farmer?

FDA answer. FDA is working with USDA to develop both a domestic and international educational outreach program to assist growers in making use of the Guide. Two meetings will be held in April, 1999 to develop the best approaches for training and education. FDA is the lead Agency for the international outreach program and USDA is the lead Agency responsible for development of the domestic outreach program.

FDA and USDA will assist foreign growers and packers importing food into the U.S. by encouraging appropriate application of good agricultural and management practices abroad through education, technical assistance, training programs, and cooperative research efforts. An International Working Group of representatives from FDA, USDA, USTR, USAID, and the State Department has been organized to discuss technical assistance opportunities for foreign countries. A country-by-country infrastructure needs assessment will be part of the 1999 international producer education conference.

USDA's network of agencies and programs that operate on a grassroots level provides an effective, efficient, and farmer-friendly interface for the development, delivery, and ultimate evaluation of appropriate agricultural practices for domestic produce. USDA's Cooperative State Research, Education, and Extension Service will take the lead in developing the education and outreach strategy for domestic producers. Other USDA agencies, such as the Farm Services Agency, the Agriculture Marketing Service, and the Animal and Plant Health Inspection Services, also will participate. The outreach program will utilize existing networks and programs to raise awareness of the Guide and to encourage its appropriate adoption by growers.

Question. To Dr. Woteki and Dr. Henney, re: produce safety: Last year, FDA, working with industry, produced a guidance document to assist growers in making fresh fruits and vegetables safer for consumers. Can you discuss ways that USDA and FDA are working together to get this production information to the farmer?

FDA answer. The February 1998 Initiative to Ensure the Safety of Imported and Domestic Fruits and Vegetables: Status Report to the President, called for a National Food Safety Science and Education Conference. In response, the U.S. Food and Drug Administration developed a new Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables. USDA's Cooperative State Research, Education, and Extension Service then partnered with the Food and Drug Administration, Industry, and the Land-Grant University System to convene this first national science and education conference to implement the Guide.

The conference will convene key industry, academia, research, Federal and State government representatives to identify the educational needs of domestic growers and producers of fresh fruits and vegetables and ways to best implement FDA's new Guide. Educational and outreach strategies will be based on the Guide.

Extension specialists, growers, producers, buyers, processors, distributors, trade organizations, state and federal regulators, and educators involved in growing, harvesting, processing, and transporting fresh fruits and vegetables will participate in the conference.

Question. Dr. Woteki: The budget states that AMS plans to conduct baseline surveys of microbial pathogens on fresh fruits and vegetables. Also, USDA will conduct "a nationwide survey of fruit and vegetable producers and packinghouses . . . to establish a baseline of agricultural handling practices related to food safety." Which Agency will be doing the second survey? It is unclear whether these surveys will be linked. If they are not, we lose an opportunity to understand how growing conditions and production practices actually affect the safety of fresh fruits and vegetables. Can you comment?

FDA answer. The survey of handling practices is being conducted by the National Agricultural Statistics Service (NASS). It will be conducting a "baseline" survey of agricultural practices for fresh fruits and vegetables that will collect general information on farm practices relating to irrigation and transportation practices. The sample for this survey effort will consist of growers of fresh fruits and vegetables as well as packers of fresh produce. Once a baseline of practices is established in fiscal year 2000, the survey would be repeated every other year to measure changes in practices over time.

The AMS Microbiology Data Program will be taking samples at terminal markets and at chain store distribution centers. By sampling at these locations, overall trends can be detected in microbial counts that result form changes in handling pro-

cedures, as well as from different environmental conditions. For a particular range when current handling practices are in place, but in fiscal year 2002 showed a different range, this will be correlated to the information made about the effectiveness of changes in handling practices.

Question. To Dr. Woteki: Are AMS or any other USDA Agencies currently conducting quality inspections for imported produce? If so, how large a personnel force conducts these inspections?

FDA answer. Yes, AMS graders of fresh and processed fruits and vegetables conduct quality inspections for imported produce on a fee-for-service basis. The only imported commodities that require quality inspections are those that have domestic marketing orders in effect. Commodities not covered by a marketing order are also inspected at the request of the receiver. There are approximately 155 graders of fresh commodities and 75 graders of processed commodities who perform the quality inspections during the busiest times of the year.

Question. Given that the apparent success of Meat and Poultry HACCP is measured by performance according to the Salmonella performance standard, do you anticipate applying similar pathogen performance standards to any FDA-regulated products (e.g seafood?).

FDA answer. Yes, there are foods for which the application of a performance standard can be applied and used as a measure of HACCP performance. Seafood is not one of them. FDA has tentatively concluded that juice is one example where performance standards with HACCP may be appropriate. FDA proposed on April 24, 1998, that HACCP be mandatory for the juice industry and is currently involved in rulemaking on this matter.

Performance standards set forth requirements in terms of what is to be achieved by a given regulatory requirement, and represent a shift in focus from "command-and-control" by specifying the ends to be achieved rather than how to achieve those ends.

In the case of meat and poultry, a major impetus for the Federal HACCP program for those products was the significant number of estimated illnesses from certain pathogens. Due to the limitations in the foodborne illness reporting system in the U.S., it might be difficult to measure the effect of HACCP on a reduction in illness. However, a reduction in the counts for certain pathogens could both beneficially affect safety and serve as a reasonable surrogate for purposes of measuring program effect. In the case of juice, FDA has proposed a mandatory HACCP program, coupled with a performance standard, for the most resistant microorganism of public health significance likely to occur in the juice. This is a different kind of performance standard from USDA. The agency has proposed to require that juice be processed in a manner to achieve a 5-log or 100,000 fold reduction in the pertinent pathogen. This 5-log reduction performance standard was established to ensure that its juice HACCP program would impact the most pressing public health problem associated with juice products as well as provide a way of measuring program success.

However, there are some segments of the food industry, for which the strict application of a performance standard may not represent the best approach. Seafood is fundamentally different from other foods in that it is subject to a wide spectrum of potential hazards, some of which are unknown to terrestrial products, but suffers from no single pressing hazard. Seafood consists of literally hundreds of species from a wide variety of habitats. FDA implemented its seafood HACCP program in part to ensure that seafood processors—through HACCP—could demonstrate an understanding of both the potential hazards that could affect their products and the controls that they could apply to eliminate or reduce those hazards. Before the implementation of seafood HACCP, no such knowledge was a prerequisite to commercial production. Consequently, FDA measures program success for seafood in terms of the industry's ability to demonstrate an understanding of hazards and controls for their products through effectively implemented HACCP systems.

Question. The recent Listeria outbreak has now been linked to 20 deaths. Can each of you explain whether we can help manage this problem by doing more sampling of ready-to-eat foods? What other measures might be helpful?

FDA answer. We would be happy to provide this information for the record.

[The information follows:]

After a large listeriosis outbreak in 1985 associated with Mexican style soft cheese, a massive educational campaign was launched by FDA, CDC, and FSIS to educate at risk consumers. Medical professionals, retail food operations, pregnant women, immune-compromised people, etc., were targeted in the education effort. In 1995, CDC published a sentinel study showing a dramatic (40 percent) decline in listeriosis in the U.S. from 1989 to 1993. The article stated: "The temporal association of this reduction with industry, regulatory, and educational efforts suggests these measures were effective."

FDA instituted programs and issued guidance documents that directed our field force to sample specific products for Listeria contamination and to conduct inspections of firms processing susceptible products. Some of these activities include:

—"Domestic and Imported Cheese and Cheese Products" which specifically targets soft cheeses, both domestic producers and imported product, for examination for Listeria and other pathogens;

—"Imported Foods—General" and "Imported Seafood" programs which target ready to eat foods for examination for Listeria and other pathogens;

—"Carrier Sanitation" assignments covering inspection and sampling of interstate carriers transporting products susceptible to pathogen contamination.

—"Pathogens in High Risk Foods" program which covered sandwiches, non-dairy frozen desserts, tofu and other soy-based products and dried milk;

—"Inspectional Guidance for Firms Producing Products Susceptible to Contamination with Pathogenic Micro-organisms" which provided among other things, sampling guidance for products suspected of contamination with Listeria and other pathogens.

It is inappropriate to consider increased sampling of ready-to-eat products as a means for addressing the problem. End product sampling only identifies contamination problems after they have occurred. Effective controls must be implemented at the food processing establishment to ensure that the possibility for contamination with Listeria monocytogenes has been minimized.

FDA, with collaboration from FSIS, has initiated an assessment of the public health risk presented by Listeria moncytogenes to collect the current state of scientific knowledge to assist in reviewing our regulatory approach. Several key questions for the risk assessment to answer are: what foods contribute most to the consumption of Listeria monocytogenes, what are the numbers when a food is contaminated, how frequently are foods heavily contaminated, are some strains of Listeria monocytogenes more virulent that others, what is the extent of growth during storage, including storage at refrigeration temperatures, and what is the likelihood of illness to various individuals from consuming different numbers of Listeria monocytogenes. The findings of the risk assessment are expected to provide a scientific basis for identifying effective measures to reduce the public health risk from listeriosis. The National Advisory Committee on Microbiological Criteria for Foods (NACMF) will be utilized to assist in the review of the Listeria monocytogenes risk assessment.

Question. Estimates of burden of foodborne illness use data now 6–12 years old. Does CDC plan a comprehensive re-evaluation of the national burden of foodborne illness? When might we expect such a review?

FDA answer. CDC has undertaken a broad-based, multi-disciplinary effort to update estimates of foodborne illness using the best available information. CDC anticipates that the revised estimates will be available for public review within the next few months.

Question. To Dr. Woteki, re: pathogen testing: Last year I asked the FSIS to begin a sampling program for Campylobacter, not as a regulated pathogen, but to determine if HACCP alone will address this problem. Have you begun this sampling?

USDA answer. Campylobacter sampling in chickens has begun. Currently, there are two non-regulatory programs. In May 1998, a quantitative routine non-regulatory monitoring program started. In January 1999, the Agency started the statistically designed "Nationwide Young Chicken Campylobacter Baseline Data Collection Program."

Question. To Dr. Woteki: Do you plan to lower the Salmonella performance standard for any of the products which showed decreases from baseline in 1998? Please elaborate.

USDA answer. There are no plans to adjust the standard downward based on this preliminary data. In an effort to reduce the frequency and degree of contamination of meat and poultry products with pathogenic microorganisms, FSIS established requirements to reduce the incidence of pathogenic microorganisms on meat and poultry products. The Pathogen Reduction;/HACCP (PR/HACCP) final rule established a pathogen reduction performance standard using Salmonella as the target organism. FSIS stated that in the future it might adjust the targets for Salmonella downward, should experience warrant.

The effective date for the PR/HACCP rule was January 26, 1998, for large meat and poultry plants, i.e., those employing 500 or more employees. The effective dates for small plants and very small plants, which represent the largest number of plants, occur one and two years later, respectively. Thus, only large plants became subject to Salmonella testing in 1998.

During 1998, samples were collected from about 200 large plants. Results of the 1998 testing program are available for only four product classes: broilers, hogs,

ground beef, and ground turkey. The prevalence of Salmonella in these product classes was lower after the first year of HACCP implementation based on the samples tested. However, the results must be considered preliminary since they do not represent a random sample of all domestic meat and poultry production.

Question. Follow-up: It is stated that FSIS underestimated the costs of Salmonella sampling, and this is reflected in unanalyzed samples in the HACCP data samples sets. It is of concern that FSIS now must expand sampling to small plants in fiscal year 1999, using the same sampling protocol. Please explain how the cost underestimate occurred, whether FSIS has regained course to proceed with sampling to address the backlog, and whether the Agency feels it can catch up with HACCP implementation in small plants.

USDA answer. FSIS did not underestimate the cost of Salmonella sampling. All compliance phase samples received at the laboratory in appropriate condition are analyzed until a set is complete. FSIS has adequate laboratory capacity to analyze all scheduled Salmonella samples and there currently is no backlog of unanalyzed samples. Plans for expanding sampling to small plants in 1999 are underway; and no cost issues are anticipated in this area.

Question. Dr. Woteki and Dr. Henney: The recent Listeria outbreak has now been linked to 20 deaths. Can each of you explain whether we can help manage this problem by doing more sampling of ready-to-eat foods? What other measures might be helpful?

USDA answer. There are several steps that are underway to reduce illnesses and deaths from Listeria. Among these steps are: developing guidance to industry on "best practices" that can help to reduce the potential for product contamination; targeting consumer education for high-risk groups; initiating a study to address Listeria risks; and, conducting a quantitative risk assessment for Listeria that will determine the foods that pose the greatest risk to consumers and specific subpopulations at increased risk of contracting listeriosis.

Question. To Dr. Woteki, and Dr. Henney, re: food irradiation: Please explain the current/intended requirement for labeling of irradiated meat and poultry products. (FSIS & FDA)

USDA answer. For packages of irradiated product (i.e., all the meat or poultry contained in the package is irradiated), FSIS proposed the same labeling requirements as those specified by FDA. Regarding secondary products, i.e., products in which irradiated meat or poultry comprise one or more ingredients in the formulation, FSIS proposed that the ingredient statement should list the irradiated ingredient in the order of its level of predominance in the formulation. Presently, FDA does not have a similar requirement for the secondary product labeling of irradiated ingredients. FDA did issue an advance notice of proposed rulemaking on February 17, 1999 (64 FR 7834) concerning possible revisions to the labeling requirements for irradiated foods. Meanwhile, FSIS and FDA expect to meet and discuss the secondary product labeling issue. Both FSIS and FDA recognize the benefits of a consistent labeling policy for irradiated food.

Question. Follow-up: Do we have opportunities on the horizon to irradiate high risk fruit and vegetable products, like sprouts?

USDA answer. ARS has responded to a request from the FDA to investigate the effects of gamma irradiation on high risk fruits and vegetables such as sprouts and seeds, to inactivate the pathogens E. coli O157:H7, Salmonella and Listeria, while maintaining product quality and consumer acceptability. The research is being conducted at the Eastern Regional Research Center, Wyndmoor, Pennsylvania. In the latter part of 1999, a Gray-Star Irradiator will be installed within the Center to conduct commercial scale studies. Results on these studies should be forthcoming within 2–3 years.

FDA answer. The labeling of meat and poultry falls under the jurisdiction of the USDA.

Question. Do we have opportunities on the horizon to irradiate high risk fruit and vegetable products, like sprouts?

FDA answer. Current FDA regulations allow irradiation of fruits and vegetables only at doses that have a relatively minor effect on harmful microorganisms. When FDA issued its approval to irradiate fruits and vegetables, the primary interest was for lower doses that control insects and inhibit ripening or sprouting. Higher doses, which could have a significant effect on microorganisms, often damage the fruit or vegetable to the extent that it becomes unacceptable to the consumer. FDA recognizes that there may be specific situations where irradiation may be a useful process, either because a specific organism of concern is particularly sensitive to irradiation, or because a specific product may tolerate higher doses. FDA has been presented with preliminary scientific data showing the possible usefulness of irradiation for eliminating or reducing the levels of foodborne pathogens on seeds used to

produce sprouts. FDA would be receptive to petitions for a change in the current regulation if evidence can show that irradiation is a safe and practical process for addressing microbial risk in fruits or vegetables.

QUESTIONS SUBMITTED BY SENATOR DORGAN

For primary witnesses: Woteki, Henney & Koplan

Question. At what stage is the Council on Food Safety in its review of the National Academy of Sciences Report, and when can we expect the Council to issue its report? Will this report include recommendations to consolidate existing food safety agencies?

USDA Answer. The President's Council on Food Safety has completed its review of the National Academy of Sciences report, "Ensuring Safe Food from Production to Consumption." The Council submitted its assessment of the report to the President in March. The Council's assessment has been submitted to the Committee in answer to a question from Senator Cochran.

Although the NAS report indicates that many of the NAS committee members believe that a single, unified agency headed by a single administrator is the most viable structure for implementing the "single" voice concept, the Council's assessment recognizes that there may be many other models that would be workable.

The Council agreed with the goal of the NAS recommendation—that there should be a fully integrated food safety system in the U.S. The food safety agencies are committed to this goal, and the President's Council is confident that its comprehensive strategic plan will be a major step toward creating a seamless food safety system. To ensure that the strategic plan achieves this goal, the Council will conduct an assessment of structural models and other mechanisms that could strengthen the federal food safety system through better coordination, planning and resource allocation.

While the Council recognized that certain models of reorganization may improve coordination and allow for better allocation of resources, any reorganization of food safety activities must consider the non-food-safety-related responsibilities of each agency and how these relate to the food safety responsibilities. Reorganization must not be done at the expense of these other responsibilities and activities. The Council is concerned that if not done carefully, separating food safety from non-food safety activities in each agency could act to weaken consumer and environmental protection overall.

Question. Our food safety laws apparently vary considerably as to how food safety objectives must be achieved, leading to different regulatory regimens within the various food safety agencies. Thus simply consolidating existing food safety agencies may not provide the overall efficiency or effectiveness that should be accomplished. Is the Council on Food Safety reviewing which regulatory regimens would be most effective in achieving a science-based food safety system and how existing laws may need to be amended to meet this objective? How does the Council believe that changes in these laws should be advanced in relationship to the consolidation of existing food safety agencies?

USDA answer. The NAS report identifies a need for a "national food law that is clear, rational, and comprehensive, as well as scientifically based on risk" as a major component of a model food safety system. The report concludes that it is necessary to revise the current statutes on food safety to create a comprehensive national food law.

Since the federal food safety regulatory agencies operate under very different legislative authorities, the Council will conduct a full assessment of these statutes and evaluate the degree of regulatory flexibility that already exists. The Council has decided that this legislative review will be undertaken as part of the strategic planning process. The purpose of the review will be to: 1) examine the similarities and differences in federal food safety statutes; 2) identify the "best" statutory approaches for reducing foodborne illness; and 3) assess both gaps and statutory barriers to implementation of the plan. The need for statutory changes could then be determined, and, if necessary, legislative principles developed which would form the basis for discussions with stakeholders and Congress. For example, given the recent overhaul of pesticide legislation, the Council believes that further statutory changes may not be needed for pesticides at this time.

The Council will carefully coordinate the strategic planning process that will include an assessment of possible structural models with the results of the legislative review.

FDA answer. Federal Statutes should be based on scientifically supportable risks to public health.

The Council agrees and will call on Congress to work with it to create scientifically based statutes to promote food safety. The Council will conduct a thorough review of existing statues and determine what can be accomplished with existing regulatory flexibility and what improvements will require statutory changes. The Council is reviewing all options for achieving the safest food supply possible. This includes analyzing our regulatory experiences with different food types, and holding interagency discussions on how to best optimize harmonized regulatory policies among agencies. The Council will work with Congress if new legislation is necessary to achieve a consistent, effective, and efficient food safety policy.

Question. There are those who believe that USDA has an inherent conflict of interest between its responsibilities in regulating food safety and in the promotion of the sale of agricultural commodities, particularly in the decision process within the office of the Secretary of Agriculture. How do you respond to this concern and what assurance can you provide to these critics that USDA will make food safety its priority?

USDA answer. In 1994, the Congress and Administration effectively eliminated what had appeared to some as a conflict of interest by separating the food safety and regulatory function from marketing functions related to agricultural products, two mission areas that had previously been housed together within the Department. We cooperated in enacting a major reorganization of food safety within USDA, creating the new mission area and Office of the Under Secretary for Food Safety, which oversees the Food Safety and Inspection Service (FSIS) and the U.S. Manager of Codex Alimentarius. Under that legislation, a mission area dedicated to public health was created within USDA, and the legislation mandated that this office be occupied by an individual with a proven background in public health and safety.

Question. As a cosponsor of the Safe & Fair Enforcement and Recall (SAFER) Meat and Poultry Act, I believe it is important for USDA to have the necessary authority to be able to legally require the recall of food products. Had this law been in effect in recent years, how would the Department been able to more effectively carry out its responsibilities to ensure a safe and healthful supply of meat and poultry?

USDA Answer. Mandatory recall authority would specify the particular circumstances and evidence needed for the Agency to order a product recall. Mandatory recall authority would provide FSIS with an important tool of public health protection. It would also provide the regulated industry with a full understanding of the qualifying factors under which the Agency would move to order a recall. For example, recall authority may help in cases where there was an epidemiological link between consumption of a particular food and illnesses where we did not have laboratory reports of a pathogen in the product. Under the current law there would be a question of whether we could meet the statutory adulterations standard of there being an added poisonous or deleterious substance in the food. If the producing firm upon request by FSIS choose not to recall, the Agency might not be able to prevail in an action to detain or seize the product.

Question. In recent times, there have been a number of incidents involving health concerns related to food imports. In addition, there have been concerns about the level and consistency of inspections of imported food. What steps are being taken to ensure that food imports meet the same high standards that are required of domestically-produced food?

USDA answer. Imported meat and poultry are required to be inspected under a foreign inspection system that FSIS has determined to be equivalent to our system. Then upon arrival at a U.S. port of entry, all meat and poultry shipments undergo reinspection by FSIS. At this time, 36 countries have been certified to meet our standards. These are not special or lower standards; they are standards that U.S. packers and processors must meet. In general, inspection under an equivalent system means meeting U.S. standards for microbiological pathogens and chemical residues; it also means meeting all sanitation standards applicable to U.S. meat or poultry establishments. And most importantly, all establishments exporting meat and poultry to the U.S. must meet the requirements of FSIS' Pathogen Reduction/Hazard Analysis and Critical Control Points final rule.

FSIS uses a two-part evaluation process to determine the initial eligibility of a country's food regulatory system and to verify that foreign food regulatory systems continue to be equivalent. The first part is a recurring document analysis wherein the fundamental laws, regulations, and implementing policies of an exporting country's food regulatory system are reviewed in parallel with U.S. government issuances to ensure that an appropriate legal and regulatory structure remains in place. The second part is on-site food regulatory system audits conducted first for initial system equivalence determinations in each country that applies for export of

meat or poultry to the United States and then continued thereafter annually once eligibility is granted.

As a further check on the effectiveness of an eligible country's inspection system, FSIS conducts continuous port of entry reinspection of products shipped from exporting countries. Reinspection provides evidence of how the foreign inspection system is functioning. During 1998, approximately 75 import inspectors carried out import reinspection at 150 FSIS-approved import establishments. About 3 billion pounds of imported meat and poultry were reinspected during 1998.

FDA answer. FDA's position has always been that there is a single set of standards for food products consumed in the United States, irrespective of whether the food is produced domestically or imported. The FDA's Center for Food Safety and Applied Nutrition, or CFSAN, establishes the standards that are used by FDA. The Agency determines what field operations are necessary to ensure that imported, as well as domestic, products meet those standards.

The Agency's plan for ensuring the safety of imported foods in fiscal year 2000 and beyond uses a three pronged approach. FDA will continue with its current policy of conducting outbreak investigations and containment of foodborne illness outbreaks originating from foreign countries. FDA will also expand activities at U.S. borders, including sample collections and analyses, review of products offered for entry into the U.S. via the Operational and Administrative System for Support, or OASIS, database, and cooperative interaction with U.S. Customs. FDA seeks to ensure the safe importation of food into this country and to prevent future outbreaks, by planning an expansion of its foreign activities beyond inspections to include food safety system assessments. If a foreign country's food safety system is equivalent to ours, we can leverage our resources to more effectively concentrate on those higher priority issues related to imports.

FDA's request for FSI funds in fiscal year 1999 and proposed in fiscal year 2000 will support several types of cooperative efforts with foreign nations, including evaluating food systems of foreign countries. These efforts are designed to enhance the safety of imported foods by assessing the food safety systems of individual countries. The Agency is involved with countries in five specific programs based upon the volume of imports from those countries, or FDA's desire to build upon on-going assessment activities with those nations. FDA's Import Plan calls for five assessment efforts: equivalence agreements; assessments of our NAFTA partners' food safety systems; assessments and consultations with foreign countries via the InterAmerican Development Bank, or IADB; Memorandum of Understanding, or MOU, agreements; and Low Acid Canned Foods, or LACF, assessments.

As a member of the World Trade Organization, or WTO, the U.S. is required to recognize another country's request to establish an equivalence agreement in which FDA would accept that country's measures as capable to provide the same level of health protection as is provided to consumers by the FDA system. However, FDA prioritizes the countries it will enter into agreements with on the basis of the volume or amount of trade with that country. Prior to making an actual equivalence determination, collaborations, assessments and on-site audits are conducted. In fiscal year 1999, FDA expects to complete its determination of equivalence for the Canadian seafood regulatory system. In fiscal year 1999 and 2000, FDA expects to make significant progress on seafood determinations for New Zealand, Australia, Thailand, Japan, Iceland, and Chile. Also in fiscal year 1999, FDA is working towards equivalence determinations for non-Grade A dairy products with the European Union.

The Agency is continuing to work on assessment efforts with our NAFTA trading partners, Mexico and Canada. Due to volume of imports from these two countries, FDA places a high priority on developing joint efforts as they relate to food safety. In fiscal year 1998, FDA and USDA signed a letter of intent with Mexico to cooperate on food safety issues. FDA and the Ministry of Agriculture and Livestock of Mexico, or SAGAR, developed a preliminary list of commitments that include FDA review of training materials and participation in training programs on good agricultural practices. FDA and SAGAR will sponsor two collaborative exchanges that will lay the structure and formalize lines of communication for joint projects in the areas of research, outbreak response and training. The Agency plans to complete a similar collaborative exchange with Canada in late fiscal year 1999 or early fiscal year 2000.

The IADB, which provides loan packages to developing nations, recently included food safety assessments in their initial examination of a country's systems. FDA served as a consultant to the bank and participated in food safety system assessments of Honduras, and Trinidad and Tobago. Food safety assessments are planned for Nicaragua and Costa Rica. FDA's cooperative efforts with IADB will enable the

Agency to assess the systems of developing countries that export food to the United States.

FDA's other two assessment activities build on existing assessment programs. MOU assessments are conducted in countries for which FDA has already established that certain food products produced in that country meet U.S. requirements. An assessment is conducted to ensure the country is continuing its monitoring and compliance activities. In fiscal years 1999 and 2000, FDA will conduct shellfish assessments for Chile, Canada, New Zealand, Korea, and Mexico. FDA other assessment activity involves the initiation of a pilot program for LACF with Spain and Thailand. These pilots include participation of the countries' regulatory personnel in FDA inspections of producers, an evaluation of the countries' ability to assure that products are manufactured in accordance with FDA's LACF regulations. An assessment of the pilots will be conducted in fiscal year 1999.

Question. American farmers are concerned that imported commodities may have competitive advantages because of differing environmental standards, particularly in relationship to pesticides. They are also concerned that these commodities may not meet the same health standards that are required of their production system. To what extent are imported agricultural commodities inspected for pesticide residues?

FDA answer. FSIS randomly samples products at ports of entry for drug and chemical residue analysis. The annual import residue plan sets the initial sampling rate for each country based on the volume of product exported to the United States during the previous year. In 1999, FSIS plans to collect 2,526 samples of meat and poultry for the laboratory analysis of pesticide chemicals.

A residue violation at the port of entry raises concerns about the origin country's residue controls, and in addition to placing the plant with the violation on "tightened and hold," FSIS doubles sampling of related products from the rest of the plants in the country. In 1997, there was one violation for pentachlorophenol detected at a violative level in product from Australia. There were no violative levels of pesticides detected in imported meat and poultry products during 1998.

FDA answer. Imported commodities are subject to the same pesticide tolerances as domestic commodities, and, if found to contain unlawful pesticide residues, these commodities will be subject to the enforcement provisions of the Federal Food, Drug, & Cosmetic Act. The Agency has no specific evidence that unapproved pesticides are routinely being used on commodities that are exported to this country. In the past when the Agency has determined that an unapproved pesticide is being used on a commodity being exported to this country, it has taken appropriate actions to resolve the issue. If illegal residues are found in domestic samples, FDA can take regulatory action, such as seizure or injunction. For imports, FDA can stop shipments at ports of entry. The FDA publishes an annual report of its pesticide monitoring work. Over the years, FDA has found a very low violation rate for pesticides in both domestic and imported commodities and consequently has reduced the amount of resources used to sample for pesticides.

A total of 8,594 samples of domestically produced food and imported food, most of which are agricultural commodities, from 94 countries was analyzed for pesticide residues in 1998. Of these, 7,457 were surveillance samples, which are collected when there is no evidence of a pesticide problem. No residues were found in 64.9 percent of domestic surveillance and 68.1 percent of import surveillance samples. FDA collected and analyzed animal feed samples-482 domestic, 60 import-for pesticides. The results indicated that 60.8 percent of the domestic surveillance samples and 61.7 percent of the import surveillance samples contained no residues. Non-violative residues were found in 99 percent of the domestic and 97 percent of the imported surveillance samples. The majority of the violations are due to the presence of very low levels of residues of pesticides that do have U.S. tolerances, but not for the particular commodity on which the residues were found. Most of the Total Diet Study findings for 1998 were generally similar to those found in earlier periods with residue levels well below Reference Doses and Acceptable Daily Intakes established by EPA and FAO/WHO. An adjunct survey of baby foods in 1991–1998 also provided evidence of only small amounts of pesticide residues in those foods.

FDA participates in several international agreements in an effort to minimize incidents of violative residues and remove trade barriers. A standing request for information from foreign governments on pesticides used on their food exported to the U.S. exists by way of a provision in the Pesticide Monitoring Improvements Act. Under the auspices of the North American Free Trade Agreement or NAFTA, the United States, Mexico, and Canada have established a NAFTA Technical Working Group on Pesticides or TWG. The NAFTA Pesticide TWG now serves as the focal point for all pesticide issues that arise among the three NAFTA countries. FDA has proposed to reinvigorate a residue monitoring subcommittee under the TWG to ad-

dress issues concerning pesticide residue violations. This will complement its ongoing trilateral cooperation with its counterparts in Mexico and Canada.

One of the major goals of the TWG is to ensure that pesticide registrations and tolerances and maximum residue limits in the three countries are harmonized to the extent practical, while strengthening protection of public health and the environment. A number of projects have been undertaken by the TWG to identify differing residue limits in the NAFTA countries and to determine what steps might be taken to harmonize the limits. While this is a difficult process, the TWG envisions eventual movement toward a North America pesticide registration and tolerance system so that citizens of all three countries can be assured of the safety and legality of foods produced in any one of the NAFTA countries. FDA's activities on the TWG complement its ongoing bilateral cooperation with its counterparts in Mexico and Canada.

Beyond the North American agreements, FDA continues to collaborate with New Zealand to implement a residue compliance assurance program. New Zealand, historically having excellent compliance with U.S. pesticide tolerances, is implementing a plan whereby their government would provide assurances that selected commodities exported to the United States would be in full compliance with U.S. tolerances.

The Agency determines what field operations are necessary to ensure that imported as well as domestic products using the issuance of Compliance Programs, Sampling Assignments, and Import Alerts meet those standards. FDA's Operational and Administrative System for Import Support, or OASIS, then uses these criteria to electronically screen entries of imported food to determine which shipments will be allowed to proceed into commerce without any further FDA review and which must be reviewed by FDA personnel. For those reviewed by FDA personnel, the criteria provide direction regarding those, which should be examined or detained without examination. In order to assure that FDA field personnel consistently and uniformly inspect imported food products according to these criteria, FDA periodically conducts a one-week training course in Import Investigations for Import personnel.

Question. Any food safety agency reviewing extent to which pesticides are used in other countries that are not available in U.S.?

FDA answer. FSIS is unaware of any such effort.

Question. Any inspection program designed to address concerns about these countries (using pesticides that U.S. doesn't use)?

FDA answer. Each year, FSIS reviews the residue programs for all countries eligible to export meat and poultry to the U.S. FSIS reviews the foreign residue programs to determine that these programs address all relevant public health concerns. This includes ensuring that the countries are properly controlling the use of pesticides and other compounds that are not permitted for use in the United States.

Question. Agricultural Exports—Increased production, resulting from higher yield worldwide, and lower demand have been devastating to U.S. wheat prices and exports. While the administration has increased its use of export credit programs, it has not utilized the export enhancement program. Has the Department analyzed the targeted use of the Export Enhancement Program (EEP) for a particular class of wheat, such as durum, in specific markets such as North Africa and Subsaharan Africa?

USDA answer. USDA has conducted analysis which indicates that with current market conditions where global wheat supply exceeds demand, any small domestic price benefits from using EEP would be far outweighed by lower world prices. Moreover, it would likely require that a significant portion of U.S. wheat exports be subsidized in order to achieve even a modest increase in total projected U.S. exports.

Given that analysis, this year's large world supplies and modest import demand for durum and all wheat make it highly unlikely that targeting the Export Enhancement Program to a small, select group of countries would result in any expansion of U.S. exports. In fact, it might even raise questions from countries not targeted and cause them to reduce their imports from the United States. Consequently, a reinstallment of EEP would not move additional wheat off our market and would have only a minimal impact on prices received by producers. Moreover, to the extent that EEP had a positive impact on U.S. prices, it would make the U.S. market more attractive to imports from Canada.

Question. What program or combination of programs are needed in order to regain markets and market shares for wheat?

USDA answer. In order for the U.S. to maintain and gain market share for wheat in overseas markets we must continue to work from many different angles with a combination of export programs, marketing and policy measures. All of the export-oriented programs currently administered by the Foreign Agricultural Service are

vital to maintaining and gaining U.S. market shares for wheat. We are currently using the GSM export credit guarantee programs to help countries which have financing problems; the Public Law 480 Title I food aid program to provide wheat with long repayment terms; and the President's Food Aid Initiative which is providing 5.0 million tons of wheat to assist countries to meet their food import needs.

On the marketing side, USDA is working closely with the U.S. wheat industry to provide Market Access Program (MAP) and Foreign Market Development (FMD) funding to promote U.S. wheat and educate buyers about the quality and different varieties of U.S. wheat.

On the trade policy front, we will be working in the World Trade Organization (WTO) to lower trade barriers which limit U.S. wheat export opportunities and to discipline the unfair practices of our competitors which use export subsidies and State Trading Enterprises. We also continue to work on a bilateral basis to open markets where U.S. wheat may have been banned due to phytosanitary concerns.

Question. Has the Department conducted a policy review of the effectiveness of the use of food in sanctions established for foreign policy objectives? What has been the impact on the populace of sanctioned countries and upon the American farmer of sanctions on agricultural goods?

USDA answer. USDA has not conducted a formal study on the effectiveness of including food in sanctions regimes. In many cases, sanctions on food hit innocent civilian populations, who frequently have no say in the policies of their governments. To the extent possible, our sanctions should target the decision makers responsible for the objectionable behavior who will likely be unaffected by restrictions on the provision of food.

USDA has conducted an analysis on the effect of sanctions on agricultural exports. Six countries are included (Cuba, Libya, Iran, Iraq, North Korea, and Sudan). The USDA study concluded that the impact of current sanctions on U.S. farm exports amounts to an estimated $500 million per year—a significant amount to be sure, but less than 1 percent of last year's 53.6 billion in overseas U.S. agricultural sales. Without a doubt, sanctions are hurting producers, but the likely impact on wheat prices is about 5–10 cents per bushel.

Question. The use of tax identification numbers as a method of determining eligibility for the multi-year disaster program is creating serious problems for producers who have had legitimate changes in tax identification numbers, due to death, estates, business incorporation, etc. What steps are being taken to allow these producers to work with the county FSA offices to ensure their eligibility for the multi-year disaster program?

Answer. FSA has become aware of some legitimate reasons for changes in tax identification numbers and is currently developing processes to accommodate situations involving husbands and wives, deaths, or other changes beyond the control of the producer. We are making every effort to ensure that producers who suffered multi-year losses are fairly compensated.

Question. The Report of the Senate on the Omnibus Appropriations Act last fall requested the Secretary to give consideration to producers of edible beans who had inadvertently planted edible beans on AMTA Contract Payment Acres so that these producers would not be put into economic jeopardy as result of their error. What steps have been taken to resolve this issue, and how much longer will these producers have to wait before they know how USDA will address their problem?

USDA answer. FSA is in the process of soliciting public comment on its current payment reduction formula for producers who plant fruits and vegetables on AMTA contract payment acres. The Advance Notice of Proposed Rule Making is currently in its final stages of clearing the Department and will be published in the Federal Register. Once comments are received and reviewed, USDA will take appropriate action based on public recommendations.

Question. What is the status of making hulless oats eligible for the price support loan program and loan deficiency payments? This is an important new variety that was developed by our land grant university. It has superior feeding qualities and yield, and also has potential commercially-viable non-food uses. I have been in contact with both FSA and GIPSA to request that it be recognized as an approved variety by the grading standards and that in the interim, that this oat variety should be made eligible for the commodity loan program. Will this decision be made in time for the 1999 spring planting season, so that producers will be able to choose this variety for their oat planting this crop year and be assured that it will be eligible for commodity loans?

USDA answer. The Federal Grain Inspection Service (FGIS) is currently promulgating regulations to modify oats grain standards which would redefine oats to include hulless oats. This will make hulless varieties eligible for marketing assistance loan benefits under current loan program regulations. Due to the time it takes to

fully promulgate the FGIS standards, the definition of oats would not be effective until the 2000 crop. However, the Farm Service Agency has taken administrative action which will allow producers of hulless oats to receive marketing assistance loan benefits for the 1999 crop.

Question. What is the status of making crambe eligible for the oilseeds loan program? This is an important new oilseed crop that provides an alternative crop for a significant developing market for producers in North Dakota through a cooperative structure. Since USDA is directed to give priority to cooperative development, it would make sense for USDA to expedite approval of commodity loans for these producers.

USDA answer. The Secretary, under authority provided by the Federal Agriculture Improvement and Reform Act of 1996 (1996 Act), has designated crambe as an "other oilseed" and will extend marketing assistance loans to crambe for the 1999 crop at $0.0877 per pound. The loan rate for crambe is set on a pound-per-pound basis in relation to the soybean loan rate. Extending marketing assistance loans to crambe will provide much needed financial assistance to producers until the crambe can be delivered for processing and help to encourage development of an alternative enterprise for producers consistent with the objectives of supporting greater planting flexibility and rural development.

Question. On June 8, 1998, Secretary Glickman announced at a Farm Forum in Grand Forks, ND, a program to assist livestock producers with flooded lands in the region. Subsequently, Secretary Glickman announced a broader program as part of the disaster assistance package for farmers in the region with flooded acres. When will the details of this program be announced and when can farmers expect to begin signing up for these programs?

USDA answer. The Flood Compensation Program is in its final stages of completion. A regulation is being cleared through the Office of General Counsel, software has been developed and procedures drafted. Personnel from both South and North Dakota State FSA Offices have been involved in creating this program. The Secretary designated $12 million received from the sale of grain in the disaster reserve to compensate livestock producers with eligible flooded land that was inaccessible or incapable of crop production, grazing, or haying. Section 1102 of the fiscal year 1999 Omnibus Appropriations Bill authorizes the Secretary to provide assistance to producers on a farm who have incurred multi-year losses due to disasters. Under this authority, the Secretary has allocated an additional $30 million to the Flood Compensation Program to provide assistance to any producer who has incurred multi-year crop losses due to long-term flooding. We anticipate that regulations which will allow signup to begin will be published in April. Because of a limited amount of funds, signup will have to be completed, application data downloaded, and a factor determined, if necessary, before payments can be issued. If a six week signup is allowed, payments could be issued in June.

Question. I applaud ARS for increasing its research budget for the very serious crop disease known as fusarium head blight (scab). This disease has been identified as the most serious crop disease of this century. In addition to research at ARS facilities, the budget also contains funding for the 12 state consortium of land grant universities for research on this disease. I believe funding for the consortium should be increased to its full authorized level. How will ARS coordinate the research between its facilities and the consortium to increase the effectiveness of research objectives? How rapidly can these programs be expanded to reduce the time frame for combating this disease?

USDA answer. Research on Fusarium head blight is coordinated between ARS facilities and the land grant universities by close working interactions involving scientists, research administrators and industry representatives which make up the U.S. Wheat and Barley Scab Initiative executive and steering committee members. Research objectives are jointly established and research proposals are solicited from both state and federal scientists. Proposals are evaluated and modified if necessary to avoid unnecessary duplication and to assure that all research objectives are being approached in the most effective manner.

Should additional resources be made available the research program could be rapidly expanded on existing objectives through the addition of scientific and technical support staff, both in the land grant universities and in ARS. Existing research objectives would still be relevant with emphasis on increasing resistance to scab in wheat and barley germplasm and developing integrated strategies to minimize disease losses.

Question. The Northern Great Plains ARS Research Center at Mandan has consolidated its research efforts and refocused its mission. I am pleased that ARS has worked to continue the important research at this facility that has historically provided sound production and conservation research for the Northern Great Plains.

Because of the environmental and conservation benefits of research at this facility, there have been suggestions that ARS include wildlife biology as a component of this research. Has ARS looked at the feasibility of such a component? In addition, what is the status of the preservation and maintenance of the tree cultivars that have been an important part of past research at this facility? Has ARS considered the potential of trees as part of removing carbon from the atmosphere related to climate research?

USDA answer. We agree with your assessment that the research program at the Northern Great Plains Research Laboratory in Mandan has and will continue to provide environmental and conservation benefits. While wildlife management research is not a part of the ARS mission, we could integrate wildlife considerations into our research program in two ways. First, through the addition of a Range Scientist with a background in wildlife biology to our staff to insure that improved crop and soil management systems being developed are in harmony with wildlife conservation goals. Secondly, we have close cooperation with wildlife groups such as Ducks Unlimited in Bismark and the U.S. Wildlife Service in Jamestown, North Dakota. Permanent staff employed by these groups could enhance our expertise in wildlife biology and allow us to design and implement projects that meet multi-use objectives.

We are committed to preserving and maintaining the tree germplasm currently located on land owned or leased by the Northern Great Plains Research Laboratory in Mandan. As such, we have controlled weeds, performed tree trimming, and periodically removed dead trees.

Trees certainly play a major role in sequestration of atmospheric carbon. Because of the mission of our laboratory we feel it is important to initially emphasize soil carbon storage in grazinglands and croplands. Trees could ultimately become a component of a cropping system or a grazingland management system. Their contribution to carbon sequestration would then be determined in the context of the overall system.

Question. The Northern Crops ARS Laboratory at Fargo is well situated to expand research in the new challenges facing producers in this region of the country. In particular, it has the capacity to expand research in emerging diseases both in grain and in specialty crops. Because the region is seeking to diversify with alternative crops, there is also a great need for expanded basic research in crops such as sunflower, canola and other oilseeds, and edible beans. What is the level of ARS research for alternative crops for the region? If additional funding were available, what research would ARS seek to undertake in these areas?

USDA answer. At Fargo, ND, the ARS Sunflower Research Unit is focused on reducing the cost of sunflower production by developing breeding lines and inbreds with improved yield potential and improved quality characteristics and that are used by industry to develop improved sunflower hybrids, and to increase resistance or tolerance to important sunflower disease and insect pests. Additionally, the Unit supplies the sunflower industry with new genes and germplasm by collecting wild sunflowers and developing techniques for transferring these new genes into domesticated sunflowers. The Unit also conducts research on understanding the biology and biocontrol of important insects such as the sunflower stem weevil, sunflower beetle, and banded sunflower moth. This information is used to develop improved Integrated Pest Management strategies to control these sunflower insects. In fiscal year 1999, ARS provides $1,452,600 (7 SYs) for research in sunflowers at Fargo, ND, and $254,500 (.8 SYs) for sunflower research at Mandan, ND. At Mandan, ND, ARS is studying the agronomic practices required to optimize the yield and economic returns of alternative crops including edible beans, sunflowers, and canola.

If additional funding were available, ARS would increase its efforts to understand the biology and biocontrol of sunflower insects and diseases, increase its efforts in genomics and molecular genetics of sunflowers, initiate genetic and pathology research on dry edible beans, and develop a breeding and genetics program to develop improved, better-adapted varieties of canola. With the recent development of NuSun sunflowers, good potential exits to increase the sunflower acreage in the area and the sunflower industry has identified the need for improved insect and disease control and increased efforts in molecular genetics as high priority research areas. Dry edible bean acreage in the Northern Plains has increased significantly over the past 30 years and the area now produces more than half the total domestic dry edible beans. Genetic and pathology research will aid in the development of improved dry bean varieties for the area. Much of the canola used by the United States is imported. Thus, the potential for increasing the domestic production of canola is high if improved varieties are developed.

Question. Reviews by wheat and barley organizations of research funding at the Northern Crops Laboratory at Fargo raise concern about the adequacy of the dollar

level per scientist at the facility. How does the per scientist funding level at the Northern Crops Laboratory compare to other ARS facilities and ARS standards? If it is below optimum levels, why is that the case? What are the longer range plans to improve the funding level per scientist at this facility?

USDA answer. The annual funding level for the Cereal Crops Research Unit within the Northern Crops Laboratory (NCL) averages just over $200,000 per scientist. ARS considers funding of $300,000 to be the optimum level to support new scientists. NCL is an established (and highly productive) research unit conducting research of relevance to ARS stakeholders. However, the continuing absorption of costs required to finance annual pay increases and other increased costs of operations have eroded the purchasing power of the resources allocated to NCL and other ARS research locations throughout the nation. ARS will continue to seek additional resources through the annual budget process to improve the funding level per scientist at the NCL. Without additional funds in this unit, some positions vacated through retirements will have to remain unfilled. The fiscal year 2000 budget request related to the "emerging diseases" program area includes a $300,000 proposal for increased funding at the NCL to add a new scientist for durum wheat genetic research to study resistance to Fusarium head blight.

For Michael Dunn, Marketing and Regulatory Programs

Question. What is the status of the bonus buy for bison that is under consideration at the Department? While everyone in the bison industry agrees with the agency's determination to deal with the brucellosis-infected bison herd in South Dakota. What steps are being taken to resolve this problem and to move forward with the bison purchase on a timely basis?

USDA answer. The brucellosis issue is not delaying USDA' response to the request for a bison buy at this time. The bison industry's request is currently under consideration by the Department.

QUESTIONS SUBMITTED BY SENATOR FEINSTEIN

Question. To what do you attribute the increase in meat contamination and recalls over the past several years? What assurances can you give the Committee that the increases are not due to failures or shortcomings in the new USDA inspection process?

FDA answer. There has not been an increase in contamination of meat and poultry products. Our data indicate that over the past ten years the findings of pathogens such as Listeria monocytogenes in ready-to-eat products have decreased. Also, the incidence of reported foodborne listeriosis has decreased over the same period of time. There is no indication that the HACCP inspection system somehow has failed, thereby causing an increase in product contamination. The recent increase in meat and poultry product recalls is mainly due to the new epidemiological tools, such as PFGE analysis, we now have at our disposal. In the past, the illnesses associated with listeria outbreaks would have been considered unconnected cases. With PFGE analysis, links can now be made among such cases and specific products, which drives product recalls. FSIS has also been more aggressive in conducting testing of products already in the marketplace when there are reports of potential product contamination. When positive results are found, recalls ensue.

To the contrary, data collected during one year of a new, science-based prevention-oriented meat and poultry inspection system indicates a reduction in the incidence of Salmonella in some raw meat and poultry products. Of chicken carcasses, 20.0 percent tested positive for Salmonella before HACCP implementation compared to 10.9 percent one year after implementation-a decline of nearly 50 percent. And 8.7 percent of swine tested positive prior to HACCP versus 6.5 percent after HACCP implementation, a decrease of more than 25 percent. Ground beef went from 7.5 percent prior to HACCP to 4.8 percent after a year, a decline of 36 percent.

Question. The new HACCP program allows meat and poultry producers to run their own inspection process. As the number of plants implementing this system increase, what steps are USDA taking to insure that mistakes aren't made during the transition process?

FDA answer. HACCP programs do not allow meat and poultry producers to run their own inspection process. FSIS believes its food safety goal should be to reduce the risk of foodbome illness associated with the consumption of meat and poultry products to the maximum extent possible. This goal would be accomplished under HACCP by ensuring that appropriate and feasible measures are taken at each step in the food production process where hazards can enter and where procedures and

technologies exist or can be developed to prevent the hazard or reduce the likelihood it will occur.

HACCP provides the framework for industry to set up science-based process controls that establishments monitor, verify, validate and document as effective for controlling and reducing hazards. The Pathogen Reduction Rule, of which HACCP is a part of, delineates and clarifies the respective roles of industry and FSIS to ensure that meat and poultry products are produced in accordance with sanitation and safety-standards and are not adulterated or misbranded within the meaning of the FMIA and PPIA. The rule makes clear that the industry is responsible for producing and marketing products that are safe, unadulterated, and properly labeled and packaged.

FSIS is responsible for inspecting products and facilities to verify that the statutory requirements are being met and for taking appropriate compliance and enforcement actions when the requirements are not being met. FSIS Pathogen Reduction inspection methodology verifies plants are meeting requirements upon the date the regulatory requirements become effective and on an ongoing basis thereafter. Inspection personnel conduct basic verification inspection procedures to determine whether the establishment has instituted required systems, i.e., HACCP, Standard Sanitary Operating Procedures (SSOPs), and/or E. cold sampling. Inspection personnel then conduct inspections to verify that these food safety and process control systems are operating on an ongoing basis.

As an example, under HACCP, inspectors will perform a procedure for reviewing features of a HACCP plan in operation—such as correlating records with random observation or measurement at a critical control point—or a procedure for reviewing the implementation of an entire HACCP plan for a particular product. The objective of these activities is to determine whether, as documented in its records, the establishment is complying with the requirements for the implementation of a HACCP plan. These requirements include monitoring, verification, and corrective action so that FSIS can make determinations about HACCP system adequacy, i.e. whether the system prevents the distribution of adulterated products that may endanger public health.

Question. Last year, a GAO Report found that federal agencies cannot ensure the growing volume of imported food is safe for consumers. The report found port of entry inspections are ineffective because:

—It does not ensure that foods are produced under adequately controlled conditions

—The FDA inspects less than 2 percent of foreign shipments

—Many organisms, such as Cyclospora, are not detected through visual inspections

What steps have the FDA and FSIS taken to address the concerns raised in the GAO Report? Have the number of inspections increased? What is being done to hold importers of tainted foods accountable for their actions?

Answer. General Accounting Office (GAO) report (RCED–98–103) released April 30, 1998, recommended that the agency modify the Automated Import Inspection System (AIIS) to better identify those imported foods posing the greater health risks. FSIS concurred with the GAO recommendation. As a result, the Agency has organized a team to review the import inspection system, including inspection standards and procedures, computer support, and the AIIS. The review was organized in three phases: (1) an initial evaluation phase; (2) a redesign-and-recommendation phase to be completed by late 1999; and then (3) implementation to be completed by the end of 2000. Phase l of this process is nearing an end.

The number of import reinspections has not increased. Currently, all meat and poultry shipments that enter the United States are reinspected for transportation damage, labeling, proper certification, general condition, and accurate count. In addition, the AIIS assigns various types of inspections, which can include: product examination, net weight checks, examination of condition of containers, incubation of shelf-stabled canned products, and laboratory analyses for food chemistry, chemical residues, microbiological contamination, and species tests. Reinspection is performance-based; better performing foreign establishments have their products reinspected less frequently.

Imported meat and poultry products that do not comply with U.S. requirements are not allowed to enter U.S. commerce and are identified as "U.S. Refused Entry Product." When this occurs the broker/applicant has 45 days to either destroy, reexport, or convert the refused entry product to animal food. Subsequent shipments are subjected to intensified port of entry reinspection in order to determine that future shipments meet U.S. requirements.

Question. Under the current system, imported products are treated differently by FDA and USDA. For meat and poultry, the USDA first approves a country's safety

system and then inspects individual plants. The FDA only has the authority to inspect at the border. Why is there such a difference in the two systems? Does the FDA believe they can adequately ensure the safety of imported products with their current authority and staff budget?

FDA answer. For many years USDA has employed the following approach. First, a country's meat and or poultry system is subject to an initial equivalence judgement. Until that determination has been made, no meat or poultry product can be exported to the U.S. Second, the country is subject to on-site audits to verify that the foreign inspection system continues to meet

U.S. requirements. Third, imported product is subject to random reinspection at ports of entry.

Question. The USDA is considering rules regarding the importation of Argentine citrus products. The California Department of Food and Agriculture has expressed strong concerns that the citrus products may be infected by citrus black spot and sweet orange scab. Should the imports be allowed, what is the process to insure that tainted produce is identified before contamination spreads to domestic industries?

FDA answer. FDA is in the process of addressing the items of concern in the 1998 GAO Report. In an attempt to better influence the conditions over imported foods, FDA increased the number of foreign inspections it conducts from 40 in fiscal year 1998 to 100 in fiscal year 1999, and has requested resources to conduct 250 foreign inspections in fiscal year 2000.

FDA initiated, through the President's FSI, increased collaboration and cooperation with foreign governments in the form of education and technical assistance to foreign governments. In addition, in fiscal year 1999 and subsequent years, FDA will participate in assessments of foreign country's ability to produce products in conformance with U.S. standards or their equivalent, including Good Agriculture Procedures or GAPs, Good Manufacturing Procedures or GMPs, Seafood HACCP, Low Acid Food/Acidified Food regulations. FDA is also pursuing equivalency agreements with countries which have proven that they can produce food products under regulatory and safety systems equivalent to that imposed on domestic processors in the U.S.

FDA has long concluded that end product inspection alone cannot assure that all food products offered for entry into the U.S. meet the safety and wholesomeness standards required by the laws and regulations the Agency enforces. In fiscal year 1999, through the FSI, the Agency received additional resources to increase the amount of sampling of foreign produce offered for entry into the U.S. However, with the number of imports offered for entry into the U.S. continuing to increase in excess of 10 percent a year, it is not feasible for the Agency to divert resources from its domestic programs to maintain the current level of imported products inspected. While the number of entries examined has increased, the total percentage of entries examined will continue to decline.

FDA's Center for Food Safety and Applied Nutrition and Office of Regulatory Affairs are currently exploring with the Office of Chief Counsel, alternative strategies to deal with repeat offenders, including both foreign shippers and producers and domestic importers and brokers. Currently an imported entry found to be violative is detained and refused entry into the country. In addition, the shipper or producer of the product may have future entries designated as Detain Without Physical Examination or DWPE. DWPE causes each subsequent entry to be examined by a private laboratory at the importers expense to assure that the product does not violate FDA statutes. Some of the stronger regulatory options that the Agency is considering, are product seizures or injunctions or other court action if the violations continue.

Question. Under the current system, imported products are treated differently by FDA and USDA. For meat and poultry, the USDA first approves a country's safety system and then inspects individual plants. The FDA only has the authority to inspect at the border. Why is there such a difference in the two systems? Does the FDA believe they can adequately ensure the safety of imported products with there current authority and staff budget?

FDA answer. FDA believes that there is a single set of standards for food products consumed in the United States, irrespective of whether the food is produced domestically or imported.

However, you are correct in stating that there is a difference between USDA's and FDA's approach with regard to imports. This difference is the result of the nature of each agency's statutory authority. The biggest difference is that the USDA/FSIS system is essentially one of premarket licensing of regulated facilities. On the other hand, FDA's premarket authority is limited to premarket safety reviews of food and color additives, and does not include licensing authority for food production facilities.

In order to ensure the safety of all foods consumed in the U.S., FDA continues to develop strategies that will allow the Agency to increase inspectional activity within foreign borders. One such strategy calls for FDA to conduct audits of foreign food systems and to assess the prospect of developing future equivalency agreements. As a part of these audits, a country's infrastructure, laws, regulations, inspectional force, and regulatory follow up are evaluated. Assessments were completed for Honduras, Trinidad and Tobago in fiscal year 1998. We have tentative plans to conduct assessments for Costa Rica and Nicaragua in March 1999, and we have tentatively scheduled reviews of the infrastructure, laws and regulations related to food safety for both Canada and Mexico in fiscal year 1999. In a second strategy, FDA is conducting several types of inspections in the country of origin. Primary countries in which seafood inspections are being conducted include Ecuador, Taiwan, Phillippines, Viet Nam, and Indonesia. FDA's Low Acid Canned Food Inspections program will conduct inspections in the following primary countries: Ecuador, Brazil, Canada, Malaysia, Philippines, Indonesia, and India. The Agency is also conducting compliance inspections for land foods in Canada, Mexico, Italy, Portugal and France. Primary commodities inspected will include cheese, ready-to-eat, heat and serve snack foods, and candy, including chocolate candy.

In fiscal year 1999, through the Food Safety Initiative, the Agency received additional resources to increase the amount of sampling of foreign produce offered for entry into the U.S. However, with the number of imports offered for entry into the U.S. continuing to increase in excess of 10 percent a year, it is not feasible for the Agency to divert resources from its domestic programs to maintain the current level of imported products inspected. While the number of entries examined has increased, the total percentage of entries examined will continue to decline.

QUESTIONS SUBMITTED BY SENATOR DURBIN

Over the last 15 years, a strain of bacteria, Salmonella enteritidus (SE) has become a real threat to the safety of eggs and egg products. USDA has reported that each year more than 660,000 Americans get sick from eating eggs contaminated with SE. Further complicating the problem is the fact that some firms repackage, redate, and sell old eggs. Also troublesome is split regulatory jurisdictions and inconsistent federal and state egg safety standards—with no less than four federal agencies and hundreds of state agencies with responsibilities.

The omnibus bill directs USDA and HHS to submit a joint report on egg safety to this Committee. The report is intended to provide the status of actions taken to enhance the safety of shell eggs and egg products.

Question. What is the status of this report?

USDA answer. The report has been signed by both the Secretaries of Agriculture and Health and Human Services and is being delivered to the Committee today.

Egg Safety (directed to both USDA and FDA)

Over the last 15 years, a strain of bacteria, Salmonella enteritidus (SE) has become a real threat to the safety of eggs and egg products. USDA has reported that each year more than 660,000 Americans get sick from eating eggs contaminated with SE. Further complicating the problem is the fact that some firms repackage, redate, and sell old eggs. Also troublesome is split regulatory jurisdictions and inconsistent federal and state egg safety standards—with no less than four federal agencies and hundreds of state agencies with responsibilities. The omnibus bill directs USDA and DHHS to submit a joint report on egg safety to this Committee. The report is intended to provide the status of actions taken to enhance the safety of shell eggs and egg products.

Question. What is the status of this report?

USDA answer. The joint status report requested of the Secretaries of Health and Human Services and of Agriculture has been completed. It was delivered to the Chairmen and Ranking Minority Members of the House and Senate Appropriations committees on March 16, 1999 and a copy of it is attached to these answers. We will be happy to provide a copy for the record.

[The information follows:]

LETTER FROM DAN GLICKMAN

U.S. DEPARTMENT OF AGRICULTURE,
DEPARTMENT OF HEALTH AND HUMAN SERVICES,
Washington, DC, September 18, 1995.

Hon. THAD COCHRAN,
Chairman, Subcommittee on Agriculture, Rural Development, and Related Agencies Committee on Appropriations, U.S. Senate.

DEAR MR. CHAIRMAN: The Omnibus Appropriation for fiscal year 1999 requires the Secretaries of Agriculture and Health and Human Services to submit a joint status report to the Committees on Appropriations of the U.S. House of Representatives and the United States Senate that describes actions taken by the Secretaries of Agriculture and Health and Human Services (1) to enhance the safety of shell eggs and egg products; (2) to prohibit the grading, under the voluntary grading program of the Department of Agriculture (USDA) of shell eggs previously shipped for sale; and (3) to assess the feasibility and desirability of applying to all shell eggs the prohibition on repackaging to enhance food safety, consumer information, and consumer awareness.

Enclosed with this letter is the joint status report prepared by USDA and the Department of Health and Human Services (HHS). The first part of this report discusses the efforts taken by these two Departments from as early as 1992 to enhance the safety of shell eggs and egg products. These activities include a variety of regulatory and enforcement activities, guidance and information collection activities, research activities, educational activities, and public meetings. This report divides the efforts into HHS/Food and Drug Administration activities, USDA/Food Safety and Inspection Service activities, and cooperative interagency activities. The second part of this report describes efforts taken by USDA's Agricultural Marketing Service to prohibit, under its voluntary grading programs, the grading of shell eggs previously shipped for sale. The third part of this report describes efforts taken by both Departments to asses the feasibility and desirability of applying to all shell eggs the prohibition on repackaging to enhance food safety, consumer information, and consumer awareness.

This report reveals the close working relationship between USDA and HHS regarding shell eggs and egg products. Both Departments intend to continue this close relationship to serve the needs of the public in protecting the public health.

Sincerely,

DAN GLICKMAN,
Secretary of Agriculture.

DONNA E. SHALALA,
Secretary of Health and Human Services,

REPORT TO APPROPRIATIONS COMMITTEES OF THE HOUSE AND SENATE

Part 1:

Efforts taken by HHS and USDA to enhance the safety of shell eggs and egg products:

The efforts taken by the Department of Health and Human Services QIHS) and the U.S. Department of Agriculture (USDA) to enhance the safety of shell eggs and egg products include a variety of regulatory/enforcement activities, guidance/information collection activities, research activities, educational activities, and public meetings. For the most part, these efforts can be divided into HHS/Food and Drug Administration (FDA) activities, USDA/Food Safety and Inspection Service (FSIS) activities, and cooperative interagency activities.

FDA answer. The President's Food Safety Council released its response to the National Academy of Sciences or NAS report "Ensuring Safe Food from Production to Consumption" on March 15, 1999. The response includes a strong Administration commitment to improve the effectiveness of the federal food safety system through the strengthening of science and risk assessment, strategic planning, and better federal integration with state and local governments.

The Council strongly agrees with the goal of a unified framework for the food safety programs, while noting that there may be many organizational approaches to achieving a "single voice" for federal food safety activities. The Council will conduct an assessment of structural models and other mechanisms that could strengthen the federal food safety system through better coordination, planning and resources allocation.

For the record I will provide the recommendations outlined by the NAS Report, along with a copy of the President's Food Safety Council response.

[The information follows:]

PRESIDENT'S COUNCIL ON FOOD SAFETY ASSESSMENT OF THE NAS REPORT ENSURING SAFE FOOD FROM PRODUCTION TO CONSUMPTION

EXECUTIVE SUMMARY

Americans have one of the world's safest food supplies. This is largely a result of sustained regulatory and education programs along the farm to table continuum as well as surveillance and research efforts. The federal food safety system, comprised of multiple agencies, is authorized by a diverse set of statutes and is supported by numerous key partnerships with state, local, and tribal governments. Together these agencies have created a system that has given U.S. consumers confidence in the safety of their food purchases.

As good as the nation's food safety system is, there is room for improvement. Illnesses and deaths due to contaminated food, while preventable, continue to cause considerable human suffering and economic loss. That is why, at the very beginning of his first term, President Clinton set a course to strengthen the nation's food safety system. Under the President's leadership, surveillance and research have dramatically increased, programs are better coordinated, and regulations are more prevention-oriented and science-based. But this is only the beginning. The Council on Food Safety, with the help of the public, will continue to identify problems and promote solutions.

The Council welcomes the findings and recommendations provided by the National Academy of Sciences in its August 1998 report Ensuring Safe Food From Production to Consumption. This report lays out a clear rationale for a national food safety plan, one that is based on science and risk assessment.

—The Council supports NAS recommendation I, which states that the food safety system should be based on science. In its assessment of the NAS report, the Council provides numerous examples in which this is already the case and examples of areas that need to be strengthened.

—The Council supports NAS recommendation IIa, which calls for federal statutes to be based on scientifically supportable assessments of risk to public health. In this regard, the Council will conduct a thorough review of existing statutes and determine what can be accomplished with existing regulatory flexibility and what improvements will require statutory changes.

—The Council supports NAS recommendation IIb, which calls for the production of a comprehensive national food safety plan. In fact, the development of such a plan is already underway and is one of the primary functions of the Council as specified in Executive Order 13100. One component of the plan will be exploring methods to assess the comparative health risks to the nation's food supply.

—The Council supports the goal of NAS recommendation IIIa. Here, the NAS calls for a new statute that establishes a unified framework for food safety programs with a single official with control over all federal food safety resources. The report acknowledges that there may be many organizational approaches to achieving the goal of a "single voice" for federal food safety activities. The Council will conduct an assessment of structural models and other mechanisms that could strengthen the federal food safety system through better coordination, planning, and resource allocation, keeping in mind that the primary goal is food safety and public health.

—The Council supports NAS recommendation IIIb. This recommendation argues that agencies should have the legal authority and other tools needed to work more effectively with our partners in state, tribal, and local governments. Federal food safety agencies already have many of the tools identified by the NAS and have used them to establish extensive partnerships with state, tribal, and local governments. However, some tools are missing and much more needs to be done to better coordinate the federal government's interactions with other levels of government. The Council agrees that the roles of state, tribal, and local governments in the food safety system are critical and that their efforts deserve the formal recognition that partnership in a national food safety system conveys.

At the request of Congress, the National Academy of Sciences (NAS) conducted a study of the current food safety system to: (1) determine the scientific basis of an effective food safety system; (2) assess the effectiveness of the current system; (3) identify scientific and organizational needs and gaps at the federal level; and (4) provide recommendations on scientific and organizational changes needed to ensure an effective food safety system. To conduct this study, the NAS established a com-

mittee and obtained input from federal agencies and other stakeholders of the federal food safety system. The NAS issued its report on August 20, 1998.

On August 25, 1998, through Executive Order 13100, the President established the Council on Food Safety and charged it to develop a comprehensive strategic plan for federal food safety activities and to make recommendations to the President on how to implement the plan. Also on August 25, 1998, the President directed the Council to provide him with an assessment of the NAS report in 180 days. Specifically, the President directed:

> ". . . the Council to review and respond to this report as one of its first orders of business. After providing opportunity for public comment, including public meetings, the Council shall report back to me within 180 days with its views on the NAS's recommendations. In developing its report, the Council should take into account the comprehensive strategic federal food safety plan that it will be developing."

In response to the President's directive, the Council established a task force consisting of representatives from the following departments and agencies: Departments of Agriculture (USDA), Health and Human Services (HHS), and Commerce (DOC), Environmental Protection Agency (EPA), Office of Science and Technology Policy (OSTP), and Office of Management and Budget (OMB). The task force benefited from valuable input obtained at four public meetings (Arlington, VA; Sacramento, CA; Chicago, IL; and Dallas, TX) and from public comment dockets maintained by EPA, USDA/Food Safety and Inspection Service (FSIS), and the HHS/Food and Drug Administration (FDA).

In general, the Council finds the NAS report a constructive contribution to efforts to improve the effectiveness of the federal food safety system through strengthening science and risk assessment, strategic planning, and better federal integration with state and local governments. In particular, the NAS places appropriate weight throughout its report on applying science to the management of government food safety efforts. Science must be advanced within the context of these competing interests. The NAS report recommends that priorities of the nation's food safety system should be based on risk. The Council agrees with the report's thesis that a food safety system that includes regulation, research and development, education, inspection and enforcement, and surveillance should be based on science and should use various risk analyses including quantitative and qualitative risk assessments and risk management principles to achieve such a system.

The Council recognizes that a food safety system comprised of multiple agencies with differing missions and statutory authority may increase the potential for uneven adoption and inconsistent application of science-based regulatory philosophies. While different applications may provide useful information to policy makers relative to the effectiveness of various approaches, the Council's strategic plan (including its assessment of existing statutes and structures) will result in more consistent regulatory measures and philosophies. The Council is committed to identifying further improvements that would result in a seamless, science-based food safety system.

RECOMMENDATION I

BASE THE FOOD SAFETY SYSTEM ON SCIENCE

The NAS report recognizes that the United States has enjoyed notable successes in improving food safety and that with increasing knowledge, many rational, science-based regulatory philosophies have been adopted. The report suggests, however, that adoption of these regulatory philosophies has been uneven given the fragmentation of food safety activities, and the differing missions of the various agencies responsible for specific components of food safety. The greatest strides in ensuring future food safety from production to consumption, the NAS argued, can be made through a scientific, risk-based system that ensures surveillance, regulatory, research, and educational resources are allocated to maximize effectiveness.

Council Assessment

The Council strongly endorses this recommendation. Many federal food safety programs are already, or are being modified to be, science-based. The Council recognizes that scientifically robust programs will result in better identification of public health needs, and determination of the most effective means of reducing public health risk, including the most cost-effective opportunities for improvement, and improved priority setting.

The scientific information generated through surveillance, research, and risk assessment efforts will result in improved food safety only if there is a commensurate

strong effort to translate that scientific information into practical, usable information at the working level, e.g., through guidance or education. This means there must be education for all those involved in producing, manufacturing, transporting, and preparing food as well as for those persons involved in government food safety regulatory activities.

The Council's goal is to ensure that science-and risk-based decision making are central to the Administration's on-going efforts and its strategic plan. Considerable improvements have been made over the past several years. The strong scientific underpinnings of the President's Food Safety Initiative, enactment of the Food Quality Protection Act (FQPA), restructuring of food safety agencies within USDA, and many individual agency activities such as implementation of Hazard Analysis and Critical Control Points (HACCP) programs for meat, poultry, and seafood, have strengthened the overall science base of the food safety system.

The Council believes that the necessary elements of a science-based program surveillance, outbreak response, risk assessment, research, regulation, inspection, and education—are largely in place, and at improvements planned for the next 5–10 years will enhance food safety significantly. The Council will consider in its strategic plan the following elements of a science-based food safety system:

Surveillance.—Food safety agencies will continue to develop more effective ways to achieve surveillance goals and to monitor the safety of the food supply. Although FoodNet (foodborne disease surveillance system), PulseNet (foodborne pathogen DNA fingerprinting system), and the National Antibiotic Resistance Monitoring System (NARMS) provide information never before available in the United States on foodborne illnesses and the occurrence of antibiotic resistant pathogens, enhanced quantitative data on the entire range of infectious and non-infectious foodborne herds will require additional efforts.

Risk Assessment.—Risk assessment is a valuable tool for setting priorities, allocating resources, and making regulatory decisions and must be continually improved. For example, ADA watt continue to refine its risk assessment methods to determine acceptable levels of pesticides residues. Under FQPA, this approach has been strengthened to further protect all consumers, especially children, from the risks of pesticides in their diet. As currently is done for chemical hazards, the federal government needs to create and use a national microbial risk assessment capability as a means of identifying hazards and quantifying risk and assist in creating similar capacities internationally.

Research.—Through the Joint Institute for Food Safety Research, a research infrastructure has been established to improve and coordinate food safety research activities across the federal government. The Institute will continue a critical review of the federally supported food safety research that was begun through the National Science and Technology Council. Future goals in the area of research include: coordination of research planning; budget development and prioritization; scientific support of food safety guidance, policy, and regulation; enhanced communication and links among federal agencies; and enhanced communication and links with industry and academic partners through use of public-private partnerships and technology transfer mechanisms.

Education.—Food safety agencies will expand science-based education and training programs for producers, processors, distributors, food service and public health workers, health care providers, food scientists, and consumers as well as those involved in regulatory activities. It is essential to include in these programs new scientific information on foodborne hazards and their control and effective food safety management strategies.

Inspection/Preventive Controls.—FSIS and FDA will further improve and evaluate the effectiveness of inspections of domestically and internationally produced food and will continue to develop and implement science-based preventive controls such as HACCP systems and the Good Agricultural Practices. Where necessary, regulatory requirements will be established, such as additional performance standards for pathogen reduction that can be developed as more monitoring and surveillance data become available.

Consistency of Science-Based Standards.—FSIS, FDA, and EPA will work toward clear food safety standards nationally and internationally. The Conference for Food Protection brings together all 50 states for purposes of regulating retail establishments, and the model Food Code is gaining wider adoption among the states. Internationally, the Codex Alimentarius Commission (CAC) is the primary mechanism through which these activities will take place. U.S. food safety agencies should also become more active in providing technical assistance to developing countries.

Private Sector Incentives.—The federal and state regulatory agencies will work with the private sector to develop new technologies to further food safety and to encourage commercial scale-up applicable in large and small companies, and industry

adoption. Research efforts with industry, consumer, academic, and government participation could develop and validate new technologies.

Evaluation.—Evaluating the effectiveness of science based regulatory programs continues to be critical. For example, Salmonella data from the first year of HACCP implementation in poultry facilities show a trend toward fewer contaminated products. Also, by providing important information on trends in the incidence of infections with foodborne pathogens, Food Net assists in the evaluation of the effect of preventive controls. The effect of preventive controls implemented by the processed food industry on the reduction of the number of cases of listeriosis was readily apparent in the Centers for Disease Control and Prevention (HHS/CDC)-conducted surveillance effort was a forerunner of FoodNet.

A general challenge for the food safety agencies is that while they must be guided primarily by science, the agencies must also consider other factors such as technical limitations, statutory mandates, policy considerations, budget constraints, practicality, and consumer and societal preferences.

Scientific Challenges

The Council faces a number of challenges in improving the scientific base of the food safety system.

The following are a few examples of challenges that must be met to strengthen the scientific underpinnings of federal food safety efforts:

—New data are required to address the occurrence of emerging pathogens, changes in domestic food habits, a global food supply, and changes in demographics. Specific data needs are difficult to predict and obtain in a timely way. An example is the impact of E. coli O157:H7, which was unknown as a foodborne pathogen 20 years ago, but has been responsible for major outbreaks of foodborne illness in recent years.

—Gaps exist in our knowledge of microbial pathogens and in our ability to measure their impact on human health. For example, there are gaps in knowledge about the pathogens associated with fresh fruits and vegetables and the routes of contamination.

—Assessment of the total impact on health of multiple chemicals from multiple sources presents a major scientific challenge. Implementation of the new FQPA standards for pesticide residues requires EPA to assess aggregate risk from food, water, and residential exposure to a single pesticide as well as cumulative risk from multiple pesticides.

—Gaps exist in our knowledge of effective interventions, prevention, and alternatives that minimize contamination of food. For example, the existing limited body of knowledge about microbial contamination limits the ability to develop on-farm preventive controls and systems of testing. Similarly, with the advent of FQPA, more research is also needed to develop safer pesticide alternatives or crop production techniques in order to promote transition from older pest control techniques that may pose risks to newer, safer ones.

—Insufficient data exist on the entire range of infectious and non-infectious foodborne hazards. Even with the improvements made through FoodNet and PulseNet, enhancement of quantitative data on the entire range of infectious and non-infectious foodborne hazards will strengthen monitoring and surveillance programs for prevention, early identification, and prediction of emerging food safety problems.

RECENT CHANGES THAT STRENGTHEN THE FEDERAL FOOD SAFETY SYSTEM SCIENTIFIC BASE

USDA 1994 reorganization (separated public health from marketing functions)
HACCP implementation (12/97 seafood and 1/98 meat and poultry)
FQPA enactment and implementation
FoodNet/PulseNet established
FDA Fresh Produce Guidelines released
Joint Institute for Food Safety Research created
Research funding increased
Food Safety Research Database initiated
Annual Food Safety Research Conference held
Interagency Risk Assessment Consortium established

RECOMMENDATION IIA

Congress should change federal statutes so that inspection, enforcement, and research efforts can be based on scientifically supportable assessments of risks to public health.

The NAS report identifies a need for a "national food law that is clear, rational, and comprehensive, as well as scientifically based on risk" as a major component of a model food safety system. The report concludes it is necessary to revise the current statutes on food safety to create a comprehensive national food law under which:

—Inspection, enforcement, and research efforts can be based on a scientifically supportable assessment of risks to public health. This means eliminating the continuous inspection system for meat and poultry and replacing it with a science-based approach that is capable of detecting hazards of concern.

—There is a single set of flexible science-based regulations for all foods that allows resources to he Caned based on risk. that permits coordination of federal and state resources, and that makes it possible to address all risks from farm to table.

—All imported foods come only from countries with food safety standards equivalent to U.S. standards.

The NAS report states that the laws, particularly what the report characterizes as the requirement that there be continuous inspection of meat and poultry production through sight, smell, and touch (rganoleptic) inspection, create inefficiencies, do not allow resource use to reflect the risks involved, and inhibit the use of scientific decision-making in activities related to food safety, including the monitoring of imported food.

Council Assessment

The report's recommendation that federal statutes provide agencies with authority to make decisions based on scientific assessments of risks to the public health is sound. Decisions based on public health risk assessments allow agencies to make effective use of science to set food safety priorities, allocate resources to higher risk areas, and instill consumer confidence that high-risk hazards are being addressed.

Since the federal food safety regulatory agencies operate under very different legislative authorities, the Council will conduct a full assessment of these statutes and evaluate the degree of regulatory flexibility that already exists. The Council has decided that this legislative review will be undertaken as part of the strategic planning process. The purpose of the review will be to: 1) examine the similarities and differences in federal food safety statutes; 2) identify the "best" statutory approaches for reducing foodborne illness, and 3) assess both gaps and statutory barriers to implementation of the plan. The need for statutory changes could then be determined, and, if necessary, legislative principles developed which would form the basis for discussions with stakeholders and Congress. For example, given the recent overhaul of pesticide legislation, the Council believes that further statutory changes may not be needed for pesticides at this time.

In some cases, the NAS report misinterprets existing statutory requirements. For example, the report concludes that the statutes require the current method of organoleptic inspection of all carcasses. Even though the current law requires continuous inspection, it does not specify how this inspection mandate is to be carried out. The statutes do require appropriate inspection of animals prior to slaughter and inspection post-slaughter at all official slaughter and processing facilities. Among other significant food safety purposes, this continuous inspection requirement ensures use of the best sanitary dressing processes, prevention of fecal contamination, and prevention of meat from diseased animals from entering the food supply. Under the statutory flexibility that already exists, USDA has begun to develop and test a more risk-based inspection system, including adopting regulations requiring that HACCP be implemented in all slaughter and processing plants. In addition, USDA is studying how best to effect further improvements in the inspection of meat and poultry.

The food safety agencies have achieved and can continue to accomplish significant science-based improvements in their food safety programs under current authorities. However, new authorities that would improve the federal food safety system have been proposed by the President and are waiting action by Congress. Further analysis of the statutes may result in additional proposed statutory modifications..

Current Legislative Challenges

As part of its review of food safety statutes, the Council will focus on areas where regulatory jurisdiction is split between agencies and where resources could be more effectively shared between agencies. The Administration will work with Congress to

pass: the Food Safety Enforcement Enhancement Act, forwarded by the Clinton Administration and introduced during the last Congress to increase the enforcement capabilities of FSIS; and legislation that gives FDA increased authority to effectively assure the safety of food imports.

RECENT ADVANCES IN APPLYING SCIENTIFIC ASSESSMENTS OF PUBLIC HEALTH RISKS TO FOOD SAFETY

HACCP implemented for meat, poultry, and seafood
FQPA tolerance reassessment based on aggregate exposure, cumulative risk, and vulnerable subpopulations.
Single, risk-based pesticide standard for raw and processed food established
Tolerance reassessment focusing on the riskiest pesticides first
Priority registration given to "safer" pesticides
Risk Assessment Consortium established
FoodNet/PulseNet established
Good Agricultural Practices guidance for fresh produce established
Unpasteurized juice warning labels required

RECOMMENDATION IIB

Congress and the Administration should require development of a comprehensive national food safety plan. Funds appropriated for food safety programs (including research and education programs) should be allocated in accordance with science-based assessments of risk and potential benefit.

This recommendation contains two parts. The first part recommends that Congress and the Administration require preparation of a comprehensive, national food safety plan. The NAS report lists several essential features of such a plan, including a unified food safety mission; integrated federal, state and local activities; adequate support for research and surveillance; and increased efforts to ensure the safety of imported foods. The second part of the recommendation stresses that resources President's Council on Food Safety—should be allocated on the basis of science-based assessments of risk and potential benefits.

Council Assessment

The Council agrees that a comprehensive national food safety strategic plan should be developed and the development of such a plan is underway. In fact, the President's Food Safety Initiative was an initial step toward a national food safety plan. The 1997 Farm to Table report was a means of leveraging federal food safety resources through coordinated planning and cooperative work to meet common needs such as development of surveillance data, response to outbreaks, research into preventive interventions, development of risk assessment techniques particularly for microbial risk assessments, and consumer education. This initial plan also took some steps toward extending food safety planning to the state and local level.

Strategic Planning

Picking up where the Farm to Table report left off, the Council will continue and expand the strategic planning process. One of the Council's primary purposes is to develop a comprehensive strategic plan for federal food safety activities that contains specific recommendations on needed changes, including goals with measurable outcomes. The plan's principal goal is to enhance the safety of the nation's food supply and protect public health through a seamless science-and risk-based food safety system. The plan will set priorities, improve coordination and efficiency, identify gaps in the current system and mechanisms to fill those gaps, continue to enhance and strengthen prevention strategies, and develop performance measures to show progress.

Preparation of the food safety strategic plan will be a public process, and will consider both short- and long-term issues including new and emerging threats and the special needs of vulnerable populations such as children and the elderly. Once the plan is sufficiently complete, the Council will advise agencies of priorities for investing in food safety and ensure that federal agencies annually submit coordinated food safety budgets to OMB to sustain and strengthen existing capacities. In short, the President's Council on Food Safety will develop a national food safety plan and make budget recommendations to agencies and OMB to accomplish what the NAS report recommends.

The Council has defined the scope of future federal level food safety strategic planning and a process for interagency planning and public participation. An interagency task force anticipates having a draft plan ready for public review and discussion in January 2000. Even while developing this plan, the task force intends to continue its consultations with stakeholders. The following is the draft vision statement for the Council's strategic plan:

"Consumers can be confident that food is safe, healthy, and affordable. We work within a seamless food safety system that uses farm-to-table preventive strategies and integrated research, surveillance, inspection, and enforcement. We are vigilant to new and emergent threats and consider the needs of vulnerable subpopulations. We use science-and risk-based approaches along with public/private partnerships. Food is safe because everyone understands and accepts their responsibilities."

The President's Council on Food Safety held four public meetings in the Fall of 1998 in Arlington, VA; Sacramento, CA; Chicago, IL; and Dallas, TX to solicit comments on this draft vision for food safety and to identify a strategic planning process, goals and critical steps as well as potential barriers to achieving that vision.

The Council's strategic planning task force is analyzing the transcripts of the 1998 public meetings and the input received through the notice and comment process to determine the major themes, issues, and subject areas. The task force will also consider the conclusions and recommendations of the NAS report, input from the federal, state, and local government integrated National Food Safety System Project, and input from the agencies involved.

The planning process will build upon common ground and provide the forum to tackle some of the difficult public health, resource, and management questions facing the federal food safety agencies and our state, tribal and local government partners. The plan will identify areas for enhanced coordination and efficiencies, determine whether legislative changes would be beneficial, and clarify federal, state, tribal, and local government roles and responsibilities in the national food safety system. (see discussion under recommendation IIIb).

The strategic planning process will consider thoroughly the results of the legislative review outlined under the Council's assessment of NAS recommendation IIa. Examples of possible legislative proposals from such a review include:

—developing legislative proposals to eliminate current duplication of efforts by FDA and FSIS by reevaluating each agency's role in areas such as the regulation of eggs and egg products, game meats, food additives, animal drugs and biologics, and food products produced in plants under the jurisdiction of both agencies;

—modifying statutes to facilitate greater leveraging of agency resources;

—developing a legislative proposal giving FSIS explicit authority to enter into cooperative agreements for food safety risk assessment; and

—developing legislation that provides Performance Based Organization (PBO) authority for voluntary seafood inspection.

Allocation of Resources

The NAS report recommendation goes a step further than a national plan by urging that resources be allocated according to science-based assessments of risk and potential benefits. As stipulated in Executive Order 13100, the Council will ensure that agencies develop a coordinated food safety budget submission consistent with the strategic plan. The Council will develop guidance for food safety agencies to consider during the preparation of their individual budgets. The Council has created a budget task force that will:

—work with the strategic planning task force and review the draft and final strategic plans and Council budget guidance on priority areas for investment to identify budget data and other information that will be necessary to plan and coordinate agency budget submissions to OMB;

—design a uniform format for presenting food safety initiative budget components in the OMB budget process for use in both individual agencies and the unified budget submissions;

—develop necessary guidance to facilitate submission of a unified food safety initiative budget and any other food safety issues deemed appropriate by the Council;

—establish a timetable for developing coordinated food safety budget requests and for submitting information to the Council that accommodates the various agencies' budget planning processes; and

—consider the issue of whether to amend OMB Circular No. A–11 (OMB guidance to agencies on budget structure and reporting elements) to include food safety as a budget cross-cut.

Comparative Risk Assessment

An important part to both risk-based planning and resource allocation will be the development of a comprehensive comparative risk assessment of the food supply. The Council has requested the Interagency Food Safety Risk Assessment Consortium, which consists of HHS and USDA agencies and EPA, to consider how to develop a comparative risk analysis for food safety strategic planning. The Council will direct the Consortium to seek and consider public input in its analysis.

The Council believes that various steps may need to be taken to evaluate risks including: a ranking of foodborne pathogen risks based on surveillance and economic data; consideration of a broader range of food safety hazards including not only microbial risks, but also pesticides and chemicals; and finally, selection of highly ranked hazards, an evaluation of control measures, and an evaluation of net benefits. The Council must avoid applying risk assessment in a manner that is too strict, rigorous, or inflexible. Instead, the comparative risk assessment must be used to prioritize the known greatest risks at the current time, with the understanding that scientific risk estimates can, and will likely, change frequently over time.

Challenges in Planning

The Council faces the following challenges in developing a comprehensive food safety strategic plan and allocating resources based on risk:

—Developing and successfully implementing a national plan will require strong cooperation coordination, and communication, since each federal, state, and local agency has unique mandates, authorities, history, culture, and operating procedures.

—The diversity of stakeholders in food safety is enormous. It will be difficult, but imperative, that all stakeholders are represented in the Council's planning process.

PROGRESS IN STRATEGIC PLANNING

President's 1997 Farm to Table Food Safety Initiative
President's Fresh Produce and Imported Food Safety Initiative
Establishment of the Joint Institute for Food Safety Research
Establishment of the President's Council
Input from the National Academy of Sciences, Council of Agricultural Science and Technology, and other organizations
National Integrated Food Safety System project meetings
Development of a draft vision statement
Input from multiple public meetings and public comments

RECOMMENDATION IIIA

To implement a science-based system, Congress should establish by statute a unified and central framework for managing federal food safety programs, one that is headed by a single official and which has the responsibility and control of resources for all federal food safety activities, including outbreak management, standard-setting, inspection, monitoring, surveillance, risk assessment, enforcement, research, and education.

The NAS report finds that the existing regulatory structure for food safety in the United States is not well equipped to meet current challenges. Specifically, it points out that the system is facing tremendous pressures with regard to:

—emerging pathogens and ability to detect them;

—maintaining adequate inspection and monitoring of the increasing volume of imported foods, especially fruits and vegetables;

—maintaining adequate inspection of commercial food services and the increasing number of larger food processing plants; and

—the growing number of people at high risk for foodborne illnesses.

The report cites the strengths of the current food safety system, including the advent of FoodNet and PulseNet, HACCP implementation, and the Partnership for Food Safety Education. It also identifies deficiencies, which it attributes partly to "the fragmented nature of the system." The report attributes the fragmentation largely to a lack of adequate integration among the various federal agencies involved in the implementation of the primary statutes that regulate food safety, and observes that this lack of adequate integration occurs also with state and local activities. The report notes that several federal agencies are involved in key food safe-

ty functions and references more than 50 memoranda of agreement between various agencies related to food safety.

The NAS report attributes the lack of adequate integration among federal, state and local food safety authorities in part to the absence of "focused leadership" that has the responsibility, the authority and the resources to address key food safety problems. The report presents several examples of possible organizational structures to create a single federal voice for food safety. These include:

—Food Safety Council with representatives from the agencies with a central chair appointed by the President, reporting to Congress and having control of resources;

—designating one current agency as the lead agency and having the head of that agency be the responsible individual;

—a single agency reporting to one current cabinet-level secretary; and

—an independent single agency at cabinet level.

Although the report indicates that many of the NAS committee's members believe that a single, unified agency headed by a single administrator is the most viable structure for implementing the "single voice" concept, the report recognizes that there may be many other models that would be workable.

Council Assessment

The Council agrees with the goal of the NAS recommendation—that there should be a fully integrated food safety system in the U.S. The food safety agencies are committed to this goal, and the Council is confident that its comprehensive strategic plan will be a major step toward creating a seamless food safety system. To ensure that the strategic plan achieves this goal, the Council will conduct an assessment of structural models and other mechanisms that could strengthen the federal food safety system through better coordination, planning, and resource allocation.

The Council's strategic plan will bring agreement on the vision, goals, and actions needed to enhance the safety of the nation's food supply and protect public health by reducing the annual incidence of acute and chronic foodborne illness. It will also clarify the roles and responsibilities of each food safety agency as well as their interactions with state, tribal, and local government partners.

While the Council recognizes that certain models of reorganization may improve coordination and allow for a better allocation of resources, any reorganization of food safety activities must consider the non-food-safety-related responsibilities of each agency and how these relate to the food safety responsibilities. Reorganization must not be done at the expense of these other responsibilities and activities. The Council is concerned that, if not done carefully, separating food safety from non-food safety activities in each agency could act to weaken consumer and environmental protection overall.

The Council also recognizes that expertise and knowledge, particularly expertise in state-of-the-art science and technology, provides a resource to food safety activities. For example, analytical methods for detection and quantification of adulterants in foods may be adapted to detection of chemical contaminants that threaten public health. Expertise in non-food safety regulatory science and legal procedures are critical when warnings are required on food labels to assure safety. In addition, reorganizations must avoid interfering with the public health framework established to identify and respond to infectious and non-infectious public health threats whether they are foodborne or not, since many of the major foodborne pathogens also produce non-foodborne disease. Thus, in its strategic planning the Council will be cognizant of the interplay between the food safety and non-food safety activities of each agency and how they affect each other.

The Council believes that there are programs that can benefit from immediate reorganization. For example, during the last two years, FDA and NOAA have been developing a proposal to transfer the NOAA Seafood Inspection Program to FDA as a Performance Based Organization (PBO) in order to operate the voluntary Seafood Inspection Program on a more business-like basis. The PRO would be formed under the umbrella of FDA and would include all seafood inspection activities now carried out by NOAA. The fiscal year 2000 budget proposes to transfer the existing Seafood Inspection Program from NOAA to FDA. This action will fully consolidate federal seafood inspection activities within one agency thereby increasing the efficiency and effectiveness of seafood oversight. It will also enhance the overall safety and wholesomeness of seafood products. Funds are provided in the President's fiscal year 2000 budget to cover the costs of transition, including training and education activities.

Factors to Consider in Organizational Restructuring

The Council assessment of structural and organizational options must take into consideration factors such as:

—There are numerous instances in the existing food safety system where the division of regulatory responsibility is not optimal. For example, within the same plant, FSIS and FDA inspectors are often responsible for different foods. FDA and FSIS also share regulatory responsibility of eggs and egg products. Examples such as these create stakeholder confusion and inefficient allocation of resources. Any reorganization must consider areas where there is significant Jurisdictional overlap.

—Many food safety issues would be difficult to resolve by a reorganization. For example, some issues like bovine spongiform encephalopathy are both animal health issues and human health issues. Foodborne disease problems may also be waterborne disease problems. Other programs, particularly research and education programs for food safety often do not operate as separate activities within the agencies, but rather draw significant strength from one another. While some projects are entirely focused on food safety, the food safety research portfolio includes many other projects in such areas as animal health and animal genetics. Reorganization must also accommodate successful partnerships such as the Partnership for Food Safety Education.

RECENT STEPS TAKEN TO CREATE A UNIFIED FEDERAL FOOD SAFETY SYSTEM

1997 President's Food Safety Initiative implemented
Interagency Risk Assessment Consortium created
President's Fresh Produce plan implemented
Federal/State Outbreak Response task force established
Joint Institute for Food Safety Research created
President's Council on Food Safety established
Restructuring of seafood inspection proposed
Partnership for Food Safety Education created

RECOMMENDATION IIIB

Congress should provide the agency responsible for food safety at the federal level with the tools necessary to integrate and unify the efforts of authorities at the state and local levels to enhance food safety.

The NAS report recommends that federal, state, and local governments function as an integrated enterprise, along with their partners in the private sector. The report identified five statutory tools required to integrate federal, state, and local food safety activities into an effective national system:

—authority to mandate adherence to minimal federal standards for products or processes;

—continued authority to deputize state and local officials to serve as enforcers of federal law;

—funding to support, in whole or in part, activities of state and local officials that are judged necessary or appropriate to enhance the safety of food;

—authority given to the Federal official responsible for food safety to direct action by other agencies with assessment and monitoring capabilities; and

—authority to convene working groups, create partnerships, and direct other forms and means of collaboration to achieve integrated protection of the food supply.

This recommendation acknowledges the "equally critical roles" of state, tribal, and local government entities with those of the federal government in ensuring food safety, and suggests that changes in federal authorizing and appropriating legislation may be necessary to achieve better integration of federal, state, tribal, and local activities. The report points out that the work of the states and localities in support of the federal food safety mission deserves "improved formal recognition and appropriate financial support."

Council Assessment

The Council agrees that the roles of state, tribal, and local governments in the food safety system are critical and that their efforts deserve the formal recognition that partnership in a national food safety system conveys. Thus, the Council supports steps taken toward the development of a more fully integrated national food safety system. While more needs to be done to optimize and develop new partnerships, the federal food safety agencies have already established extensive interactions with state and local regulatory agencies. In fact, a critical factor for the Council to consider is the manner in which existing federal/state or local activities

are integrated and coordinated. The Council believes that its strategic planning process provides a fresh opportunity for their non-federal partners to participate as primary and equal partners in the development of the future food safety system.

Some overlap occurs among federal, state, and local food safety efforts. Neither federal food safety agencies nor state and local agencies have sufficient resources to carry out a comprehensive food safety program, but all these agencies have expertise and resources that, when combined in an integrated program, would significantly enhance the impact of food safety programs.

The Council also agrees that the five statutory tools identified by the NAS are critical for ensuring good coordination between the federal government and state, tribal, and local agencies. Fortunately, the federal food safety regulatory agencies (FDA, FSIS, and EPA) already have most of the statutory tools recommended by NAS.

The Council recognizes and agrees with the report's conclusion that the lack of integration among federal, state, and local authorities often complicates the administration of regulatory programs. We need to utilize available mechanisms to leverage resources and expertise from government, industry, academia, and consumers to expand the nation's food safety capabilities beyond what any one group can accomplish. Increased awareness and knowledge of food safety in each segment of the food safety community should reduce the need for regulation of industry and decrease the incidence of contamination at every point in the food safety system in order to protect public health.

Integrated National Food Safety System (NFSS) Project

HHS, USDA, and EPA are working with state and local officials on an integrated National Food Safety System (NFSS) Project to identify appropriate roles and to develop mutually supporting common goals for all levels of government in the U.S. food safety system. This work is considered integral to the Council's strategic plan and coordinated budget recommendations and will be the basis for improved integration with state, tribal and local governments.

Under the leadership of the FDA, the Project is proceeding under existing federal, state, and local laws although all levels of government recognize that changes in some of the federal and state laws will be necessary to achieve an integrated system. The Project began with a meeting of state and local officials from public health and agriculture agencies and state laboratories representing all 50 states, Puerto Rico, and the District of Columbia, FDA, CDC, and FSIS in Kansas City in September 1998. In December 1998, six work groups and an 18 member Coordinating Committee composed of federal, state and local officials met in Baltimore, Maryland to begin to develop plans for implementing recommendations and overcoming the obstacles identified at the Kansas City meeting. Subsequent meetings will be held throughout 1999 to continue the planning process. The group estimates that a fully integrated federal/state/local food safety system will take up to 10 years to build. The Association of Food and Drug Officials, which is an organization of state and local public health officials and regulators, strongly endorses the concept of a NFSS.

The NFSS Project builds on existing systems of federal/state cooperation such as the FSIS long-term "equal to" meat and poultry system currently operating in 26 funding and EPA's delegation to states of various regulatory programs.

Challenges to Developing a National Food Safety System states with shared state and federal

The Council recognizes that the existing systems for federal, state, and local government regulation of food and pesticides have different histories and important distinguishing characteristics. The Council believes it is important to respect the nature and strengths of the existing systems and that integration must proceed in a coordinated fashion. There are numerous challenges to building an integrated food safety system:

—Establishment of a clear framework for integration. Such a framework would include the following: strong federal food safety standards, consistent training and competency of inspectors and other state/local officials, data sharing/exchange, federal oversight of state activities, and appropriate and effective enforcement. There needs to be public assurance that state and local activities are integrated with, and an extension of, the federal responsibility in order to assure consistency, accountability, and above all, enhanced consumer protection.

—Responsiveness to stakeholder concerns. Development of an integrated system needs to be responsive to stakeholder concerns to have credibility and obtain public support. For example, consumers are concerned that the economic interests of industry within states may be a source of conflict if those states have an expanded food safety role that includes activities thought to be primarily a

federal responsibility. Moreover, industry is concerned that food safety regulation will be inconsistent among the states if systems are integrated without adequate preparation of the state agencies to step into an expanded food safety role.

—Infrastructure and support. There is a potential need for legislative change at the federal or state/local level to achieve uniformity and consistency in enforcement authorities and to permit the sharing of inspection and other resources.

EXAMPLES OF FEDERAL/STATE/LOCAL COOPERATION

Milk Sanitation Program—Pasteurized Milk Ordinance
Retail Food Safety Program—Food Code
Integrated National Food Safety System Project
Interstate Shellfish Sanitation Program
States conduct 5,000 inspections of FDA-regulated plants
FSIS oversee and supports 26 state "equal to" meat and poultry inspection programs
FDA maintains more than 100 state partnerships
Conference for Food Protection
FoodNet/Emerging Infections Program
PulseNet
Epidemiology and Laboratory Cooperative Agreements
Appropriate delegation of pesticide responsibility to states
Partial funding of states for implementation of some pesticide programs and for most pesticide compliance programs
State FIFRA Issues Research and Evaluation Group
State and local government involvement in Foodborne Outbreak Response Coordination Group (FORC-G)
States conduct inspections in 250 FSIS regulated plants
FSIS supports animal production food safety outreach projects involving 11 states
FSIS supports animal production food safety workshops
HACCP based enhancement of state labs, computer capabilities, and state training
Partnership for Food Safety Education "Fight BAC!" campaign

NAS REPORT RECOMMENDATIONS

Recommendation:

The food safety system should be based on science. The Council agrees and provides numerous examples where this is already the case, including the development and implementation of the FoodNet and PulseNet systems for surveillance and identification of foodborne pathogens and the implementation of new science-based inspections of meat, poultry, and seafood. The Council has also identified areas that should be strengthened such as improving the ability to assess risks from pathogens in food.

Federal Statutes should be based on scientifically supportable risks to public health. The Council agrees and will call on Congress to work with it to create scientifically based statues to promote food safety. The Council will conduct a thorough review of existing statues and determine what can be accomplished with existing regulatory flexibility and what improvements will require statutory changes.

A comprehensive national food safety plan should be developed. The Council agrees that the development of such a plan is already underway and is one of the primary functions of the Council. One component of the plan will be exploring methods to assess the comparative health risk to the nation's food supply.

A new statue should be enacted that establishes a unified framework for food safety programs with a single official with control over all federal food safety resources. The Council supports the goal of a unified framework for food safety programs and will conduct an assessment of structural models and other mechanisms that could strengthen the federal food safety system through better coordination, planning, and resource allocation.

Agencies should work more effectively with partners in state and local governments. The Council agrees that the roles of state, tribal, and local governments in the food safety system are critical and that their efforts deserve the formal recognition that partnership in a national food safety system conveys.

Question. What pro-active efforts are being undertaken by both USDA and FDA to address egg and egg product safety?

FDA answer. On May 19, 1998, FSIS and FDA published an advance notice of proposed rulemaking concerning Salmonella enteritidis in eggs (63 FR 27502). Through this notice, the agencies sought to identify farm-to-table actions that would decrease the food safety risks associated with shell eggs. FSIS and FDA have reviewed the comments to the notice and are discussing each agency's tentative short-term plans for eggs so that long-term efforts can be pursued by both agencies.

On August 27, 1998, FSIS published a final rule implementing amendments to the Egg Products Inspection Act (63 FR 45663) which required that shell eggs packed for consume use be stored and transported under refrigeration at an ambient temperature not to exceed 45 °F (7.2 °C). In addition, the amendments required that these packed shell eggs be labeled to state that refrigeration is required. Finally, the amendments required that any shell eggs imported into the United States packed for consumer use must include a certification that the eggs, at all times after packing, have been stored at an ambient temperature of no greater than 45 °F (7.2 °C). The final regulations are not effective until August 27, 1999. FSIS has an egg refrigeration docket committee actively developing the instructions for inspection program personnel to verify that the industry is complying with the refrigeration and labeling requirements

FSIS expects to develop a proposed rule to require that processed egg product establishments implement sanitation standard operating procedures and HACCP systems, as well as pathogen reduction performance standards for pasteurized egg products. Furthermore, FSIS expects to develop a proposed rule to eliminate the current requirements for prior approval by FSIS of processed egg establishment facility and equipment specifications. Through these anticipated rulemaking activities, FSIS expects to conduct its inspection activities as consistently as possible for meat, poultry, and processed eggs.

REGULATORY/ENFORCEMENT

HHS/PDA Activates

FDA Assumes Shell Egg Traceback Responsibilities from FSIS (October 1, 1995).—Beginning with the new fiscal year, FDA assumed regulatory responsibility[1] for all aspects of investigating shell egg outbreed, tracing back egg-associated Salmonella Enteritidis (SE) illnesses to particular producers/flocks, sampling, diverting eggs, and collecting flock data to help track the spread of SE.

Proposed Rule: Refrigeration of Shell Eggs at Retail and Labeling of Shell Eggs (to be published in 1999).—FDA is preparing a draft of a proposed mile that, if finalized, would address the temperature at which eggs are to be stored at retail and would address the possibility of requiring safe handling statements on labels of shell eggs that have not been treated to destroy Salmonella microorganisms which may be present. FSIS has reviewed the draft proposal in order to ensure consistency between FDA's proposed rule and FSIS's final rule (public 27, 1998) which requires 45 F refrigeration of eggs during transport and distribution.[2]

USDA/FSIS ACTIVITIES

USDA/PSIS Active.—Egg Products Inspection (1994).—As a result of the USDA Reorganization Act of 1994, responsibility for administering egg products inspection was transferred from USDA's Agricultural Marketing Service (AMS) to USDA's FSIS. As required by the Egg Products Infection Act (EPIA), FSIS maintains continuous inspection at the approximately 80 officially inspected plants producing liquid, frozen and dried egg products. FSIS intends to propose rulemaking to implement Hazard Analysis and Critical Control Points (HACCP) in egg product establishments. The Agency also intends to propose rulemaking to remove the command and control aspects of egg products regulations and to replace them with performance standards.

Egg products are required to be pasteurized. More than 80,000 laboratory analyses for Salmonella are performed annually on the approximately 3 billion pounds of egg products produced each year. In general, product in the plant targeted for

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[1] Beginning in fiscal year 1996, USDA no longer received the funding to research and develop the state egg quality programs and to perform tracebacks on SE. With USDA no longer performing the traceback activity and egg quality programs, FDA stepped in to continue tracebacks and FDA picked up the Quality Egg Program. Both of these activities are still continuing for FDA.

[2] *See infra* REGULATORY/ENFORCEMENT: COOPERATIVE ACTIVITIES.

Salmonella testing is voluntarily put on hold by the plant until results are available. However, in the event that product was distributed to consumers, and a positive sample is discovered, FSIS requests that the plant initiate a voluntary recall.

Refrigeration and Labeling Requirements for Shell Eggs Final Rule (August 27. 1998).—The USDA Reorganization Act of 1994 also resulted in FSIS administering provisions of the EPIA on refrigeration and labeling of shell eggs in transportation and storage. In August 1998, FSIS amended its regulations to implement these EPIA provisions. These amendments, applying to shell eggs packed for consumer use, require that: shell eggs in distribution be stored and transported under refrigeration at an air temperature not to exceed 45 F; (2) these packed shell eggs be labeled to state that refrigeration is required; End (3) any shell eggs imported into the United States packed for consumer use include a certification that the eggs, at all times after packing, have been stored and transported at an air temperature of not greater than 45 F.

Cooperative Activities:

Transportation Advance Notice of Proposed Rulemaking (ANPR) (November 22. 1996).—FDA and FSIS published a joint ANPR soliciting information on issues related to ensuring the safety of potentially hazardous foods, including eggs, during transportation. The agencies posed a range of regulatory and non-regulatory options and solicited information to help them assess the risks associated with potentially hazardous foods and decide what approaches are best suited to addressing those risks.

SE Advance Notice of Proposed Rulemaking (May 19, 1998).—FDA and FSIS issued a joint ANPR to identify farm-to-table actions which will decrease the food safety risks associated with shell eggs. The agencies intend to explore all reasonable alternatives and to gather data on the public benefits and the public costs of various regulatory approaches before implementing a farm-to-table food safety system for shell eggs. The ANPR included discussion on mitigation of risks associated with SE in eggs along the food production—distribution—consumption continuum from farm to table. This discussion included: specific analysis and discussion of production (preventing introduction of SE into laying flocks and from hens to eggs); process and distribution (preventing growth of SE in eggs); rewashing/repackaging (preventing growth of SE in eggs); retail; and preparation and consumption. Regarding rewashing of eggs, public comment was specifically solicited on whether rewashing/repacking of eggs significantly increases the risk to consumer of contracting SE related illness from these eggs. The discussion of rewash/repackaging of eggs draws attention to the current practices regarding the expiration dating of eggs in establishments that function primarily under State regulatory oversight. Processors that do not use USDA's grading service, and that are not covered by State requirements, typically choose to place a 30 or 45 day expiration date on egg cartons. Some processors do not provide any expiration date. FDA sought comment in its ANPR on whether these practices regarding expiration dating are misleading to consumers.

The information from the 1998 SE risk assessment[3], combined with comments received on the May 1998 joint ANPR on SE, will be used by FDA to assess the feasibility and desirability of applying to all shell eggs the prohibition on repackaging to enhance food safety, consumer information, and consumer awareness.

GUIDANCE/INFORMATION COLLECTION

HHS/FDA Activities:

Food Code.—The Food Code consists of model requirements for safeguarding public health and ensuring food is unadulterated and honestly presented when offered to the consumer.

This model is offered for adoption by local, state, and federal governmental jurisdictions for administration by the various departments, agencies, bureaus, divisions, and other units within each jurisdiction which have been delegated compliance responsibilities for food service, retail food stores, or food vending operations. Beginning with the publication of the 1993 Food Code (and continuing in the 1995 and 1997 editions) FDA strengthened provisions addressing shell eggs. Shell eggs are specifically included in the definition of Potentially hazardous food." Specific provisions were created to cover receipt of eggs, the proper cooking of eggs, and substitution of pasteurized eggs in the preparation of menu items and deli items that typically include raw eggs as an ingredient.

The 1997 edition added a new subchapter that created "Special Requirements for Highly Susceptible Populations." Safeguards contained in this section include a re-

[3] See infra GUIDANCE/INFORMATION COLLECTION: USDA/FSIS ACTIVITIES.

quirement that pasteurized eggs be substituted for raw shell eggs when it is necessary to mix eggs and then hold them before or after cooking, but before service.

At the Conference for Food Protection on April 24-29, 1998, as part of developing the 1999 edition of the Food Code, FDA presented to state health and agriculture officials, retail industry representatives and others a proposal to limit the use of raw shell eggs in institutionalized high risk populations.

State Egg Quality Assure Programs (1992–1994 Pennsylvania pilot—the official Pennsylvania program began in 1994).—Since 1994 when the Pennsylvania Egg Quality Assurance Program was established, FDA has worked with the states to promote voluntary adoption of quality assurance programs at the fang level. Since 1994, the New England states as a region as well as the individual states of California, New York, Ohio, South Carolina, and Utah have also adopted egg quality assurance programs.[4]

FDA reviewed and commented on industry's Five Star. Total Quality Assurance Program, a program designed for general use by the entire egg industry. This program added a different dimension to the Quality Assurance Programs already in existence in that it was an industry initiated program.

Shell Egg Pasteurization Labeling Review (May 22, 1994).—In response to a request for guidance on labeling from industry, FDA sent a letter, stating that if shell eggs meet the requirements for pasteurization, then they qualify to be labeled "pasteurized." However, care must be exercised not to imply that such eggs are fresh."

USDA/FSIS ACTIVITIES:

Salmonella Enteritidis Risk Assessment—Shell Eggs and Egg Products (June 12, 1998).—In response to an increasing number of human illnesses associated with the consumption of shell eggs, FSIS conducted a comprehensive risk assessment of SE to identify possible strategies for enhancing the safety of shell eggs. The risk assessment was completed in June 1998[5] It can be used to identify current and future interventions that provide the best public health protection returns. The specific objectives of the risk assessment were to: predict the unmitigated risk of foodborne illness from SE in eggs; identify and evaluate potential risk reduction strategies; identify data needs; and prioritize future data collection efforts. FDA scientists served as part of the resource group for FSIS' risk assessment for eggs.

COOPERATIVE ACTIVITIES

Memorandum of Undasing (MOW) between FDA and USDA Regarding the Reduction of SE Infection of Humms (May 1992)

FDA and USDA signed an MOU to endorse, and strive to meet, the goal for the reduction of SE infection of humans as stated in Healthy People 2000. The agreement addresses: egg production flocks, breeder flocks, pullet grow-out facilities, eggs during storage and transportation, labeling, research, consumer education, and retail and manufacturing establishments.

Foodborne Diseases Active Surveillance Network—"FoodNet" (1995 and continuing).—In 1995, FSIS and FDA began a collaborative project, FoodNet, with CDC to collect more precise information on the incidence of foodborne disease in the United States. This information collection included a Salmonella case-control study in 1997.

Shell Egg Pasteurization Process Review (1997).—FDA, USDA and industry representatives determined that only the methods which bring a reduction by a factor of at least 100,000 SE organisms per shell egg would qualify as acceptable process parameters for pasteurization of shell eggs. Measures that could be taken to prevent recontamination were also discussed.

Salmonella Enteritidis Review Team (January) 18, 1997)[6].—FDA, USDA, CDC, a state representative and an academic participated in a multidisciplinary review team. This team gathered to summarize the current situation regarding SE by integrating information from SE surveys of unpasteurized liquid eggs, hens slaughtered for meat after their egg producing life, and manure samples of flocks participating in Pennsylvania's Egg Quality Assurance Program with data from CDC. CDC data included the number of SE positive human stool samples which were submitted to CDC per year and the number of outbreaks of SE.

Quality Assurance Partnership Agreement with California (April 24. 1997), South Carolina (September 29, 1997), Utah (March 11, 1998), and Pennsylvania (not yet

[4] Additional states working through the process of adopting or considering egg quality programs are: Alabama, Maryland, Oregon, Virginia, Wisconsin.

[5] The report from this study is available on the FSIS Internet home page.

[6] The team met in 1996, however, its report was issued in January 1997.

finalized).—Individual partnership agreements among the appropriate FDA regional or district office, USDA, state agencies and California's, South Carolina's and Utah's Egg Quality Assurance Plans have formalized cooperative agreements to support each individual state's Egg Quality Assurance Plan. The purpose of these partnership agreements is to support the individual state's Egg Quality Assurance Plan in an integrated voluntary animal production food safety program designed to ensure the highest quality and safety of eggs. The upcoming Pennsylvania agreement will also include FDA's Center for Food Safety and Applied Nutrition as a partner.

MOU between AMS and FDA in Regard to the Administration of the Egg Products Inspection Act (EPIA) (October 1. 1997).—This MOU defines the respective authorities and responsibilities of AMS and FDA regarding the EPIA. Some of these authorities and responsibilities include AMS notifying FDA when it has reason to believe that shell eggs have been shipped in commerce in violation of the EPIA and when applications are made to import shell eggs into the United States. FDA must notify AMS of any imported shell eggs which contain violative eggs not in accordance with USDA regulations and labeling requirements. This MOU revises and replaces an MOU on this subject which went into effect on June 7, 1983.

Secretary letters recommending adoption of the Food Code (March 23, May 22, and June, 1998).—In March the Secretary of HHS sent a letter to the Heads of Operating Divisions[7] of the U.S. Public Health Service encouraging adoption and implementation of the Food Code by all governmental bodies responsible for the safety of food. In May, the Secretary of Agriculture send a similar letter to the USDA Agency Heads. In June, the Secretaries of HHS and USDA sent a joint letter to all U.S. governors and "Food Safety Colleagues" encouraging adoption of the Food Code by all government bodies responsible for the safety of food.

EDUCATION

IS/FDA Activities

FDA Consumer Article: "Handling Eggs Safely at Homer" (January 1992).—Article discussed the risks associated with eggs that are not properly stored and cooked and included consumer guidelines for the use and handling of raw eggs and the handling of foods in which eggs are an ingredient.

Food Code.—FDA's State Training Branch offers Food Code courses to food regulatory officials throughout the United States each year.

International Poultry Exposition (January 23, 1997); Midwest Poultry Federation Meeting (April 9–10. 1997).—FDA representatives spoke at these annual poultry industry meetings on issues including the latest approaches in the SE traceback programs and monitoring and regulation of eggs.

National Poultry Improvement Proven Biannual Conference (July 16–18, 1998).—FDA participated in the USDA biannual conference on aspects of the voluntary poultry improvement program. FDA presented material on the SE traceback and quality egg programs as well as encouraging adoption of a pullet improvement program to stop the SE contamination of chickens in the pullet stage.

FDA Consumer Article: "Safer Eggs: Laying the Groundwork" (September 1998).—The article discussed attempts by federal government, industry, and nutrition educators to improve the safety of egg production and distribution by educating people on the herds of eating raw and undercooked eggs, urging people to adopt safe egg-handling practices, and reminding people of the egg's importance in a healthful diet.

Consumer Education (mid-Year 1999).—FDA will prepare consumer education outreach on safe handling of eggs.

USDA/PSIS Activities

FSIS has published, either electronically on FSIS' Internet site or by hard copy, various educational materials to enhance consumer knowledge. The items listed below represent these materials which serve the on-going need for educational information on the safety of shell eggs and egg products.

"Egg Products" (December 1995).—Ellis document provides information on what egg products are, who is responsible for inspecting egg products, buying tips for egg products, and how to read egg product labels.

"Egg and Egg Product Safety" (October 1996).—This document includes information on the presence of SE in eggs, identifies segments of the population more sus-

[7] The Office of Public Health and Science of HHS and the Operating Divisions make up the US Public Health Service. The Operation Divisions include: Agency for Health Care Policy and Research, Agency for Toxic Substances and Disease Registry, Centers for Disease Control and Prevention, FDA, Health Resources and Services Administration, Indian Health Service, National Institutes of Health, Substance Abuse and Mental Health Services Administration.

ceptible to SE infections, and provides safe handling steps for consumers to follow at home to prevent most egg-safety problems.

"Advice for Safe Handling of Shell Eggs" (October 1996).—This document educates consumers on how to properly purchase eggs at the grocery store and safely store and serve eggs at home.

"Advice on Holiday Egg Recipes" (December 1996).—This document reminds consumers to be careful during the holiday season when preparing egg-based holiday recipes such as eggnog.

"Advice on Safe Handling of Meats and Eggs for Springtime Festivities" (March 1997).—This document offers advice concerning the safe handling of meats and eggs for springtime activities. Thorough cooking and proper storage of egg products is discussed.

Cooperative Activities

Consumer Education Fight BAC! (1997 and continuing).—HHS, USDA, and EPA are partners with consumer groups and industry in a consumer education campaign begun in 1997 that is ongoing and expanding. The Fight BAC! campaign covers all aspects of food safety, including information that pertains to safe handling of eggs.

National Egg Regulator/Officials (March 9–10, 1998).—FDA and USDA participated in the annual meeting of state officials engaged in shell egg and egg products regulations and programs. FDA and USDA gave presentations to update the officials on what the agencies were doing in regard to public health and safety of these foods.

RESEARCH

HHS/FDA Activities

Effect of a Variety of Stress Factors on the Immune System of Poultry and Subsequent Infection of Shell Eggs with SE (fiscal year 1998-2000).—This research Grill assess the effects on the immune system of potential factors such as competing organisms, crowding, tempers, air quality, and lighting that affect the risk of SE contamination of shell eggs.

Identification and Characterization of Virulence Determinants for SE and Vibrio vulnificus (fiscal year 1999-2000).—The ability of SE to overcome the human body's defenses from SE (and another organism, Vibrio vulnificus) are unknown or poorly understood. The goals of this research are to understand these pathogens and to develop detection systems for these pathogens based on their gene sequence.

Pathways Analysis: Assessments of the Pathogen Transmission Capacities of Disease-Cavina Insects (fiscal year 1998-2000).—The goal is to gain fundamental understanding into the relationship between foodborne pathogens and insects as methods of pathogen transport and how this relationship impacts human exposure to the pathogenic microorganism. SE will be one of the pathogens studied.

PUBLIC MEETINGS

Cooperative Activities

Joint FSIS/FDA Conference on Time/Temperature (November 18–20. 1996).—This technical conference provided a forum for information on temperature control interventions and verification techniques in the transportation and storage of meat, poultry, seafood, and eggs and egg products. One day of this conference was devoted solely to discussion of eggs and egg products, particularly issues surrounding implementation of the EPIA's 45 F ambient temperature requirement.

Industry/Federal/State Salmonella Enteritidis Food Safety Meeting (January 21, 1997).—FDA participated in this informal round table discussion organized by USDA on the role producers can have in a comprehensive strategy to reduce the risk of SE through voluntary quality assurance programs, on current research needs, and on the importance of SE monitoring and surveillance activities.

Shell Eggs and Egg Products Risk Assessment Technical Meeting (September 3, 1997).—FDA, USDA, and CDC participated in a meeting with academic institutions, industry, and consumer groups. FDA presented information on the history of eggs and egg products regulation. The meeting was devoted to presentations and discussion of the proposed risk assessment model to be used in the SE Risk Assessment of shell eggs and egg products.

Industry/Federal/State/Academic SE Working Group II Risk Assessment Meeting (January 20, 1998).—USDA and FDA participated with academia and industry in a meeting on SE risk assessment. The discussion focused on data needs and the overall areas included in the SE risk assessment for egg and egg products. The purpose of the meeting was to obtain available data for use in the risk assessments.

PART 2

Efforts taken by USDA and HHS to prohibit the grading under voluntary grading programs of USDA of shell eggs previously shipped for sale

AMS developed a proposed rule to amend the regulations governing the voluntary shell egg grading program. The proposed revisions would prohibit the USDA grade identification of eggs previously shipped for retail sale. This proposal would ensure the integrity of the USDA grade shield by providing additional assurances that officially graded eggs meet the quality standards indicated by their grade designation. The proposed rule is currently in USDA's clearance process. (HHS has no role in the grading of shell eggs under USDA's voluntary grading programs.)

PART 3:

Efforts taken by HHS and USDA to assess the feasibility and desirability of applying to all shell eggs the prohibition on repackaging to enhance-food safety, consumer information, and consumer awareness

HHS/FDA and USDA/FSIS, through the ANPR titled Salmonella Enteritidis in Eggs"[8] published on May 19, 1998 and the 1998 SE Risk Assessment,[9] began gathering information to assess the feasibility and desirability of applying to all shell eggs the prohibition on repackaging which may enhance food safety, consumer information and consumer awareness. FDA addressed the issue of whether applying to all shell eggs the prohibition on repackaging will enhance food safety by specifically requesting comment on how widespread the practice of rewashing/repackaging of eggs is and of whether any aspect of this practice significantly increases the risk that consumers will contract SE-related illness from these eggs. This ANPR addressed the issue of whether applying to all shell eggs the prohibition on repackaging will enhance consumer information by specifically soliciting comment on whether the standard labeling practices followed by producers not under the USDA grade shield program were misleading to consumers. This was further followed up in the ANPR by the questions of: whether the standard egg labeling practices are not appropriate for rewashed/repackaged eggs; how should these eggs be labeled to enable consumers to understand the nature of this product; and how to communicate other important information to the purchaser. Through the risk assessment, strategies will be examined to determine if there is a potential for the reduction in human exposure to SE.[10]

Question. What pro-active efforts are being undertaken by both USDA and FDA to address egg and egg product safety?

FDA answer. FDA and USDA have taken many pro-active efforts to address egg safety. These efforts include a variety of regulatory and enforcement activities, guidance and information collection activities, research activities, educational activities, and public meetings found in DHHS's and USDA's joint status report on egg safety. FDA would like to highlight a few items from the report. First, FDA and USDA's Food Safety Inspection Service issued joint Advance Notice of Proposed Rulemaking, or ANPR, on Salmonella enteritidus published on May 19, 1998 to identify farm-to-table actions which will decrease the food safety risks associated with shell eggs. This ANPR included questions to obtain information on the practice of repackaging and redating of shell eggs. Second, the Secretaries of DHHS and USDA sent letters to the heads of the Operating Divisions of the US Public Health Service, USDA Agency heads, US governors and Food Safety Colleagues encouraging adoption of the Food Code by all government bodies responsible for the safety of food. The Office of Public Health and Science of DHHS and the Operating Divisions make up the US Public Health Service. The Operating Divisions include the Agency for the Health Care Policy and Research, the Agency for Toxic Substances and Disease Registry, the Centers for Disease Control and Prevention, the FDA, the Health Resources and Services Administration, the Indian Health Service, the National Institutes of Health, the Substance Abuse and Mental Health Services Administration, and the Food and Drug Administration. The Food Code, which lists model requirements for safeguarding public health and ensuring food is unadulterated and honestly presented when offered to the consumer, is now available in its 1999 version. It includes additional measures for the handling of shell eggs for highly susceptible

[8] See supra REGULATORY/ENFORCEMENT: COOPERATIVE ACTIVITIES.

[9] See supra GUIDANCE/INFORMATION COLLECTION: USDA/PSIS ACTIVITIES

[10] FDA is also seeking to understand the scope of the problem of rewashing/repackaging of shell eggs. For example, FDA has consulted with a stakeholder group which took an informal survey to determine how widespread the practice of rewashing/repackaging is across the United States. The results of this informal survey were that less than 5 percent of the processors not participating in the USDA grade shield program rewash/repack their eggs.

populations. Third, DHHS, USDA, EPA joined in partnership with consumer groups and industry as part of its continuing consumer education campaign, the Fight BACTM. This campaign covers all aspects of food safety, including information that pertains to safe handling of eggs.

NATIONAL CENTER

National Center (directed to FDA).—The National Center for Food Safety and Technology located at the Illinois Institute of Technology near Chicago is a research and development facility that supports the FDA in its mission to ensure the safety of food products other than meat and poultry. It is a ten year old collaboration between the Federal government, private business, and academia. It relies on FDA funding to help address the growing incidence of food borne epidemics.

Question. What role do you see the National Center playing in the President's Food Safety Initiative?

FDA answer. Most of the cooperative research projects currently underway at the National Center for Food Safety and Technology, or NCFST, are part of the overall Food Safety Initiative. The academic/government/industry consortium at the NCFST presents a unique opportunity for examination and resolution of food safety issues, development of measures to prevent food contamination, and implementation of those measures by the food industry.

NCFST will continue to play a major role in the Food Safety Initiative. NCFST resources that are available to the FDA include the use of food processing and analytical equipment, research facilities such as a special containment pilot plant for study of pathogens under actual processing conditions, and the scientific expertise of the universities and industry scientists at the NCFST.

FDA would be happy to provide for the record some of the recent accomplishments by the Center:

[The information follows:]

FOOD AND DRUG ADMINISTRATION NATIONAL CENTER FOR FOOD SAFETY AND TECHNOLOGY ACCOMPLISHMENTS

Developed a test for rapidly detecting E. coli O157:H7 in foods. This procedure is currently being used in the food plants to improve food safety.

Organized a sprout safety task force with the International Sprout Growers Association to develop techniques for improving the safety of sprouts. Sprouts have been implicated in several foodborne illness outbreaks.

Formed a task force of 20 leading industry partners to obtain FDA approval of specific polymer packaging to be used with in-package irradiated foods. These packages will be used to protect red meats and poultry from contamination after they have been irradiated.

Contributed to the development of a high pressure process to make raw oysters safe to eat by eliminating Vibrio vulnificus bacteria. This is a new technology that, conceivably, may be accessible to small businesses and retail establishments in the future.

Conducted research to validate high pressure and ultra-violet light processes to kill pathogens in fresh fruit juices [on-going]. Once this research is finished, the processes may be very useful to small businesses.

Question. Do you envision any of that increase going to the National Center?

Answer. Based upon FDA's past experience, the Agency may temporarily increase funding to NCFST to supplement planned research projects. When FDA originally formulated its' $3.7 million request for research, the Agency did not incorporate an expansion of activities for NCFST. However, since the NCFST is central to the FDA's research activities aimed at developing and evaluating techniques to prevent food contamination, FDA may direct resources to the Center for support. In fiscal year 1998, FDA expended an additional $175,000 on two major research projects that helped address the growing incidence of foodborne epidemics.

SUBCOMMITTEE RECESS

Senator COCHRAN. Well, let me thank all of you for your participation in our hearing today. I think it has been an excellent hearing focusing on the budget request to deal with the problems of food safety in our country. We will give this request very careful attention, and also the legislative proposals that are pending in the Senate, to make the process more efficient and more effective.

[Whereupon, at 11:24 a.m., Tuesday, March 16, the subcommittee was recessed to reconvene at 9:30 a.m., Tuesday April 27.]

DEPARTMENT OF AGRICULTURE

OFFICE OF THE UNDER SECRETARY FOR FOOD SAFETY

STATEMENT OF CATHERINE E. WOTEKI, UNDER SECRETARY FOR FOOD SAFETY

ACCOMPANIED BY:

DR. EILEEN KENNEDY, DEPUTY UNDER SECRETARY FOR RESEARCH, EDUCATION AND ECONOMICS

TOM BILLY, ADMINISTRATOR, FOOD SAFETY AND INSPECTION SERVICE

DR. ENRIQUE FIGUEROA, ADMINISTRATOR, AGRICULTURAL MARKETING SERVICE

DENNIS KAPLAN, DEPUTY DIRECTOR, OFFICE OF BUDGET AND PROGRAM ANALYSIS

STATEMENT OF CATHERINE WOTEKI

Senator COCHRAN. Dr. Woteki, you may proceed.

Dr. WOTEKI. Thank you, Mr. Chairman and members of the subcommittee. I am pleased to appear before you today with my colleagues from the Department of Health and Human Services to discuss the President's food safety initiative and the fiscal year 2000 budget for food safety.

I am going to be emphasizing our request within the Department of Agriculture, as well as talking more broadly about the President's Food Safety Initiative. And because the food safety activities within the Department of Agriculture are really dispersed among seven different agencies, there are several people who are here with me today that I would like to introduce to the subcommittee.

Dr. Eileen Kennedy, who is the Deputy Under Secretary for Research, Education and Economics, oversees four of those agencies; Mr. Tom Billy, the Administrator of the Food Safety and Inspection Service; and Dr. Enrique Figueroa, who is Administrator of the Agricultural Marketing Service.

We very much appreciate that copies of our written testimony will be inserted into the record. And I will then briefly summarize that testimony.

But before I begin that, I would like to thank you and the members of the subcommittee for looking favorably on the administration's request last year for the President's Food Safety Initiative and also for the department's fiscal year 1999 budget requests as they related to agencies that support our food safety efforts. The funding has helped us to make some very substantial progress that is more fully discussed in the written testimony.

PRESIDENT'S FOOD SAFETY INITIATIVE

I would like now to turn to the President's Food Safety Initiative. The fiscal year 2000 budget request is, as Dr. Henney indicated,

the third year that the administration has submitted a coordinated request to maximize the use of our resources toward achieving improvements in the safety of the food supply.

The request builds on the strategy outlined in the May 1997 report to the President that was entitled, "Food Safety from Farm to Table, a National Food Safety Initiative."

Now the coordinated activities that we have undertaken through the initiative have greatly enhanced the capacities of both the States, as well as the Federal Government, to better monitor the incidence of specific foodborne diseases, to more rapidly respond when there are outbreaks of these illnesses, and, we hope, to diminish future outbreaks, to identify foodborne hazards that pose the highest public health risk, and also to direct resources to minimize those risks and, lastly, to develop education programs aimed at improving food safety practices and therefore improve food safety for Americans.

The FightBAC!™ campaign is an example of one of those activities undertaken under the initiative. As you can see from the poster here, it includes four very simple messages for consumers. The messages were actually developed through a public-private partnership.

INTER-AGENCY COOPERATION

The agencies represented at the table here, the Centers for Disease Control, the Food and Drug Administration, the Department of Agriculture, as well as the Department of Education, all participated in the development of this campaign, along with industry and representatives of consumers.

We believe that the investment in the initiative is already paying off. FoodNet monitoring of foodborne illnesses and the PulseNet DNA fingerprinting technologies have already been used, as Dr. Koplan described, to monitor as well as to initiate actions in response to foodborne outbreaks of disease.

We have also established a foodborne outbreak response coordination group, in which USDA agencies, the Food and Drug Administration and the Environmental Protection Agency have been working closely with States to develop better procedures to respond to foodborne disease outbreaks.

The Food Safety Inspection Service and the Food and Drug Administration have recently signed a memorandum of understanding to share information gained from inspections in food plants for which both agencies have regulatory responsibilities.

These are just a few examples of the payoff from the Food Safety Initiative's emphasis on cooperation and on partnerships to further improve the safety of the Nation's food supply; but these are all works in progress.

We anticipate the continued emphasis on investment in these areas, such as research coordination through the Joint Institute for Food Safety Research, will continue to pay dividends in enhanced safety of the food supply.

This last initiative, the Joint Institute for Food Safety Research, is another example of cooperation among and between the agencies. In this case, this activity is being co-chaired by Dr. Kennedy for the

Department of Agriculture and Dr. Bill Raub for the Department of Health and Human Services.

PRESIDENT'S COUNCIL ON FOOD SAFETY

While much progress is being made, we recognize that there is also room for further improvement. That is why last August President Clinton established a Council on Food Safety to develop a comprehensive strategic plan for federal food safety activities and to make recommendations to the President on how to implement the plan.

The President also directed the council to assess the findings and recommendations of the National Academy of Sciences for scientific and organizational changes needed to ensure an effective food safety system in the United States. The council's response was released yesterday. And it supports all the goals contained in the academy's recommendations to strengthen the food safety system. The council has already begun to develop a strategic plan and to coordinate the development of food safety budgets.

As part of its work, it will review food safety statutes and focus on areas where regulatory efforts can be strengthened or where jurisdiction is split between agencies and where resources could be more effectively shared between agencies.

SAFE AND FAIR ENFORCEMENT AND RECALL OF MEAT AND POULTRY ACT

The administration will work with Congress to pass the Safe and Fair Enforcement and Recall of Meat and Poultry Act that Senator Harkin introduced this session.

This act would fill one of the gaps identified by the academy report and strengthen the authorities of the Department of Agriculture in three key areas. These are notification, recalls, and civil penalties.

FISCAL YEAR 2000 BUDGET REQUEST

With respect to the Food Safety Initiative's budget request for fiscal year 2000, six of USDA's agencies are requesting a total of $151 million to support the President's Food Safety Initiative. This request is an increase of $34.8 million over the fiscal year 1999 level.

The initiative budget for the Food Safety and Inspection Service includes increases in the amount of $2.9 million to address food safety risks in three critical areas. The first is emergency coordination with the states in investigating foodborne illness outbreaks.

The second is validation of the ability of State laboratories to meet pathogen testing requirements; and the third is pathogen testing in Federal laboratories of State-inspected meat and poultry products.

The budget request for research, education, and economics includes increases in the amount of $25.7 million that would support the work that is done by all four agencies within that mission area.

These include such areas as research on the development of new pathogen intervention technologies, particularly emphasizing the pre-harvest level; research that will lead to better understanding of

how the use of antibiotics in food-producing animals increases the risk of emergence of micro-organisms that are resistant to specific antibiotics; emphasis on integration of research and education activities in food safety for producers as well as for the general public; and also the conduct of economic analyses necessary to evaluate the effectiveness of various risk reduction strategies that are under consideration for further reducing foodborne illness.

The sixth agency represented in the President's initiative within the Department of Agriculture for fiscal year 2000 is the Agricultural Marketing Service. Their request is for $6.2 million to establish microbiological baselines for pathogens in fruits and vegetables.

Particularly for these agencies in REE and AMS, these research and education and survey activities are supportive of both the Food and Drug Administration's and the Food Safety and Inspection Service's regulatory missions. They are also responsive to the needs of producers and processors.

I would like to turn now to talk specifically about the Food Safety and Inspection Service's accomplishments. I would like to very briefly summarize them, as well as their budget request.

HACCP IMPLEMENTATION

In January of this year, we reached another milestone. At that date over 2,500 large and small plants that account for 92 percent of meat and poultry production were operating under the new HACCP system, the Hazard Analysis Critical Control Points approach.

The agency recognized from the very beginning that small plants, which had to reach this goal in January of this year, those that employed between 10 and 499 employees, that they had fewer resources to draw on than large plants. Because of this, we prepared for implementation of the rule in the small plants by providing extensive technical assistance. [Chart.]

This chart shows what we believe, that HACCP implementation is a success. In January of a year ago, the large plants, those that employed more than 500, which are shown on the left and numbered approximately 300 plants, implemented this system; 274 of those plants were fully successful in their HACCP implementation. Regulatory actions were taken in 26 plants.

For the small plants, those employing between 10 and 499 employees—those are shown in the second set of bars—there were, 2,198 that were fully successful in implementation of HACCP. And regulatory actions were taken in 13 cases.

In order to arrive at this successful implementation, the agency, as well as the organizations and the plants themselves, had to undertake a lot of activities. FSIS provided technical assistance through a variety of different means. We appointed a national HACCP small plant coordinator, established a network of contacts and state coordinators, and conducted small plant demonstration workshops throughout the country.

The agency encouraged large plants to act as sponsors for the small plants, in order to help them develop their HACCP plans. And many, many of these large plants did step up and do that.

The agency, in addition, held a series of 20 meetings around the country to answer questions from the small plant owners and managers. Each field supervisor made personal visits to each plant to assist in their preparations for HACCP implementation.

So these are just some examples of the extensive outreach activities that the agency undertook. I think an enormous amount of credit also goes to the plants themselves, the companies, as well as to their trade associations, and to the universities that worked extremely hard to provide assistance and training to the members, as well as to the small plants.

The very smallest of the meat and poultry plants, those that employ less than ten people, will need to implement HACCP in January of 2000. FSIS is planning to continue these outreach activities and is committed to ensuring a smooth transition for these very smallest of plants.

A year ago there were a lot of questions that were raised about whether HACCP would really work; and I think that we can tell you now that we have answers to those questions. New data from the first year of testing in large plants show that the prevalence of Salmonella in broilers, swine and ground beef and ground turkey was substantially lower after HACCP implementation than in the baseline studies conducted before implementation. [Chart.]

If you look at the chart on the top, for those four categories of products, the first column of numbers are the baseline prevalence levels for Salmonella in these four types of products. You can see in the second column the one year's data of performance testing for Salmonella in these four categories of products, that there have been declines in the range of 50 percent for broilers and a quarter to a third for the other three categories of products.

These data indicate that the Administration's science-based inspection system has already had a significant effect on the safety of food that American families eat by reducing the prevalence of Salmonella in these types of products.

Dr. Koplan has described the new data that are available from the FoodNet surveillance system that also indicate parallel declines in human illnesses attributable to Salmonella.

I am also pleased to indicate that the compliance with the requirements of the rule has also been excellent. This second chart, the one on the bottom, shows that 88 percent of large plants with completed sample sets are actually meeting the government's Salmonella standard. We have similarly high compliance data for the remainder of the requirements of the rule.

Those establishments that are not meeting or that did not meet the standards were required to take immediate corrective actions. The agency also has throughout this first year of implementation, and will continue in the future, to publish quarterly enforcement reports so that the public can follow the progress on HACCP implementation.

FISCAL YEAR 2000 FSIS BUDGET REQUEST

Now with respect to FSIS's budget request, the budget for fiscal year 2000 proposes a program level of $742 million, of which $653 million would be appropriated under current law. This is a net increase of $36 million over the 1999 current estimate.

The 2000 budget includes increases for pay costs to meet our statutory obligation to provide inspection services and also a programmatic increase to implement our farm-to-table food safety strategy.

The request also provides funding for the staffing and operations of the Office of the U.S. Manager for the Codex Alimentarius. The Food and Drug Administration, the Centers for Disease Control, the Environmental Protection Agency and the Department of Commerce, along with USDA agencies, all participate in and also support the U.S. Codex activities.

The 2000 budget includes increases to help the Food Safety and Inspection Service's inspection workforce make the transition to a new HACCP environment, including conversion of 638 inspection positions to consumer safety officer positions.

In these new positions, our employees will be responsible for conducting scientific testing and inspections in plants and also in product distribution. Some of these personnel will be deployed to cover critical inspection vacancies in the nearly 3,400 very small establishments that will be coming under HACCP in January of next year.

In the near future, we will be transmitting to Congress the legislation necessary to support the 2000 budget proposal to recover the full cost of providing Federal meat, poultry, and egg products inspections through user fees. The user fees exclude grants to States and special assistance for State programs.

The overall impact on prices as a result of these fees has been estimated to be less than a cent per pound of meat, poultry, and egg products production.

The implementation of the user fee authority would be designed to be fair and equitable, promote accountability and efficiency and minimize the impact on the competitive balance among affected industries. Appropriated funds are requested to convert the program, the Federal program, to user fees and also for maintaining State inspection programs.

Mr. Chairman, members of the subcommittee, I again thank you for the opportunity to appear before you today, representing the seven agencies in USDA with direct and supportive roles for food safety, and also to discuss with you the administration's goals to enhance food safety. We certainly look forward to working with you.

PREPARED STATEMENT

My colleagues and I are happy to answer any questions that you may have.

[The statement follows:]

PREPARED STATEMENT OF CATHERINE E. WOTEKI

Mr. Chairman and Members of the Subcommittee, I am pleased to appear before you today to discuss the President's Food Safety Initiative and fiscal year 2000 budget for Food Safety within the Department of Agriculture.

Before I begin, I would like to thank you for looking favorably on our fiscal year 1999 budget request. This funding has helped us make progress in fulfilling our Federal responsibilities of maintaining a safe food supply while we continue to make improvements in food safety research and in the inspection of meat, poultry, and egg products.

USDA FOOD SAFETY OVERVIEW

USDA has adopted a farm-to-table approach for improving food safety. The farm-to-table approach views agricultural production, food processing, and food retailing as integrated and interdependent systems. Consequently, actions taken to reduce foodborne hazards must be directed across the food production, distribution, and consumption continuum rather than focused on any individual component. However, our farm-to-table strategy recognizes that our statutory authorities limit regulatory oversight and enforcement to prescribed areas. Therefore, our strategy relies upon voluntary adoption of quality control programs at the production level, and partnership with States, the private sector, and research and education agencies to strengthen the base for such voluntary programs.

Reorganization

Much has been said about the need for organizational and structural change and improved coordination in the Federal government's food safety system. The Administration has been actively engaged in organizational and program changes to improve coordination and eliminate conflicts, enhance coordination of responses to public health issues and emergencies, and coordinate research planning and prioritization.

Office of the Under Secretary for Food Safety: In 1994, the Congress and Administration cooperated in enacting a major reorganization of food safety within USDA, creating the new mission area and Office of the Under Secretary for Food Safety, which oversees the Food Safety and Inspection Service (FSIS) and the U.S. Manager of Codex Alimentarius. Under that legislation, a mission area dedicated to public health was created within USDA, and the legislation mandated that this office be occupied by an individual with a proven background in public health and safety.

This action also effectively eliminated what had appeared to some as a conflict of interest by separating the food safety and regulatory function from marketing functions related to agricultural products, two mission areas that had previously been housed together within the Department.

The Food Safety and Inspection Service: FSIS, which is the USDA regulatory agency reporting to the Under Secretary for Food Safety and is responsible for the safety of meat, poultry, and egg products, also underwent a major reorganization. Among its most significant features were the establishment of a more efficient field organizational structure and the establishment of a new Office of Public Health and Science to provide scientific focus, leadership, and expertise to address the most important public health risks related to meat, poultry, and egg products.

Codex Alimentarius

Codex Alimentarius is the major international mechanism for encouraging fair international trade in food while promoting the health and economic interests of consumers. Management of Codex Alimentarius, which coordinates U.S. activity in Codex, is aimed at establishing international uniformity in food safety standards. Over the last year, I chaired a new Codex Steering Committee, which includes both policy and technical groups and has an expanded membership involving additional Federal Agencies including: the Departments of State and Commerce, the Office of the U.S. Trade Representative (USTR), Environmental Protection Agency (EPA), Food and Drug Administration (FDA) and Centers for Disease Control (CDC), and USDA agencies. We are pleased that the Administrator of FSIS is a vice chair of Codex Alimentarius and that he brings his public health experience to this international organization.

Office of the Under Secretary for Research, Education and Economics

The 1994 reorganization of USDA centralized research activities in the newly created mission area of Research, Education and Economics (REE). Food safety research is largely funded through two USDA agencies: the Agricultural Research Service (ARS) and the Cooperative State Research, Education and Extension Service (CSREES). Together in fiscal year 1998 the REE agencies conducted and funded about $64 million in food safety research. The centralized research focus enables the Department to better leverage appropriated funds.

The REE research activities are intended to meet the needs of the regulatory agencies to achieve improved food safety through HACCP implementation and other initiatives. To that end, ARS, the intramural research arm of USDA, and FSIS have yearly food safety and research budget and planning sessions. These sessions provide one mechanism to ensure that proposed research initiatives address the specific priorities of FSIS. In addition, FSIS consults closely with other USDA agencies to ensure that its critical research and information needs are being met.

In fiscal year 2000, ARS will conduct pre-harvest food safety research to study animal pathogen resistance to antibiotics, study pathogen infestation in animal waste, and examine the risks associated with transmission of zoonotic pathogens from animals to humans. ARS will also conduct post-harvest research to enhance detection and measurement of microbial pathogens during the handling, distribution, and storage of fresh fruits and vegetables to determine the sources of contamination and risks of disease transmission, an effort which will provide important information to producers and, of course, to the Department of Health and Human Services (HHS).

CSREES supports food safety research via several funding mechanisms—formula funds, National Research Initiative competitive grants, special research grants awarded by a competitive process, and special site-specific grants that are appropriated by Congress. For example, in fiscal year 2000 CSREES will provide the necessary training to small retail establishments in helping them to implement HACCP. CSREES will also administer competitive grants for food safety-related projects.

The Economic Research Service (ERS) collaborates with other Federal and USDA agencies to assess the costs of foodborne illness and the economic implications of different options to improve food safety.

President's Food Safety Initiative

For the third consecutive year, USDA and the Department of Health and Human Services (HHS) have coordinated the President's Food Safety Initiative to protect the health of the American public by improving the safety of the Nation's food supply. Through joint planning, we are maximizing the use of our resources and achieving substantial improvements in food safety. This process began with the May 1997 report to the President, entitled, Food Safety from Farm-to-Table: A National Food Safety Initiative. The report recognized foodborne illness as an emerging public health hazard that required aggressive government action, identified critical gaps in the food safety system for controlling or eliminating foodborne pathogens from the food supply, and proposed a strategy for closing those gaps.

Both USDA and HHS have focused on building a strong, scientific foundation for a farm-to-table food safety system. The coordinated activities have greatly enhanced the capacities of the States and the Federal government to better monitor the incidence of specific foodborne diseases, rapidly respond to outbreaks of foodborne illness and diminish future outbreaks, identify foodborne hazards that pose the highest public health risks and direct resources to minimize those risks, and develop education programs aimed at improving safe food practices and therefore, food safety for Americans.

The 1999 initiative is building on gains made in these areas, and places increased emphasis on ensuring the safety of domestic and imported fresh produce and imported foods, targeting retail food safety education, transforming traditional meat and poultry inspection systems to science-based HACCP systems, and developing scientific information and tools to control a greater range of food safety hazards. Significant gains have already accrued with direct benefits to the public health. I'd like to share some of these achievements with you.

The PulseNet (DNA fingerprinting) and FoodNet (monitoring of foodborne illness) technology has already been used in several instances to reduce foodborne outbreaks. State and Federal health officials used PulseNet data to detect and limit the size of foodborne illness outbreaks in products such as alfalfa sprouts, mesclun lettuce mix, ground beef, cheese curds, and Salmonella Agona in cereal.

The most recent Listeria monocytogenes outbreak was also detected from widely dispersed reports of incidences of patient illness. It was tracked by fingerprinting and traced to one source—a meat products plant. In the past, such a geographically scattered outbreak would have continued for months longer. Therefore, while we are saddened by the results of the outbreak, we are pleased that the system worked to halt shipment of even more potentially contaminated products and resulted in a sharp decline in illness following the company's voluntary recall.

While we cannot quantify the number of illnesses prevented, by identifying outbreaks and taking appropriate regulatory actions and public notifications much earlier than we otherwise would have, we believe that the number of potential illnesses in these particular cases was substantially reduced.

FoodNet sites identified Campylobacter as the most common cause of foodborne disease, although it has rarely caused outbreaks of illness since the 1980s. These findings led to new interagency efforts in research and surveillance to better understand how this pathogen enters the food chain and how to control it. Within FoodNet, there are now special studies to determine which foods and behaviors are associated with Campylobacter, E. coli O157:H7, and some Salmonella.

We're also working very hard on our outreach program to consumers. In 1996, the Secretaries of USDA, HHS, and Education along with industry, consumer groups, and public health officials, established the Partnership for Food Safety Education. This public-private partnership was established in order to promote safe food practices. The Partnership also developed the "Fight BAC!" character to promote consumer safety practices. The life-size "BAC" character and "BAC" puppets are used to deliver food safety messages to adults and school age children. More than 100 national, State, and local organizations from the public health, government, consumer, and industry sectors support the "FIGHT BAC!" campaign and disseminate education materials. These "BAC Fighters" will maximize the campaign's national outreach and provide important links into thousands of communities nationwide.

We have also worked with the States to develop a website that links all food safety agencies—at the Federal, State, and local level—together. The "Gateway to Government Food Safety Information" website can be accessed at www.foodsafety.gov.

President's Council on Food Safety

In August 1998, the President issued an Executive Order creating the Council on Food Safety. Throughout 1999, the Council, co-chaired by the Secretaries of Agriculture and Health and Human Services, the President's Science Advisor, and the Head of the Office of Science and Technology Policy, will work to meet the President's goal of developing a comprehensive food safety strategy and coordinating food safety budgets that will result in further improvements in the safety of the food supply and will ensure the most effective use of Federal resources.

The strategic plan will take into consideration the findings and recommendations of the National Academy of Sciences (NAS) report and input from the public. The NAS report, initiated in 1997 at the request of Congress, provides an examination of the scientific and organizational needs of an effective food safety system. Upon completion of its evaluation of the current food safety system, the Council will make additional recommendations on how to advance the efforts identified in the President's Food Safety Initiative. The Council held four public meetings to receive input concerning important elements of the food safety system.

USDA, HHS, and EPA are identifying new opportunities to improve food safety, avoid duplication, and leverage agency resources. This process is greatly enhanced by the Joint Institute for Food Safety Research (JIFSR), which was created by Executive Order in July 1998. By creating the JIFSR and setting it within the Council, the President has re-emphasized the importance of establishing a seamless, science-based food safety system. This represents an efficient and effective way to ensure the implementation of a farm-to-table food safety strategy that reduces the level of foodborne illness in the most effective way possible.

This vision also reflects the findings from the National Academy of Sciences (NAS) report, Ensuring Safe Food from Production to Consumption, that an effective food safety system is a coordinated, interdependent system composed of government agencies at all levels, as well as other stakeholders. NAS found that the successful integrated operation of a food safety system requires that officials at all levels of government work together in support of common goals of a science-based system.

USDA RESPONSE TO NAS REPORT

Part of the President's direction to the Council was to prepare comments and information for him concerning the report by the National Academy of Sciences (NAS) requested by the Congress and issued last summer. Each Department has reviewed the report carefully.

The NAS report, Ensuring Safe Food from Production to Consumption, identifies a desire for a "national food law that is clear, rational, and comprehensive, as well as scientifically based on risk" as a major component of a model food safety system. USDA certainly agrees with the NAS that our food safety systems should be science-based and should utilize risk analysis whenever possible.

The document also notes that the continuous inspection system of meat and poultry through sight, smell, and touch creates inefficiencies, and should be replaced by a science-based approach that is capable of detecting hazards of concern.

Even though the current law requires continuous inspection, it does not specify how this inspection is to be carried out. The statutes do require appropriate examination of animals prior to slaughter and examination post-slaughter at all official slaughter and processing facilities. Among other significant food safety purposes, this continuous inspection requirement ensures use of the best sanitary dressing processes, prevention of fecal contamination, and prevention of meat from diseased animals entering the food supply.

Under the statutory flexibility that already exists, USDA has begun to develop and test a more risk based inspection system, including adopting regulations requir-

ing that HACCP be implemented in all slaughter and processing plants. In addition, USDA is studying how best to effect further improvements in the inspection of meat and poultry.

Statutory Differences

It should be noted that there is a fundamental difference between the statutes that govern the inspection and oversight of meat, poultry, and egg products, implemented by FSIS, and the statutes for other foods, enforced by HHS via the Food and Drug Administration.

It is FSIS' statutory responsibility to ensure that no meat and poultry that may be adulterated receives the mark of inspection and enters the marketplace. Companies slaughtering or processing meat and poultry have a legal obligation to report such activity to FSIS, and FSIS is obligated to provide appropriate inspection to the plant. FSIS also has the responsibility to ensure that only countries that maintain inspection systems for meat, poultry, and egg products that are equivalent to the U.S. systems may export these products to American consumers.

FDA's statutory responsibility is much different. FDA is obligated to remove adulterated foods from the marketplace. FDA has the authority to inspect establishments producing food but does not provide daily inspection of even high-risk food products at this time.

USDA will continue working through the Council to analyze and coordinate our resources to provide science and risk based research, comparative risk analysis, surveillance, inspection, and education to carry out the recommendations of the NAS report.

FSIS ACTIVITIES

HACCP Implementation

On January 25, 1999, a milestone was reached in our strategy for making significant gains in improving the safety of America's food supply. On this date, over 3,000 large and small plants accounting for 92 percent of meat and poultry production were operating under HACCP plans. We recognized from the very beginning that small plants, those with between 10 and 499 employees, had fewer resources to draw on than large plants. Because of this, we prepared for implementation of the rule in small plants by providing extensive technical assistance.

We appointed a National HACCP Small Plant Coordinator to coordinate the various activities underway to assist small plants. We established a network of contacts and State coordinators around the country to disseminate information on HACCP and provide technical guidance to small plants. We also conducted small plant demonstration workshops throughout the country to provide guidance and technical assistance to small plants, asked large plants to act as sponsors for small plants in order to help them develop their HACCP plans, and held a series of 20 implementation meetings around the country to answer any questions on HACCP. Field supervisors made personal visits to each plant to assist in their preparations for HACCP implementation. HACCP coordinators were identified in all affected States. These are just a few examples of the initiatives we put in place to assist small plants with HACCP implementation.

Of course, credit needs to be shared. Numerous industry associations and academic institutions worked extremely hard to provide assistance and training to their members and to plants in their vicinity. Small plant management also deserve much of the credit for their hard work in preparing for HACCP implementation.

As you know, in January 1998 approximately 300 large plants implemented HACCP, accounting for 75 percent of the volume of meat and poultry production in the United States. Large plants had approximately a 92 percent compliance rate during the first 9 months of implementation. Where a few problems did occur, enforcement actions were implemented and establishments responded by modifying and strengthening their HACCP plans. Implementation in large and small plants has been smooth thanks to the efforts of both industry and government.

Very small plants, those with fewer than 10 employees, will implement HACCP in January 2000. We will continue our outreach by holding nationwide public meetings and workshops to prepare very small plants for HACCP. We are committed to ensuring a smooth transition to HACCP for very small plants.

One year ago, many questions were raised about whether HACCP would really work. I believe we have the answers to those questions now. Data released at the beginning of March based on the first 12 months of testing in large plants show that the prevalence of Salmonella in broilers, swine, ground beef, and ground turkey was substantially lower after HACCP implementation than in baseline studies conducted before implementation.

The first data released for ground beef samples showed 7.5 percent testing positive for Salmonella prior to January 1998 and only 4.8 percent testing positive after HACCP implementation, a decline of 36 percent.

The new data for broilers and pork continue positive trends reported several months ago. Of broiler carcasses, 20.0 percent tested positive for Salmonella before HACCP implementation, compared to 10.9 percent after implementation. That's a decline of over 45 percent. On swine carcasses, 8.7 percent tested positive prior to HACCP versus 6.5 percent after HACCP implementation, a decrease of more than 25 percent. As for ground turkey, 49.9 percent tested prior to HACCP versus 36.4 percent after HACCP implementation. This represents a decline of nearly 27 percent.

These data, while preliminary, indicate that the Administration's science-based inspection system has already had a significant effect on the safety of food American families eat by reducing the prevalence of Salmonella. Salmonella is a potentially deadly bacteria that in the past had sickened as many as 3.8 million Americans a year and cost billions of dollars in lost productivity and medical costs annually.

Compliance with the requirements of the rule has been excellent. For example, 88 percent of large plants with completed sample sets are meeting the government's Salmonella standard, and we have similarly high compliance data for the remainder of the requirements of the rule. Those establishments that did not meet the standards were required to take immediate corrective action. We have been putting out quarterly enforcement reports so the public can follow our progress, and we should have a new enforcement report out soon.

New Inspection Models

As USDA focuses on HACCP implementation throughout the industry, it has begun development of a project to design new inspection models that better address current public health risks in the meat and poultry supply. These changes will improve the efficiency and effectiveness of inspection oversight and permit better use of Department resources.

State Cooperative Meat and Poultry Inspection Programs

FSIS oversees and supports (with more than $40 million annually) 26 State inspection programs for meat and poultry. These cooperative programs permit States to inspect product for distribution within their own boundaries. The State inspection programs must be equal to the Federal program conducted by FSIS. All State plants required to enter the program have implemented HACCP. Very small plants are required to implement HACCP in January 2000.

Information Sharing

FSIS has a trained inspection force in every Federally inspected meat and poultry slaughter and processing plant in the United States. In some cases, products are being processed in the same plants that fall under the jurisdiction of FDA because these are food products that do not contain meat or poultry. FSIS and FDA are in the process of establishing and implementing a Memorandum of Understanding (MOU) to facilitate appropriate sharing of information among senior agency field personnel regarding safe food production in these plants.

Modernizing Information Technology

As one step in the adoption of new information technologies in inspection programs, FSIS has developed an interactive computer system—the Field Automation and Information Management (FAIM) system—for its own use, and is encouraging states to adopt it by sharing the costs of implementation. The system permits the field inspection force to have access to regulations, scheduling information, and appropriate information regarding enforcement. It can also be used for training. FSIS has conducted discussions with FDA regarding FAIM's applicability to its inspection system.

Food Code and International Standards

USDA is also working more closely with its counterparts at the Federal, State, and local level to encourage national uniformity in food safety standards through support and endorsement of the Food Code. The Food Code provides guidelines for maintaining food safety in restaurants, grocery stores, nursing homes, and other institutional and retail settings.

Because world trade in agricultural commodities continues to grow, USDA is working through the Codex Alimentarius Commission to encourage international uniformity in food safety standards. Responsibility for oversight of the U.S. Manager of Codex is located in the Office of Under Secretary for Food Safety.

Voluntary Quality Control Programs

The Animal Production Food Safety Staff in FSIS is an excellent example of developing partnership with States to encourage the voluntary implementation of quality control programs at the animal production level. The education of small producers is of particular concern as we move forward with HACCP implementation in small plants. We believe that changes in the marketing of animals will be expected by plants operating under HACCP, and we want to help producers be ready for these changes.

FY 2000 USDA FOOD SAFETY BUDGET REQUEST

FSIS Budget Request

The FSIS fiscal year 2000 budget proposes a program level of $742 million, of which $653 million would be appropriated under current law. This is a net increase of $36 million over the 1999 current estimate. The 2000 budget includes increases for pay costs to meet our statutory obligation to provide inspection services and a programmatic increase to implement our farm-to-table food safety strategy. The 2000 budget includes increases to help the FSIS inspection workforce make the transition to a new HACCP environment, including conversion of 638 inspection positions to Consumer Safety Officer positions.

In these new positions, employees will be responsible for conducting scientific testing and inspections in plants and in product distribution. Some of these personnel will be redeployed to cover critical inspection vacancies in nearly 3,400 very small establishments. These redeployments and upgrades will increase the professional qualifications of the inspection workforce.

In the near future, the Administration will be transmitting to Congress the legislation necessary to support the 2000 budget proposal to recover the full cost of providing Federal meat, poultry, and egg products inspection through user fees. The user fees exclude Grants to States and Special Assistance for State Programs. Requiring the payment of user fees for Federal inspection services would not only result in savings to the taxpayer, but would also ensure that sufficient resources are available to provide the mandatory inspection services needed to meet increasing industry demand and assure consumers of appropriate oversight and enforcement. The overall impact on prices as a result of these fees has been estimated to be less than one cent per pound of meat, poultry, and egg products production. The implementation of the user fee authority would be designed to be fair and equitable, promote accountability and efficiency, and minimize the impact on the competitive balance among affected industries. Appropriated funds are requested to convert the Federal program to user fees and for maintaining State inspection programs.

Food Safety Initiative Budget Request

Six of USDA's agencies are requesting a total of $151 million to support the President's Food Safety Initiative, an increase of $34.8 million over the fiscal year 1999 level. With the additional funds, the agencies will improve our ability to identify food safety hazards, develop more effective control strategies, and improve our response to outbreaks of foodborne illnesses when they occur.

In support of the President's Food Safety Initiative, the budget for FSIS includes increases in the amount of $2.9 million to address food safety risks in three critical areas: emergency response coordination with the States in investigating foodborne illness outbreaks; validation of the ability of State laboratories to meet HACCP pathogen testing requirements; and pathogen testing in Federal laboratories of State-inspected product.

The budget for Research, Education and Economics (REE) includes increases in the amount of $25.7 million to: expand research for the development of new pathogen intervention technologies at the pre-harvest level, initiate research that will lead to a better understanding of how the use of antibiotics in food-producing animals increases the risk of emergence of micro-organisms that are resistant to specific antibiotics, integrate research and education in food safety, and provide the economic analysis necessary to evaluate the effectiveness of various risk-reduction strategies for reducing foodborne illness. This amount will be distributed to the following agencies within REE: Agricultural Research Service ($11.7 million), Cooperative State Research, Education, and Extension Service ($11.0 million), Economic Research Service ($0.5 million), and the National Agricultural Statistics Service ($2.5 million).

The budget for the Agricultural Marketing Service, within Marketing and Regulatory Programs (MRP), includes $6.2 million to establish microbiological baselines for pathogens on fruits and vegetables.

CONCLUSION

Thank you again for the opportunity to appear before you today and discuss the Administration's goals to enhance food safety. I look forward to working with you and my colleagues and I will be happy to answer any questions you or other Members of the Subcommittee may have.

CONSUMER SAFETY OFFICES

Senator COCHRAN. I have a few questions that I will ask at the outset and then yield to other Senators for their comments and questions.

One thing that I noticed in your statement, Dr. Woteki, is the mention of the redeployment of Food Safety and inspection service personnel. I noted that you have something called a Consumer Safety Officer, which is a new phrase. Tell us what the Consumer Safety Officers will be doing and where they will be deployed.

Dr. WOTEKI. Well, I would like to ask Mr. Tom Billy, the FSIS Administrator, to join me at the table. While he is getting up to do so, let me just briefly say that one of the objectives that we are trying to achieve through the development of this new job classification series is an upgrading of the technical expertise that exists within the FSIS inspection workforce.

There are many jobs, both within plants, as well as jobs that compliance officers and others do, that require these additional technical background and skills.

part of what the agency's major goal in creating this new series is to create the opportunity to both upgrade within our workforce those who have these skills, as well as to recruit from outside.

Mr. Billy has been spending quite a bit of time thinking about how those Consumer Safety Officers are going to be going about doing their work. I would like him to respond.

Senator COCHRAN. Mr. Billy.

Mr. BILLY. Good morning. The shift to a HACCP-based approach not only brings with it a number of scientific components but also the need for inspectors to be able to use the tools of science and statistics to make judgments about process control. We need a different kind of inspector than we have traditionally had.

This new classification series—and that is what it is—will provide us with the kind of person with a college degree and a certain number of credit hours in the sciences that will enter the workforce and, with training, be able to carry out our responsibilities of oversight and verification under this new HACCP-based system.

It also fits well with some of the other roles we play in compliance. I might add that it is the backbone in terms of the classification series in FDA for their field inspection force. So it is well tested and I think will serve us well as we look to the future.

Senator COCHRAN. There has been one suggestion that some of these redeployed personnel may be assigned to the distribution system, as well as in grocery stores or in other areas.

My question is: If that is true, what analysis have you done to see whether you are overlapping with State and local public health department inspections and Food and Drug Administration inspections that are already being carried out in those areas?

Dr. WOTEKI. Well, Senator, I understand that there has been some concern raised by State officials about overlapping respon-

sibilities. I do want to assure you, as we have assured them, that as we are developing this plan and moving forward in doing some tests, we will not be duplicating those responsibilities.

I would like to ask Mr. Billy again to describe to you in some detail the approach that the agency is taking.

Mr. BILLY. We have, for many years, in fact decades, had a presence in the marketplace represented by our compliance officers that visit retail establishments, and check products. It is one of the final verifications under HACCP that in fact products are in compliance with our requirements.

They also investigate consumer complaints about products. When we find problems, we take the appropriate regulatory follow-up action. We conducted over 26,000 such verifications last year. These consumer safety officers and many of our compliance people will continue that type of responsibility.

In addition, we have been working very closely in conjunction with FDA and with the Food Protection Conference, which is an organization set up by the states to oversee their regulation of the retail sector. We plan to continue to work closely in that framework to assist the state and local authorities in terms of making sure that, with regard to meat, poultry and egg products, there are proper, effective standards in place, and those regulatory people are trained in ways to make sure that those standards are being met.

We have worked this through the States. We have an ongoing training program for retail inspectors at the State level. It is in cooperation with FDA. It is done through satellite down-link type of approach. We are providing important training so that those people at the State and local level can carry out their responsibilities.

INSPECTION OF IMPORTED FOODS

Senator COCHRAN. We have had hearings in the Senate chaired by Senator Susan Collins, chairman of the permanent Subcommittee on Investigations of the Governmental Affairs Committee. Those hearings have indicated that there is really a need to do more in the imported food area, particularly with respect to the inspection of fruits and vegetables and many other commodities coming into our country.

Will it be part of the administration's effort of consolidation and reorganization to see that this area, which has not been sufficiently covered by inspection personnel, is addressed? I think Dr. Henney may have more responsibility statutorily in this area than others. Would you like to respond to that?

Dr. HENNEY. Mr. Chairman, while we all share an interest in imported food products, I think the particular sector that you are talking about, particularly produce is within our jurisdiction. And within the request that we are giving you today, about $17 million of the $30 million request is targeted towards our inspectional capability.

With this money we would be able to develop more tools for our inspectors to use. We would be able to inspect domestically, as I said, at least in our high-risk areas once a year.

But more importantly and to your question, our foreign inspections would double, not only with inspections of foreign food proc-

essors, but we would be able to continue evaluating the systems that are used by foreign countries to access their adequacy and determine if their systems are equivalency to our own.

Senator COCHRAN. One part of our law suggests that the imports into the country will not be permitted in some areas of processed foods, foods that have been processed in other countries, that they have to abide by the same kind of inspection regime and safeguards that our domestic slaughterhouses and processors have to follow.

How is that law enforced in terms of inspections to verify that the right kinds of practices are occurring in other countries and stopping the importation of food products that do not comply with that rule?

Dr. WOTEKI. Well, Senator, I might respond to that question. The legislative authorities for the Department of Agriculture essentially require that any country shipping, exporting meat and poultry products to the United States, has a system that will provide the same level of consumer protection as the U.S. system.

The Food Safety and Inspection Service is implementing that legislative authority using a three-pronged approach.

The first level is for any country that wants to export meat or poultry products to us, that we first of all review their statutes, we review their regulations to assure that they do have a system in place of inspections that will be considered, or could be considered, to be equivalent to our own.

The second prong is actual visits to meat packing establishments to inspect that indeed what is going on within those plants is meeting that country's system, which has been determined to be equivalent to our own.

Then the third prong is when a product is imported into the United States, when it reaches the port, it is reinspected. So I think we have a good program in place for meat and poultry that assures that imported products do meet the same level of protection that we have here for domestically produced products.

Senator COCHRAN. Thank you.

Senator Kohl?

COORDINATION OF FOOD SAFETY INITIATIVES

Senator KOHL. Thank you, Senator Cochran. Any initiatives such as the Food Safety Initiative that crosses agency and departmental lines clearly requires high levels of cooperation and coordination. For all of you, what steps are being taken to ensure that all food safety initiatives and activities are properly coordinated?

Is there any one agency or person responsible for taking the lead on food safety initiatives? And what steps are needed to improve communication and cooperation among the agencies?

Dr. WOTEKI. Senator, we have actually the President's Food Safety Council that is co-chaired by Secretary Glickman, Secretary Shalala and Dr. Neil Lane. It was established by presidential directive in August of last year. I alluded to the council's activities in my opening statement. The council is working on developing a strategic plan for food safety. It is working to develop coordinated budgets.

So I believe that certainly the council is playing a very important role in providing very high level oversight and directions to the actions and activities of the many agencies that are involved in food safety.

Beyond that, we also have a number of different coordinating mechanisms that are in place. One of them is that there are periodic meetings of a group of principals who are responsible for food safety. Another I alluded to also in my opening statement, the Foodborne Outbreak Response Coordination Group.

So there are a number of different activities that we have underway so that we can be sharing information, developing plans, coordinating our activities, not only at the federal level but also involving the states as well.

Senator KOHL. Dr. Henney?

Dr. HENNEY. I, like Dr. Koplan, have returned back to federal service after a five-year hiatus. And I must say my observation is very similar to his in terms of being quite gratified at the level of cooperation that there is between and among the federal agencies, and particularly our important partners at the State level.

I think Dr. Woteki is very correct in her observations that at a very high level of government, there is oversight of policy and budget development.

But I think more importantly is the day-to-day issue that worries the average American citizen, that is: is my food safe. At an operational level, the people working within the agencies when an outbreak does occur are working on initiatives to see that outbreaks are prevented. These efforts are is very intense and very tightly coordinated.

Senator KOHL. Mr. Koplan?

Dr. KOPLAN. The only thing I would add is, at the daily working level, we now have assignees from each other's agencies working in our own agency. This is something that had not occurred before. It is tremendously helpful on a daily basis to anticipate problems that can come up and to facilitate communication.

These folks know who to call in the other agency when something is needed and know how the other agencies work. I know CDC has assignees in both of my colleagues' organizations, working daily on their issues, and informing them about what we are doing in that area as well. It is a very helpful mechanism.

FOODBORNE DISEASE OUTBREAK

Senator KOHL. All right. I have been provided by the FDA a map of the United States which shows foodborne disease outbreaks for the period of January to July of 1998. I understand this map is based on information provided by the Centers for Disease Control and Prevention. This map indicates that some states with relatively low populations, such as Wisconsin and Kansas, have a large number of outbreaks compared to other states with relatively high populations, such as Texas, Florida and New York.

What is the actual definition of foodborne disease outbreak? Is the period shown on this map representative of incidents of outbreaks generally? And to the extent that outbreaks were a problem in Wisconsin during the period shown on this map, what is the FDA or any other agency doing to help control this problem?

Dr. Henney?

Dr. HENNEY. Senator Kohl, I appreciate your question, knowing that I lived in Kansas for six years. Those are very important states to me. I believe the definition of an outbreak involves an illness of two or more persons related to a particular food.

I think that I would go back to what I said in my opening statement. The map that you see is only reflective of that period of time. If we would look at a snapshot of what happened last week or another six-month period, it might involve highly urban areas or different states altogether.

The way food is distributed in this country, the foods that can be affected in terms of a foodborne illness makes this a very complex kind of issue. But we do try to give snapshots of what is going on at any period of time. We can usually track it back to a particular kind of food.

INCIDENCE OF FOODBORNE ILLNESS

Senator KOHL. So are you saying that what we see on those maps, which would indicate that Wisconsin and Kansas have an unusually high incident, that that is not representative or would not be representative over a period of time?

Dr. HENNEY. That is exactly correct. It might be that Kansas and Wisconsin had a particular distribution of a type of food, and it was only eaten by that population. It may very well be that the Department of Health or the physicians seeing those patients that were affected were particularly alert to a situation. It is a multi-factor kind of issue, I think, that could be observed in any state.

Perhaps Dr. Koplan could add a little bit more to that.

Dr. KOPLAN. One thing I would add, in keeping with Dr. Henney's last comment, is that for a disease surveillance, another factor that one must consider is the quality of the surveillance in that locality. Some places that are more aggressive and have people reporting more will show a higher incidence.

From past experience over many years in public health, I can tell you that your state has one of the better state health departments. Dr. Davis who is in charge of infectious disease epidemiology is superb. This may reflect the increased incidence that has been found.

It may also indicate that in a given year even one outbreak can cause many more cases of illness than the previous year. One must look over a longer trend.

One of the things that we are doing to address this issue is, as part of these initiatives, to try to come up with a better estimate of the real incidence of diarrheal diseases around the country, so as to make comparisons from one state to another a little more controlled. We are in the process of doing that now. Over the next few months, we hope to have better data that permits the kind of comparison that gets around the issue: Is surveillance better in one place than another?

Senator KOHL. Thank you.

Senator COCHRAN. Senator Durbin.

PREPARED STATEMENT

Senator DURBIN. Thank you, Mr. Chairman. At the outset, I would like my opening statement be made part of the record.

Senator COCHRAN. It will be.

Senator DURBIN. Thank you.

[The statement follows:]

PREPARED STATEMENT OF SENATOR DURBIN

Mr. Chairman, thank you for calling this hearing today. Food safety is a subject that affects every person in our country every day. Unfortunately, we all too often take the safety of our food supply for granted. But, recent outbreaks—from ham at a church picnic to imported raspberries to eggs to recalls of hot dogs and ground beef—remind us of the food safety dangers that can many times prove deadly.

I come at this topic from several different angles. First, I'm a consumer. I want the food supply to be as safe as possible for my family and especially for my almost three-year-old grandson. Second, I have a deep respect for those who grow and produce our food and fiber. American agriculture does produce the safest and most abundant food in the world. But, I believe that we can always do more to ensure it is safe. And, finally, when I served on the House Appropriations Subcommittee on Agriculture, I was on the front lines of earlier efforts to improve food safety, from Hazard Analysis and Critical Control Point—HACCP—to funding for additional meat inspectors.

I congratulate this Administration on its hard fought efforts to improve the safety of our food supply. The Pathogen Reduction and HACCP systems regulations are proving to be a significant advance in food safety. The President's Food Safety Initiative is gaining steam and drawing more cooperation within the Executive Branch. I was pleased to join Senator Harkin last year when we took the funding question to the Senate floor and found that almost three quarters of our colleagues agreed that the President's initiative on food safety should be adequately funded. But, we can always do better.

With regard to improving the safety of our food supply, allow me to mention a topic that I believe to be the next logical step to more effective regulation, lower costs, and clearer goals in our food safety battle.

Currently, there are at least 12 different Federal agencies and 35 different laws governing food safety and inspection functions. With so many bureaucrats in the kitchen, it is no wonder that breakdowns occur. Overlapping jurisdictions, Federal agencies without accountability, and resources that are wasted are just inexcusable. A single, independent agency that will focus our policy and improve the enforcement of food safety inspection is really overdue.

The General Accounting Office (GAO) has called for the consolidation of our country's food safety and inspection functions hundreds of times in the last decade. I have found Congressional reports that date back as far as 1949 that lament the fragmented structure of the Federal government's approach to food safety. The most ironic example is the Senate Governmental Affairs Committee hearings on the adequacy of Federal food safety inspection in 1977—led by Chairman Ribicoff of Connecticut and Ranking Member Percy of Illinois. The Committee report contained the following passage: "Divided responsibility for regulating food production has resulted in a regulatory program which is often duplicative, sometimes contradictory, undeniably costly, and unduly complex. We believe the bifurcated food regulation system should be unified in a single agency."

I serve on the Governmental Affairs Committee with Chairman Cochran and others. Last Congress, we held four subcommittee hearings into the safety of imported foods and the idea of a single, independent agency was discussed—twenty years after the Committee concluded that the current structure just didn't make sense.

Vice President Gore, in the National Performance Review, also made a case for a unified approach to food safety.

And, this past summer the National Academy of Sciences (NAS) released their findings on how the Federal government deals with food safety and inspection. I don't think it will surprise anyone that the NAS concluded that one of the more important short-term goals should be fixing the overlap and finding a way for all of the agencies and departments to work together in a unified manner.

In the next few weeks, I'll be reintroducing legislation that consolidates our food safety and inspection functions into a single, independent agency. I hope the Administration and my colleagues will join me in this discussion. I believe it is a topic that is simply too important to ignore any longer.

Let me quickly touch on a couple of other topics. First, egg safety. Last year, Secretary Glickman issued an administrative order that barred the practice of repackaging eggs. I followed up that initiative with language in the Omnibus Appropriations bill that codified the order. I am pleased to report that those packers that par-

ticipate in the voluntary USDA egg grading system are no longer allowed to repackage eggs, a dangerous practice that oftentimes leads to redating and selling of old eggs. The language also called for a joint USDA-FDA report on egg safety to Congress. We're still waiting for that report. Also, the GAO is undertaking a thorough evaluation of egg and egg product safety. I hope USDA and FDA will work with us as we attempt to reassure the American consumer that the eggs they buy are indeed safe. When more than 660,000 Americans get sick every year from eating eggs contaminated with Salmonella enteritidis (SE), we need to do better.

Finally, in Illinois, we have what some have described as a secret weapon in the fight to detect and prevent foodborne illnesses. It's called the National Center for Food Safety and Technology at the Illinois Institute of Technology near Chicago. It is one of a kind. The National Center is a research and development facility that supports the FDA in its mission to ensure the safety of food products other than meat and poultry. It's a ten-year-old collaboration between the Federal government, private business, and academia. And, I can tell you from first-hand experience, it's working. In the coming weeks, I'll be asking my colleagues on this Committee as well as the FDA to work with me in order to help the National Center continue its pursuit of solutions to our food safety problems.

Mr. Chairman, Senator Kohl, thank you for organizing this hearing today. Food safety is a matter that should be a high priority for all of us. I look forward to working with you and the Administration as we go the extra mile to reassure consumers that we're doing all we can to continue to supply the safest food in the world.

FOOD SAFETY PROGRAMS

Senator DURBIN. I would like to acknowledge the presence of Dr. Henney and Dr. Woteki. I have not met Dr. Koplan, but I thank him for joining us. I have worked with Dr. Henney for many years at the Food and Drug Administration, I've always respected her contribution. I am happy that she is in a leadership position there. And, I am looking forward to continuing working with her.

Dr. Woteki, with the USDA, thank you again for all that you have done. The Centers for Disease Control enjoy an excellent reputation in this area also.

I was curious yesterday when the White House announced its statement on the National Academy of Sciences report. It included a provision or recommendation which said, "A new statute should be enacted that establishes a unified framework for food safety programs with a single official with control over all federal food safety resources."

I think that is fairly clearly stated. I am happy to hear it, of course, because for 50 years on Capitol Hill we have been debating that very same issue. Whether we are finally going to take the dozen different federal agencies that inspect food and put them under one coordinated leader, I think that is a clear result or recommendation from this report.

The oddity is in Washington, Spin City USA, we have press releases from the Grocery Manufacturers of America, as well as the National Food Processors Association, which conclude just the opposite, that this report does not suggest that there will be a single official heading these food safety agencies.

I would recommend to the people in industry that they take a closer look at the actual recommendation in that report. I would also suggest to them that it is in their best interest to work with us, to coordinate this effort, rather than resist it. The agencies represented here and the work that they do is important, but it can be improved upon.

And if we can avoid duplication and avoid overlap, the food industry should be in our corner. They should be working with us,

not throwing out these press releases creating the smokescreen of opposition to what is just plain common sense.

HACCP COMPLIANCE

Let me go into three specific areas where I think we can definitely improve the situation. Let us talk about HACCP compliance, I noticed Dr. Woteki raised that issue. The first year of HACCP implementation in meat, poultry and seafood showed radically different results between the FDA and the USDA.

While the large meat and poultry plants had a compliance rate of over 90 percent, the compliance rate for the seafood industry was only 30 percent. The FDA found that 70 percent of seafood plants had "serious or critical" violations of HACCP rules.

Forty percent of those plants were not even implementing the new requirements. For imported seafood, the record was even worse. Eighty percent of seafood importers had serious or critical violations.

Some have criticized the FDA's system for failing to have frequent inspections and mandatory testing and say it is little more than an industry honor system. I would like, Dr. Henney, if you would respond to that.

FREQUENCY OF INSPECTION UNDER HACCP

Dr. HENNEY. Senator Durbin, let me respond in terms of speaking a little bit about the differences in approach of the two departments in terms of what has been done by agriculture with respect to meat and poultry and our approach with respect to seafood HACCP.

I think as Dr. Woteki mentioned, USDA, as they approached implementing a HACCP program, has taken a stepwise or a phase-in approach to it. We took the approach of looking at all domestic process inspectors and having them inspected within the first year. So we are looking everywhere from the smallest mom and pop kind of shop to very large seafood processors.

Our frequency of inspection is annual. We are very rigorous in that.

Senator DURBIN. Excuse me, Dr. Henney. How does that compare with Dr. Woteki at USDA? How frequently do you inspect?

Dr. HENNEY. They do a continuous——

INSPECTIONS

Senator DURBIN. So it is a daily inspection, as opposed to an annual inspection.

Dr. HENNEY. It is continuous. I do not know if that is daily or—it is more than annual.

Senator DURBIN. So we have an annual inspection for seafood, a daily inspection for meat and poultry. Does that give a lot of confidence to consumers in America? I do not think so.

Dr. HENNEY. I think that the HACCP approach, because it is science-based, and if there is an appropriate plan in place and it is implemented well, an annual approach for this kind of inspection is reasonable. We are looking at different kinds of things when you talk about meat and poultry compared to seafood.

In meat and poultry you have a number of bacteria that are found in much greater frequency. We have to look in seafood not only for some of those kind of issues, but also important chemical and physical property issues as well. So the HACCP program is very comprehensive with respect to seafood.

With respect to the rate of compliance, the 70-percent rate meant that we left a letter with those processors. When you look at the actual violations that occurred, the kind of companies that are considered volative, is at a rate of less than five percent. And that compares with the total food that we inspect in all of our programs which has a 6-percent volative rate.

So while I do believe that there is a need to be concerned and that we get more of the processors in compliance. I think in the very first year we expected a fairly high percentage of the seafood industry not being compliant with this new system. We intend to take a multipronged approach to do that.

But we were actually pleased to look at that end product of the volative rate not being higher than what we see in the total food system.

Senator DURBIN. Dr. Henney, I would disagree with that and say that when 40 percent of the plants were not even implementing the new requirements, I do not think that is a good result. I think we can do better.

INSPECTION OF IMPORTED PRODUCT

Let me give another example. Imported meat and poultry products are subject to a two-stage approval process by USDA. First, the exporting countries meat and poultry inspection system must be approved by USDA.

Then the individual plant must be inspected by USDA before it can ship meat to the United States. Even then, it is subject to random verification checks at the border.

And the Food and Drug Administration only has the authority to inspect food at the border, but has the staff to check less than 2 percent of import shipments. The Food and Drug Administration cannot send inspectors to foreign countries except by invitation, even when they are checking the source of food involved in an outbreak in the United States.

Again, Dr. Henney, that seems such a dramatic difference between the standards that are being used. For the consumer, the fact that we are talking about a polish ham, as opposed to some processed food in a can, really does not make a big difference.

They expect everything on the shelf having gone through some government inspection, whether USDA or FDA, to be safe for their family. And yet we still have this wide disparity in the standards that are used.

I am not blaming you for this. Congress has the blame for this. We have created this mess. But do you believe, as I do, that unless we can harmonize these two inspection systems, we cannot give consumers in America the assurance they need about the safety of the food they eat?

Dr. HENNEY. Senator, I said at the time of my confirmation hearings that an inspection system, an inspection force that is limited

to inspecting less than 2 percent of foreign imports is less than credible.

And I think that is one reason why we are bringing forward this budgetary request that would greatly enhance our ability to inspect not only at the borders, but to do some of those foreign inspections that you speak about.

Senator DURBIN. I am not going to dwell any longer, because Senator Harkin, who has been a real leader on this issue is next. And I am sure he has some important questions that he wants to ask and is anxious. [Laughter.]

EGG SAFETY INSPECTIONS

I do want to say that we are waiting for a report is egg safety inspection. The incredible, edible egg is inspected by so many different Federal agencies in so many different ways and with little or no assurance for the consumers.

We did have, thanks to Secretary Glickman's leadership, an initiative about repackaging eggs. So I think the industry is more attentive to their responsibility to consumers.

But I will be looking forward to that report. And believe me, if I have been critical today, the criticism should really be self-directed. Congress for 50 years has created this mess. We have to work with you to straighten it out. And I sincerely hope that the response of the industry to this National Food Safety Council report yesterday is no indication that they are going to be resistant. They should be working with us.

Thank you, Mr. Chairman.

Senator COCHRAN. Senator Harkin.

PREPARED STATEMENT

Senator HARKIN. Thank you, Mr. Chairman. And I would like to also ask that my statement be made a part of the record in its entirety.

Senator COCHRAN. Without objection, it is so ordered.

[The statement follows:]

PREPARED STATEMENT OF SENATOR HARKIN

Good morning, Mr. Chairman, Dr Woteki, Dr. Henney and Dr. Koplan. Mr Chairman, I applaud you for this unified approach to our study of Federal food safety programs. The Food Safety Initiative, now in its third year, represents an integrated approach to the problem of food safety, and it is fitting to discuss funding issues in this holistic context.

Let me first express my regards to each of the Agency officials here today, and recognize the tremendous progress we have made in the past three years. We are just beginning to see the benefits of these efforts, as Dr. Koplan has reported, in decreased illness rates for Salmonella and Campylobacter. "Fingerprinting" of pathogens, advances in testing methods, and the ongoing work of inspectors, scientists, epidemiologists and regulators, have changed the way we understand and respond to foodborne illness. This, and the successful implementation of HACCP systems for meat and poultry inspection, are helping us respond more effectively to illness or, even better, to prevent it entirely.

I am pleased that the Agencies are addressing the problem of safety in fresh produce. Consumption of these products brings reductions in cancer and other chronic diseases, and yesterday's Wall Street Journal reported that the produce department is a crucial draw for consumers in their choice of grocery stores. But we have a number of emerging problems with this part of our food supply. The absence of domestic regulatory standards for fresh fruits and vegetables is a problem that hampers our ability to assure safety, both domestically and abroad. I plan to intro-

duce legislation in the near future that will help assure the safety of these products for American consumers, by setting Federal standards.

In the 105th Congress, I introduced legislation to grant the Secretary of Agriculture the authority to mandate a recall of adulterated meat and poultry products. I introduced the legislation again on the first day of this Congress. Events of the last year and a half have only convinced me further that this is a necessary authority. Dr. Woteki, I look forward to working with you to give the USDA the tools it needs to keep our food safe.

I intend to give my strongest support to full funding for the President's Food Safety Initiative. The Initiative is a complete menu of innovative programs. PulseNet, the genetic fingerprinting network, is a leap forward in the way we manage illness and outbreaks. FoodNet can finally give us answers about victims of foodborne illness, and why they got sick. The Produce Initiative offers an integrated research strategy to allow us to enjoy these healthful foods safely. NARMS, the National Antimicrobial Resistance Monitoring System, is a model system to predict resistance problems in foodborne pathogens. Each of these programs draws on the best that each of the three Agencies here has to offer, and each one has already shown its value.

Each year bring new successes with the Food Safety Initiative, and new challenges from emerging pathogens. This is a race we can't afford to lose. I applaud the work done by my colleagues, and by our food safety leaders in the Agencies. I look forward to working with each of you to assure the best possible system to protect our consumers.

FOOD SAFETY PROGRESS

Senator HARKIN. I would like to pick up where Senator Durbin just left off. But first of all, let me just say a couple of things. I do applaud the work that all of you are doing in this unified approach to food safety funding. I think it is making a significant difference, having watched it now over 20-some years.

And I believe the Food Safety Initiative instituted by the administration now in its third year is promoting this type of integrated approach. And it seems we are making some progress.

I want to personally thank each of the agencies who are here today for the progress that we have made in those 3 years, everything from genetic fingerprinting—I think that is an important step forward—research methodologies, the HACCP programs that are now implemented. I think it has made us respond more effectively to outbreaks. But also, I think it is giving a little bit higher rate of confidence among people, that we are really attacking this problem.

Every time I go into a grocery store and I walk around, whether it is fresh meats, or fresh fruits and vegetables—and I am going to focus a lot of my comments or questions in that area—you just realize how much trust people have, picking up stuff off the shelves and taking it home and eating it. Just think of the inherent trust they have. They are trusting the store and the people who put it out there. But I believe that periodically they see signs that say "USDA inspected," "FDA inspected." And they believe that the Government is also doing their job to keep them safe.

CHANGES IN FOOD DISTRIBUTION SYSTEM

While we have done a reasonably good job in the past, in the last, 15 or 20 years the changes we have made in our food distribution system in this country have been phenomenal.

Meat processed and slaughtered in California is on a store shelf in North Carolina the next day. And part of that meat is in Michi-

gan, part of it is in New Mexico, and just all over the place. It used to be that a small supplied supply a small area.

The same is true of fruits and vegetables. You had small suppliers. We had warehouses. You go there, and they would supply a small area. The distribution is nationwide now. It is very hard to track distribution now.

RECALL AUTHORITY

I have a couple questions and concerns, first of all, Dr. Woteki, on recall authority. I introduced a bill in the 105th Congress. I reintroduced it again earlier this year, with Senator Daschle, on the first day of the session. S. 18 gives the Department of Agriculture mandatory recall authority. A lot of people are surprised to find out that he does not have that authority, that it is only by request.

Recent events that we have had convinced me that we do need to have this kind of authority. If you had that authority, could it be useful? How would it have worked on any of the recent outbreaks, for example? How do you view the issue of mandatory recall authority?

Dr. WOTEKI. First of all, I thank you for introducing the bill, because it does respond to three areas that the administration and Secretary of Agriculture feel very strongly are areas in which additional enforcement authorities are badly needed.

The mandatory recall area that is included in the bill is an area where you are absolutely correct, we do not have the authority to mandate a recall. We request that companies voluntarily conduct recalls. Now I do need to point out that by and large, most companies, the vast majority of companies, do respond and do respond quickly to requests from the department to conduct a recall when there is a problem. But there are occasions when there is foot dragging. There are some very rare occasions, such as ones we have encountered in this last year, where the mandatory recall authority would have been extremely helpful.

I think it is also important to point out that the mandatory notification requirement also contained within the bill is an area in which we also believe that it would make our food safety system much stronger, if the department had that authority. Currently, both producers, the slaughter and processing houses, as well as some of their customers, are doing more and more product testing for pathogens present in foods. Yet they are not required to report those results to the department; and there have been instances where we do not know whether product that has been tested positive has been removed from commerce.

We do believe that that mandatory notification authority would also be very important to the department. We think both mandatory recall and notification are very important.

The third is the civil penalties area. Clearly in HACCP systems, it would be also very important to have the ability to level fines. The Secretary has frequently testified on this topic, and he is fond of using the term that he has the atomic bomb authority. He can withhold inspection, he can withdraw inspection and essentially close down a company.

But there are many different types of situations, either systems failures within HACCP plants, violations that occur outside of offi-

cial plants, or cases of economic adulteration in which the ability to level civil penalties, we believe, would be the appropriate type of enforcement to take. It would get companies to pay attention to these important problems. We believe that the bill, the authorities within the bill, would be very important for also filling this gap in our current approach toward food safety.

REGULATORY STANDARDS FOR FRUITS AND VEGETABLES

Senator HARKIN. I hope we can get some action on that this year. As I said, and just to repeat for emphasis sake, distribution system has changed radically, but our system has not changed to meet requirements.

And that leads me, Dr. Henney, into this other area of great concern, and that is the issue of fresh fruits, vegetables and produce. I dare say 15 years ago, when I walked into my local Safeway in the middle of winter, you did not find raspberries from Guatemala, and lettuce from Mexico and tomatoes from Mexico and Chile and places like that.

You might have gone to one of the places like Sutton Place Gourmet or something like that, and maybe you would find it there. But now it is all over. And more and more we are hearing stories of outbreaks of pathogens and other problems in our produce, in our fruits.

I have a two-part question. First, I understand the FDA is working with industry to develop some voluntary guidelines on produce safety. Your comment on that.

Second—and here is what I think Senator Durbin was getting at—when it comes to meat and poultry inspection, we have national standards. We have standards that we have implemented by law so that if a country wants to ship meat and meat products into this country, we can have them meet those standards. And it is not a violation of the World Trade Organization or anything else.

But in produce and in fruits and vegetables, we do not have those. So that if we try to do something, they will claim it is a violation of WTO. And they are probably right, because we do not have these national standards.

So I want to get to the issue of absence of regulatory standards for fruits, vegetables and produce and how that hampers our ability, not only here but also abroad.

Having said that, I will give you a heads up. I am working on legislation—I have talked to you about it—to set Federal standards in these areas I think a lot of people probably think we have, these standards now, but we do not. So I would like any comments that you have on that line.

Basically, are you working on the voluntary guidelines? Second, this whole issue of domestic regulatory standards and how that is hampered.

Dr. HENNEY. Senator Harkin, let me take the first part of your question and ask the Director for the Center for Foods, Mr. Joe Levitt, to join me in terms of giving you a more comprehensive response in respect to the second part of your question.

I think that the voluntary standards or the work that we have with industry with respect to fresh fruits and vegetables has been the subject of a guidance document that was issued recently. It is

contained in this booklet. It is the first step and first approach to try to get a handle on the issue that you raised.

One issue is our having access and availability of fresh fruits and produce to us year round from many different sources and yet trying to minimize any particular microbial infections that may be present on that food, whether it is domestic or imported. But let me ask Mr. Levitt to respond to the second part of your question.

Mr. LEVITT. The first part, also, the guide that Dr. Henney held up, was produced last year using the funds that the Congress provided for fiscal year 1998. For fiscal year 1999 we are actively working with colleagues at the Department of Agriculture to roll out that guide to fresh fruit and vegetable processors, both domestically and overseas.

We are working with Dr. Kennedy's group domestically and with the Foreign Agricultural Service overseas. And we, between us, have two conferences that are scheduled in April in order to do that. And we have a joint steering committee. So that this is a fully coordinated effort.

I think your question in terms of should there be more mandatory standards, I think that right now is more a function of where we are in time and on the science. We started with this guide largely because of what was known to date.

A lot of the areas that Dr. Henney and others have mentioned in terms of a changing food supply, one of the major areas of the Food Safety Initiative is research into new methods, not just for detection, but also for prevention.

And I think when we look at whether this should be a mandatory program, should it be a voluntary program, the first question is: What are you going to mandate? I think as a precursor we first need more research in what are the preventive controls that would be effective in reducing pathogens in fresh fruits and vegetables at the level that we would want to see.

But in terms of where we are right now, we are—we believe where the science is, is at the voluntary guidance stage, which we think is an important first step tied to a very comprehensive research effort.

REGULATORY STANDARDS

Senator HARKIN. You asked me a question. Okay. I will give you an answer. For example, if we do not have mandatory standards on the washing of fruits and produce, and the source of the water that is used to clean them, how can we impose that on another country? We do not. If we can wash produce, and fruits with surface water, they can in other countries. That is one area. It does not take a lot of research. I do not think that is too highly scientific.

Secondly, if we do not have standards on warehousing procedures for fruits and vegetables and produce in open buildings where rats can get in and birds fly through and bird droppings can fall on the food, if we do not do that, how can we mandate that in another country?

Those are just a couple, very simple, off the shelf. I do not know that it requires a lot of research for that.

Mr. LEVITT. The requirements that we do have in place stem from our statute in terms of our general provisions against adulteration and sanitation. And so, I mean, the statutory framework does provide a basis on which we regulate both domestically and looking at products coming in from other countries. So we use a general statutory umbrella.

I was listening to your question more in terms of should there be specifically targeted regulations of fresh fruits and produce. And as I said, we are moving in that direction. But in terms of what we have done so far, we have felt that, this is where we are right now.

Senator HARKIN. The absence—I am still trying to get to this central question. The absence of national standards, how does that inhibit you from doing your work in other countries, if we do not have national standards, domestic regulatory standards, like we do for meat and poultry? We want to get to the issue of produce. I am still in a little haze about the answer to the question.

Mr. LEVITT. Well, the first——

Senator HARKIN. We talked about the voluntary guidelines. I know you are working on that. I am talking about the next step, the next step of getting domestic regulatory standards. Now is your answer to my question that you do not have enough information or we do not have enough research, we do not have enough data now for domestic regulatory standards?

Mr. LEVITT. That is correct in terms of a comprehensive set of national standards. And that is why we moved with the guidance, which is where we felt the support was. We have a joint advisory committee, which we operate with the Department of Agriculture, the National Advisory Committee for Microbiological Criteria. This issue was raised directly, and these are experts from around the country in terms of what do we know now, what is the right step based on what we know.

That does not mean that is where any of us would like to be, but we need to—in these areas, we need to both drive the science, drive the prevention and let the regulations reflect the state of science. We all are looking for science-based solutions, as we have with our HACCP programs.

OUTBREAKS FROM FRUITS AND VEGETABLES

Senator HARKIN. Dr. Koplan, what do you see from CDC in terms of outbreak of pathogens in produce and fruits and vegetables? What is your experience? I mean, what have we seen lately?

Dr. KOPLAN. In the last few years, you know, there have been some widely publicized outbreaks. Raspberries of a couple of years ago——

Senator HARKIN. Strawberries.

Dr. KOPLAN [continuing]. Strawberries, sprouts. As with——

Senator HARKIN. That was Salmonella, if I am not mistaken, in the sprouts, was it not? Was it Salmonella?

Dr. KOPLAN. Salmonella and E. coli.

Senator HARKIN. And E. coli.

Dr. KOPLAN. They, as well as most processed and unprocessed can be contaminated.

FOOD IRRADIATION

Senator HARKIN. Lastly, and I am sorry, Mr. Chairman, food irradiation. I remember 13 years ago, 14—it was 1985—we had a luncheon downtown, a bunch of us Ag types. You may have been there for all I know. There was a luncheon of all irradiated foods. We had it down at the National Press Club. I know we had irradiated strawberries, irradiated meats off the shelf, and discussed how long the shelf life would be and how it would destroy all these pathogens. That is 14 years ago.

Now we are moving ahead on the meat and poultry end of irradiation. But it seems to me that this lends itself to fruits and vegetables and things like sprouts. I am just wondering what is happening. How come we are not moving ahead more aggressively in this area?

Dr. HENNEY. Senator Harkin, actually we are looking at a variety of methodologies in terms of safe food processing. I was out at our district office in Chicago last week and paid a visit to the Moffett Center.

They are not only looking at the issue which you raised, which is food irradiation, in the sprout area they are looking at things like chlorine washes, they are looking at high pressure methodology, they are looking at electron beam methodology, as other techniques that could be used in terms of interventions to make the food supply safer.

So I think we are not only looking at irradiation as the only process that might help the issue of food safety.

Senator HARKIN. Well, Mr. Chairman, I just—you know, food irradiation, electron beam radiation right now is being used in the marketplace. And companies are selling these to sterilize pharmaceutical equipment and stuff like that, high speed. So if they can have it, why could it not happen with food?

I always had a question why we could not move to that system. That would seem to me to almost give you the highest level of assurance that you would have no pathogens on your food, at least when you bought it. What you did with it after that is your own—that is up to you. But at least when you bought it in the store, you would have a high level of assurance there would not be any pathogens there.

Thank you.

Senator COCHRAN. Thank you, Senator.

Senator Dorgan.

INSPECTION OF IMPORTED FRUITS AND VEGETABLES

Senator DORGAN. Mr. Chairman, thank you. I will be brief. I regret that we had a classified hearing this morning on energy and the Armed Services Committee on the Chinese espionage issue. And so I was necessarily delayed. But this is a very interesting and important issue. And a number of my colleagues have done more work in this area than I have. But I would like to ask just a couple questions.

The discussion here sort of reminds me of the creative tension that exists on the issue of regulation. And especially in recent

years, regulation is kind of a bad word here on Capitol Hill. I come down on the side of more regulation with respect to food.

I think regulation is the only connection to that trust that Senator Harkin described when someone goes into a grocery store and picks up a strawberry and takes it home and eats it. The trust that they have that somehow that food that found its way to that shelf was food safe for them and their family to eat, I think, comes from effective regulation.

Let me ask you a question. Food that comes into this country by an importer that does not meet FDA standards and you discover that in a refrigerated container at the dock, what happens to that food?

Dr. HENNEY. Senator Dorgan, let me give you a little bit of a snapshot into what happens. We would have sampled it. We would have found it to be contaminated. As we are sampling, we have the importer hold that particular cargo until it can be released, when we notify them that it can be released. If it is found to be contaminated, it is no longer allowed in the food supply.

Senator DORGAN. It is destroyed?

Dr. HENNEY. I believe so.

Senator DORGAN. My understanding is——

Dr. HENNEY. I have my center director for the field operation here, but it is essentially held and often times deplaned and then—I do not know if destruction is the right word. So perhaps he could supply me with the correct word. But it is taken out of the food supply.

U.S. CUSTOMS-FDA COOPERATION

Senator DORGAN. My understanding is that it is denied entry, but that we do not have the authority to require it be destroyed. I might be wrong about that. But I visited a dock recently, and I was particularly interested in what Customs was doing.

In one of the warehouses they were unloading some frozen broccoli from Poland, a huge container of frozen broccoli from Poland. They were looking for contraband. And so I was just curious. I said, "Well, do you know anything about this broccoli?" Not that frozen broccoli would have any great appeal to me. But I said, "Do you know under what conditions this might have been produced in Poland? Is this a reputable importer?"

Dr. Woteki talks about the farm-to-table approach. Clearly we cannot do a farm-to-table approach with respect to frozen broccoli coming from Eastern Union.

So I asked the Customs folks, "Tell me about frozen broccoli here. Who would be here to make sure that that broccoli comes into our country to go to a restaurant or a grocery store to be sold to consumers with some confidence that that was not produced with an herbicide or a pesticide that would be prohibited here and would be harmful to our health?"

Their answer was, "Well, that is not Customs. That is FDA."

And I said, "I would expect that. So how much inspection occurs?"

Well, the answer was what I expected as well, that we have a very, very small amount of resources for a large amount of food coming into this country.

And then I said, "Well, what happens on the dock here if they ship in food that the FDA decides is not able to enter this country?"

And they said, "Well, the authority does not exist to destroy it. We cannot require the importers to destroy it."

So they are able to move it back someplace and then, I suppose, they may mix it with some other things and try to move it in someplace else, or ship food that is inappropriate for this country to some other unsuspecting population somewhere else.

I would like you to look into that, because if we need to give you some additional authority to say to an importer that is trying to foist upon us some contaminated food, that if you try to do that, we will destroy it on you. I mean, maybe we need to give you that authority.

Dr. HENNEY. Mr. Dorgan, Mr. Dykstra does correct me, in that we do not have the authority to order that it be destroyed. And reexportation is possible. I would like to assure you that the work that we do at the docks, however, is coordinated, and I believe coordinated quite well, with Customs.

We developed a system with Customs a few years ago known as the OASIS system, so that we do know of product that is coming into the country, have a reasonably good handle on countries that we might have a concern about or a particular broker. So this is an issue that we have given quite a lot of attention to.

Senator DORGAN. And I appreciate that. And I also appreciate the effort and the work that you are doing in these areas, all three agencies. I would just observe that the farm-to-table approach, which our farmers understand and acknowledge is a useful thing, because they want to move to the American table a quality product that is free from question about contamination. That is in the interest of our farmers. We understand that.

But I worry with the global economy and the lack of resources you have and the staggering job just to try to deal with all of this coming into the country that we do not have the same capability of implementing a farm-to-table program dealing with import of foods.

And I guess I just ask your impression of that. What additional resources would you need and what kind of authority would you want in order to give us some measurable improvement in feeling that our imported food is meeting the same standards as the food we produce in this country?

Dr. HENNEY. Well, Mr. Dorgan, with respect to budgetary needs of the proposal we are bringing forward this morning, there is money targeted to increase our level of foreign inspections and increase our work at the dock. And so we would hope that you would look favorably on that request.

With respect to additional authorities, I would appreciate the opportunity to meet with you and your staff on that to see what might be most appropriate. I did not come with a particular list in that regard.

Senator DORGAN. Let me just add my voice to the comments of Senator Durbin. I think it is rather byzantine that over so many decades has grown, I guess, a fracturing of the authority for dealing with food safety issues. I think it would make a lot of sense

for us to try to pull some of that together and merge some of those responsibilities.

And I understand each agency involved would have some concern about that. But the description, if you have a cheese pizza, you may not be inspected in a decade, and if you have a pepperoni pizza, you are inspected every day, consumers might wonder about a government that decides that that is the right approach.

And that is just because all of this has developed over a good number of years, and we have not stopped to bring it all back together in a way that I think would make some sense.

Well, Mr. Chairman, I was necessarily late. You are good to allow me to question at the end.

And let me just thank the agencies for coming. I also share Senator Durbin's critical concerns that much of this really relates to us here in the Congress. You know, we need to provide the resources. If we decide what we want with respect to food safety, we need to provide the resources. If we believe reorganization is necessary, we have to do that.

And so I look forward—the leadership of the chairman of this subcommittee is very important. And I admire the work he has done. I look forward to working with other members of this subcommittee on these issues.

Thank you very much.

INTERAGENCY FOOD SAFETY INITIATIVE

Senator COCHRAN. Thank you, Senator, for your comments and your participation in our hearing and in the work on these issues.

Let me ask a couple final questions before we conclude our hearing. There has been some comment about the President's Food Safety Initiative. Our panel has mentioned that in statements that have been presented to the committee this morning. And there is some confusion in my mind about what is and what is not a part of the President's Food Safety Initiative. We see, for example, that FDA's seafood HACCP funding is counted as a part of this initiative, but the FSIS HACCP program is not.

When you look at the entire budget of the Food Safety and Inspection Service, $600 million plus, only $18 million of that is counted. The President's budget does not even request funding for a lot of the mandated programs of the Food Safety and Inspection Service.

On the other hand, there are some other programs where the base funding of ongoing activities that predate the announcement of the President's Food Safety and Inspection Service are counted in the funding levels for the Food Safety Initiative.

So it is very confusing. Can any one of you help us define what the President's Food Safety Initiative is and is not? Dr. Woteki?

Dr. WOTEKI. I will take a run at that, Senator. It is actually all laid out in that May 1997 report to the President. In that report we identified, we collectively, the agencies here, six areas that were gaps that were not receiving sufficient attention and funding for particular emphasis in a budgetary initiative.

One of the six areas was the development of a surveillance system at CDC that would help us in responding much more quickly, first to identify outbreaks of disease and then to help in response.

The report proposed additional funds for risk assessment, an area that we are increasingly relying on, but for which we need methods developed, and also funding to conduct some of these risk assessments.

In the case of the Food and Drug Administration, their inspection programs are identified in that report as being areas in which, particularly for the food system, they have responsibility for the food sector which was an area in which an infusion of new funds was identified as being badly needed.

We also identified research in the report as being an area in need of a focused infusion, a focused investment, of new funds, particularly emphasizing pathogens in foods, as well as some areas that we are particularly concerned about: the development of resistence to traditional processing approaches, heat tolerance, for instance, in pathogens, or increasing resistence to antibiotics because of use in food animals. These were areas of research that if we had some additional funds, we could make some real breakthroughs.

We also identified education, farm-to-table, but in particular with an emphasis on consumers as being an important area for additional new funding as well. So these half-dozen areas in that initial report in 1997 is really a kind of roadmap to the President's Food Safety Initiative.

In addition, that report also identified and committed us to doing some longer range strategic planning, which is now being undertaken under the auspices of the President's Council Food Safety.

Senator COCHRAN. Dr. Henney, do you have any comments about that?

Dr. HENNEY. No. I believe that Dr. Woteki has outlined very well the areas that were identified specifically for the Food Safety Initiative. You are very right. We have many other activities in the food arena where we are making requests for budgets or asking for funding in particular types of ways. But I think the areas that Dr. Woteki has identified have been consistent through the Food Safety Initiative.

PROPOSED RULEMAKING ON IRRADIATION OF RED MEAT

Senator COCHRAN. Dr. Koplan, any other comments on it? There is one area where we heard some comment this morning, and it is about the proposed rulemaking issuing a regulation governing irradiation of red meat. We understand this is in the 60-day comment period that ends in April, at the end of April.

My question is: At the close of the comment period, what do you anticipate in terms of the agency implementing rules or regulations to make this added food safety technology available to industry? What is the timeframe that is anticipated?

Dr. WOTEKI. Well, I think to a certain extent that is going to depend on the nature of the comments. They will be reviewed promptly. Clearly, this is a high priority for us to do a prompt review and response. At this point, I have not personally looked at the comments that have been received, so I do not have a sense for how complex they are, what kind of challenges they are going to offer.

If the responses that are coming in are generally favorable, there should be little impediment then to a rapid review and issuing of a final——

Senator COCHRAN. Is this process similar to a public opinion poll, or is it science-based?

Dr. WOTEKI. Well, it is most definitely science based. As part of the comment period on any of our rules, we frequently data submitted from the industry, from academic scientists and from others that needs to be reviewed and taken into consideration.

FOOD SAFETY EDUCATION

Senator COCHRAN. One thing that always strikes me as interesting in news reports about foodborne illnesses or so-called outbreaks—which you have reminded us is two or more people suffering from the same malady, I guess, as a result of a foodborne contaminant—is that after the initial big headline and the first couple of paragraphs, there is the line in there: But if the food, whatever it is, was cooked, there is no danger of illness, or less likely danger, than we have just been advertised exists.

I wonder to what extent are the agencies involved—CDC may be involved in this, too—in trying to help ensure that we all have all of the story, and we get the information that we need in order to make judgments, not just about an overall impression of the quality of the food that we have access to, but how we should prepare it, the thorough cooking that is required, the handling of food, and the like. Are we doing enough in that area? And, does this budget provide the funding that you need in order to have outreach programs that make a difference in this area?

Dr. HENNEY. Let me take a crack at that. I think one of the programs that we are all very much committed to, that Dr. Woteki mentioned in her testimony, was the FightBAC!™ campaign.

And that is to have consumers keep constant vigilance in terms of the things that they can do to make sure that their food is safe. It comes down to chilling, cooking, cleaning and making sure that there is no cross-contamination as they prepare food.

And I think from the individual consumer, who is preparing food in the home, to particularly people who are preparing food for others, those kind of four basics need to be very strongly ingrained.

We have taken, as a part of the Food Safety Initiative, this educational program very seriously. I think that we are trying to impress this message far and wide. I know that, speaking for the FDA, we have undertaken many an initiative using the basic structure of the FightBAC!™ really all across the country using our district offices as the hub for outputting that kind of message.

But I do take your point that there are things that we need to do all the way through the system, anywhere from that first preparation of a product, to an inspection, all the way to the table that is important to make sure that our food is safe.

Senator COCHRAN. Well, there is some discretion, too—I do not know which agency maybe has the controlling authority—on which kinds of contaminations are advertised or given great notice. It is almost like the federal Government decides which episode to release and which not to release. Is that true? That is coming to me through some of the material that I have reviewed in preparation

for this hearing. I did not realize that there was that kind of discretion being exercised by the agencies.

Dr. WOTEKI. Well, if you are referring to information that is released about recalls——

Senator COCHRAN. Maybe that is it. Yes.

Dr. WOTEKI [continuing]. There are different categories of potential hazards to the public that are used for categorizing each recall-type situation.

Senator COCHRAN. That is what I read. That is exactly what I read.

Dr. WOTEKI. Some of those situations, where the consumer has the ability to identify the product and return it, are the cases in which we go to the media and publicize so that consumers can take actions to protect themselves.

Frequently what happens, when there is an outbreak of disease, and a recall is associated with it, there is a stepped up level of testing that is then done. So you may see a cluster of recalls that are related to a particular organism. That is what has happened with the Listeria situation that Dr. Koplan described in his testimony.

There can be a clustering in time of outbreaks and then recalls that are associated with a specific organism.

FIGHT BAC

Senator COCHRAN. Dr. Koplan.

Dr. KOPLAN. Yes. You know, over the last 50 years we have probably investigated thousands of outbreaks, many of them foodborne outbreaks, and view all of these as an opportunity to educate the public about what risk factors are present and how to avoid future problems like this.

I think what you see here in the FightBAC!™ campaign is a terrific example of something that is at the end of the chain of developing data, information and science. It begins with surveillance in the community. Are we seeing those 2, 5, 100, 1,000 cases of something associated with a common food, then investigating it? Is it an outbreak? What is the cause. Then doing some more studies to determine what are the specific risk factors. Those risk factors are addressed by the four different elements of the FightBAC!™ campaign.

We have a group of college students who begin to cook for themselves for the first time alone in a dorm, and they use a common cutting board to cut up raw chicken and then to prepare their salad. That is the separate piece.

You have folks who will buy shrimp in a market and leave it on the counter for a long period of time and then decide to cook it. There are a series of elements that from our science background and doing case control studies, doing surveillance, investigating, provide the science base for health education program. We link all those in a chain.

Senator COCHRAN. Dr. Woteki.

Dr. WOTEKI. One final comment about the FightBAC!™ campaign is to just reemphasize that it is a public-private partnership. A substantial amount of the funding for the campaign has come from the private sector.

In addition, the agencies here have all participated in the development of those messages and, as Dr. Henney indicated, in the distribution of that educational message.

The current program under development under the FightBAC!™ campaign is going to be oriented toward school-aged children, which is also part of what Dr. Henney referred to as the constant need for education and then reinforcement of this message at all ages, because school-aged children are also preparing food at home, as well as their parents. Education needs to be conducted throughout the age continuum.

SUBCOMMITTEE RECESS

Senator COCHRAN. Well, let me thank all of you for your participation in our hearing today. I think it has been an excellent hearing focusing on the budget request to deal with the problems of food safety in our country. We will give this request very careful attention, and also the legislative proposals that are pending in the Senate, to make the process more efficient and more effective.

[Whereupon, at 11:24 a.m., Tuesday, March 16, the subcommittee was recessed to reconvene at 9:30 a.m., Tuesday April 27.]

AGRICULTURE, RURAL DEVELOPMENT, AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 2000

TUESDAY, APRIL 27, 1999

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 9:30 a.m., in room SD–138, Dirksen Senate Office Building, Hon. Thad Cochran (chairman) presiding.

Present: Senators Cochran, Kohl, Dorgan, and Durbin.

DEPARTMENT OF AGRICULTURE

STATEMENT OF SHIRLEY R. WATKINS, UNDER SECRETARY FOR FOOD, NUTRITION AND CONSUMER SERVICES

ACCOMPANIED BY:

SAMUEL CHAMBERS, ADMINISTRATOR FOR THE FOOD AND NUTRITION SERVICE

DR. RAJEN ANAND, EXECUTIVE DIRECTOR, CENTER FOR NUTRITION POLICY AND PROMOTION

DENNIS KAPLAN, DEPUTY DIRECTOR OF BUDGET, LEGISLATIVE AND REGULATORY SYSTEMS, OFFICE OF BUDGET AND PROGRAM ANALYSIS

OPENING REMARKS

Senator COCHRAN. This subcommittee will please come to order. This morning our subcommittee continues our review of the proposed budget for the next fiscal year that begins in October of 1999 as it relates to the functions and activities of the Department of Agriculture and the Food and Drug Administration.

This morning we are concluding our hearings on this year's budget and we have with us to discuss the Food and Nutrition Service budget, Ms. Shirley Watkins, who is Under Secretary of Food, Nutrition, and Consumer Services; Dr. Rajen Anand, Executive Director of the Center for Nutrition Policy and Promotion; and Dennis Kaplan with the Budget Office of the Department of Agriculture.

The Food and Nutrition Service manages 15 nutrition assistance programs funded at approximately $36 billion. The agency is the largest agency funded each year in the Agriculture appropriations bill.

The President's budget includes proposals to improve the nutritional status of program recipients, continue Y2K compliance and fund activities to monitor and improve program and financial integrity.

We appreciate very much the efforts of this Under Secretary to aggressively deal with problems relating to food stamp fraud and abuse. We hope that further success can be achieved by fully implementing the electronic benefit transfer program.

The budget request also proposes that the Food and Nutrition Service continue its role of providing nutrition education and food and commodities to the general public with increased funding for the Food Stamp Program, The Emergency Food Assistance Program, WIC, and the Child Nutrition Programs.

We will be interested in comments from the Under Secretary about how this budget will achieve those goals. We appreciate having the benefit of your written testimony and we will make it a part of the record in full. Before proceeding to summarize it, however, I'm going to yield to my distinguished colleague from Wisconsin, the senior Democratic member of this subcommittee for any comments he would like to make at this time. Senator Kohl.

Senator KOHL. Thank you, Senator Cochran. I have a statement that I will insert into the record.

PREPARED STATEMENT

Senator COCHRAN. It will be inserted and printed into the record without objection.

[Statement follows:]

PREPARED STATEMENT OF SENATOR HERB KOHL

Our hearing today is on the subject of nutrition and public health. I want to extend a welcome to Secretary Watkins from the Department of Agriculture and her associates with the Food, Nutrition and Consumer Services. I again want to welcome Dr. Jane Henney of the Food and Drug Administration.

The last hearing before this subcommittee was on the topic of food safety, and in many ways it is fitting that today's hearing follows that subject. It is well that we dedicate resources to ensure the food we eat does not make us sick, but I worry that not enough attention is given to ensure that the food we eat makes us healthy. When I look at the common diets of many Americans, I grow concerned about what long-term health risks await many of us. More and more Americans, especially young people, are turning more to foods of convenience than to meals of substance. I am especially concerned that wholesome beverages, such as milk, are being replaced by sodas and other less nutritious drinks, even in the arena of our public schools where education should include lessons on how to live not only a productive life, but a healthy one as well.

Nutrition programs represent, by far, the largest levels of funding in our appropriations bill. Not only does this fact point to how important these programs are, but they also suggest how difficult they may be to manage. The effects of welfare reform of a few years ago are still being felt and those effects are present in the administration of our nation's nutrition programs. A few years ago, large carry overs in the WIC program, possibly one of the most successful and popular program's funded by Congress, raised issues about how best to manage the programs resources. Today, declining rolls in the food stamp program are resulting in surpluses far in excess of the President's original estimates and again bring into question how best to manage these programs.

Dr. Henney joined us recently during our hearing on food safety, but the responsibilities of FDA are much broader in scope than that single topic. During our hearing on food safety, it was pointed out how much technology has changed and foods grown in one part of the world can be marketed a few days later in another part of the world. Changing technologies also may affect public health. Today, a person exposed to a deadly virus can board a plane in a distant part of the world and within a matter of hours that plane can touch down in Los Angeles, Dallas, Atlanta, or Milwaukee and suddenly a disease that once seemed remote is on our door step. The challenges to FDA are great and I look forward to Dr. Henney's testimony today as we proceed to determine how we can best work together.

Senator COCHRAN. Ms. Watkins, welcome. You may proceed to describe your proposed budget in any way that you think will be helpful to the committee.

We apologize to you and the other panel which will follow you for having to shorten the expected duration of the hearing because of a full committee hearing that's being called at 10 o'clock to review the supplemental emergency request for military funds for Kosovo.

We will try to complete this hearing so we can get over there before that ends and be a part of that hearing. You may proceed.

THE FOOD AND NUTRITION SERVICE FISCAL YEAR 2000 BUDGET REQUEST

Ms. WATKINS. Mr. Chairman, thank you very much and, Senator Kohl, I appreciate all of the support that you have given us for our nutrition assistance programs at USDA. And I'm grateful for the opportunity to be able to present the fiscal year 2000 budget request for the agency.

With me in the audience is the Deputy Under Secretary Julie Parodis and the Administrator for FNS, Sam Chambers.

I'd like to begin very briefly and discuss some of the issues that are in our 2000 budget request which in total is a $36.5 billion request for the year 2000.

About one in five people participated in one or more of our nutrition assistance programs. And those programs help us to combat critical diet and health risk factors that contribute to four out of ten of the leading causes of death in the United States.

As you know, Mr. Chairman, we meet during a period of unparalleled economic success for our Nation. Nonetheless, it is especially important in good economic times that we remember the role of the public nutrition assistance programs in promoting the nutritional well being of low income families and the need for these programs by the working poor remains extremely strong.

Our program that serves as a safety net for nutrition assistance is the Food Stamp Program which reaches one in fourteen people. We're requesting $22.5 billion in fiscal year 2000 to support our food stamp requirements.

FOOD STAMP PROGRAM

This includes the food stamp benefit reserve of a billion dollars and $1.268 billion for Nutrition Assistance Programs for Puerto Rico, $75 million for the Food Distribution Program on Indian Reservations and $100 million for commodity purchase for the TEFAP program, The Emergency Food Assistance Program.

We know that food stamp participation has fallen by over nine million participants and that's a drop of a third between March of 1994 and November of 1998 and that participation is not surprising. But part of the drop is attributable to the strength of the economy and the success of Welfare Reform in moving families from welfare to work and part can be traced to the new restrictions on participation of certain legal immigrants and able-bodied adults without dependents. But the magnitude of the decline points to other factors that are a reason for a great deal of concern.

Between 1995 and 1997, food stamp participation fell five times as fast as poverty, suggesting that many of the poor families that left the program have left the program despite their eligibility and these working families, especially those leaving the welfare system, need to be made aware that they may still be eligible for food stamp benefits.

Although the Ag, Research Extension and Education Reform Act restored some food benefits, in this budget we're requesting an additional restoration of $10 million for those legal immigrants who are elderly and vulnerable.

We propose to restore eligibility to qualified non-citizens with lawful permanent resident status on August 22nd, 1996, once they reach the age of 65.

CHILD NUTRITION PROGRAMS

In the Child Nutrition Programs, which we are responsible for, we are requesting a total of $9.5 billion in fiscal year 2000. These programs include the school meal programs that play a key role in maximizing our children's potential.

We expect that schools will serve more free meals in fiscal year 2000 and there are several possible explanations for this trend.

First, we have direct certification for many children who are eligible for free meals even though many of them wouldn't have been eligible with an application, but they do come forward in direct certification.

And, second, Title I funding is tight and there is a strong incentive in school districts to identify the number of children who are eligible to receive free meals.

And, finally, the technological improvements have reduced the stigma of participation by maintaining the confidentiality and the identity of those eligible students.

We currently are serving about 26 million children daily in the School Lunch Program and that's about 50 percent of the total enrollment. But participation in the breakfast program is only about 7 million and then only about 16 percent of low income children in the School Lunch Program participate in the Summer Food Service Program.

So we plan to make these programs more accessible to more children so that they will have benefits of good nutrition.

The reauthorization proposal provided snacks in after school programs. So we will be working aggressively to ensure that that participation grows in 2000 in both school programs and child care centers.

The after school program has been very successful based on the early indications of information that we've had from the school districts and child care centers.

We also in the Reauthorization Act had provision to pilot test a research project for breakfast in six school districts to determine the effects of breakfast on learning and behavior in schools.

We have requested $13 million in fiscal year 2000 to do a very rigorous pilot study to ensure that we have the best data possible on breakfast and learning. To make sure that child nutrition programs are as effective as they can be, we have requested a modest

$2 million to restore the Nutrition, Education and Training Program.

Some people have argued that NET is no longer necessary since we have Team Nutrition that has been successful.

But we need to make a clear distinction between these two programs. The grants that states receive under the NET program provides state level infrastructure that delivers the materials that we develop through Team Nutrition.

The Team Nutrition funds are used to develop model nutrition programs. And we seriously need to look at the NET and make certain that we understand the difference between NET and Team Nutrition. Both of those programs need our support.

WIC PROGRAM

The other program we are responsible for is the WIC program. Since early 1993, WIC participation has increased about 37 percent or about 2 million new clients. And in fiscal year 2000, our budget request is for $4.1 billion. This funding amount supports the President's commitment to fund the average monthly participation of 7.5 million.

Between fiscal years 1997 and 1998, the average monthly food cost per person rose by only one-half of 1 percent while the general food inflation rose by only 2 percent. So we are doing quite well with the WIC program and very proud of that.

We'll continue to work on WIC and look at all of the possible changes that we can make in the program with our new regulations that we have sent to OMB.

We're also expanding the WIC Farmers' Market Nutrition Program which greatly benefits not only WIC participants, but small farmers. In fiscal year 1998, the program reached 32 states, the District of Columbia, two Indian Tribal Organizations. And during fiscal year 1999, we're adding Alabama, Guam and two more additional Indian Tribal Organizations.

COMMODITY ASSISTANCE PROGRAM

The Commodity Assistance Program. We are improving the nutritional quality of commodities and providing benefit delivery through electronic ordering and delivery system and it's called electronic data interchange.

In fiscal year 2000, we are requesting $152.2 million to support the commodity assistance program which includes an additional $5 million to support the expansion of the Farmers' Market Nutrition Program and this increased from $15 million in fiscal year 1999.

We're also making major changes to our commodity distribution program. So you will notice that we have a reinvention program for commodity distribution program that involves ASFSA and our state commodity distributing agencies as well as the industry.

FOOD PROGRAM ACCOUNT

In addition, our FPA account which is our Food Program Administration account, we're requesting $119.8 million and that's an increase of $11.3 million.

We've requested this to support our strategy of achieving a higher level of effectiveness in concert with our state partners in the integrity and oversight of our food assistance programs.

In each program, whether it's WIC, food stamps, commodity distribution, school meals, we've placed nutrition as the foundation of all of our policies and all of our activities including staffing changes so that nutrition is reflected.

We've developed educational materials which we are sharing between programs with a consistent nutrition message so that there is no confusion on what we're trying to accomplish.

We're also working very closely with the Human Nutrition Research Laboratories as well as ARS, CSREES and other USDA mission areas. We believe that it is the role and responsibility of the Department of Agriculture's Food, Nutrition and Consumer Services to deliver a consistent nutrition education message across programs.

PREPARED STATEMENT

Mr. Chairman, I hope that has given you a bird's eye view of what we're trying to accomplish through the year 2000 budget request. I'll be happy to answer any questions that you may have or the members of the committee.

[The statement follows:]

PREPARED STATEMENT OF SHIRLEY R. WATKINS

Mr. Chairman and Members of the Subcommittee. Thank you for the opportunity to present the fiscal year 2000 budget request for the Food, Nutrition and Consumer Services (FNCS). As the Under Secretary for FNCS, I am responsible for America's domestic Nutrition Assistance Programs which include the anchor programs of Food Stamps, Child Nutrition and the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), administered by the Food and Nutrition Service. I am also responsible for the Center for Nutrition Policy and Promotion (CNPP) which is the lead Federal agency in promoting effective human nutrition. I am accompanied today by Samuel Chambers, the Administrator for the Food and Nutrition Service (FNS). Mr. Chambers was appointed to this position in August 1998. Prior to being named FNS Administrator, Mr. Chambers was the Director of the Michigan Family Independence Agency for Wayne County in Detroit, Michigan. I am also accompanied by Dr. Rajen Anand, the Executive Director for CNPP and Stephen Dewhurst, the Department's Budget Officer.

The mission of FNCS is to reduce hunger and food insecurity by providing children and needy people access to food, a healthful diet and nutrition education in a manner which is supportive of American agriculture and inspires public confidence. These programs are vital to our Nation since about one in five Americans participate in one or more nutrition assistance programs. The critical importance of our mission is clear—poor diet is a significant contributing factor in 4 out of the 10 leading causes of death in the United States. Heart disease, cancer, stroke and diabetes which are significantly impacted by diet, account for 1.4 million deaths annually or about two-thirds of total deaths in the United States. Diet also plays a critical role in other health concerns such as obesity, hypertension, and osteoporosis. Taken together, these diet related diseases cost society an estimated $250 billion each year in medical cost and lost productivity.

Mr. Chairman, this Administration has led the Nation to a period of unparalleled economic success. With record job creation, low unemployment, and expectations of continued low inflation, the outlook for the future remains bright. Yet it is essential that in good economic times we remember the role of Federal nutrition assistance in harnessing our agricultural abundance to help low- income families. The need for these programs by low-income needy families remains strong.

By fighting hunger and promoting good nutrition, these programs help to ensure the well-being of all Americans, as well as play a critical role in supporting those who are making the difficult transition from welfare to work. Even as we celebrate

prosperous times for our country, let us not lose sight of the role of nutrition assistance in lifting families out of poverty.

PROGRAM HIGHLIGHTS

Food Stamps

Food Stamp Program (FSP) participants represent a broad cross-section of the Nation's poor. The Food Stamp Program provides a critical nutrition safety net for virtually all low-income people, including children, working poor families, and the elderly. Welfare reform legislation, however, has sharply tightened the eligibility criteria and made some groups of individuals ineligible. Many immigrants and unemployed adults without children are no longer entitled to food stamps. The Agricultural, Research Extension and Education Reform Act of 1998 (1998 Act) restored food stamp benefits to some of our legal aliens and we are thankful for that. In this budget, we are requesting additional restoration for those legal aliens who become elderly and vulnerable. We are making significant strides in the Food Stamp Program and our other programs, as well. Let me take this opportunity to give you a few examples.

The Agency is leading the way on new benefit delivery technologies. By the end of fiscal year 1998, more than 50 percent of all food stamp benefits were issued using Electronic Benefit Transfer (EBT). FNS is continuing its efforts to provide needed technical assistance associated with State EBT implementation and to provide ground breaking technology in the development of a multi-program delivery system for WIC and food stamp benefits.

In November 1998, the Food Stamp Act of 1977 was amended to require food stamp State agencies to take certain actions to ensure that food stamp coupons are not issued in the name of deceased individuals. Each food stamp State agency is required to enter into a cooperative agreement with the Social Security Administration (SSA) which would result in the SSA providing information on deceased individuals to the State agency. The State agency would in turn ensure that food stamp benefits are not issued to these individuals.

Welfare Reform Implementation—FNS continues to support States Welfare Reform efforts while providing technical assistance as State policies evolve. On November 1, 1998, Food Stamp Program eligibility was restored to about 225,000 legal aliens made ineligible by Welfare Reform. FNS developed guidance for States on implementation and bilingual materials for immigrants. FNS also worked with the Social Security Administration (SSA) on a notice to Social Security Income (SSI) recipients to advise them that they may again be eligible for food stamp benefits.

Claims Collection/Tax Offset—Claims collections for overissued food stamps increased to $200 million in fiscal year 1998, including over $73 million in collections from tax offset. This represents a 71 percent increase in five years in total annual claims collected.

Child Nutrition

FNS administers the Child Nutrition Programs, which include the National School Lunch and School Breakfast programs as well as the Child and Adult Care and Summer Food Service Programs. These programs serve meals to millions of children in schools and other settings each day. For example, in 1998 everyday more than half of all children enrolled in school ate a Federally supported school lunch. These programs are very important because providing nutritious meals and nutrition education to these children helps them to be more productive and increases their likelihood for success in school. Well-educated and healthy children mature into productive and healthy adults. The William F. Goodling Child Nutrition Reauthorization Act of 1998 (Goodling Act) increases our ability to help children. The Goodling Act authorizes us to reimburse snacks that are served to children between the ages of 12 and 18 in after school care programs by schools that participate in the School Lunch Program and by child care centers that are located in low-income areas and participate in the Child Care Food Program. In addition, The Goodling Act authorizes us to pilot test a school breakfast project in selected elementary schools in six school districts. These pilot test schools will provide breakfasts, at no cost, to all participating students. During the pilot test we will carefully evaluate the effect of eating school breakfast on children's behavior and educational performance. The Administration's budget provides $13 million to conduct this test.

WIC

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) continues to be one of our top priorities. The Clinton/Gore Administration is committed to ensuring that every eligible mother, infant and child is provided the opportunity to receive WIC benefits. In fiscal year 1998, average monthly participa-

tion was almost 7.4 million persons. The WIC Program is very important to me and others at FNS. We are making the effort to support this great endeavor and it is working. For instance:

—FNS continues to promote breastfeeding as the best form of nutrition for infants. Currently, States are spending more than $51 million for breast feeding promotion. The agency sponsors semi-annual meetings of the Breastfeeding Promotion Consortium—health professionals representing government, advocacy and public health interests in breastfeeding promotion. In 1997, FNS implemented a WIC National Breastfeeding Promotion Campaign, in cooperation with WIC State agencies. The goal of the Loving Support Campaign is to raise awareness of the importance and benefits of breastfeeding among WIC-eligible women, fathers, family health care providers and the public, to help create a community environment that accepts and supports a woman's decision to breastfeed. Over 48 WIC agencies are currently participating in the campaign by creatively using the Loving Support materials—brochures, media spots, posters and with consistent breastfeeding themes and messages. USDA participated with the Department of Health and Human Services (DHHS) in the sponsoring and development of a Health Care Physicians' and Providers' Breastfeeding Support Kit by Best Start. The breastfeeding kits were developed for health care professionals to complement the Loving Support Campaign materials which focus on consumer education.

—Over the past 10 years, WIC per person food costs have actually declined or reflected very modest increases due to the diligent cost containment efforts of State and FNS partnerships. We are making improvements in the integrity of the WIC Food Delivery System. During fiscal year 1998, FNS issued a proposed rule that would require the disqualification of any WIC vendor who has been disqualified from the Food Stamp Program. In addition, uniform sanctions would be established for the most serious violations.

—The agency is aggressively pursuing activities to advance EBT systems that improve benefit delivery and client services in the WIC Program. The agency is working with individual State initiatives to research, plan, fund and implement WIC EBT systems. Several States are pursuing hybrid benefit delivery systems at point-of-sale which would combine on-line food stamp benefit redemption with off-line WIC benefit authorization. FNS has earmarked $3.5 million in grants for WIC EBT in fiscal year 1999.

—FNS and the Center for Disease Control are working with nonfederal partners to increase access to immunization through the WIC Program. Currently, nearly three quarters of all local WIC agencies assess immunization status and make appropriate referrals to immunization services for children.

—Currently, the WIC Farmers' Market Nutrition Program encompasses 35 State agencies, providing fruits and vegetables to WIC participants. During 1998, the Farmers' Market Nutrition Program was expanded to five new States—Alaska, Arkansas, Florida, Georgia and Mississippi. The President's budget transfers the program from WIC to the Commodity Assistance Program and increases funding of this vital program from $15 million to $20 million to support expansion into additional States.

WIC is without a doubt one of the best nutrition assistance programs ever initiated. It provides mothers access to nutrition education, healthcare referrals, and supplemental foods rich in needed target ingredients that they otherwise could not afford, WIC babies thus get a healthier start in life.

Commodity Assistance Programs

In our Commodity Assistance Programs, we have enhanced the flexibility of State and local agencies in serving needy populations—that is, agencies operating the Commodity Supplemental Food Program can now serve women, infants and children and the elderly as needed. Although the women, infants and children population remains the top priority, States are no longer required to seek permission from FNS to convert caseload between the women, infants and children population and the elderly.

Program service has been improved through redesigned inventory systems. Federal inventory is now replenished based on historical data, rather than requiring organizations to place orders five months prior to delivery. This significantly reduces the need for organizations to adjust orders and increases their ability to have the foods they need on hand.

The Emergency Food Assistance Program

In The Emergency Food Assistance Program (TEFAP), the ability (in fiscal year 1999) for States to have latitude in using administrative funds for food is a tremen-

dous plus for the program. We have been able to purchase a greater variety of healthful foods for TEFAP. In fiscal year 1998, bonus commodities donated to States reflected a significant increase from fiscal year 1997.

FNS recognizes there is a critical link between nutrition and health. To that end, we have formed strategic partnerships to promote better nutrition among participants in our nutrition assistance programs.

This past July, I attended a statewide meeting in Los Angeles, California. At that time the California Nutrition Network—a group of 200 partners from the private, non-profit and public sectors launched the California 5 a Day—for Better Health campaign. The State Health Director indicated that this program offers the Network an opportunity to improve the health of Californians on a larger scale than previously thought possible. Mr. Chairman, this is merely one example of how FNS programs and our public/private partnerships can change the dietary habits of not just benefit recipients but all Americans. USDA believes people need to know how to use their nutrition assistance benefits in a manner to keep them healthy. We not only want to get food to the people who need it—we want to provide them with the skills, information and motivation they need to support healthy eating.

The Administration must also ensure both the program and financial integrity of each program and the timely delivery of benefits to all qualified recipients. Our Food Program Administration (FPA) account is a critical component of the Agency's mission. Most of the administrative support for the nutrition assistance programs is funded from FPA. FNS staff continue to be committed to finding new and innovative approaches to improve program integrity and program services and have had numerous successes. I will have more to say concerning new initiatives in this account.

In addition to the nutrition assistance programs, FNCS operates the Center for Nutrition Policy and Promotion. The Center is the focal point for advancing and coordinating nutrition promotion and education policy. The Center provides important research and analysis and collaborates with public, private and non-profit organizations to expand access to critical nutrition information.

FISCAL YEAR 2000 REQUEST

The Administration is committed to reducing domestic food insecurity, and the FNCS fiscal year 2000 budget request encompasses critical proposals essential to achieving this objective. We at FNCS, are striving to promote the long-term health and productivity of working families and enhance public confidence through increased program integrity.

Our fiscal year 2000 budget request of $36.5 billion reflects our commitment to the President's initiatives in Welfare Reform by supporting "Welfare to Work", as well as initiatives in the National Performance Review by promoting and enhancing program integrity. I would like to take a few moments to focus on the key aspects of the budget request and our policy goals. The testimony of Samuel Chambers, is being submitted for the record, and will present the technical aspects of our request.

PROMOTING THE LONG-TERM HEALTH AND PRODUCTIVITY OF WORKING FAMILIES

We are grateful for restoration of food stamp benefits to some legal aliens under the 1998 Act. Nonetheless, more needs to be done to better serve and meet the food needs of others still vulnerable. A substantial number of elderly legal aliens who were in the country as of August 22, 1996, have not had benefits restored. Therefore, we are proposing legislation to restore eligibility to qualified aliens who were lawfully residing in the United States on August 22, 1996 once they have reached the age of 65.

We are requesting $22.5 billion for the Food Stamp Program, a slight decrease from fiscal year 1999. This estimate includes a benefit reserve of $1 billion—a $900 million increase from fiscal year 1999. The Food Stamp Program is the primary source of nutrition assistance for low-income families. Its mission is to ensure that all households have access to healthful diets through food assistance and nutrition education. Although we are committed to maintaining the food assistance safety net for all low- income people and teaching life-long healthful eating habits, we also recognize the importance of implementing programs that help people obtain and keep jobs. As part of the Food Stamp Program operations, States conduct an Employment and Training (E&T) program to assist program participants in gaining the skills, training or experience that will increase their ability to obtain regular employment. In fiscal year 2000, we are requesting $330 million to support the E&T program. In addition, during fiscal year 1999 States will be allowed to use any unspent fiscal year 1998 E&T funds, in accordance with the provisions of the 1998 Act.

Included in our request for the Food Stamp Program is $7 million to support a nutrition education program, a program designed to provide information on eligibility to underserved groups such as the elderly and the working poor. The full benefits of the FSP can be realized only if we provide the resources, the information and the skills necessary to enable low-income families to purchase and prepare a healthful, nutritional diet.

In the Child Nutrition Programs we are requesting resources of $9.5 billion—an increase of $331 million. Most of this modest increase is the result of projected increases in enrollment and the increasing number of children participating in the school meals programs. I am pleased that we have included in our request $2 million for Nutrition Education and Training activities. It is important to provide some level of funds for instructing teachers in nutrition education and teaching children about the relationship of nutrition and health. We are also requesting $13 million for a three-year school breakfast research pilot authorized by the Goodling Act. It is critical for members of Congress, parents, teachers, and school board officials to know the answer to the question: Does the consumption of a breakfast at school positively impact a child's potential for success? Finally, our request for resources to support the important Team Nutrition program remains at the fiscal year 1999 level of about $10 million.

For the WIC Program, our request is $4.1 billion—a nominal $181 million increase from fiscal year 1999. The request will support average monthly participation of 7.5 million needy women, infants and children receiving the nutrition education and food benefits of this most important assistance program and fulfill the Presidents goal of WIC full participation.

In our Commodity Assistance Program (CAP), we are requesting $155.2 million—a netincrease of $9 million. This request includes $20 million for the Farmer's Market Nutrition Program (FMNP), an increase of $5 million over the fiscal year 1999 FMNP level which has been funded in the WIC appropriation in prior years. The $20 million request will not only sustain the current program level in 35 State agencies but will also permit continued expansion in these States and allow new States to join the program as well. As you know, the CAP also supports the Commodity Supplemental Food Program for women, infants and children as well as the elderly and will support the same caseload level in fiscal year 2000 as in fiscal year 1999; our request for TEFAP administrative expenses is $45 million—the same level as for fiscal year 1999.

Finally, we are requesting $150 million for the Nutrition Program for the Elderly—a $10 million increase from fiscal year 1999. The increase will allow funding in the Nutrition Program for the Elderly to keep pace with the proposed increase in the home-delivered meals program administered by the Department of Health and Human Services. Alternatively, the increase would allow a slight increase in the rate of assistance per meal, which was eroded over the years as a result of inflation, to better support the meal service providers.

In our Food Program Administration account, we are requesting $119.8 million—an increase of $9.3 million above fiscal year 1999. The full amount of the increase being requested is to support FNCS moving to a higher plane in concert with our State partners regarding the integrity and oversight of all FNCS programs. I will talk specifically about some of these initiatives as I address the Program Integrity area.

PROGRAM INTEGRITY

The Food and Nutrition Service is continually seeking better ways to improve integrity in all of the programs it administers. A few examples follow.

In 1998, FNS requested and received funding from the Economic Research Service to initiate two new program integrity related surveys—(1) a study concerning the extent of food stamp trafficking after Welfare Reform which will update fiscal year 1995 estimates, and (2) a survey of successful State computer matching activities compiled as an easy reference document to be used by other States in finding solutions to their own problems.

The Goodling Act increases the WIC program's ability to ensure that only eligible persons are certified for WIC. The law requires the physical presence of applicants and income documentation of WIC program participants. States are implementing procedures to comply with these changes.

In 1997 and 1998, FNS expanded its program integrity efforts in the Child and Adult Care Food Program (CACFP). In 1997 the Agency issued Management Improvement Guidance for Family Day Care Homes and in 1998 issued similar guidance for Child Care Centers. These manuals provide guidance in the prevention of fraud and abuse, while also providing better practices for training State monitors.

Starting in fiscal year 1999, and continuing through fiscal year 2003, $1 million of the CACFP funding, as authorized by the Goodling Act, will be used to improve CACFP integrity and oversight in such areas as establishing improved management practices for all levels of CACFP administration, enhanced assistance to States in their oversight responsibilities and an increased level of oversight throughout the Program. Also, as part of its comprehensive integrity strategy, the agency will reconvene the CACFP Integrity Task Force to assist in developing materials and training and providing increased on-site presence.

Our fiscal year 2000 budget request contains initiatives that focus directly on the concerns of this Administration and the Congress regarding integrity in FNCS programs. As I indicated earlier, the increase in our FPA request for fiscal year 2000 supports program integrity. I will discuss them in three segments.

We are requesting an increase of $6 million that will assist us in maintaining the accuracy of the Food Stamp Program Quality Control (QC) System to reduce error rates and/or avoid error rate increases. The QC system measures the accuracy of recipients' food stamp benefits. States with a high percentage of inaccurate cases face fiscal sanction and those with very low levels receive enhanced funding. It is imperative that the system remain statistically sound and legally defensible in order to provide accurate management information and to support State billings, appeals, and settlement actions. We will also implement new data matching programs. In addition, staff will work directly with States on State specific management improvements. We expect that this investment will save over $50 million due to reduced overpayment errors.

We also recognize the importance of continuing and expanding our integrity efforts in the Child Nutrition Programs. Specifically, in addition to our Coordinated Review and audit efforts, we are requesting $2 million to identify and reduce errors in the School Lunch Program. We are concerned that free lunch participation continues to climb, despite reductions in poverty and improvements in the economy.

We are requesting $1.3 million for several additional initiatives. First is additional staff for the oversight of State Automated System Development activities. In order to protect the considerable program and financial interests of the Federal government, it is essential that FNS maintain oversight of Advance Planning Documents submitted by State agencies. Second, in the area of retailer integrity, resources will be devoted to enhance FNS' ability to oversee retail store operations and detect and sanction stores violating program rules. Onsite undercover investigations will increase. Staff will ensure that retailer applications and re-authorizations are processed timely and thoroughly. Review of State and EBT processor accounting, processing and reporting will be enhanced. Third, additional staff will be deployed to oversee Food Stamp Program State administrative expenses which total about $1.6 billion. We believe this to have enormous possibilities for cost reduction. With adequate oversight, we conservatively estimate achievable savings of 3 percent—equivalent to about $55 million. Fourth, resources will be used to exploit EBT data to detect stores trafficking in food stamp benefits utilizing the Anti-Fraud Locator using EBT Retailer Transactions (ALERT) system, a newly developed and implemented automated system that analyzes food stamp EBT transactions to detect possible fraudulent activity in stores. Fifth, additional resources will be deployed to assist in eliminating backlogs and implementing the FSP participation in the Department of Treasury's replacement of its tax and salary offset methods. Sixth, staff would be assigned to assist States and Indian Tribes in all aspects of the commodity distribution programs.

All of these initiatives have cost saving implications to the American taxpayer. We believe our request represents a minimal investment with paybacks of enormous values.

Finally, we are requesting funds for studies in support of the Agency's nutrition assistance programs. In the Food Stamp Account, our request is $10.7 million, in the Child Nutrition Account our request is $3 million; and we are requesting $3.5 million for WIC-related research. The absence of study and demonstration funds at FNS over the last few years has limited the depth of FNS support to Congressional staff, decreased our ability to respond to States, and restricted us from providing practical research-based guidance to the managers of our programs. The study funds are appropriately located in FNS because of the need to target these funds to action-oriented and program specific needs. FNS will use the study funds to assist in formulating its nutrition policy, measure program impacts and integrity, and advise Administration officials and Congress of the potential costs and effects of legislative proposals that are under consideration.

CONCLUSION

Mr. Chairman, I am sure you agree that FNCS provides a comprehensive nutrition safety net of services designed to assist those most in need. In order to successfully carry out our mission we have formed a cadre of coalitions and partnerships with organizations and agencies with a shared interest. Thanks to your support and the support of this Subcommittee, over the years, our programs have made a tremendous difference in the lives of those we serve. This concludes my statement. I will be happy to answer any questions you may have.

ELECTRONIC BENEFIT TRANSFER

Senator COCHRAN. Thank you very much, Ms. Watkins. Let me compliment you on your efforts to strengthen the programs under your jurisdiction, to make sure that the benefits get to those who are eligible and to eliminate fraud and abuse of the programs.

I've been impressed with some of the Inspector General's work in this area too. I think we have to recognize that that's been a very important aspect of the effort to eliminate fraud and abuse in these programs.

We understand the electronic benefit transfer program is designed to deal with some of these problems of abuse. Is that your observation that it is being successful? And, what is the outlook for having 100 percent delivery of food stamps by electronic benefit transfer?

Ms. WATKINS. Mr. Chairman, my observation is the same as yours. And we are pleased that we've been able to have a great deal of success in working with the Inspector General. We expect to have by 2002, which is the scheduled date, all of the EBT systems in place. We're currently serving over 50 percent and delivering over 50 percent of the benefits by Electronic Benefit Transfer.

Senator COCHRAN. Now is my understanding correct that when you have the EBT program in force in every state that it will be possible for those who have food stamps to carry them across state lines and use them in states other than those states that were issuing the food stamps? Is that a problem? Is that going to result in difficulties for grocery stores or places that redeem these stamps?

Ms. WATKINS. That currently is a problem, Mr. Chairman. But we are working on an interoperability study to eliminate that as a problem. And we've already begun the process and we're waiting for the results of that interoperability study. That has been a request from some states and we are working very aggressively on that.

We don't see that as a problem for grocers once we get the interoperability working. We think that people will be very pleased with that.

We had a six-month pilot that started on March 1st. And we will actually need to identify the cost for interoperability. We will be working on looking at cost during the pilot study.

FOOD STAMP PROGRAM

Senator COCHRAN. We heard you in your opening statement make comments about the need to increase funds to make food stamps available to elderly legal aliens. You say $10 million is included in this request for that purpose.

How do you come up with that $10 million figure? Is that based on an estimate of elderly legal aliens who would be eligible for the benefits?

Ms. WATKINS. Yes, it is, Mr. Chairman. And we looked at those legal aliens who are in the country and would not be eligible. We wanted to make certain that we were taking care of those seniors who were legal and at age 65 would be eligible for the program benefits.

Senator COCHRAN. The budget also has a request for 7 million additional dollars to support a nutrition education program for those who receive benefits from the food stamp program. Is this a new program and how does the agency plan to implement it?

Ms. WATKINS. This is an aggressive effort for us to provide nutrition education for food stamp recipients. Early on we had indicated that we wanted to serve food stamp recipients and provide adequate nutrition information so they could make wise food choices. And that is a part of that.

We do have, in our reorganization with the staff, a person who is working on nutrition education in the Food Stamp Program. This is the first time we have had in the agency a person working specifically on food stamp nutrition education. And she will coordinate that with CSREES, ARS and ERS and our delivery of those services in addition to working with colleges and universities who are in the land grant system.

Senator COCHRAN. One reason that my questions so far have centered on the food stamp program is that it is the largest program that is administered by this agency. The budget this year has $22.5 billion projected for food stamp benefits. Let me ask you this.

We've noticed over the last few years, the budget requests for food stamps have greatly exceeded what's really needed as it turns out. I think I asked at last year's hearing why is the model so wrong. And if it is wrong, why is it continually used from one year to the next. It doesn't seem like there's any improvement in the projections being closer to the realities. It always seems to be overestimated by a considerable amount. Are you using any different economic assumptions this year in coming up with a request or how are you coming up with the request?

Ms. WATKINS. We're not using a different economic model, Mr. Chairman. One of the things that we've noticed and you may notice in the budget that we are asking for is funds for outreach for food stamp recipients.

One of the things that has happened is that we have more people who are eligible and not participating in the program. What we've seen is that participants are increasingly going to food banks and soup kitchens and pantries instead of applying for food stamp benefits for which they are eligible. Many people who are a part of the TANF program or were on TANF did not realize that they were still eligible for food stamps.

We've had some incidents in some states where people were being sent to food banks and soup kitchens. And we've indicated to them that those eligible recipients must be made aware that they are eligible for food stamps. So that's why you have the difference.

As I indicated, the number of food stamp recipients is down dramatically. Yet the poverty rate is 5 percent. So we do have a dis-

crepancy there and I can understand your concern. But when we have states who are sending people to the soup kitchens and food banks, then those people don't know that they are eligible for food stamp benefits and that's why we want to do an outreach to let people know that they are eligible.

Senator COCHRAN. I have some other questions on some of the other programs. I'm going to defer those until my colleagues have had a chance to ask some questions. Senator Kohl.

SOFT DRINKS

Senator KOHL. Thank you, Senator Cochran.

Ms. Watkins, I'm concerned about the dietary habits of many Americans and especially our children. As you know, soft drinks are becoming the beverage of choice for many of our young people. Last month I wrote a letter to Secretary Glickman regarding this trend and the role that the USDA might play in promoting a healthy diet for young people. Would you please comment on this trend and provide your thoughts on how best to encourage our young people to consume more healthy beverages such as milk rather than soda pop?

Ms. WATKINS. Mr. Kohl, you're exactly right. The trend has gone upwards. There has been a thousand percent increase in purchases in schools for soft drinks and a decline of about 25, 26 percent of the milk consumption. We are very concerned that our children's dietary needs are placed in jeopardy when schools are using those funds to supplement school funds. We do have a serious situation in how we need to address the nutrition and dietary habits of children and how we look at that.

We are trying to, as you perhaps know, our regulations are lacking in strength to do something about the sale of soft drinks in schools. We are trying to address that and figure out—how do we change the school environment. And that's going to be a little difficult. We're going to need a lot of support if we should move in that direction.

Senator KOHL. All right. What role could the USDA child nutrition programs play in this context?

Ms. WATKINS. We can develop standards and work with schools and provide technical assistance, but a great deal of effort is going to need to be developed around how you work with school administrators, superintendents, school principals and teachers in that effort. And I think we are going to need a lot of support from the Department of Education as we move in the direction of developing standards for school meals that are served in schools to protect the nutritional integrity of the program.

Senator KOHL. All right. Thank you, Senator Cochran.

Senator COCHRAN. Senator Dorgan.

FOOD BANKS AND THE FOOD STAMP PROGRAM

Senator DORGAN. Mr. Chairman, thank you very much. Ms. Watkins, thank you for appearing today.

Let me ask you a question about a survey released by Congressman Tony Hall recently. As you know, Tony heads an organization dealing with hungry issues. I sit on the board of that organization, but he's talking about the increase in the number of people using

food banks across our country increasing 22 percent in the last year. And, conversely, the Congressional Research Service reports that the number of people using the food stamp program has fallen dramatically in the last couple of years. Those two reports seem to be contradictions to me. Can you give us your analysis of what's happening?

Ms. WATKINS. We've had several roundtables around the country and many hungry tours and we are finding pretty much the same thing that Congressman Hall has identified in his information. We are seeing more people standing in line in food banks and fewer people actually participating and applying for food stamps.

We're supporting the food bank system with TEFAP that goes out to food pantries and that also has increased. And we are proposing information on a campaign that's focused on the elderly and the working poor and encouraging states to inform their TEFAP eligible households who might be confused about their eligibility. So that's what we're doing.

We need to make certain that we are strengthening our Food Stamp Program which is the safety net. It's our nutrition safety net for the working poor.

Senator DORGAN. I support the TEFAP program and always have. I think if a reduction in the usage of food stamps indicates that there are fewer hungry people, that's wonderful. But that seems to be at odds with Mr. Hall's and your observation that you have longer lines at soup kitchens and so on. I don't think you answered the question. What could explain a substantial decrease in the usage of food stamps at a time when more people appear to be hungry because they show up at food banks and soup kitchens to be fed?

Ms. WATKINS. Partly, as I indicated in my presentation very briefly, it's due to the strength of the economy and partly due to the new restrictions for legal immigrants and the able-bodied who are the unemployed adults without dependent children.

But there are other factors in there. We currently are looking at some data that has been collected to help us to try to determine where the gaps are and where those people are who are eligible and not participating in the program.

Senator DORGAN. So you think some of the restrictions that have been imposed are telling people who perhaps have need of food stamps or who are hungry that you've got to go to a food bank some place or to a soup kitchen. You can't access food stamps.

You probably can't do it now, but give me your analysis later, if you would, with your staff. How do we reconcile those two conflicting reports? And I appreciate your tentative answer to it. If you have additional information, I'd like it.

SCHOOL BREAKFAST PROGRAM

One last brief question, Mr. Chairman. The project on school breakfast relating behavior and education performance to school breakfast, I happen to think that's a remarkably good idea. But it seems to me that, as I was thinking about this, somebody must have evaluated that 2 years, 5 years, 10 or 20 years ago.

If you have a breakfast program, do students' grades improve? Is their behavior better? Has that not been evaluated before?

Ms. WATKINS. There are several studies including a study that was done by Harvard, including schools in Baltimore as well as Philadelphia. There was also a study done by the Minnesota Department of Education. There was an earlier study done by Tufts in the early eighties on school breakfast and performance. But there has not been a rigorous study done using a controlled group of students and students actually participating in the breakfast program.

We have never been able to do one involving all children with breakfast provided for all children and that's the intent of the study. And there are so many different tests. We had a breakfast symposium last Thursday, and the science researchers indicated to us that the only significant piece of compelling evidence we have is attendance. We do know that attendance goes up. But we've not done a rigorous study in any of those universities on what happens to cognitive development, and that would be the intent, to find out if all children are served breakfast what happens to the cognitive development. Will we see those increases as is indicated in the Massachusetts study?

Senator DORGAN. Ms. Watkins, I bet you and I know the answer to that study.

The late Nicky Lenner and I held a hearing one day many years ago when a young 12-year-old boy named David Bright from New York said words I'll never forget. He said, "No 12-year-old boy like me should have to lay his head down on his desk in the afternoon at school because it hurts to be hungry."

I bet I know the answer to this study. I'm glad you're doing it, and I hope that all of us recognize the value of these programs.

Mr. Chairman, thank you very much.

Senator COCHRAN. Thank you, Senator.

In the budget request you have $13 million, as you pointed out, for a pilot breakfast program. Six elementary school districts would participate, as I understand it, and $10 million of the $13 million being requested is to evaluate the pilot program. This would be free breakfast for all the students in the schools as I understand it.

How do you come up with the $10 million cost for evaluation of the program and only $3 million that would be used, I guess, to buy the food or make the breakfast available to the students?

Ms. WATKINS. The breakfast that we would have available—we already have reimbursement rates established for a school breakfast. So that would be those children who would not be eligible for a free or reduced price breakfast. And if we looked at the $10 million, that's necessary to cover the standardized test and collecting the 24-hour dietary recall and performing the nutrient and dietary information. This would involve thousands of children because we are talking about doing a total of 72 schools.

Senator COCHRAN. How many?

Ms. WATKINS. Seventy-two schools in the six districts. So that we would have a control group and the group who was actually participating in the test.

Senator COCHRAN. Have the districts been selected?

Ms. WATKINS. The districts have not been selected.

Senator COCHRAN. How do you know there will be that many schools? Are these just geographical districts or not school districts?

Ms. WATKINS. These would be school districts, the six school districts and then you would choose 30——

Senator COCHRAN. If you haven't already selected them, how do you know how many schools are in those districts?

Ms. WATKINS. Well, you don't. But you would end up with—72 is what we're projecting and that's what we based everything on.

One of the things that would happen is—if you don't have the technology in the school districts, then we're going to either have to do it manually or provide the new technology to do interoperability from the management data collected in the classroom and the data collected in the cafeteria. So there are now opportunities for connecting the two. So that may cut down on some expense.

When we did this, we had no awareness at that time that they were looking at interoperability between what is collected at the cash register at point of sale and what is going on in the classroom and collecting that data. So that has some potential for dropping the cost, but we need to look at that very carefully as we determine the number of students and schools participating. I certainly would like to see that happen rather than trying to hand calculate all of the data that we're going to be looking at.

Senator COCHRAN. I would encourage you to explore the option of having the National Food Service Management Institute conduct the evaluation of the program.

Have you made a determination at this point how you're going to evaluate it, whether you will contract that out with that $10 million or would you hire new people?

Ms. WATKINS. We will have to contract this out because of the enormous task that will be needed in providing the adequate data. We certainly will take your suggestion of using the Institute in helping us to formulate some of the study data.

NUTRITION EDUCATION AND TRAINING

Senator COCHRAN. The request for child nutrition programs includes funding of $2 million for a nutrition education training activity. Is that a realistic amount to be distributed in a nationwide program?

Ms. WATKINS. Mr. Chairman, it certainly isn't. But that was the amount that we could come up with and it certainly is not going to be adequate. But we needed to have an amount of money to restore NET or Nutrition Education and Training across this country. We have no funds in the budget for the 1999 school year. So we are really struggling with how we're going to and what we're going to be able to do with the $2 million. But it certainly is better than not having any moneys at all.

Senator COCHRAN. The $2 million would be in addition to the $10 million requested for the NET program generally?

Ms. WATKINS. The $10 million is for Team Nutrition and that's for us to develop model nutrition education materials that can be delivered by those people in the states for nutrition education not only for school nutrition personnel, but also for teachers, administrators, and parents.

CHILDREN'S FOOD GUIDE PYRAMID

Senator COCHRAN. The Department recently published a new children's food guide pyramid. I wrote a letter to the Secretary and to you, I think, about some complaints that I had heard about how that was developed and decisions made about what to put at the top and what to put at the bottom; in other words, the things to illustrate what is good for you and what is bad for you. Could you tell us what process you followed in the development of the new food pyramid?

Ms. WATKINS. Sure, Mr. Chairman. And we appreciate your interest in the children's Food Guide Pyramid. And what we did was to use a variety of focus groups. We used information from the Dietary Guidelines. And we used information that we received from caregivers and parents.

This is an adaptation for young children ages 2 to 6 and there were no real changes. We wanted to make it so that little children could understand how to use the Food Guide Pyramid. We based it on food consumption data information for children of those ages, 2 to 6. And we also added physical activity. We used lower numbers for serving sizes.

One of the things that we had heard from parents and caregivers and consumers is that they did not understand the original pyramid and how to use the serving sizes or they didn't understand what a serving size was. So we wanted to make that clear on the children's food guide pyramid. And we also included those serving sizes.

I don't know if Dr. Anand wants to add anything that I may have missed.

Senator COCHRAN. Dr. Anand.

Dr. ANAND. Yes. We actually took three years to develop the Food Guide Pyramid for Children. It really validates the original pyramid. The Food Guide Pyramid is based on three factors, as Shirley mentioned.

One is the Dietary Guidelines. Number two is the RDA, the Recommended Daily Allowance. And number three is the dietary patterns of what children are eating. So the foods that are depicted on the poster are the foods that most children eat. Then physical activity was added.

This research actually validates the original pyramid and we're very happy it does that. It is not a new thing. It's really the same thing. The only thing that has changed, as Shirley has mentioned, the food that is depicted is more realistic and there is also the physical activity mentioned there.

Senator COCHRAN. In most of our experiences, the serving size is how much is in the container at least, that's the case of ice cream. [Laughter.]

Let me ask you, was this funded from the Food and Nutrition Service budget or how was it paid for? Were outside groups involved in paying for it?

Mr. ANAND. No. The only thing that was not funded by CNPP was some research and focus group which were funded by FNS. All the money came from the budget of CNPP. There was no money from outside.

WIC PROGRAM

Senator COCHRAN. On the WIC program, the request is an increase of $193 million to support what the budget describes as the "full" WIC participation estimate. As I understand it, that's a monthly average program participation rate of 7.5 million women, infants and children.

What evidence is there that participation will rise to that level of participation per month during the next fiscal year?

Ms. WATKINS. We use the same guidelines that we have used in the past. You might know that we are working on some new standards and trying to determine with the assistance of ERS and validate whether or not those standards are adequate and if we've used the right model.

That was one of the things that we were requested to do last year and we're following up. So we've used the same standard, Mr. Chairman, this year as we've used in the past for WIC.

One of the things that happens to us in trying to ensure that we're meeting the mark on those WIC numbers, the states work really, really hard to stay within their budget. They know that they cannot go beyond the numbers for WIC. So they monitor those very carefully. And oftentimes they are afraid to go beyond that.

So the numbers are very, very fragile if you look at what we do in trying to keep the numbers within the state's budget. So it's very difficult for us to get an exact number because those numbers fluctuate. So with the new model, we are hopeful that we can come up with something either better or validate that the model that we're using is adequate.

Senator COCHRAN. Does this same optimism apply to the average cost of per person per month, which includes a food cost ingredient. I understand that the estimated WIC package per person cost per month for 1999 is $44.47 and that it's projected in the budget to increase to $45.46 in fiscal year 2000.

I'm curious to know whether or not this is in line with other rates of inflation that are being assumed in the budget or whether this is a separate analysis and how you come up with that projected food cost increase of 79 cents per person per month? And, what is the basis of the projected increase in administrative costs as well, which are expected to increase 20 cents per participant per month from fiscal year 1999 to fiscal year 2000?

Ms. WATKINS. We're continuously working with the states to ensure that their food costs are in line. We've worked very aggressively.

I was in California last week and they are working with their states—working with the state to determine whether or not they are living within the current milk prices. And they are working to keep those milk prices down so that their costs are down. And they are going to end up saving over $20 million which would allow them to provide more WIC benefits to clients.

So the states are working very hard. Now that's the standard inflation rate that we've used and it was provided by OMB. So that's the standard rate.

Senator COCHRAN. I have some other questions on the WIC program particularly how you come up with the carry-out estimates

and other projections that are made in this program which we will just submit and ask you to answer for the record.

On one part of the program, the farmers market nutrition program for WIC beneficiaries, is there any evidence that this program increases with participants consumption of fresh fruit vegetables?

Ms. WATKINS. It does, Mr. Chairman. And we're real proud of that because in some instances our WIC recipients do not have access to fresh fruits and vegetables. And we're using this as a way to help them increase their fruit and vegetable consumption which is a real concern for us for all of our program recipients.

Senator COCHRAN. Thank you. Senator Kohl, do you have any additional questions?

Senator KOHL. I have no additional questions. Thank you.

Senator COCHRAN. My good friend from Illinois has arrived, former chairman of this subcommittee on the House side.

WIC BUDGET CUTS

Senator DURBIN. Thank you very much, Mr. Chairman and Senator Kohl.

I apologize for being a little late and I wanted to ask a question. Perhaps my colleagues here can help me with the answer. If I'm not mistaken, in the debate on the budget resolution, there was a suggestion of some rather substantial cuts in domestic discretionary spending.

Some protection was put in the budget resolution for the Department of Defense and some education programs. It is not my recollection that there was any protection put in there for the WIC program. Is that correct?

Ms. WATKINS. That's correct.

Senator DURBIN. And if I'm not mistaken, the agencies that were not protected, as we calculated it, could face up to a 12 percent cut in their budgets from this year's current appropriation.

Do you have any calculation as to what the cuts might be in WIC if we followed the budget resolution as enacted by the Senate and the House?

Ms. WATKINS. It's based on what Dennis has advised me. We're talking about some 900,000 recipients in the WIC program.

Senator DURBIN. Being eliminated?

Ms. WATKINS. Yes.

Senator DURBIN. Out of a total universe of how many?

Ms. WATKINS. 7.5 million.

Senator DURBIN. 7.5 million currently served and 900,000 would be eliminated?

Ms. WATKINS. Right.

Senator DURBIN. I can recall in my earlier incarnation in the House that someone said that one out of four infants in America is served by the WIC program. Is that statistic still accurate?

Ms. WATKINS. Yes, it is.

Senator DURBIN. So that does not include all of the potential infants and mothers who could be served, could be eligible for this program, does it?

Ms. WATKINS. Correct.

Senator DURBIN. The 7.5 million represents what percentage of eligible mothers and children for WIC services?

Ms. WATKINS. The 7.5 indicates 80 percent of those who are eligible and that's the formula that we've used.

Senator DURBIN. So roughly it's somewhere under 10 million eligible, 7.5 million currently served and our budget resolution, unless something is done in terms of the allocations to this subcommittee and others, could result in about 900,000 being removed. Is that an accurate statement?

Ms. WATKINS. Right.

Senator DURBIN. I think that is a serious problem for those of us who believe that WIC is absolutely essential for healthy mothers and healthy babies. That is a step backwards. That is a step toward the dark ages of our failing to realize the importance of this program.

I sincerely hope that Senator Cochran and Senator Kohl and myself and others can prevail on those who are making the budget allocations to make certain that the WIC program does not lose ground and perhaps gain some ground so that more and more children can be born with the possibility of a good start in life.

Thank you, Ms. Watkins. Thank you, Mr. Chairman.

Senator COCHRAN. Thank you, Senator.

Ms. Watkins, that concludes our questions of you and this panel appreciates very much your cooperation with our committee. We look forward to working with you during the balance of the year.

SUBMITTED QUESTIONS

Ms. WATKINS. Mr. Chairman, I want to thank you and this committee because without your support and help we would not be able to do the kind of job that we do. And we certainly appreciate all of the work that you do in helping us to provide the very best that we can for the people who are most needy in this country. Thank you very much.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED BY SENATOR COCHRAN

FOOD STAMP PROGRAM

Question. Interoperability and portability of food stamps will involve limited costs of electronically routing transactions across state lines. Will the interoperability pilot program validate the costs?

Answer. We are hopeful that the interoperability pilot project will provide better information as to how much interoperability would cost. This project, on which the Food and Nutrition Service (FNS) is working with States and the Electronic Benefits Transfer (EBT) Council of the National Automated Clearinghouse Association (NACHA), began in March 1999 and will run through September 1999. Most interested parties believe the actual cost for nationwide interoperability would be low and we expect this study to support that belief.

Question. Would USDA be able to pay these costs using savings achieved by electronic conversion, given the need to no longer lease terminals on state borders which allow food stamp recipients to shop in either state?

Answer. FNS has no authority to pay 100 percent of the costs of interoperable EBT transactions. Our statute provides for sharing State costs for administering the Food Stamp Program at a 50 percent reimbursement rate. Contracts for EBT services are between each State and its vendor or vendors. FNS is not a party to EBT contracts and does not directly pay for EBT services. FNS reimbursement to States

has a special limitation that operational costs must not exceed those of the paper issuance system being replaced. This cost neutrality limitation was part of the legislation allowing EBT as a State issuance option for Food Stamp Program (FSP) and remains in place although legislation now mandates EBT for the FSP by October 2002.

We have supported interoperability by initiating technical specifications for EBT data, developing our Retailer EBT Data Exchange system, and working with NACHA on the Quest Operating Rules. We support States that chose to include interoperability as part of the services procured through their EBT contracts. Of course, we will reimburse States for 50 percent of all their EBT costs, including any fees for transactions across State lines, as long as the cost neutrality measure is not exceeded.

We, as well as most other EBT observers, expect the cost for interoperability to be low. We believe the interoperability study being conducted with NACHA may show the costs to be even lower than those expectations. These are costs that we believe would be easily covered by the EBT savings realized by both the Federal and State governments.

With regards to terminals installed across State borders, we do not have data on how many stores are equipped across State borders, though we believe the numbers are relatively small. We are hoping to get additional information on these retailers through the interoperability project currently underway.

However, it should be noted that EBT contracts generally hold that border stores are to be equipped in accordance with State-established criteria, and State contract prices generally do not increase as more stores are added. Consequently, there is typically no incremental cost in EBT contracts that can be attributed to additional border stores. Moreover, at least in preliminary discussions, EBT contractors are saying that they will not reduce their charges to States if already-equipped border stores no longer need to be equipped.

Question. In November the Food Stamp Act was amended to require food stamp State agencies to enter into a cooperative agreement with the Social Security Administration (SSA) to ensure that food stamps are not issued to the deceased. What is the status of these cooperative agreements, and how do the agencies plan to ensure that food stamps are not issued to the deceased?

Answer. Prior to the enactment of Public Law 105–379 (an Act to amend the Food Stamp Act of 1977 to require food stamp State agencies to take certain actions to ensure that food stamp coupons are not issued for deceased individuals, to require the Secretary of Agriculture to conduct a study of options for the design, development, implementation, and operation of a National database to track participation in Federal means-tested public assistance programs, and for other purposes) on November 12, 1998, FNS and SSA engaged in discussion to determine the best method for exchanging SSA's Death Master File (DMF) data with food stamp State agencies. Two options were discussed—making minor system modifications to SSA's State Verification and Exchange System (SVES) or advising the State agencies to purchase the DMF data from the Department of Commerce. An agreement was reached in which SSA would make the modifications to SVES.

SSA recently advised FNS that it has now determined that more extensive system modifications will be necessary to make the DMF available through SVES.

FNS intends to work with SSA to develop a new work plan for incorporating death match into SVES.

Question. The Community Food Security Grants Programs are funded from the Food Stamp program account. What other grant programs are funded from this account?

Answer. Funds for local versions of the Food Stamp program are provided to The Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands and to American Samoa. These grants are made in fixed amounts. Other grants from the Food Stamp Program account include: grants to Tribes for administrative expenses in the Food Distribution Program on Indian Reservations (FDPIR) which are negotiated between the individual Tribe and the appropriate FNS Regional office; grants to States for food stamp administrative expenses in which FNS matches State expenses dollar for dollar; grants for food stamp Employment and Training (E&T) which are distributed on a formula basis to States to cover 100 percent of their E&T costs and E&T grants to States for expenses over their share of the 100 percent grants and to cover participants job hunting expenses, both of which match States expenditure dollar for dollar.

COMMODITY ASSISTANCE PROGRAMS

Question. Commodity assistance programs are now required to replenish their inventory based on historical data, not by placing orders five months prior to delivery. How has this new requirement affected the cost of running the program?

Answer. The primary purpose for redesigning the system was to improve customer service. Using historical data to determine the types of commodities to be purchased will help ensure that the types of commodities preferred by program participants are available on a timely basis and spend less time in Federal, State and local inventory. The historical data approach is used only in FDPIR and the Commodity Supplemental Food Program, which are food package programs and, therefore, need an adequate supply of specific foods to meet program requirements. This approach has not affected the cost of administering these programs. In fact, it has the potential to reduce costs. While we have yet to see any reductions in inventory because of major changes in the food package, the process of placing orders much closer to the time when the food will actually be needed can reduce the length of storage time and the amount of inventory necessary to sustain service to program participants. This will result in reducing storage costs incurred by Indian Tribal Organizations and State agencies.

ELDERLY FEEDING

Question. The fiscal year 2000 budget request proposes a $10 million increase for the Nutrition Program for the Elderly so that this would allow a slight increase in the rate of assistance per meal. How much does the agency expect that the rate of assistance per meal will increase?

Answer. Since fiscal year 1995, funding and participation in the Nutrition Program for the Elderly (NPE) has been as follows:

Fiscal year	Appropriation	Reimbursement per meal	Number of meals
1995	$150,000,000	$0.5973	251,060,000
1996	150,000,000	0.5864	246,394,000
1997	140,000,000	0.5857	247,306,000
1998	140,000,000	0.5607	249,918,000
1999	140,000,000	0.5540	[1] 252,667,000

[1] Estimate.

The appropriation for NPE was decreased from $150 million in fiscal year 1996 to $140 million in fiscal year 1997 and has remained at this level for three years. However, since fiscal year 1996, the number of meals served has increased by 6,273,000, thus reducing the rate of reimbursement from $0.5973 in fiscal year 1995 to $0.5540 in fiscal year 1999 (a drop of $0.0433 per meal). The $10 million increase in funding requested for fiscal year 2000 would allow for a rate of about $0.5935 per meal assuming service of about 252.7 million meals. The amount of additional funds requested would result in an increase of $0.0395 in the reimbursement rate over the fiscal year 1999 rate, but the rate would still be $0.0038 less than the fiscal year 1995 rate, assuming participation remains steady at the fiscal year 1999 estimated level.

SCHOOL BREAKFAST PILOT

Question. The Goodling Act authorizes the Food and Nutrition Service to pilot test a school breakfast project in selected elementary schools in 6 districts. How will the 6 districts be chosen for the pilot program?

Answer. School district selection will be structured to ensure that the demonstration can assess the feasibility and impacts of a universal breakfast program in a wide variety of different school districts. Although specific selection criteria are yet to be determined, FNS anticipates that school districts will be selected to ensure diversity on a number of district characteristics including geographic region, community type (urban, suburban, rural), school district size, and economic levels of students' households.

Question. Will the pilot be in only one State or several?

Answer. To ensure diversity among pilot school districts it is anticipated that these districts will be selected from a number of different States.

Question. Is Mississippi being considered as an option for the pilot program?

Answer. Selection of the pilot sites will not take place until funding is appropriated for the study. If Mississippi nominates school districts to participate in the pilot, those districts will receive the same consideration as all school districts nominated by other State agencies. Final selection criteria have not yet been determined, but will be structured to ensure that a reliable and valid evaluation can be conducted.

Question. What is the protocol for this pilot program, including the evaluation?

Answer. A study design and general framework for assessing the educational and nutritional outcomes, behaviors and attitudes associated with participation in a universal-free school breakfast program is currently being developed. This document will identify key evaluation design and implementation issues that must be resolved for a robust evaluation including:

—specification of the treatment and comparison and/or control groups;
—means of assigning groups to a treatment condition;
—sample design considerations including sizes and characteristics of each group identified;
—data collection strategies including frequency and nature of data collection;
—required response rates;
—relevant outcome measures and controlling variables on which data will be collected;
—and analyses of data to be collected.

FNS expects that a pretest-posttest control group design will be used. Within each of the selected districts, an equal number of schools would be randomly assigned as universal-free schools and control schools. To permit the evaluation of pilot projects to distinguish the effects of the pilot projects from other factors, schools selected as treatment and control sites within the chosen districts should exhibit similarities on a number of school characteristics such as school enrollment, student academic proficiency and economic levels of students' households. Measurements would be taken before and after implementing the universal-free breakfast program. Where necessary, statistical adjustments will be used to enhance group comparability.

Question. Will one protocol be used in all 6 districts or will each participating district have its own protocol?

Answer. FNS anticipates that protocols will be established so there is replication of the treatment across different pilot sites. Allowing each participating district to establish its own protocol would seriously hamper the study's ability to attribute any observed effect to the universal-free breakfast program.

CHILD NUTRITION PROGRAMS

Question. In the fiscal year 2000 budget proposal there is an increase in the appropriations for Team Nutrition and for Coordinated Review so that Federal staff can operate the program in lieu of State personnel. How does this improve the program integrity and reduce costs of the programs?

Answer. The only increases proposed for these two programs is to fund the cost of pay raises for Federal employees. The reference to Federal staff operating the program in lieu of State personnel is an error. That reference applies to State Administrative Expenses (SAE) funds used by Federal employees when the Federal government is required to operate programs when the State is unable or unwilling to do so.

Team Nutrition is a Departmental effort which provides States and schools with nutrition education materials for children and families, and technical assistance materials for school nutrition service directors, managers and staff. State agency partners provide training and technical assistance to support these programs in local schools. The guidance provided under Team Nutrition helps ensure that program meal requirements are adhered to and meals served to children are healthful and nutritious.

The Coordinated Review Effort (CRE), on the other hand, is a uniform system of review procedures used by both State agencies and the Food and Nutrition Service (FNS) to assess the accuracy of the claims for reimbursement submitted by school food authorities through on-site evaluations of program operations. CRE was developed in consultation with State agencies as a management tool to improve regulatory compliance and program accountability in the National School Lunch Program (NSLP). In addition to program oversight, FNS has developed handbooks and other technical assistance materials to be used by States in carrying out their CRE responsibilities. As a result of this activity, program integrity is strengthened and costs reduced by helping ensure that program meals are served to eligible children and supported by accurate meal counts.

Question. Please provide a detailed accounting on how the funds made available for the school meals initiative have been used in fiscal years 1998 and 1999, and what is proposed for fiscal year 2000?

Answer. The following table provides a detailed accounting on how the School Meals Initiative funds have been used by spending category. The fiscal year 1999 allocations represent the current spending plan and the fiscal year 2000 allocations are projected.

SCHOOL MEALS INITIATIVE: SPENDING BY CATEGORY

	Fiscal year 1998	Fiscal year 1999 (estimate)	Fiscal year 2000 (proposed)
Food Service Training and Technical Assistance:			
Technical Assistance Materials	$2,023,499	[1]$2,991,400	[1]$1,900,000
Print and Electronic Food Service Resource Systems	475,000	475,000	475,000
NFSMI Cooperative Agreement for Food Service	500,000	800,000	800,000
Children's Education Resources	549,166	[1] 787,600	[1]1,700,000
In-school Education Materials			
Community Education Materials			
Food Service Training Grants to States	4,000,000	4,000,000	4,000,000
USDA/FNS Direct Training and Education	27,050	([2])	[2] 50,000
Children's Communications and Technology	50,000	50,000	200,000
Team Nutrition Partnership Support	92,364	337,000	300,000
Resources for Team Nutrition Schools			
Partnership Network Support			
Evaluation & Administration	282,921	[3] 559,000	[3] 583,000
Total	8,000,000	10,000,000	10,008,000

[1] Includes resources for the Child and Adult Care Food Program (CACFP) and Summer Food Service Program (SFSP).
[2] No direct training is planned for fiscal year 1999. The NSLP and CACFP meetings are planned for fiscal year 2000 that should include direct training and education to Program cooperators.
[3] Includes full funding of the staff years allocated to the School Meals Initiative.

Question. Identify and include the use of any unobligated balances from funds provided in fiscal years.

Answer. The following table provides a breakdown of funds obligated in the year in which appropriated and funds carried over into the next fiscal year. The fiscal year 2000 budget estimates that all of the funds available in fiscal years 1998 and 1999 will be obligated. Additional information which has become available since December now indicates that some funds from fiscal years 1998 and 1999 will be unobligated.

SCHOOL MEALS INITIATIVE

Fiscal year appropriated	Funds Obligated in year appropriated	Funds carried over and obligated in the next fiscal year
1998	$7,148,778	$851,222
1999 (est.)	8,600,000	1,400,000

Question. The fiscal year 2000 budget proposes to restore funding of $10 million to the Nutrition, Education, and Training (NET) program. The budget also proposes funding $2 million for Nutrition Education and Training activities in the Child Nutrition Programs. How will the use of this funding differ from the way NET funds are to be used? How would this funding be used differently from funding provided for training of school food service personnel in the School Breakfast and Lunch Programs?

Answer. The President's budget for the fiscal year 2000 includes $10 million in funding for Team Nutrition and $2 million for the Nutrition, Education and Training (NET) Program. Team Nutrition is a Federally-directed nutrition, promotion and technical assistance effort to support the implementation of the School Meals Initia-

tive (SMI) in the NSLP and the School Breakfast Program (SBP). Team Nutrition has been successful in gaining grassroots support for SMI implementation at the local level and has provided many high quality training and technical assistance resources. Further, it has focused National attention on the need to improve the quality of school breakfasts and lunches and provide nutrition education to the Nation's children, which will enable them to improve eating behaviors that can influence their school performance and health in later years. The Department's $10 million request for Team Nutrition will allow it to continue this Federal-level effort.

In order for Team Nutrition to be successful, it needs an established infrastructure to deliver the ongoing technical assistance and training required to support the new nutrition standards and menu planning systems established under the SMI. The NET Program is that infrastructure as a direct grant-to-States program which is the nutrition education and food service training component of the Child Nutrition Programs. It offers the vehicle to transport Team Nutrition benefits to the 94,000 schools across the Nation in an educationally effective and cost efficient manner. The $2 million included in the President's budget represents the minimum necessary to maintain this infrastructure while we work with Congress to ensure an appropriate level of future funding for NET.

Question. The fiscal year 2000 budget request proposes an increase of $2 million to identify and reduce errors in the School Lunch Program. What errors exist in the School Lunch Program and how has this cost been calculated at $2 million?

Answer. Errors in the School Lunch Program can be grouped into two categories: (1) inaccurate payments that result from the actions of households applying for benefits and (2) inaccurate payments that result from errors made by administering schools and school districts.

Category one includes such things as households inaccurately reporting income on applications for free or reduced price meals and becoming approved for free or reduced price meals, but not notifying schools during the school year when household income rises above the eligibility threshold for free or reduced price meals. Category two includes such things as schools (a) incorrectly approving children for free or reduced price meals; (b) incorrectly recording the payment status (free, reduced price, or paid) of students on documents (i.e., rosters) used to distribute free and reduced price benefits (e.g., meal tickets); and (c) making errors in counting meals served and/or in reporting meals served to USDA.

USDA's Income Verification study (1988) found that about 15 percent of the households approved for free or reduced price meals were ineligible. More recently (1997) USDA's Office of the Inspector General (OIG) performed an audit of school districts' verification of free or reduced price meal applications in Illinois. The OIG's audit produced findings similar to those of USDA's Income Verification study.

The funds requested would allow us to consider whether changes to current application and verification procedures would be cost-effective. The level of resources requested is based on the cost of similar research efforts and represents a modest investment relative to the $7.1 billion spent annually (1998 cost) on the School Meals Programs.

COMMUNITY FOOD PROJECTS COMPETITIVE GRANTS PROGRAM

Question. The Community Food Projects Competitive Grants Program (CFP) was established in 1996 to support projects designed to increase food security in communities by meeting the needs of low income people. How much funding was provided for this program in fiscal years 1996, 1997, 1998, 1999, and how much is estimated for fiscal year 2000? How many grants were awarded for each of these fiscal years? Do these grants allow communities and/or for-profits and non-profits to set up gleaning recovery programs?

Answer. This program is managed by the USDA Cooperative State Research, Education and Extension Service. Community Food Projects received $1 million in 1996 and $2.5 million each in fiscal years 1997 and 1998. It is estimated that there will be $2.5 million in both fiscal years 1999 and 2000. In fiscal year 1996, 13 grants were awarded. In fiscal year 1997 and 1998, 18 grants were awarded each year. The fiscal year 1999 Request for Proposals for the program closes on June 4, 1999; accordingly, 1999 grants have not yet been awarded.

Under the authorizing statute for the program, only non-profit organizations may receive funds; therefore for-profit entities and local government agencies are not directly eligible to receive funds.

A small number of grantees in this program have incorporated some gleaning and food recovery activities into their broader community food project activities. However, under the authorizing statute for the program, projects that are solely focused on food recovery and gleaning would generally not rank high in the funding review

process because they would not meet all the standards for wide-ranging community food projects as defined by the law. Consequently, while some number of food recovery and gleaning projects have applied for funding under this program, we have generally not been able to award them grants. This is one reason the Department has requested funding and authorization for a new grant program that would specifically make awards to food recovery and gleaning projects to help them expand their infrastructure.

FOOD PROGRAM ADMINISTRATION

Question. An increase of $9.3 million is proposed for food program administration for fiscal year 2000. Of this amount $2 million will be used to identify and reduce errors in the National School Lunch Program. Please identify the proposed allocation of the $6 million for food stamp program integrity efforts and the $1.3 million for additional program and financial integrity initiatives.

Answer. The $6 million increase for Food Stamp Program integrity efforts will be used to maintain store management and the accuracy of the Quality Control (QC) System which maintains oversight of Food Stamp Program benefits totaling approximately $19 billion annually. In order to support State billings and settlement actions, it is important that the QC system remain statistically valid and legally defensible. With final regulations now in place to bill States under the liability provisions of the Mickey Leland Childhood Hunger Relief Act of 1993, the Food and Nutrition Service (FNS) contemplates billing approximately 20 States each year for liabilities totaling about $60 million. It is necessary that FNS ensure the integrity of the QC system both to control billings and increase State payment accuracy.

The $1.3 million for additional program and financial integrity initiatives will be used to support staff for the oversight of the following:

Review of State Automated System Development activities.—50 percent or more of State system's life cycles have been exceeded and must be replaced; others suffer from Welfare Reform and Year 2000 initiative impacts. In order to protect the Government's program and financial interests, FNS must maintain a determined oversight posture for technical review and oversight of Advance Planning Documents (APDs) submitted by State agencies.

State administrative expense.—The Office of the Inspector General audit report findings concluded that administrative expense reviews conducted by FNS were found to be inadequate, in part, due to FNS' limited resources in this area.

Retail store operations.—Oversight in this area will include maintaining the number of undercover investigations; ensuring timely and thorough handling of new retailer applications and re-authorizations; and providing detailed guidance for reviews of State and EBT processor accounting, processing and reporting systems, etc.

Question. How is the agency using the $752,000 increase provided for fiscal year 1999 for program and financial integrity advancement?

Answer. In the Food Stamp Program the funds are being used to support ongoing efforts to improve payment accuracy, recipient fraud, claims management, and retailer integrity. Payment accuracy efforts include increased State technical assistance and monitoring Quality Control reinvestment and other State agency corrective action plans. A major claims initiative that began in fiscal year 1997 uses special reviews to assess the integrity of the recipient claims system in each State agency. The reviews focus on timely claim establishment, collection and reporting and integrity of the data contained in the claims accountability system. All State claims systems are scheduled to be in compliance by the end of fiscal year 2001. In the retailer integrity area the agency is implementing a new tool that allows us to detect fraud by monitoring transactions that occur at stores. We are now able, in some instances, to detect fraud and take action to eliminate it.

GOVERNMENT PERFORMANCE AND RESULTS ACT

Question. What specific steps have you taken as the head of the agency to achieve performance-based management within your agency, as required by the Government Performance and Results Act?

Answer. The agency developed a Strategic Plan which outlines the goals it plans to achieve incrementally by fiscal year 2002. The agency has also developed the fiscal years 1999 and 2000 Annual Performance Plans which supports the Strategic Plan and specifies those annual goals and objectives for both years.

Question. How are your agency's senior executives and other key managers being held accountable for achieving results?

Answer. The agency has identified strategic and annual performance goals and management initiatives the agency plans to achieve for fiscal year 2000 and beyond. In support of this effort, each senior manager within the agency develops an annual

detailed plan of action which provides specific activities that will be undertaken to support our annual goals. Each senior manager provides a bi-annual report to the Administrator which outlines specific accomplishments. The Administrator uses this internal management tool as a means to assess the agency operations and management performance.

Question. How is performance information being used to manage the agency?

Answer. The FNS Annual Performance Plan identifies strategic and annual performance goals as well as management initiatives the agency plans to accomplish. The agency continuously monitors and evaluates its progress toward achieving these goals. As a result the information serves as one of many variable used by the Agency to determine policy and effect program changes. Accordingly, this data is one very important underpinning of most management decisions made at FNS.

Question. How did program performance factor into decisions about funding requests for fiscal year 2000? Please provide examples.

Answer. We use data such as Food Stamp Program participation, school lunch and breakfast meal service data, general economic indicators such as unemployment level and income, and demographic data such as school enrollment as the basis for our budget projections. Therefore, program performance data is the major driver behind all FNS budget requests.

Question. What specific program changes has the agency made to improve performance and achieve the goals established in the strategic and annual plans?

Answer. As required in annual performance planning, FNS has incorporated a number of program and policy changes into its annual performance plan and goals. The final results of our fiscal year 1999 efforts will be fully reviewed in the fiscal year 1999 Annual Performance Report, but by the end of fiscal year 1999, FNS expects to:

—implement a policy and provide technical assistance to States to restore food stamp eligibility for those legal immigrants authorized under the Agricultural Research, Extension, and Education Reform Act of 1998;
—begin development of a National Food Stamp Program nutrition education strategy;
—propose an incentive system to increase claims collection in the Food Stamp Program;
—increase to 38 the number of States delivering Food Stamp Program benefits through electronic benefits transfer (EBT);
—complete a demonstration project to explore the cost and feasibility of using scrip in conjunction with EBT to make food stamp purchases at farmer's markets;
—secure implementation by over 40 States of the WIC National Breastfeeding Campaign;
—bring 4 new States into the Farmers' Market Nutrition Program;
—implement regulations to improve State oversight of the Summer Food Service Program;
—secure participation by 45 State commodity distribution agencies in the FNS Electronic Data Interchange (EDI) system;
—reduce State paperwork burden in the commodity distribution programs;
—complete a new customer satisfaction survey of schools receiving commodities through the National School Lunch Program;
—and distribute to all school food authorities a Step-by-Step Guide to working with small farmers to buy fresh produce.

With regard to the procedures of plan implementation, FNS is currently undertaking a project to integrate all of its current planning activities, including the development and execution of strategic and annual performance plans, into a single process. The resulting unified process will help to ensure that the priorities identified in strategic and annual planning are fully reflected in the agency's budget and work-planning processes.

Significantly, the planning integration project is also tasked with devising a strategy to communicate the strategic goals and objectives to FNS employees and partners on an ongoing basis. This communication is a critical step in ensuring that all those involved with Federal nutrition assistance understand the agency's key goals and objectives, and their roles and responsibilities in reaching them.

Question. How does the agency budget structure link resource amounts to performance goals?

Answer. The fiscal year 1999 & 2000 Food and Nutrition Service (FNS) Annual Performance Plans (APP) identify the strategic and annual performance goals, as well as management initiatives the agency plans to accomplish the goals. The resources required to achieve these goals are provided in the APP at the strategic goal

level. FNS uses a matrix format to link these resources to the major program activities outlined in the Program and Financing schedules.

Question. What, if any, changes to the account and activity structure in the budget justification are needed to improve this linkage?

Answer. FNS's current budget structure is set up by major program and account activity. The APP and Strategic Plan structure reflect goals that may span more than one program account. However, the basic structure is similar. Therefore, the agency does not plan to make any changes to the account structure at this time.

Question. Does the Agency fiscal year 2000 Results Act performance plan include performance measures for which reliable data are not likely to be available in time for the first performance report in March 2000?

Answer. There are a number of performance indicators for which reliable data will not be available for inclusion in the first Annual Performance Report. In particular, while verification of the achievement of goals related to the Child Nutrition Programs, the WIC Program, and the Food Distribution Programs is based in many instances on administrative data, validation of these findings through evaluations or other independent mechanisms is often not possible.

In a number of instances—for example, for performance goals dealing with program integrity in the Child and Adult Care Food Program (CACFP), and nutrition quality of meals in the Summer Food Service Program (SFSP)—FNS had planned to conduct studies that would provide strong data to set performance baselines and measure progress in reaching performance goals. However, the loss of funding for studies and evaluations forced the agency to rely instead on less-rigorous methods to evaluate our progress, or to change the goals to ensure that they were measurable.

Question. If so, what steps are planned to improve the reliability of these measures?

Answer. Currently, FNS is working to revise its strategic plan, to better reflect its unifying mission and purposes and to make the plan more useful as a strategic management tool. As part of this process, the agency is reexamining its performance indicators to improve their ability to reflect actual performance, including program outcomes. It will also seek ways to validate its measures through evaluations or other data sources.

It is important to note that the agency's loss of funding for studies and evaluations has significantly hampered its ability to develop new analytical and evaluation tools to measure and report performance. As noted above, FNS intended to use a portion of this funding to set performance baselines and measure progress in reaching performance goals. Restoring this funding for studies and evaluations, as requested in the President's budget, is a critical step in enabling FNS to find new approaches to better measure its performance in achieving its strategic goals and objectives.

Question. How will future funding requests take into consideration actual performance compared to expected or target performance?

Answer. The Food and Nutrition Service periodically updates its budget estimates based on program performance. The next update will occur during the Midsession Review this coming July. If the changes are major, they will be submitted to Congress and will also be considered in future funding requests.

Question. To what extent do the dollars associated with specific agency performance goals reflect the full cost of all associated activities performed in support of that goal? For example, are overhead costs fully associated to goals?

Answer. Each goal identified in the Agency's Annual Performance Plan has been resource loaded and reflects the fiscal and capital costs as well as the human resources required to achieve the goal.

FOOD PROGRAM STUDIES AND EVALUATIONS

Question. The Economic Research Service was given the responsibility in fiscal year 1998 and again in fiscal year 1999 to manage the research program for the nation's food assistance programs. Does the Food and Nutrition Service believe it has had adequate involvement in the determination of program priorities?

Answer. The Food and Nutrition Service and the Economic Research Service (ERS) have made a good faith effort to create a practical study agenda that responds to the operational needs of the Nutrition Assistance Programs. This effort helped shape some of ERS' funding decisions and resulted in an agreement between the two agencies that allows FNS to pursue some of our operational study priorities with ERS funding support. However, because the agencies have fundamentally different research goals and methods, the agency firmly believes that effective program management can best be supported by locating the studies and evaluation functions

within FNS. This will ensure tat important policy issues in FNS programs are addressed in the agenda.

Effective program management requires a strong study and evaluation function that is sensitive and responsive to emerging policy issues and the needs of program operators. This is best achieved by maintaining such a function within the agency responsible for Federal Nutrition Assistance Programs. While both FNS and ERS have important roles to play in developing research that supports the FNCS mission, managing the right kind of applied studies and evaluations requires the program expertise, sensitivity to evolving policy issues, and relationships with multiple stakeholders that can only be developed and sustained within FNS.

Question. For fiscal year 1999, the Appropriations Act provided that the Economic Research Service transfer $2 million of the funds provided for food and nutrition research to the Food and Nutrition Service to conduct evaluations and analyses. How does the Food and Nutrition Service plan to spend those funds?

Answer. The plan for using these funds in support of the agency's mission is shown below.

FOOD AND NUTRITION SERVICE FISCAL YEAR 1999 RESEARCH PLAN

Food Stamp Microsimulation and Related Analyses.—Microsimulation is one of the core tools the agency uses to estimate the budgetary and distributional consequences of program changes and alternative policies under consideration by the Congress and others.

This project will support: (1) analyses of the effects of proposed changes in the Food Stamp Program on the number and characteristics of participants and program costs; (2) acquisition of new survey data as they become available, updates of the simulation models with the more current data, and appropriate documentation; (3) enhancement of modeling capabilities to accommodate changes in the Food Stamp Program, changes in other cash assistance programs received by food stamp participants, and new technologies; and (4) research on the characteristics and behavior of food stamp and other low-income households to support future model enhancements and improvements.

Comparison of School Nutrition Dietary Assessment Data.—In 1993 USDA released the results of the School Nutrition Dietary Assessment Study (SNDA I) which, among other analyses, examined the nutrient content of the meals provided in the National School Lunch Program (NSLP) and School Breakfast Program (SBP). The Recommended Dietary Allowances (RDAs) and the Dietary Guidelines for Americans were used as standards against which to compare the meals. Following the study, FNS significantly revised the nutritional standards that School Food Authorities were required to meet. In order to assess the progress that has been made from the time of the first study, in 1995 FNS awarded a second contract to examine the nutrient content of meals.

This project will compare the nutrient content of the school meals in 1993 and 1998. This comparison may require extensive recalculation of the 1993 data. For example, recalculations may be required because the actual nutrient values of some foods have changed over time or because our ability to measure nutrient values has improved. This project would recalculate the nutrient values so that valid comparisons can be made.

Impact of SBP on Learning.—In recent years, a limited number of researchers have conducted studies focusing on the relationship between student breakfast consumption and academic performance. Unfortunately, these studies have had serious methodological and implementation flaws. In order to address this unresolved question, the William F. Goodling Child Nutrition Reauthorization Act of 1998 authorized FNS to conduct a pilot study that would examine the impact of a universal School Breakfast Program on student performance in a limited number of schools. The pilot study is subject to appropriation, and was not funded in fiscal year 1999. The President's fiscal year 2000 budget requests the funding needed to field this study. In order to conduct the study in a timely manner, FNS will use fiscal year 1999 funding for the initial design and development. This project will address numerous complex design and implementation issues that must be resolved before fielding the pilot. For example, this project would determine the most scientifically sound measures of student academic performance, as well as the identification of school districts with the necessary demographic characteristics to conduct such a study.

Quick-Turnaround Budget Analyses and Expert Review.—This funding will support quick turnaround studies providing tabulations of extant data bases and short reports that are needed to support the fiscal year 2000 budget request, inform development of the fiscal year 2001 budget, and respond to related Congressional inquir-

ies. These services are available through the WIC General Analytic Projects contract and the Child Nutrition Analysis Projects contract. Expert review of draft reports, needed to ensure the high quality of study products, will be obtained through these contracts or through direct small purchases with the reviewer.

Question. When the food and nutrition research program was transferred to the Economic Research Service in fiscal year 1998 only the funds for the research were transferred. The Food and Nutrition Service retained in its base the funds it devoted to the management of this program. It has been two years since the Congress moved the study and evaluation funding to the Economic Research Service. One of the Food and Nutrition Service's complaints in the past has been that it does not have the funds to manage and oversee its programs. Since your workload in the area of studies and evaluations has significantly changed and the Congress did not reduce the Food and Nutrition Service's salaries and expenses accordingly, how have you effectively used the staff previously devoted to studies and evaluations to address staffing needs in other areas?

Answer. The staff responsible for studies and evaluations continue to have significant responsibilities that are critical to the success of the agency mission. These responsibilities include work on assessing the impact of potential policy alternatives on program costs and participants; development and clearance of regulatory and civil rights impact analyses; preparation of proposals for the annual agency budget request; responses to Congressional, State and public inquiries; and strategic planning.

In addition, the study and evaluation function has not gone away. The agency is now using its in-house talent to gather and analyze empirical data to improve program operations. Staff also stay abreast of external research on nutrition, welfare and health programs in order to assess and communicate their implications for FNS officials. In addition, though the ability to procure the services of contract research firms has diminished, we continue to manage a significant number of contracts funded through previous appropriations. While the decrease in funding seriously constrains the comprehensiveness of our activity, the study and evaluation staff continue to provide ongoing advice to program managers on the impacts of FNS programs as well as on how to improve customer service, program integrity, administrative efficiency, and measurement of performance results.

Y2K EMERGENCY FOOD RESPONSE

Question. According to the Robert T. Stafford Disaster Relief and Emergency Assistance Act, the Department's Food and Nutrition Service (FNS) is the primary agency for the emergency support function to identify, secure and arrange for the transportation of food assistance to affected areas following a major emergency. Should a food emergency situation occur due to Y2K-related problems or panic-induced stockpiling, what preparations has FNS made to address this situation?

Answer. Because there are USDA foods for on-going Nutrition Assistance Programs in every State that can be used to feed the general public in emergencies, and because our current assessment indicates that there should not be any widespread Y2K problems with the food supply or distribution network, FNS has not set up a special food reserve exclusively for Y2K. However, we continue to work with our State partners, food suppliers, and other agencies in USDA to ensure that our indicators are correct. In the coming weeks and months, our efforts will be focused on developing and preparing contingency plans to ensure that there are alternative sources of food available throughout our communities in the unlikely event there is a Y2K-based interruption in the food supply.

Question. What level of funding has been set aside by the Department and FNS to deal with the potential need to quickly obtain and distribute food should such a food emergency occur as a result of Y2K?

Answer. In the unlikely event that there is a food shortage severe enough to be considered an emergency as a result of Y2K problems, State inventories located in warehouses, schools and charitable institutions could be used to provide nutrition assistance. Additionally, a Presidential declaration of emergency would invoke the provisions of the Robert T. Stafford Disaster Relief and Emergency Assistance Act and enable the Secretary to authorize the expenditure of funds available under Section 32 of the Act of August 24, 1935. Section 32 funds would be used to purchase and deliver any additional food needed to provide nutrition assistance.

Question. What is USDA's total annual expenditure for stocks of commodity foods that are used for USDA-sponsored food programs, including emergency food assistance?

Answer. The total expenditure for commodities purchased for use in domestic nutrition assistance programs is anticipated to be at or above $1,041,000,000 by the

end of fiscal year 1999. This includes $658 million for Child Nutrition Programs, $90 million for The Emergency Food Assistance Program, $76 million for CSFP, $53 million for FDPIR, and $164 million in surplus removal commodities donated for use in all domestic Nutrition Assistance Programs. USDA does not maintain a separate inventory of commodities for use in emergency or disaster situations. Commodities stored at the Federal, State and local levels can be made available for use in these situations. Normally, commodities purchased for schools and stored at the State or local level are the first commodities used in emergency or disaster situations. However, USDA is exploring the possibility of accelerating commodity purchases for delivery prior to the end of the calendar year. The commodities would be placed in Federal inventory and made available for distribution in the event that food shortages occur as a result of Y2K problems.

Question. What types, how much, and where are these commodity foods stored.

Answer. The types of commodities purchased for USDA-sponsored Nutrition Assistance Programs includes frozen beef, chicken and pork; canned meats and fish; canned and frozen vegetables; canned and frozen juices; dry and canned beans; processed and ready-to-eat cereals; flour and flour mix; cheeses; pasta products; peanut products; rice; and infant products.

The majority of the commodities purchased are delivered directly from the manufacturer to State and local warehouses. However, a minimum level of four months inventory is maintained in Federal warehouses in Carthage, Missouri and Exeter, California. The commodities stored in these warehouses are primarily for use in the FDPIR and the CSFP. Federal inventory at the end of fiscal year 1998 was 30.2 million pounds valued at $18.2 million dollars. This level of inventory is necessary to maintain uninterrupted service to participants in these programs. However, inventory levels vary significantly from time to time during a year and between years, depending on the availability of commodities purchased under agricultural support programs, which cannot be predicted with any degree of certainty.

Commodities stored in Federal warehouses can be made available for use in emergency and disaster situations. However, foods purchased for schools and stored in State or local warehouses are usually the first commodities used in such situations. In addition to the commodities purchased on a regular basis for use in domestic Nutrition Assistance Programs, $500,000 is available through a direct appropriation to FNS for use in purchasing commodities in response to an emergency or disaster situation. USDA is exploring the possibility of accelerating commodity purchases for delivery prior to the end of the calendar year. The commodities would be placed in inventory in Federal warehouses and made available for distribution in the event that food shortages occur as a result of Y2K problems.

Supplemental Nutrition Program for Women, Infants, and Children (WIC)

Question. Please provide the WIC participation, food and administrative cost rates for each month in fiscal year 1998 and in fiscal year 1999 to date.

Answer. Monthly WIC participation levels, and food and nutrition services and administration (NSA) costs for fiscal year 1998 and for fiscal year 1999 to date are provided:

Fiscal year	Month	Participation	Food cost per person	NSA cost per person
1998	October	7,425,255	$31.47	$10.98
	November	7,271,569	31.60	9.39
	December	7,236,854	31.63	12.13
	January	7,332,302	31.98	14.48
	February	7,315,333	31.55	10.68
	March	7,394,810	31.46	9.55
	April	7,418,120	31.69	11.97
	May	7,358,478	31.59	12.09
	June	7,402,206	31.65	10.94
	July	7,410,399	31.87	12.48
	August [1]	7,412,586	32.11	10.50
	September [1]	7,414,565	32.53	18.92
1999	October [1]	7,449,781	31.87	11.67

Fiscal year	Month	Participation	Food cost per person	NSA cost per person
	November [1]	7,340,512	32.24	10.85
	December [1]	7,283,599	32.38	10.96
	January [1]	7,332,945	32.72	11.44
	February	7,266,734	32.95	12.56

[1] Indicates these amounts are not yet final; obtained from preliminary State reports for months in which financial activity is not closed-out (verified and reconciled).

Question. The budget indicates a $100 million projected carryout in each of fiscal years 1999 and 2000. Is the $100 million still the most recent projection of the carryout for fiscal year 1999? If not, what is the current estimate?

Answer. The $100 million projected carryout is our most recent estimate. Question. What is the projected "carry forward" by states into each of fiscal years 1999 and 2000?

Answer. We project that States will spendforward approximately $22 million into each of fiscal years 1999 and 2000.

Question. Based on actual monthly costs per participant to date, is the fiscal year 1999 average monthly cost per participant still projected to be $44.47 for fiscal year 1999, $32.63 for food costs and $11.84 for administrative costs?

Answer. WIC program cost estimates for fiscal year 1999 have not changed.

Question. If not, what are the most recent estimates?

Answer. WIC program cost estimates for fiscal year 1999 have not changed.

Question. The Secretary has the authority to use up to $10 million in unspent funds for infrastructure, special project grants, and breastfeeding promotion and support activities. Please indicate how these funds were spent in each of fiscal years 1997 and 1998 and in fiscal year 1999 to date.

Answer. The amounts spent by category for each of the requested fiscal years follows:

In fiscal year 1997, approximately $10 million was allocated for these purposes as follows:

Infrastructure Grants to State Agencies	$7,201,444
Special Project Grant to State Agencies	1,999,995
Breastfeeding Promotion and Support & Infrastructure Projects	798,556
Total	9,999,995

The Department allocated a total of $7.2 million to WIC State agencies for State-specific infrastructure grants to help support the overall goal of reaching more participants and providing quality program service. Grants were awarded to 35 State agencies on a competitive basis. The following table summarizes the breakout of the categories of how the funds were expended.

Categories of Funds Expenditures	*Total Funds Allocated*
Automated Management Information and Integrated Data Systems	$5,497,578
Electronic Benefit Transfer (EBT) Projects	595,218
Service Integration, Coordination & Co-Location	166,700
Breastfeeding Promotion and Support	152,888
Management Technologies and Improvement of Access to Services	120,612
Facility Renovation and Non-ADP Purchase	668,448
Total	7,201,444

The Food and Nutrition Service (FNS) awarded $2.0 million to six State agencies to support special State projects in fiscal year 1997. The special State projects are of National or Regional significance and are relevant to current WIC policy issues, designed to produce a demonstrable impact and be transferable to other WIC programs. The projects also suggest innovative or creative approaches to improving the delivery of WIC services.

The following table summarizes fiscal year 1997 special project grants.

State agency	Project	Amount allocated
Illinois	Feeding with Love: The Impact of Nutrition Education on the Bottle Feeding habits of WIC Preschoolers.	$182,111
Mississippi	Breastfeeding Promotion and Support	399,745

State agency	Project	Amount allocated
Montana	Integrated Data for Evaluation and Assessment	600,000
New York	Barriers to Retention among Infants and Children in the WIC Program.	215,198
North Carolina	A Model for Evaluating and Monitoring the Effectiveness of the WIC Program for Children.	508,808
Virginia	Distance Training on Community-Based Nutrition Education for WIC Professionals: Implementation and Evaluation.	94,133
Total		1,999,995

The remaining funds, approximately $800,000, were used to support breastfeeding promotion and support activities and infrastructure projects of National significance, including an Electronic Benefit Transfer project. Several publications were developed and produced and other breastfeeding promotional efforts have been conducted, as well as a training course in pediatric nutrition and a co-location best practices handbook.

In fiscal year 1998, approximately $9.4 million was allocated for these purposes as follows:

Infrastructure Grants to State Agencies	$4,319,300
Special Project Grant to State Agencies	478,716
Breastfeeding Promotion and Support, EBT & Infrastructure Projects	4,587,369
Total	9,385,385

The Department has allocated a total of approximately $4.32 million to WIC State agencies for State-specific infrastructure grants to help support the overall goal of providing quality program service. Each of our 7 Regional offices initially received $525,000 for allocation to WIC State agencies and grants were awarded to 26 State agencies on a competitive basis. During the grant period, additional funds became available that were used to augment existing grant awards. The following table summarizes the breakout of the categories of how the funds were expended.

General Infrastructure Funds

Categories of Funds Expenditures	*Total Funds Allocated*
Automated Management Information and Integrated Data Systems	$2,531,803
Electronic Benefit Transfer (EBT) Projects	475,735
Breastfeeding Promotion and Support	352,833
Management Technologies and Improvement of Access to Services	467,158
Facility Renovation and Non-ADP Purchase	491,771
Total	4,319,300

The Food and Nutrition Service (FNS) awarded $478,716 to New York to support special State projects in fiscal year 1998. As done in past years, FNS funds special State projects of National or Regional significance that are relevant to current WIC policy issues, designed to produce a demonstrable impact and be transferable to other WIC programs. The New York project was titled "Nutrition Education Video Series for WIC Farmers Market Nutrition Program".

The final $4.59 million of the nearly $9.4 million total is being used to support breastfeeding promotion and support activities and infrastructure projects of National significance, including Electronic Benefit Transfer projects. Several publications were developed and produced on breastfeeding promotion and support and other promotional efforts have been conducted. Three States, Ohio, New Mexico and Wyoming, received EBT funding totaling approximately $4.1 million.

In fiscal year 1999, the $10 million has been allocated for these purposes as follows:

Infrastructure Grants to State Agencies	$3,675,000
Special Project Grant to State Agencies	2,000,000
Electronic Benefit Transfer Projects (EBT)	3,500,000
Breastfeeding Promotion and Support, EBT & Infrastructure Projects	825,000
Total	10,000,000

The Department will award a total of $3,675,000 to WIC State agencies for State-specific infrastructure grants to help support the overall goal of providing quality program service. Each of our 7 Regional offices received $525,000 for allocation to WIC State agencies and are in the process of awarding these grants on a competitive basis. The following table summarizes the breakout of the categories of planned expenditures:

Categories of General Infrastructure Grant Funding	*Total Funds Allocated*
Automated Management Information and Integrated Data Systems	$2,429,496
Service Integration, Coordination, & Co-Location	125,000
Management Technologies and Improvement of Access to Services	418,541
Facility Renovation and Non-ADP Purchases	701,963
Total	3,675,000

The Food and Nutrition Service (FNS) has set aside $2,000,000 to support special State projects in fiscal year 1999. As done in past years, FNS funds special State projects of National or Regional significance that are relevant to current WIC policy issues, designed to produce a demonstrable impact and be transferable to other WIC programs. The projects also suggest innovative or creative approaches to improving the delivery of WIC services.

The final $4,325,000 is being used to support breastfeeding promotion and support activities and infrastructure projects of National significance, including Electronic Benefit Transfer projects. At this time, we anticipate competitively awarding about $3.5 million for State EBT projects. The remaining funds will be used in a variety of ways to support breastfeeding activities.

Question. A number of changes were made in the WIC Program by last year's Child Nutrition Program Reauthorization Act (Public Law 105–366) Please indicate the impact, if any, this new statute will have on WIC Program or participant costs.

Answer. The Special Supplemental Nutrition Program for Women, Infants and Children (WIC) is a discretionary program with funding determined by annual appropriations. Thus P.L. 105–366 had no direct impact on total program costs. In addition, we do not anticipate any change in per-participant cost as a direct result of any of the reauthorization provisions and thus the President's fiscal year 2000 WIC budget request does not reflect any costs or savings which are attributable to reauthorization provisions.

However, the legislation did include numerous non-budgetary modifications to the program. These include provisions designed to improve the certification process and strengthen vendor management and oversight. A summary of the WIC provisions of Public Law 105–366 is provided for the record.

Supplemental Food Programs Division Regulatory Implementation Plan

[William F. Goodling Reauthorization Act of 1998]

Statutory Provision	*Program Affected*
Sec. 203(a)(1). Requires physical presence, except in certain circumstances	WIC
Sec. 203(a)(2). Requires documentation of income, except in certain circumstances	WIC
Sec.203(b). Requires local agencies to provide education or educational materials relating to the effects of drug and alcohol use by pregnant, postpartum, or breastfeeding women on developing children	WIC
Sec. 203(c). Allows the Secretary of Agriculture to provide, in bulk quantity, nutrition education materials developed under the WIC Program to CSFP State agencies at no cost to that program	WIC, CSFP
Sec. 203(d). Provides State agencies with greater flexibility in the use of funds recovered from vendors and participants	WIC
Sec. 203(e). Requires State agencies to implement a system designed to identify participants participating at more than one WIC site	WIC
Sec. 203(f). Requires State agencies to identify high risk vendors and conduct compliance buys on such vendors	WIC
Sec. 203(g). Reauthorizes the WIC Program through 2003	WIC
Sec. 203(h). Allows State agencies to use food funds to purchase breast pumps	WIC
Sec. 203(i)(1) (2) and (4). Extends nutrition services and administration (NSA) funding authorization and makes a technical amendment	WIC

Statutory Provision	*Program Affected*
Sec. 203(i)(3). Reduces from 15 percent to 10 percent the threshold which the Secretary of Agriculture may reduce a State agency's NSA funding if its actual NSA expenditures exceed its per participant NSA grant	WIC
Sec. 203(i)(5). Allows State agencies that submit a plan to reduce average food package costs per participant and to increase participation above the level estimated for the State agency to convert food funds to NSA, based on the estimated participation increase rather than actual increase	WIC
Sec. 203(j). Requires State agencies to offer infant formula rebate contracts to the bidder offering the lowest net price, unless the State agency demonstrates to the satisfaction of the Secretary of Agriculture that the weighted average retail price for different brands of formula in the State does not vary by more than 5 percent	WIC
Sec. 203(k). Extends the requirement that the Secretary to use up to $10 million in unspent funds for infrastructure, special project grants and breastfeeding promotion and support activities	WIC
Sec. 203(l). Requires State agencies to consider, in selecting retail stores, the prices the store charges for WIC items compared to other stores' prices. Also requires State agencies to establish procedures to ensure that selected stores do not subsequently raise prices to levels that would make them in eligible	WIC
Sec. 203(m). Requires the Secretary to establish, in consultation with State agencies, retailers, and other interested parties, a long-range plan for developing and implementing information systems (including electronic benefit transfer (EBT) systems). Also, State agencies are prohibited from requiring retail stores to pay the costs of EBT systems prior to USDA completing a report on the issue	WIC
Sec. 203(n). Allows State agencies to spend back not more than 1 percent of food funds and not more than 1 percent of NSA funds, respectively. Food funds backspent must be used for food benefits; NSA funds backspent can be used for either food or NSA costs. It would also allow a State agency to spend forward NSA funds for NSA purposes, an amount equal to not more than 1 percent of total grant funds. Finally, State agencies would be allowed, with the prior approval of the Secretary, to carryforward NSA funds in an amount not to exceed one-half of 1 percent of total grant funds for the development of a management information system, including an EBT system	WIC
Sec. 203(o). Allows program income as a match source; allows State agencies who wish to increase the value of benefits to recipients to compete for expansion funds; and eliminates specific State Plan ranking criteria and preferences; Secretary is only required to use objective criteria	FMNP
Sec. 203(p). Requires State agencies to permanently disqualify WIC vendors convicted of trafficking in food instruments or selling firearms, ammunition, explosives, or controlled substances for food instruments. The disqualification would be effective on receipt of the notice of disqualification, and the vendor would not be entitled to compensation for revenues lost as a result of disqualification. A State agency would be permitted to waive the disqualification in certain circumstances	WIC
Sec. 203(q). Allows a court to order a person convicted of trafficking in WIC food instruments to forfeit all property, real and personal, used in a transaction or attempted transaction, to commit, or to facilitate the commission of a violation (other than a misdemeanor) of Program laws or regulations	WIC

Statutory Provision	*Program Affected*
Sec. 203(r). Requires the Secretary to conduct a study of the effect of States' cost containment practices in selecting vendors and approved food items on: program participation, access to and availability of prescribed foods, voucher redemption rates and food selections by participants, participants with special diets or specific food allergies, participant use of and satisfaction with prescribed foods, achievement of positive health outcomes, and program costs. A report to Congress is due not later than 3 years after enactment	WIC
Sec. 203(s). Requires the General Accounting Office to conduct a study that assess: the cost of delivering WIC services (including the cost of cost containment efforts), the fixed and variable costs incurred by State and local government for delivering WIC services, the quality of WIC services delivered, and costs incurred for personnel, automation, central support, and other activities to deliver services, and whether the costs meet Federal audit standards for allowable costs. A report to Congress is due no later than 3 years after enactment	WIC

Question. Please report on the Department's latest efforts to contain WIC Program costs.

Answer. In fiscal year 1998, infant formula rebates saved the WIC Program approximately $1.35 billion, the most lucrative of the program's cost containment measures. State agencies also employ a variety of other measures to contain food costs. These measures include, but are not limited to, limiting the type and package size of WIC approved foods; limiting authorized food selections by, for example, requiring participants to select lowest cost or store brand products; carefully selecting and monitoring vendors; and contracting with manufacturers to obtain rebates on WIC foods in addition to infant formula.

In addition, the Department will soon be publishing proposed regulations that implement cost containment statutory provisions of the WIC Program reauthorization legislation, the William F. Goodling Child Nutrition Reauthorization Act of 1998. These provisions include the requirement that States consider, in selecting retail stores, the prices stores charge for WIC food items compared to the prices charged by other stores, and requires States to establish procedures to ensure that selected stores do not subsequently raise prices to levels that would make them ineligible.

Question. Eligible overseas military personnel are authorized to receive WIC benefits. Do you agree with the National Association of WIC Directors that funding for WIC overseas come from armed forces budget?

Answer. WIC's authorizing law does not authorize WIC services to be provided outside of the United States or its territories. While USDA supports the provision of benefits to military personnel serving overseas, funding for such benefits should come from the Department of Defense appropriation.

Question. Eligible overseas military personnel are authorized to receive WIC benefits. Do you agree with the National Association of WIC Directors that WIC programs overseas mirror state-side programs to ensure that returning eligible military and civilian personnel are fully eligible to participate in the WIC programs in transfer locations?

Answer. Both USDA and the Department of Defense agree that there should be a continuation of WIC-type services once personnel leave the States for overseas assignment. As such, if a WIC-type program were to be developed for military personnel serving overseas, such a program should be as close as possible to the domestic WIC Program.

Question. What is the Food and Nutrition Service doing to advance Electronic Benefit Transfer (EBT) systems that improve benefit delivery and client services for the WIC Program?

Answer. The Food and Nutrition Service continues to facilitate the design, development and implementation of EBT for WIC by providing State agencies with special WIC EBT infrastructure development funds and technical assistance. Since fiscal year 1994, FNS has provided $10,500,000 to State agencies that are preparing to move from paper-based service delivery systems to EBT. FNS has developed a National vision and goals for WIC EBT including the development of EBT systems in 7 States by the year 2000. FNS has developed functional guidelines for WIC EBT and has been actively involved in developing National standards for WIC electronic transaction processing.

Question. Funding for WIC, Food Stamp, and Child Nutrition program studies and evaluations was transferred to the Economic Research Service in fiscal year

1998. The explanatory notes indicate that $538,145 in WIC funds were spent for studies, evaluations, and technical assistance in fiscal year 1998. Was this funding available from prior-year appropriations?

Answer. Of the total $538,145 presented in the explanatory notes, $354,293 was from the WIC fiscal year 1998 appropriation and $183,852 was carryover from the WIC fiscal year 1997 appropriation.

Question. How was this $538,145 spent?

Answer. A table providing a detailed listing of the use of this $538,145 in WIC funding is provided for the record.

Item	*Amount*
Technical Assistance [1]	$399,808
WIC Advisory Council	30,000
WIC Participant & Program Characteristics 94–96	19,675
WIC Modeling and Analytic Project	18,111
WIC Nutrition Education Assessment Study	24,393
WIC Infant Feeding on WEB	357
Printing	15,096
Electronic Distributing of FNS Reports	15,000
Study of Savings in Medicaid or Indigent Care for Newborns from Participation in WIC	4,293
WIC Census/Single Audit Clearinghouse	11,412
Total	538,145

[1] These funds were used for a wide variety of technical assistance projects designed to support State agencies in their efforts to deliver a quality program effectively and efficiently. Some of the major items include:

—Printing of "After You Deliver", a publication which was developed for State agencies for use in exit counseling for postpartum women who will soon be categorically ineligible for WIC benefits. The publication reminds participants of important health messages learned during WIC participation, including the importance of a healthy diet, the critical need for folate for women in reproductive years, the importance of immunization of young children, the dangers of alcohol, tobacco and drug use, and an encouragement to breastfeed for subsequent births. State agencies also were each provided with a reproducible electronic disk of the publication for their own printing purposes.

—Reprint, storage and shipping of USDA inventory of Nationally-developed WIC materials for free distribution upon request from WIC State and local agencies, such as USDA's required civil rights poster, WIC's Infant Nutrition and Feeding Guide, How WIC Helps, After You Deliver, Tickle Your Appetite, Drugs and Alcohol Can Hurt Your Unborn Baby and reproducible negatives and electronic printing disks for State agencies.

—Meeting facilities, equipment and expert speakers for two meetings of the Risk Identification and Selection Collaborative (RISC) in which medical experts research and present technical information on specific nutritionally related medical and dietary risks for use in determining and modifying WIC nutritional risk criteria to RISC members. RISC is an ongoing partnership between FNS and the National Association of WIC Directors for continuing study of the state of the art of nutritional risk for WIC eligibility purposes.

—Meeting support funds for conferences promoting and supporting WIC goals and objectives such as the Healthy Mothers, Healthy Babies Coalition's annual breastfeeding conference and National Association of WIC Directors annual conference speaker honorariums; National Association of WIC Farmers Market Nutrition Program Directors annual conference, including training sessions for new and prospective State agencies.

—A grant to the American Academy of Pediatrics (AAP) to conduct a National meeting for State AAP and WIC breastfeeding coordinators.

—A grant to the Association of State and Territorial Public Health Nutritionists to conduct a survey of the public health and community nutrition workforce consistent with Government Performance Report Act commitments regarding public health professionals' recruitment and retention.

—A grant to Johns Hopkins University for an unsolicited proposal to study the influence of males on breastfeeding incidence and duration.

WIC FARMERS' MARKET NUTRITION PROGRAM

Question. The fiscal year 1999 Appropriations Act makes $10 million immediately available for the WIC Farmers' Market Nutrition Program and another $5 million available once it is determined that these funds are not needed to meet current caseload levels. Has the $5 million contingent amount for the program been released and, if so, when was it released?

Answer. On December 8, 1998, we allocated $12,613,879 in base grant amounts to currently operating WIC Farmers' Market Nutrition Program State agencies, which included $613,879 of the additional $5 million. On April 2, 1999, we allocated all but $85,793 of the remainder of the $5 million, based on funding requests for new State agencies and expansion requests for current State agencies.

Question. The WIC farmers' Market Program serves WIC participants. Why does the administration propose that it be funded under the Commodity Assistance Program account rather than the WIC program account?

Answer. While the WIC Farmers' Market Nutrition Program does serve WIC recipients, it also serves farmers. WIC recipients not only get the advantages of fresh, unprocessed produce, they also have an opportunity to be more closely connected to the real source of food, the farmer. Farmers, in turn, are able to market the fruits of their labors directly to customers. The regular WIC Program and WIC farmers' Market program both deserve independent funding sources with the funds for one program not being dependent on the adequacy of funds for the other.

Question. How many WIC participants received benefits through the WIC Farmers' Market Program in fiscal year 1998?

Answer. The number of WIC recipients that received benefits from the WIC Farmers' Market Nutrition Program in fiscal year 1998 was 1.325 million.

QUESTIONS SUBMITTED BY SENATOR DORGAN

FOOD STAMP PROGRAM

Question. According to a recent survey conducted by Congressman Tony Hall's office of food banks across the country, the number of people utilizing food banks has risen dramatically, an average of 22 percent in the last year. Can you give us some insight as to why you think this is occurring?

Answer. We, too, have heard from food banks and other emergency food providers who report strong and rising demand for assistance. The specific reason for this demand is not entirely clear. But clearly the fact that reported demand for food banks and other emergency food programs is rising suggests that a significant number of households are not getting adequate food. At the same time we have heard form community leaders and advocates around the country that the nutrition assistance needs of many are no longer being met by the Food Stamp Program due to policy and procedural changes.

We have observed that food stamp participation has fallen by 9.7 million persons between March 1994, the peak, and February 1999, the latest month for which information is available. This drop can be explained partly by a strong economy and the strength of welfare reform and new restrictions on the participation of certain legal immigrants and able-bodied unemployed adults without dependent children.

But other factors may be at work. Between 1995 and 1997 food stamp participation fell five times faster than poverty, suggesting that many poor families have left the Food Stamp Program despite continued eligibility. Some of these families might not be aware of their eligibility; others may have been discouraged or even prevented from participating in food stamps by State or local agencies. It would not be surprising to find that many of these former program participants would need to turn as a result to the emergency food network as an alternative source of assistance.

Question. Conversely, the Congressional Research Service reports that the number of people using the Food Stamp Program has fallen dramatically in the last couple of years. Can you give me any insight into the reasons for this dramatic decline?

Answer. Food stamp participation has fallen dramatically, by 9.7 million persons between March 1994, the peak, and February 1999, the latest month for which information is available. Part of this drop can be explained by the strength of the economy and the success of welfare reform, which helped move many families from welfare to work. Part of the drop is due to new restrictions on the participation of legal immigrants and able-bodied unemployed adults without dependent children.

But other factors may also be at work. Between 1995 and 1997, food stamp participation fell five times as fast as poverty, a sign that the nutritional needs of some low-income people may be going unmet. The number of people in poverty fell by 850,000 over this period while the number of food stamp participants fell by 4.4 million, suggesting that many poor families have left the program despite their continuing eligibility. Some families who leave welfare for work may not be aware that they still may be eligible for food stamps; in other instances, State or local agencies may have discouraged or prevented those eligible for benefits from applying. In either case, this should not happen.

Question. Can you explain why it appears that the Food Stamp Program's role is declining so dramatically, yet food banks are reporting a sharp increase in the number of people utilizing their services?

Answer. There is, as yet, no unequivocal explanation for this pattern. We have, however, heard from community leaders and advocates around the country who are

concerned that the nutrition assistance needs of many are no longer being met by the Food Stamp Program, due to policy and procedural changes.

While some food stamp recipients have left the program because the strength of the economy and the success of welfare reform has improved their economic situation, others have left for reasons that have little to do with their need for nutrition assistance. Some are no longer eligible for food stamps because they are an immigrant or an unemployed, childless adult. Some may not be aware of their eligibility for food stamps. And others may have been discouraged from participating in the Food Stamp Program by administrative or procedural barriers. As a result, it would not be surprising to find that many of these former program participants would need to turn to the emergency food network as an alternative source of assistance.

Question. Please detail the impact on current participants in the Food Stamp Program of the proposed fiscal year 1999 Supplemental Appropriations Bill reduction of $521 million. How will this reduction affect the FNCS's ability to assist current participants in the program?

Answer. The proposed reduction of $521 million in the fiscal year 1999 Supplemental Appropriations Bill will have no impact on current participants in the Food Stamp Program. Of the Food Stamp Program funds available in fiscal year 1999, at least $1.45 billion will lapse due to lower-than-expected participation during this fiscal year. Therefore, a reduction of $521 million, as proposed in the fiscal year 1999 Supplemental Appropriations Bill, will not affect the Food, Nutrition and Consumer Service's ability to assist current Food Stamp Program participants.

Question. Please provide the amount of funds requested to restore benefits to elderly legal aliens.

Answer. The Agriculture Research, Extension, and Education Reform Act restored food stamp benefits eligibility to any individual who was residing in the United States on August 22, 1996 and was 65 years of age, as well as other groups of legal immigrants. We estimated at the time the bill was passed that it would cost $50 million in fiscal year 1999 to restore benefits to the elderly portion of this population.

Question. How many elderly legal aliens have been added to receive food stamp benefits?

Answer. It is too early to measure exactly how many elderly legal immigrants were added to the Food Stamp Program as a result of The Agriculture Research, Extension, and Education Reform Act. The latest data we have now on the citizenship status of food stamp participants is the Food Stamp Quality Control data for fiscal year 1997. The restoration of benefits did not begin until November 1998.

At the time the bill was passed, we estimated that 65,000 elderly legal immigrants would have food stamp eligibility restored in fiscal year 1999.

Question. Is this the biggest group being "inadvertently" denied benefits?

Answer. No. There are two large groups of legal immigrants who have not had their Food Stamp Program eligibility restored by the Agricultural Research bill. These two groups include:

—parents of U.S. born children (who have always been eligible for benefits) and parents of legal immigrant children (who had their eligibility restored under the Agricultural Research, Extension, and Education Reform Act of 1998) who were in the United States before the enactment of welfare reform; and

—new immigrants who arrived in the country after the enactment of welfare reform. These include elderly, disabled, children, their parents, and other smaller subgroups. However, given economic constraints, we believe that resources should be targeted to the group of elderly immigrants helped by our proposal who are particularly vulnerable and in need of assistance.

CHILD NUTRITION PROGRAM

Question. Under Secretary Watkins testimony stated that the Child Nutrition Reauthorization Act of 1998, allows USDA to "pilot test" a school breakfast project at no cost to participating students in selected elementary schools. During the pilot test USDA will evaluate the effect of eating school breakfast on children's behavior and education performance. Given that the appropriation language for fiscal year 1999 does not fund the pilot test and, it is our understanding that ERS has the funds to conduct evaluations, can FNCS move funds from another account, such as the Food Program Administration account, to fund the pilot test?

Answer. The William F. Goodling Child Nutrition Reauthorization Act of 1998 (Public Law 105–336) authorizes funding for demonstration school breakfast projects, which are to include a rigorous evaluation. No funds were provided for the demonstrations in fiscal year 1999. We have estimated that the demonstrations would cost approximately $13 million over three years—$10 million for evaluation

costs and $3 million to fund added meal costs in the demonstration sites. These funds are requested in the President's fiscal year 2000 budget.

The $12 million funding for studies and evaluations of the Nutrition Assistance Programs that appears in the 1999 budget of the Economic Research Service (ERS) is not adequate to conduct the school breakfast demonstrations. This funding is needed to address other priority issues. For example, Public Law 105–336, authorized a study of cost containment practices in the Special Supplemental Nutrition Program for Women, Infants and Children (WIC), and fiscal year 1999 appropriations report language specifically expressed the Congressional expectation that this WIC study be conducted. The $2 million portion of the funding allocated to the Food and Nutrition Service is largely used to support microsimulation modeling needed for developing Food Stamp Program legislative and budget impact estimates.

For fiscal year 1999, appropriations language prohibits the Food and Nutrition Service (FNS) from using funds from the Food Stamp, Child Nutrition, or WIC program accounts for research or evaluation. FNS has determined that there is no prohibition on use of Food Program Administration (FPA) funds for research activities, as research and analysis is a legitimate and necessary activity for proper program management. Thus FNS would not legally be prohibited from funding the $13 million for demonstrations using the FPA account.

However, given the amount of funds needed, funding the demonstrations through FPA is not possible. FNS' current FPA resources are fully committed to staff and other program management needs. Diversion of these resources to fund the demonstrations would leave FNS unable to meet its most fundamental program management responsibilities. Diminishing resources cannot keep pace with changing program needs and the implementation of new legislation. Welfare Reform, Government Performance and Results Act (GPRA), the Chief Financial Officer (CFO) Act, the Healthy Meals for Healthy Americans Act, to name a few, have imposed significant, new, and ongoing administrative burdens on already strained staff years and funds. FNS' programs have expanded in size and complexity and the agency has been called to improve the nutrition of program recipients, strengthen program integrity and implement Electronic Benefits Transfer (EBT) Nationwide. FNS employees are so overburdened that they are forced to discontinue important work and react as crises arise, rather than look ahead and plan for the future.

Recent Office of the Inspector General (OIG) and General Administration Office (GAO) audits reflect insufficient staff assigned to ensure compliance with statutory requirements in areas such as retailer integrity and food stamp fraud, the agency's financial statements, documentation and collection of food stamp recipient claims, frequency of management evaluations required by program regulations, oversight of the Child and Adult Care Food Program (CACFP), oversight of advanced planning documents, and State cost allocation and claiming.

FNS' insufficient staffing level is a result of administrative funding reductions which have required an 18 percent cut in staff since 1993. Additionally, the agency has cut all non-labor expenses, such as travel and training, by more than five percent each year since 1994. Accordingly, FNS is in no position to target FPA funds for this demonstration.

NUTRITION EDUCATION AND TRAINING PROGRAM

Question. I am concerned that Congress eliminated funding in fiscal year 1999 for the Nutrition Education and Training Program (NET). This is a small program but it has a big impact in North Dakota and other states. There is a lot of confusion in Congress about the NET Program and the Team Nutrition Programs. For the record, please provide a clarification of the programs.

Answer. The Department recognizes that there is confusion about the respective roles of Nutrition Education and Training (NET) and Team Nutrition. There is an unfortunate misperception that they are overlapping programs that do much the same thing. In fact, however, the two programs are complementary. Team Nutrition develops education and technical assistance materials designed to address issues of National concern to a wide range of audiences, including food service professionals, community organizations, families and, most important of all, children. Team Nutrition also provides Federal assistance for States' training efforts through Team Nutrition grants. However, NET provides a vital counterpart to these Federal efforts at the State level. Through NET, State Child Nutrition agencies are able to provide materials and assistance that are tailored specifically to the needs of their States. Moreover, by making grants available to local operators, NET is able to support creative initiatives at the local level for a very modest investment. Finally, NET provides the ongoing training and technical assistance necessary for the efficient operation of the Child Nutrition Programs, and the NET infrastructure is used by many

States to carry out training and technical assistance projects funded through Team Nutrition Grants. For all of these reasons, NET and Team Nutrition are not competitors, but partners.

NUTRITION ASSISTANCE PROGRAM

Question. FNCS has formed strategic partnerships to promote better nutrition and healthy eating habits among participants in the nutrition assistance programs. Please provide details on FNCS's strategic partnerships and the latest efforts to promote better nutrition and program participation.

Answer. Both FNS and the Center for Nutrition Policy and Promotion (CNPP) have formed strategic partnerships with a wide range of government agencies to promote better nutrition and healthy eating habits among participants in Federal Nutrition Assistance Programs, and among the population at large. A list of key strategic partnerships is provided below.

In addition, FNS and CNPP collaborate on an ongoing basis with the Department of Health and Human Services (DHHS) to coordinate policies and programs, including such agencies as the Centers for Disease Control and Prevention (CDC), the National Center for Health Statistics (NCHS), the Office of Disease Prevention and Health Promotion (ODPHP), the Health Resources and Services Administration (HRSA) (including the Maternal and Child Health Bureau), the Administration on Aging (AOA), the Indian Health Service (IHS), and others.

FNS and CNPP also participate in many National efforts to communicate sound eating and health behaviors, such as the National Dietary Alliance, the National Healthy Mothers, Healthy Babies Coalition, Bright Futures, the Healthy People 2010 National Health Objectives working groups, and many others.

Partnerships with FNS and CNPP Involvement

USDA Dietary Guidance Working Group.—CNPP chairs this group, and FNS and CNPP serve as partner agencies. The Working Group promotes consistency in USDA dietary guidance across USDA agencies and DHHS agencies, and ensures that dietary guidance accurately reflects the USDA/DHHS Dietary Guidelines, is supported by research-based knowledge, and is objective in its presentation.

USDA Human Nutrition Coordinating Committee.—CNPP co-chairs this committee with the Agricultural Research Service (ARS), and FNS participates as a partner agency. It is designed to: 1) ensure communication among agencies involved in human nutrition within the Department, and 2) explore and recommend positions on human nutrition-related policy issues.

Thrifty Food Plan Working Group.—CNPP has convened this group, with FNS as one of the partner agencies, to obtain input and support from Federal partners in maintaining and updating the Thrifty Food Plan.

Joint USDA/DHHS Nutrition Education Committee for Maternal and Child Nutrition Publications.—FNS and CNPP both participate in this committee, which provides a systematic mechanism for USDA and DHHS agencies to report plans and progress related to maternal and child nutrition education, to avoid duplication and facilitate coordination, and to make more effective use of resources. The materials developed and shared through this committee benefit FNS Nutrition Assistance Program participants.

Federal Steering Committee for the Dietary Reference Intakes.—CNPP and FNS are members. The Committee interfaces with representatives of the Institute of Medicine's Food and Nutrition Board regarding work to be done to update the 1989 RDA's to the new Dietary Reference Intakes. Work is funded by various Federal agencies and by Health Canada, who are represented on the steering committee.

Nutrition and Food Safety Education Task Force.—FNS and CNPP are both involved in this interagency task force, which serves as a forum for the exchange of materials and ideas on nutrition education and food safety—materials and ideas that are used to benefit FNS Nutrition Assistance Program participants.

Diet Appraisal Research Group.—CNPP chairs this group. Its purpose is to communicate and share results of diet appraisal research being conducted by the Federal government.

Partnerships with FNS Involvement

Team Nutrition.—FNS has partnered with an extensive network of organizations at the National, State, and community levels to develop and implement the diverse range of Team Nutrition projects, programs and activities throughout the country.

Nutrition Support Networks.—These networks, supported through a combination of State, private, and Federal matching funds, bring together strategic partners at the State level to deliver nutrition education and promotion to Food Stamp Program recipients. The networks emphasize the Dietary Guidelines, and rely on integrated

community-based efforts, State flexibility, and use of innovative social marketing approaches to nutrition promotion.

American Academy of Pediatrics, Committee on Nutrition.—FNS maintains an active liaison relationship with the Academy concerning all aspects of nutrition related to infants, children, and adolescents. FNS acquires data which will form the scientific basis for nutrition policy and nutrition promotion projects designed for FNS Nutrition Assistance Program participants.

Interagency Committee on School Health (ICSH).—FNS is a partner in this committee which is sponsored jointly by the U.S. Department of Agriculture, U.S. Department of Education, and U.S. Department of Health and Human Services. The purpose of the ICSH is to increase the overall effectiveness of Federal efforts to provide leadership to improve the education and health of school-aged children and youth through promotion and implementation of school health programs. It is concerned with all Federal policies and programs, and other activities, related to the promotion and implementation of school health programming in elementary and secondary schools.

Bright Futures in Practice.—Nutrition Committee: FNS is a partner in this committee, which has developed a Nutrition Implementation guide to complement the Bright Futures publication on health care supervision of infants, children, and adolescents.

Welfare Reform, Nutrition, and Data Needs Working Group.—FNS and the National Center for Health Statistics co-chair this working group of the Interagency Board on Nutrition Monitoring and Related Research. The group holds quarterly meetings to focus on whether existing and planned data collections will be adequate to assess nutritional status under welfare reform. The meetings involve representatives from the major Federal agencies and many private groups active in anti-hunger, nutrition and welfare matters.

Girl Power and You Initiative.—FNS is a partner in this initiative, which addresses the special information needs of adolescent African-American girls regarding nutrition, physical activity and urban growth.

Physical Activity Initiative Advisory Committee.—FNS is a partner in this committee, which is developing physical activity initiatives for children and adolescents.

Head Start Bureau Nutrition Education Liaison.—FNS provides consultation in the area of the nutrition component of the Head Start Program and serve on related ad hoc or continuing committees, as convened.

Breastfeeding Promotion Consortium.—FNS created this active consortium to facilitate communication and coordination among organizations interested in breastfeeding promotion.

National Healthy Mothers/Healthy Babies Coalition's Breastfeeding Promotion Committee.—FNS is a partner in this committee which promotes public education efforts in maternal and child health through collaborative activities and the sharing of information among professional, voluntary, and government organizations. Through this alliance, FNS actively promotes public education efforts related to breastfeeding, which improves the health and nutrition status of infants and children participating in FNS programs.

Surgeon General's Advisory Committee on Infant Mortality.—FNS is a partner in this committee, which provides guidance and focuses attention on the policies and resources required to address the reduction of infant mortality, including improved nutrition of FNS' target audience of low income nutrition assistance program participants.

Oral Health Promotion Efforts.—FNS is a partner in the Surgeon General's Federal Coordinating Committee Report on Oral Health and in the Planning Committee on the Surgeon General's Conference and Workshop on Oral Health. In these roles, FNS supports and assists in the development of the Surgeon General's Report on Oral Health and related activities and contributing a perspective on oral health as related to FNS food assistance program participants. FNS is also partnering with the DHHS Oral Health Initiative team in an effort to promote oral and dental health among our similar target audiences.

Partnerships with CNPP Involvement

Dietary Guidelines Advisory Committee.—CNPP is Co-Executive Secretary with ARS and HHS. The committee reviews and revises the 1995 Dietary Guidelines. This activity is authorized under the National Nutrition Monitoring and Related Research Act of 1990, which directs the Secretaries of USDA and HHS to issue jointly at least every five years a report entitled Dietary Guidelines for Americans. CNPP will take the lead in developing the consumer publication for the Guidelines to be issued in 2000.

Dietary Guidelines Alliance.—CNPP is a liaison member. The Alliance was formed by the American Dietetic Association, Federal government agencies, and private-sector food commodity, trade and consumer interest organizations to develop positive, simple, and consistent messages to help consumers achieve healthy, active lifestyles.

SCHOOL LUNCH PROGRAM—COUNTRY-OF-ORIGIN LABELING

Question. There is a lingering perception that food products from some countries might pose greater risks than those from others. For example, a March 1997 outbreak of hepatitis A among Michigan schoolchildren was linked to frozen strawberries purchased for the school lunch program that were grown in Mexico. Please describe the measures FNCS has taken to restrict imported foods from the School Lunch Program.

Answer. As you know, a "Buy American" provision has applied to schools for many years. The recent reauthorization legislation for the Child Nutrition Programs codified the provision in that authorizing statute by requiring schools participating in the school lunch and breakfast programs to purchase, to the extent practicable, unmanufactured food products grown or produced in the United States and food products manufactured in the United States substantially from agricultural products grown or produced in the United States. The Department has advised schools of this new legislation and is including this provision in a final regulation that should begin formal clearance procedures shortly.

It must also be emphasized that the commodities which the Department acquires and donates to schools as part of the assistance provided under the school lunch program must be produced domestically. This is because the Department acquires them to help stabilize the agricultural economy. In the wake of the strawberry situation to which you refer, the Department has intensified its procedures for ensuring the integrity of foods acquired for distribution to schools and other institutions.

Question. There is a lingering perception that food products from some countries might pose greater risks than those from others. For example, a March 1997 outbreak of hepatitis A among Michigan schoolchildren was linked to frozen strawberries purchased for the school lunch program that were grown in Mexico. How does FNCS handle foods purchased with non-federal dollars?

Answer. As you know, Federal reimbursement for school meals represents only part of the total funds in the school food service account. Other monies come from State reimbursement, meal charges paid by children who do not qualify for free meals and revenues generated by the sale of competitive foods. These non-federal funds are not subject to the "Buy American" provision of the law. However, other restrictions on the use of the food service account do apply. These restrictions are intended to ensure that the food service account is used to provide nutrition benefits to children.

PROGRAM AND FINANCIAL INTEGRITY

Question. The FNCS must ensure both the program and financial integrity of each program and the timely delivery of benefits to all qualified recipients.

Please provide a detailed list of program integrity studies.

Answer. A list of all 53 program integrity studies conducted by the agency in recent years is attached.

FOOD STAMP PROGRAM INTEGRITY STUDIES

FSP General General

Study of State Law Enforcement Agreements.—by Leo Allman, Systems Planning Associates, and Christopher Logan, Abt Associates, September 1996.

FSP Quality Control

Evaluating the Hunger Prevention Act Quality Control Reforms: A Report to Congress.—by Gregory Mills, Nancy Burstein, Margaret Hart, David Hoaglin, and Dorothy Rosenbaum, Abt Associates, September 1991.

Reforming the Negative Action Quality Control System: A Report to Congress by Jenny Genser and Steven Carlson, Office of Analysis and Evaluation, July 1990.

Redesign of the Negative Action Quality Control System in the Food Stamp Program: Final Report by Gregory Mills and David Hoaglin, Abt Associates, June 1990.

Treatment of Incomplete and Out-of-Scope Case Reviews in Food Stamp Quality Control by Morris Hansen and Benjamin Tepping, Westat, June 1989.

Stratification and Estimation in Food Stamp Quality Control by Morris Hansen and Benjamin Tepping, Westat, June 1989.

Evaluation of the Federal One-Tier Quality Control Pilot Project by Lee Bawden, Pamela Holcomb, Neal Jeffries, Wayne Vroman, and Douglas Wissoker, The Urban Institute, May 1989.

Redesign of the Negative Action Quality Control System in the Food Stamp Program: Feasibility Report by Gregory Mills, Mary Beth Sullivan, and David Hoaglin, Abt Associates, January 1989.

FSP Error Reduction

Evaluation of Grants to States for the Reduction of Payment Error in the Food Stamp Program by Cynthia Holmes, Mary Kay Sistik, and Robert Cook, KRA Corporation, September 1996.

Process Analysis as a Means to Error Reduction in the Food Stamp Program: Final Report and Project Summary by MAXIMUS, Inc., February 1993.

User's Guide: Contingency Model for Food Stamp Program Error Reduction by MAXIMUS, Inc., February 1993.

Error Reduction in the Food Stamp Program: Assessment of the Error Controls Profile and the Contingency Model by Linda Maxfield, Cindy Brach, Dean Conley, Kyle Conley, Deborah Chassman, and Ann Toch, MAXIMUS, Inc., February 1993.

The Relationship Between Overpayments and Underpayments in the Food Stamp Program: Updated Analysis by Gregory Mills, Abt Associates, August 1991.

The Effect of Caseload Characteristics and Socioeconomic Conditions on Food Stamp Payment Error Rates: State Level Analysis by Michael Puma, Abt Associates, February 1989.

Reducing Food Stamp Overpayments: More Frequent Recertifications and Monthly Reporting by Gregory Mills, Abt Associates, December 1988.

The Relationship Between Overpayments and Underpayments in the Food Stamp Program by Gregory Mills, Abt Associates, September 1988.

State-Initiated FNP Demonstration Project Assistance and Evaluation by Applied Management Sciences, August 1988 (3 volumes).

State Administrator's Quality Control Demonstration and Evaluation Handbook by Applied Management Sciences, August 1988.

FSP TRAFFICKING

Synthesis Report for the Food Stamp Participant Trafficking Study by Anne Ciemnecki, Lara Hulsey, James Ohls, Irving Piliavin, Mercer Sullivan, and Josh Rossol, Mathematica Policy Research, July 1998

The Extent of Trafficking in the Food Stamp Program by Theodore Macaluso, Office of Analysis and Evaluation, August 1995.

Food Stamp Program Integrity Methodological Feasibility Study by James Lubalin and Jenny Schnaier, Research Triangle Institute, March 1991.

FSP Verification and Matching

The Cost-Effectiveness of the Income and Eligibility Verification System in Arizona and Michigan by Nancy Fasciano and Sheena McConnell, Mathematica Policy Research, April 1995 (two volumes).

The Income and Eligibility Verification System Targeting Demonstrations: Findings and Guidelines for State Food Stamp IEVS Programs by Myles Maxfield and Susan Allin, Mathematica Policy Research, April 1995.

State Census of Income and Eligibility Verification System (IEVS) Procedures by Susan Allin, Mathematica Policy Research, March 1992.

Computer Matching: A Review of Exemplary State Practices by David Greenburg and Regina Yudd, The Urban Institute, November 1990.

State and Local Computer Matching Operations by Demetra Nightingale and Regina Yudd, The Urban Institute, November 1990.

Costs and Benefits of the National Disqualification Reporting Network by Mark Menne and William Hamilton, Abt Associates, November 1989.

Preventing Fraud and Abuse in the Food Stamp Program: The Use of Computer Assisted Verification of Applicant-Reported Information by Michael Puma, Abt Associates, January 1989.

FSP Claims Collection Claims Collection

Optimal Thresholds in the Collection of Food Stamp Program Claims by Myles Maxfield, Mathematica Policy Research, December 1995.

Claims Collection Tracking and Aging Systems by Linda Wray, Mathematica Policy Research, November 1990.

State and Local Claims Collection Operations by Sharon Long and Linda Wray, Mathematica Policy Research, (undated).

FSP Retailer Operations

Retailer Pre-Authorization Visit Demonstration: Final Summary Report by Christopher Logan, Julie Masker, John Blomquist, Abt Associates, March 1998.

Food Stamp Program Guidebook for FCS Store Visit Contractors by Abt Associates, September 1997.

Evaluation of Food Retailer Compliance Management Demonstrations in EBT-Ready States and Related Initiatives by Christopher Logan and Paul Elwood, Abt Associates, April 1997.

Food Stamp Coupon and WIC Voucher Management Practices and Program Educational Needs of Food Stamp Retailers by Richard Mantovani, Johnnie Daniel, Harry Liu, and Katy Hoffman, Macro International, December 1995.

Child Nutrition Programs Integrity Studies

Early Childhood and Child Care Study: Nutritional Assessment of the CACFP: Final Report Volume II, Abt Associates, Inc. July 1997

Private Nonprofit Sponsors in the Summer Food Service Program, Mathematica Policy Research, Inc., January 1994

National Study of the Adult Component of the Child and Adult Care Food Program (CACFP) Final Report—Volume I: Results, Volume II: Technical Appendices and Tables, Mathematica Policy Research, Inc. (not released until 3/94), October 1993

The School Nutrition Dietary Assessment Study: School Food Service, Meals Offered, and Dietary Intakes, Mathematica Policy Research, Inc., October 1993

Child Nutrition Program Operations Study—Second Year Report, Abt Associates Inc., June 1992

Review Systems for the National School Lunch Program, Office of Analysis and Evaluation, Food and Nutrition Service, March 1992

Child Nutrition Program Operations Study—First Year Report, Abt Associates Inc., August 1991

Study of Income Verification in the National School Lunch Program, Abt Associates Inc., February 1990

Federal Review Final Report, Office of Analysis and Evaluation, Food and Nutrition Service, February 1990

Study of the Child Care Food Program (CCFP), Abt Associates Inc., August 1988

An Evaluation of the Summer Food Service Program, Mathematica Policy Research, Inc., July 1988

WIC PROGRAM INTEGRITY STUDIES

Estimating the Number of People Eligible for WIC and the Full-funding Participation Rate: A Review of the Issues Mathematica Policy Research February 1999

Income Variability Among Families with Pregnant Women, Infants and Young Children, Mathematica Policy Research, January 1997

WIC Nutrition Risk Criteria: A Scientific Assessment, National Academy of Sciences, May 1996

WIC Vendor Issues Study 1991, Final Report, Aspen Systems Corporation, Applied Management Sciences Division; Food and Nutrition Service; Survey Design, Inc., May 1993

WIC Vendor Issues Study 1991, Chartbook, Aspen Systems Corporation, Applied Management Sciences Division; and the Food and Nutrition Service, May 1993 WIC Income Verification Study: Final Report QPC Corporation December 1990

WIC Vendor Management Systems and Practices, Professional Management Associates and the Office of Analysis and Evaluation, Food and Nutrition Service, December 1990

Question. The FNCS must ensure both the program and financial integrity of each program and the timely delivery of benefits to all qualified recipients.

In addition, describe what problems have been found and what solutions are being considered.

Answer. The studies have addressed a wide array of problems and solutions. Some selected examples include:

Eligibility Determination

FNS studies have documented best error reduction practices and made the information available to States. FNS studies have addressed eligibility verification practices and cost-effective thresholds for the collection of financial claims against food stamp recipients.

FNS research developed the most accurate annual State-level estimates of the number of persons in poverty. Annual State-level estimates of the number of persons eligible for the WIC Program are a critical component of the formula used to

allocate WIC funding to States. Prior to development of these estimates, FNS had to rely on information from the decennial census that was as much as 10 years out-of-date.

Timely Work Requirements

FNS studies supported faster implementation of new work requirements for able-bodied food stamp recipients. FNS' analyses have guided State identification of the target population, waiver decisions and disbursements of Employment and Training funds.

Nutritional Integrity

FNS research determined the nutrients provided to school children in school lunches and breakfasts. This information was the foundation for the recent, historic changes in the School Nutrition Programs. For the first time since the program began in 1946, school meals are now required to meet the standards for healthy meals. Data from the School Lunch and Breakfast Cost Study provided critical information to conduct a cost-benefit analysis of alternative menu planning options used in the School Meals Initiative for Healthy Children.

Vendor Management

FNS studies demonstrated the feasibility of reducing fraud by using private-sector firms to visit stores before they get Food Stamp authorization. The FNS evaluation identified specific procedures to encourage and avoid.

An FNS study generated the only data-based, National estimate of the prevalence of trafficking in the Food Stamp Program. FNS analyzed 11,000 undercover investigations of food stores to establish a baseline estimate of $815 million in trafficking—just under four cents of every benefit dollar issued—for fiscal year 1993. An update for the current period will be available later this year.

FNS studies have been used to uphold sanctions imposed upon food retailers engaging in fraudulent EBT transactions, as well as to develop systems to target store investigations effectively. One study resulted in a 45 percent improvement in targeting of investigations while freeing 35 staff years per year for more productive uses.

Administrative Efficiency

FNS studies supplied the foundation to develop and expand electronic benefit transfer (EBT). Agency studies proved the financial cost-effectiveness of EBT and continue to inform decisions on how to use EBT data to fight fraud, extend electronic service to farmers' markets, and balance cost with service.

FNS documented the Federal cost savings associated with participation in the WIC Program. FNS demonstrated that $1 dollar invested in prenatal WIC participation for very low-income women saves an average of $3 in Medicaid costs during the first 60 days after an infant's birth. FNS studies provided the ability to determine the adequacy of Federal meal subsidies for the National School Lunch and School Breakfast Programs. FNS determined that the combined Federal subsidy for free lunches and breakfasts covered the average cost of producing these meals, suggesting that the current reimbursement rates are appropriate.

FNS research was instrumental in determining the future of the Commodity Donation Program. FNS research provided the impetus for substantial improvements in the Commodity Donation Program, rather than abandoning the program in favor of alternatives such as Commodity Letter of Credit or Cash-in-lieu of Commodities. The efficiency of USDA purchasing and delivery systems was assessed along with the relative importance of USDA commodity donations to schools.

QUESTIONS SUBMITTED BY SENATOR BYRD

SCHOOL LUNCH/SCHOOL BREAKFAST PROGRAMS

Question. Chairman Cochran, Senator Kohl, and members of the Subcommittee, I am pleased to be here today to review the U.S. Department of Agriculture's (USDA) nutrition assistance programs, and the Food and Drug Administration's (FDA) programs.

The Food and Nutrition Service (FNS) administers the USDA food assistance programs. The programs administered by the FNS provide a federal safety net to ensure that Americans do not go hungry. While the programs under the FNS are all significant, today, I will limit my questions to FNS's National School Lunch Program.

First, I want to note that Ms. Martha C. Hill of Madison, West Virginia is serving as the National President of the American School Food Service Association, the professional association for persons actively engaged in the delivery of food service in schools. I am proud that Ms. Hill has earned this distinguished recognition, and I commend Ms. Hill for her many years of selfless and honorable dedication to betters the lives of countless young people. Ms. Hill and other school lunch providers in West Virginia are actively promoting the highest standards for school food service and nutrition programs, and she has worked to enhance learning and quality of life through nutrition programs in West Virginia and the nation. Secretary Watkins, please provide me with a report on your agency's impact on the school lunch and breakfast program in West Virginia.

Answer. West Virginia is one of our most progressive States in implementing policies and procedures to enhance the nutritional benefits of the National School Lunch Program (NSLP) and School Breakfast Program (SBP). The foundation for their success is strong State policies that complement Federal policy. Their policies have resulted in providing healthy school meals and improving student access to the programs. For example, all public schools must provide school breakfasts, unless they have been granted a waiver. However, they recognize that mandating a breakfast program is not enough to increase student participation. Adequate time to eat and student friendly customer services, such as their "grab and go" breakfast option and breakfast bars are important. Other factors in improving access to the lunch and breakfast programs have been computerized counting and claiming systems; a family billing system, which has reduced any social stigma associated with the programs; offering a variety of food; and using direct certification procedures.

The State's "Standards for School Nutrition" exceed the Federal requirements. In general, foods of minimal nutritional value cannot be sold or served during the school day and all other foods available must meet the Dietary Guidelines. Team Nutrition has significantly contributed to the success of promoting nutrition education. A high percentage of West Virginia schools have enrolled as Team Nutrition schools. Additionally, West Virginia has enhanced the programs' effectiveness with Team Nutrition Training grants, industry grants and grants from advocacy organizations. In 1998, West Virginia was recognized for their outstanding achievements in Child Nutrition by being awarded a Dan Glickman Pyramid of Excellence Award for School Nutrition Programs.

Question. Please provide me with a report on proposals that would enhance the FNS support to West Virginia school child nutrition policy.

Answer. Through the years, FNS has supported West Virginia child nutrition policy. To assist in West Virginia's comprehensive school health initiative, we worked with West Virginia to develop a multi-use free and reduced price application which would allow parents to request information about the State's Medicaid Program. That application became a model for other States.

We anticipate that West Virginia will benefit from the new afterschool snack reimbursement in the NSLP and Child and Adult Care Food Program (CACFP). Afterschool snacks are intended to give children a nutritional boost and draw them into supervised activities that are safe, fun and filled with learning opportunities. Snacks served in afterschool care programs under the NSLP in a school or in the attendance area of a school where at least 50 percent of the enrolled children are eligible for free or reduced price meals will be reimbursed at the free rate. These schools are "area eligible." Snacks served in afterschool care programs in schools that do not meet this criteria, that is, they are not area eligible, will be reimbursed at the free, reduced price and paid rate depending on the child's economic status. For the period July 1, 1998, through June 30, 1999, reimbursement is $0.5325 for free snacks, $02675 for reduced price snacks, and $0.04 for paid snacks. Additionally, Team Nutrition Training (TNT) grant projects have been and continue to be successful in promoting nutrition education. West Virginia received TNT grants in 1995, 1996, 1997, and they have applied for a 1999 grant. The 1999 grants have not yet been awarded.

SMALL FAMILY FARMERS IN APPALACHIA

Question. Mr. Secretary, I have become increasingly concerned about the plight of the small farmer of Appalachia. These farmers work hard on land most often held in the same family for generations, and I believe these farmers merit federal investment to ensure their future productivity, and more importantly, to preserve a heritage that I deem essential to this nation's moral fiber. There seems to be much talk about small family farmers, but I am dismayed at federal programs that define "small" to include ninety-five percent of all American farmers.

Therefore, (1) I would appreciate a report on the status of the small family farmer of Appalachia, including their numbers, and their chances of future survival. (2) I would also appreciate a report on any current plans that you might have for this important farming segment.

Answer. I share your concern for small farmers. In July, 1997, I appointed a National Commission on Small Farms to provide recommendations for improving the viability of small farms. This Commission recommended that small farms be defined as those farms with annual sales under $250,000. In the Appalachian region of Virginia, West Virginia, Kentucky, Tennessee, and North Carolina approximately 95 percent of the 290,000 farms are considered "small" farms.

Using USDA's 1997 Agricultural Resource Management Study, the Economic Research Service has described additional characteristics of farms in Appalachia which I will provide for the record. According to this report, approximately three-quarters of the farms are in a favorable financial position because they have a positive income and low debt. Only 2 percent have negative income and high debt which puts them in a vulnerable situation. Survival for these farms and the limited resource farms is the most problematic.

Our programs and plans for small farms, including those of Appalachia, reflect the recommendations of the National Commission on Small Farms The Commission's report, *A Time to Act*, released in January 1998, included 146 recommendations to improve USDA service to small and beginning farmers. Many of these recommendations have been implemented by USDA, including the establishment of the Office of Sustainable Development and Small Farms at USDA and the formation of the Council on Small Farms chaired by the Deputy Secretary.

The Department has also restructured responsibilities of the FSA county committees, forcefully addressed long-standing civil rights issues, and streamlined loan processing. Legislation has removed restrictions on subsequent lending to borrowers approved for debt restructuring. USDA has supported producer-friendly tobacco settlement proposals, and expanded small farm research, extension and cooperative development programs in response to commission recommendations. Small farm training and outreach programs throughout the Department have been strengthened. USDA has also supported mandatory price reporting and country-of-origin labeling for beef and lamb, and has reorganized GIPSA to protect producers from unfair trade practices.

The USDA budget for fiscal year 2000 includes $60 million for the Fund for Rural America, and proposes full funding for FSA direct ownership and operating loans, although at lower levels than appropriated with emergency funding in 1999. The budget also increases funding for the Sustainable Agriculture Research and Extension Program (SARE), the Appropriate Technology Transfer for Rural America program (ATTRA), Rural Cooperative Development Grants (RCDG), and outreach initiatives under the Section 2501 program.

Sustainable Agriculture Extension, Renewable Resources Extension, and CSREES 1862/1890 formula funding for small farm programs would continue at current levels. The CSREES small farm initiative proposed in the budget for 1999 is proposed again for funding in 2000, and an increase in small farm program funding is projected under the National Research Initiative.

Small farm marketing efforts are supported with continued funding for the Federal State Market Improvement Program (FSMIP), increased funding for the WIC Farmers Market Program, National Organic Standards, Wholesale Market Development, and strengthened livestock and poultry industry analysis. Small farm conservation initiatives include increased funding for the Stewardship Incentives Program (SIP). Further detail on the requests for additional funding can be found in the chart that is provided for the record.

[The information follows:]

DATA FROM USDA'S 1997 AGRICULTURAL RESOURCE MANAGEMENT STUDY

Almost two-thirds of Appalachian farmers either say that they are retired, but still farming, or that they have a major occupation other than farming. Households associated with these two groups depend on sources of income outside the farm. Another 13 percent are classified as limited resource farms. They have low farm sales, few assets and low household income. The Appalachian region has a higher proportion of these limited resource farms than most other regions.

On average, total farm operator household income in 1997 for the region was $48,485. This is comparable to the average U.S. household and reflects the off-farm income received by farm households. Net farm income for farms in the Appalachia region was about $10,000. Many farms, even the small ones, have multiple owners and this net income from farming is shared with those owners.

It is typical for farms to have financial losses in any given year, so the asset base that farmers have is very important. The average farm business in the Appalachia region had farm assets valued at $302,430 in 1997. Even the low sales farms where the operator lists farming as the principal occupation have substantial assets at $377,115. Farms in the region are not heavily leveraged as the average debt-to-asset ratio was 0.06.

The Economics Research Service has prepared the following table that summarizes the characteristics of Appalachian farms.

SELECTED CHARACTERISTICS OF FARMS IN THE APPALACHIA REGION, 1997

Item	Limited resource	Retirement	Residential/ lifestyle	Low sales/ Farming occupation	High sales/ Farming occupation	Large family	Very large family	Non-family [1]	All farms
Farms	37,177	51,860	132,473	50,736	10,027	5,006	3,177	.....	292,000
Percent of farms	12.7	17.8	45.4	17.4	3.4	1.7	1.1	.....	100.0
Gross cash income	$5,398	$11,975	$8,619	$26,573	$135,724	$271,713	$579,683	.....	$28,478
Total expenses	5,976	9,744	10,119	22,935	94,950	204,147	361,816	.....	23,160
Net cash income	−577	2,239	−1,499	3,637	41,774	67,566	217,867	.....	5,318
Net farm income	3,131	8,200	3,261	9,190	44,128	61,906	193,453	.....	10,404
Value of assets	76,317	263,212	263,306	377,115	570,043	795,846	1,220,030	.....	302,430
Liabilities	1,675	7,663	12,623	17,962	65,069	127,057	289,030	.....	18,774
Debt-to-asset ratio	0.02	0.03	0.05	0.05	0.11	0.16	0.24	.....	0.06
Financial position (percent):									
Favorable	79	91	72	76	78	73	60	.....	77
Marginal income	10	7	26	23	7	14	6	.....	20
Marginal solvency	1	2	.....	1	11	11	4	.....	2
Vulnerable	10	.....	1	.....	5	2	5	.....	2
Income from off-farm	9,600	32,425	61,207	44,649	21,848	25,106	43,168	.....	44,157
Total household income	$8,827	$33,571	$58,740	$56,847	$50,438	$66,042	$184,614	.....	$48,485

[1] The sample for non-family farms in the Appalachian region does not allow statistically reliable estimates. There are approximately 1,500 non-family farms. We do not collect household income for the operators of these farms.

Source: USDA's 1997 Agricultural Resource Management Study.

PROGRAMS RECOMMENDED FOR AN INCREASE IN FUNDING BY THE NATIONAL COMMISSION ON SMALL FARMS—PROGRAM LEVEL

[Dollars in millions]

Program and Mission Area	1999 Current Estimate	2000 Budget
Research, Education and Economics:		
Sustainable Agriculture Research and Extension (SARE)	$8.0	$8.5
Sustainable Agriculture Extension	3.3	3.3
1862/1890 Formula Funding for Small Farm Programs	2.2	2.2
Renewable Resources Extension	3.2	3.2
Small Farm Initiative	.....	4.0
National Research Initiative	5.0	7.0
Subtotal	21.7	28.2
Rural Development:		
Fund for Rural America	.....	60.0
Appropriate Technology Transfer for Rural America (ATTRA)	1.3	2.0
Rural Cooperative Development Grants	2.0	5.0
Farmworker Housing Loans and Grants	31.4	40.0
Subtotal	34.7	107.0
Marketing and Regulatory Programs:		
Federal State Market Improvement Program (FSMIP)	1.2	1.2
GIPSA Poultry and Livestock Market Industry Analysis	1.2	2.6
Wholesale Market Development	2.2	2.6
National Organic Standards	0.9	1.7
Subtotal	5.5	8.1
Other:		
Outreach and Technical Assistance (Section 2501)	3.0	10.0
WIC Farmers Market Program	15.0	20.0
NRE Stewardship and Incentives Programs [1]	45.1	33.8
Direct Ownership Loans	85.6	128.0
Direct Operating Loans	733.8	500.0
Subtotal	882.5	691.8
Total	944.4	835.1

[1] Includes Forestry Incentives Program, Forest Stewardship Program, and Stewardship Incentives Program.

QUESTIONS SUBMITTED BY SENATOR FEINSTEIN

CHILD AND ADULT CARE FOOD PROGRAM

Question. In March, the USDA Inspector General released his audit of California's Child and Adult Care Food Program (CACFP). The audit focuses on ten sponsors whom USDA already suspected of fraud. These sponsors receive over 20 percent of the total $150 million in CACFP funds that go to California, so USDA feels that the extensive fraud being committed by these sponsors is indicative of tremendous problems within the California Department of Education's program. How long have these problems been occurring in California, and why have they not been addressed before?

Answer. The Food and Nutrition Service (FNS) was aware that State and Federal program reviews had identified problems with program abuse and mismanagement by child care institutions and facilities. FNS requested that the Office of Inspector General (OIG) audit the Child and Adult Care Food Program (CACFP) in its efforts

to determine the adequacy of program financial and administrative controls. The findings of the OIG validated the concern expressed by FNS, that select institutions were negligent in their administration and operation of CACFP. After OIG performed extensive work at the local level, they began their review of the State of California's oversight of the CACFP. FNS was not aware of the full magnitude of the problems in California until OIG completed their work at the State level. It was at this time, that FNS became aware of the systemic nature of the problems.

Question. What steps does the Food and Nutrition Service plan to take to ensure that the State of California complies with the audit's recommendations to increase its oversight of high-risk sponsors, review all sponsor budgets, and improve coordination among the various units that administer the program?

Answer. FNS has increased its oversight of the CACFP in California and is working with the State agency to ensure there are sufficient training and organizational controls in place for the CACFP. Since the issuance of the first management alerts and subsequent individual audits of sponsors and the State agency, FNS has been working with the State agency to strengthen CACFP integrity. In early 1998, FNS began working with the State agency to prioritize its resources to those sponsors which fit a problem sponsor profile and has continued working with the State agency to identify high-risk sponsors. In January 1999, FNS participated with the Office of Inspector General and the State agency in training State agency staff on sponsor fiscal management practices and identifying high-risk sponsors. To improve the coordination among the various units that administer the program, the State agency reorganized its audit function and created an Integrity Committee composed of audit, review, administrative, and management staff to determine effective plans of action for individual sponsors, and coordinate and determine State agency actions needed to ensure sponsor integrity. FNS' efforts with the State agency are ongoing and will be aided by additional funding now available to FNS through appropriations that are specifically earmarked for its integrity initiatives.

Question. Will the Inspector General seek any monetary penalties against the State or against individual contractors?

Answer. FNS establishes overclaims based on audit findings, not the Office of Inspector General. Further, program regulations do not allow for monetary penalties to be assessed against the State or local program operators. However, where a determination is made that Federal funds were not spent in accordance with the regulations, States are required to establish monetary overclaims and pursue the recovery of funds from local program operators. FNS may impose fiscal action against the State for failure to take appropriate collection actions against local program operators. In California, the State agency has established and pursued claims against program operators identified by the Office of Inspector General.

Question. The audit also found that the Food and Nutrition Service's oversight of the California program has not been sufficient. What steps are you taking to improve that oversight?

Answer. In its continuing effort to improve program management, FNS has increased oversight of the State agency's administration of the CACFP. The FNS Western Regional Office (WRO) has been working extensively with the State agency to address the OIG's audit findings and focus attention, resources and actions on issues identified through the audit to help the State agency to prioritize its resources to those sponsors which fit a problem sponsor profile. The FNS-WRO has worked closely with OIG pertaining to the actions taken by the State agency to correct problems, and has participated with the OIG and the State agency in training State agency staff. In March 1999, FNS conducted an evaluation of the State agency's program operations for the purpose of determining program compliance as well as offering technical assistance to improve program operations.

A task force of State and Federal representatives provided assistance to FNS in the development of guidance materials for sponsoring organizations of family day care homes and centers as well as independent centers. CACFP standards for family day care home providers were published and distributed to State agencies in May 1997, and standards for independent and sponsored centers were published and distributed to State agencies in February 1998. These are comprehensive guides that address the local level operational problems that have been identified by the Inspector General. Additionally, FNS is currently developing a training program designed for all State agency staff directly involved in the administration of the CACFP. This National training initiative will occur at different locations around the country and will take place during the first half of fiscal year 2000. The purpose of the training will be to strengthen program management and will focus on institution budget and management plans, monitoring systems, internal controls and determinations of serious deficiencies. FNS' efforts with the State agency are ongoing and additional resources for this effort have been provided by specially appropriated funds to FNS.

FOOD STAMP CASELOAD REDUCTIONS

Question. In 1994, 27.5 million people were collecting food stamps. In 1998, that number dropped to 19.8 million, a 28 percent reduction in the caseload. This dramatic drop is not fully explained by the strong economy and low unemployment. The actual number of people in poverty has not fallen nearly as dramatically; 36.6 million Americans were living in poverty in 1997, compared with 38.1 million in 1994. Has USDA seen a pattern of states discouraging families from applying for food assistance?

Answer. USDA has not identified a pattern on a Nation-wide basis. We believe there is substantial compliance with our rules on access to food stamp benefits. However, we did detect instances of local departments implementing restrictive procedures in two urban areas. In each such instance, USDA reviewed the situation and is working closely with the State and Local agencies to assure that corrective measures are implemented.

Question. What actions is the agency taking to better publicize the food stamp program and ensure that all eligible families who want assistance are served?

Answer. When Secretary Glickman released the US Action Plan on Food Security on March 26, 1999, he announced a National campaign "to inform those who are unaware of their eligibility that there is help for struggling families to get proper nourishment while they regain their economic footing." The campaign was spurred by recent information indicating that participation is falling faster than can be explained by a strong economy alone. We are particularly concerned that working families, the elderly and households with immigrant members have information about their eligibility and access to the program.

FNS is currently finalizing our short-term and long-term strategies to meet the Secretary's goals. However, many activities are already underway. Some of the activities focus directly on our customers, that is eligible households who may not realize they are eligible for benefits. Other activities aim to enlist the assistance of our State partners, the welfare agencies that directly service recipients and the National, State and local organizations who work with or advocate for our customers. To ensure that eligible households have access to information, on April 9, 1999, we inaugurated a 1–800 number (1–800–221–5689). Persons who call are sent basic information on Food Stamp Program (FSP) eligibility and how to find their local welfare agency that can provide benefits if they are eligible. Information that has been available in hard copy and through the FNS web page will be updated to ensure that it both contains needed information and is customer-friendly. In addition to printed materials we will also use our web page to make material available for downloading and local reproduction by anyone providing program information services.

Since food stamp eligibility is determined by State and county welfare agencies, they and their cooperating community organizations are key to ensuring both that information on eligibility and how to apply is available and that welfare agencies and others make the application process user friendly. FNS is engaged in several efforts to encourage local activities to make sure that eligible families who want assistance are served. On January 29, 1999, FNS Administrator Sam Chambers wrote all State commissioners reminding them of application processing regulations and enlisting their assistance in making the FSP accessible to households that are leaving TANF for work but who remain eligible for food stamps. Our Regional administrators are talking to their States about this issue and the agency is supporting the efforts of community organizations who provide information and assistance to low income citizens. Secretary Glickman's Pyramid of Excellence Award for program operators offers an opportunity to showcase best practices in client services. FNS will be seeking out and awarding State and local agencies that provide excellent information and service and will be sharing with others the methods that have been successful.

FOOD STAMP RESTORATION FOR LEGAL IMMIGRANTS

Question. How many legal immigrants do you expect to become eligible for food stamps under the Administration's budget proposal?

Answer. We estimate that 15,000 legal immigrants will become eligible and choose to participate in the Food Stamp Program.

Question. Do you know how many of the newly eligible recipients live in California?

Answer. Prior to the enactment of welfare reform, nearly one third of legal immigrant food stamp recipients lived in California. Therefore, it is reasonable to suppose that roughly 5,000 new participants, representing one third of the 15,000 new participants Nationwide, will live in California.

Question. Does the Administration support further food stamp restorations for legal immigrants, such as the proposal in the Fairness for Legal Immigrants Act to restore food stamps to all legal immigrants who were in the country in 1996?

Answer. When the President signed welfare reform legislation in 1996, he stated that some provisions went too far. Legal immigrants, individuals who have entered the country legally and have played by the rules, were especially affected.

The Agricultural Research, Extension, and Education Reform Act, enacted in 1998, restored eligibility to the most vulnerable legal immigrants who were legally in the United States at the time welfare reform was enacted.

A substantial number of legal immigrants who were in the country as of August 22, 1996, have not had food stamp benefits restored. The Agricultural Research, Extension, and Education Reform Act was a "down payment", but did not help everyone. The Fairness for Legal Immigrants Act goes much further in restoring eligibility for all those legal immigrants residing in the country on August 22, 1996. However, given limited resources, the Administration budget focuses on restoring benefits to those that were here before August 22, 1996, but who joined the ranks of the elderly after that date.

SPECIAL SUPPLEMENTAL NUTRITION PROGRAM FOR WOMEN, INFANTS, AND CHILDREN (WIC)

Question. President Clinton has pledged full funding for WIC, but in California WIC administrators are being forced to cut 25,000 participants from the rolls this year due to inadequate funding and a 12 percent jump in the price of milk. How much of the requested increase in WIC funds will go to California, and how many more women and children will these funds serve?

Answer. In February, California did in fact instruct its local agencies to cut caseload levels, which would have resulted in a total caseload reduction of approximately 25,000. However, due to the State agency's recent efforts to control costs by reducing the maximum reimbursement amounts paid to WIC vendors for all foods except infant formula, California now estimates that the savings from this step should provide enough funds so that these caseload reductions will not be necessary.

We have not yet calculated State agency grants for fiscal year 2000, and therefore do not know the specific grant amount that would be allocated to California. If adequate funding is available, California will receive its prior year grant plus an amount for inflation. The number of additional participants that California will be able to serve in fiscal year 2000 will be dependent on their food costs. Currently, California's food costs are one of the highest Nationally for geographic State agencies; we will continue to offer technical guidance and support to the State on controlling food costs through various cost containment initiatives, including vendor management.

Question. Is the Administration considering any additional increases to the WIC program to offset the high cost of milk?

Answer. Fiscal year 1999 food cost estimates in the President's fiscal year 2000 budget were constructed to take into account the relatively high cost of milk projected for fiscal year 1999. The administration is not planning to request a supplemental appropriation for fiscal year 1999 due to the higher milk costs.

Question. The California WIC Association has raised serious concerns regarding the Food and Nutrition Service's proposed funding formulas rule. Among other issues, California is concerned that the salary component of funding allocations may be reduced; that proposed food inflation adjustments will not be sufficient; and that USDA is not appropriately calculating estimates of WIC eligibility in the State. What steps are you taking to address these concerns in the rulemaking process.

Answer. A large number of comments were received on this issue from a variety of sources. The Department will give careful consideration to all comments in the development of the final rule.

QUESTIONS SUBMITTED BY SENATOR KOHL

CHILD NUTRITION—SODA IN SCHOOLS

Question. As I mentioned in my opening statement, I am concerned about the dietary habits of many Americans, especially our youth. I am aware that soft drinks are becoming the beverage of choice for many young people, which concerns me greatly. In fact, I wrote a letter to Secretary Glickman last month regarding this trend and the role USDA should be playing in promoting a healthy diet for our young. Would you please comment on this trend and provide your thoughts on how

best to encourage our young people to consume more healthy beverages, such as milk, rather than soda pop?

Answer. We in the Department of Agriculture share your concern that consumption of soft drinks appears to be increasing in our schools. As you know, the Department's regulations for both the National School Lunch Program (NSLP) and the School Breakfast Program (SBP) prohibit the sale of foods of minimal nutritional value, including carbonated beverages, in the food service area during meal periods. However, as a result of court rulings, they may be given away as long as the food service account is not used to purchase them, and they may be sold elsewhere in the school. And of course, children may select whatever foods they wish when they are outside the school.

Since children have so many opportunities to select foods both inside and outside the school, there needs to be a three-way partnership to teach children to make sound food choices. First, the school meal programs need to provide children with a model of what an appealing and healthy diet can be. To this end, the Department continues to take an aggressive approach to ensuring that school meals meet nutrition standards, and we are providing State and local food service professionals with technical assistance to help them serve foods that provide the basic nutrients children need to grow and be healthy. The second partner is the education community. As I noted, other foods are available in the school, and we are working with our counterparts in the S. Department of Education to make State and local school officials aware of these nutrition issues so that they can lend their support to our efforts. The third and most important partner is the family. For our efforts to be successful, the family needs to be involved in helping children to learn the lesson of healthy eating. So much of what children learn in this area they learn at home, and we are working to help parents recognize the importance of balanced meals for health and well being.

Question. What role could USDA Child Nutrition programs have in this context?

Answer. We have a pivotal role in this undertaking. First, we need to provide a model food program, and this means helping our local food service professionals plan and prepare meals that contain nutritious foods. Just as important, we are working with our partners at the U. S. Department of Education and we are developing and distributing technical assistance materials for school administrators so that we can make the larger education community aware of the competition that foods of minimal nutritional value create for the reimbursable school lunch and breakfast. Finally, through Team Nutrition, we are developing and distributing materials designed to educate children, their parents and the community at large about the importance of sound nutrition and the necessity for children to eat balanced meals. As part of this overall undertaking, the Department is sponsoring a forum in June to discuss the role of school environments in promoting healthy eating behaviors in children. This forum will include experts in nutrition, health, education fields, advocates, political leaders and federal officials; and one of the prime objectives will be to explore ways that public and private groups can work together to reshape the social, educational and physical environment of schools to support dietary behaviors that contribute to a better quality of life for future generations.

CHILD AND ADULT CARE FOOD PROGRAM—WELFARE CHANGES

Question. The Child and Adult Care food program was established to make sure free or reduced cost nutritious meals are available to children and adults in day care settings—whether they be family day cares or day care centers. I believe that this program is essential in getting good food to those who need it most—the young and the vulnerable. The program also serves to increase the quality of child care since participation in it requires far more frequent inspections than required by Federal or most State laws.

However, I have heard some complaints that the 1996 welfare law changes to this program set up a complicated new reimbursement system—especially for family day cares—that has led to more paperwork than food provision. I also know that at least 12 states are not participating in this program at all because of an outdated provision that dictates to them what mix of Federal pools of money they must use in order to be eligible for the Child and Adult Care Food Program (CACFP). These are problems that need to be fixed by the authorizing committee, I understand, but I would like to know from you today: What can you do under current law to lend technical assistance to states and CACFP sponsors to make sure we maximize the number of young children receiving healthy meals under this program?

Answer. In reference to the two-tier reimbursement structure, from the beginning of the implementation process, the Food and Nutrition Service (FNS) has been very aware of the need for technical assistance. For this reason, the agency made it a

high priority to provide training on the new system to all State and Regional staff in January and February of 1997, well in advance of the July 1, 1997, implementation date. It is our understanding that all State agencies held similar training sessions for their sponsoring organizations in the spring of 1997. In addition, Under Secretary Watkins and agency staff made presentations on the two-tiered reimbursement system at several National and Regional conferences, including Save the Children/The Sponsor's Forum, the Sponsor's Association, and the California Roundtable—comprised of regional, State, and local program operators and advocacy organizations.

With regard to States' pooling of subsidies for low-income child care, which affects the ability of for-profit centers to participate in CACFP, you are correct in noting that this is a feature of the National School Lunch Act. The law requires that at least 25 percent of a for-profit center's enrollment or licensed capacity be supported by Title XX funds. This requirement provides a basis for determining that a for-profit center is actually serving a substantial percentage of low-income children.

However, since the advent of the Child Care Development Block Grant (CCDBG) in 1990, Title XX is no longer the primary source of Federal subsidies for low-income child care. In order to counter the diminishing Title XX funds used in child care, many States have, after discussion with USDA, included their reduced Title XX funds in a funding pool along with other subsidies such as the CCDBG. As you note, thirteen States currently have no for-profit participation in CACFP because they have not used Title XX funds to subsidize child care; other States have very low levels of for-profit participation because they do not pool Title XX child care funds with other sources of Federal support for low-income child care.

To ensure that States are aware of the acceptability and advantages of pooling, the Department plans to reissue guidance on pooling to all State CACFP directors in the near future.

MEALS IN AFTER SCHOOL CENTERS

Question. The Child Nutrition Act reauthorization provides snacks for participants in certain after school centers and full meals to children under 12. This is becoming more vital as we see more and more children in—or in need of—after school and off-hour evening programs while their parents work. Has USDA given any thought to the effects of expanding the full meal allowance to all children as a way to improve educational performance and to encourage children ages 12 to 17 to participate in after-school programs—programs that have proved successful in keeping these older kids safe and away from criminal activity?

Answer. The National School Lunch Act as amended by the William F. Goodling Child Nutrition Reauthorization Act of 1998, made provisions for snacks to be provided to children in afterschool programs designed to meet the needs of the at-risk population through the age of 18. The snacks would be provided to children in structured after-school activities through the National School Lunch Program (NSLP) and the Child and Adult Care Program (CACFP). FNS has also been working together with the Department of Education on a variety of programs geared to meet the needs of children in after-school programs. Under Secretary Watkins and a number of other agency officials have participated in a number of after-school rollout events across the country, and we hope to see many more.

While the law authorizes only a snack in the at-risk component of NSLP and CACFP, we believe this to be a good start. The snack will greatly assist schools and non-profit organizations in keeping the interest of these adolescents through a structured activity coupled with the nutritious snack. Although we do not provide reimbursement for a full meal served in at-risk programs, we do encourage after-school care programs to provide more food to older children to meet their increased nutritional needs. This being said, we believe an expansion of the snack program to a full meal would greatly increase program costs. At this time, the effectiveness of providing snacks for afterschool programs needs to be evaluated before further changes should be considered so that any additional adjustments to the program can be better focused.

WIC IMMUNIZATION

Question. The WIC Program has long been one of the most popular and successful programs in the federal government. In addition to the direct nutritional benefits, there are other long-term health benefits from WIC program features such as the WIC Immunization program.

Could you please summarize the status of the WIC-related programs and provide your views on the value of their long-term benefits?

Answer. The WIC Program recently celebrated its 25th Anniversary. Since the Program's inception in 1972, population-based research has increasingly demonstrated the importance of the kinds of supplementation, education, and referral services the program provides to both short-and long-term educational and health outcomes.

Research studies have provided a substantial body of evidence concerning WIC's effects on birth outcomes, health care costs, diet and diet-related outcomes, infant feeding practices, immunization rates, and cognitive development.

Birth Outcomes and Health Care Costs

Infants who are born premature or at low birth weight account for a disproportionate share of health care costs, but studies suggest that the WIC Program has been playing an important role in improving birth outcomes and containing costs.

A series of reports published since 1990 have found that pregnant women who participate in WIC during their pregnancies have significantly longer pregnancies, fewer premature births, a lower incidence of moderately low and very low birthweight, fewer infant deaths, and a greater likelihood of receiving prenatal care relative to similarly low-income women who do not participate in WIC. Associated with these improvements in birth outcomes were significant savings in health care costs.

The 1990 WIC Medicaid Study found that prenatal participation in WIC by low-income women was associated with savings of $1.77 and $3.13 in Medicaid costs in the first 60 days postpartum for each dollar spent on WIC.

A more recent study (WIC: Analysis of the 1988 National Maternal and Infant Health Survey, 1995) found similar relationships among WIC participation and birth outcomes in a Nationally representative sample of WIC participants, suggesting that the positive effects of WIC are not limited to the most disadvantaged segments of the low-income population

Diet and Diet-Related Outcomes

The WIC Program provides participants with a supplemental food package high in nutrients that are critical to periods of rapid growth and development such as pregnancy and early childhood, and which are also important during postpartum recovery and lactation.

The National WIC Evaluation found that children participating in WIC had higher mean intakes of iron, vitamin C, thiamin, niacin and vitamin B6, without an increase in food energy intake, indicating an increase in the nutrient density of the diet.

Other studies have documented reductions in iron deficiency anemia associated with WIC, and an increase in fruit and vegetable consumption among WIC participants who received Farmers' Market coupons through WIC.

Infant Feeding Practices

The American Academy of Pediatrics currently recommends that infants be fed breastmilk or an iron-fortified infant formula from birth to 12 months of age, and that other foods not be introduced until the infant is four to six months of age. Introduction of cow's milk in the first year of life is associated with intestinal bleeding, anemia, and allergies.

Two FNS studies to date (WIC Breastfeeding Report, 1992 and WIC Infant Feeding Practices Study, 1997) have found that overall rates of breastfeeding initiation among WIC participants are below Healthy People 2000 and 2010 goals, consistent with their more disadvantaged socioeconomic status. However, both studies found that those who receive breastfeeding advice and support from WIC are more likely to breastfeed than similarly low-income women who do not receive such advice and support.

WIC also increases the likelihood of appropriate feeding among non-breastfeeding women. The National WIC Evaluation found that WIC infants were significantly more likely to be fed infant formula than controls. They were also significantly less likely to be fed whole cow's milk in the first year of life. More recent data from the 1988 National Maternal and Infant Health Survey also found that WIC infants were less likely to be fed cow's milk than eligible non participants. The WIC Infant Feeding Practices Study (1997) found that early introduction of cow's milk is not a common problem among WIC mothers. It also found that women who received infant feeding advice from WIC were less likely than others to introduce cereal into their infants' diets inappropriately early.

Immunization Rates and Regular Source of Medical Care

Over the last several decades, vaccines have significantly reduced the number of people contracting life-threatening illnesses such as typhoid, measles, and polio. However, immunization rates are lower among low-income individuals. A regular

schedule of immunizations is prescribed for children from birth to two years of age, which coincides with the period in which many low-income children participate in WIC.

The National WIC Evaluation found significantly improved rates of childhood immunization and of having a regular source of medical care associated with WIC participation. Since then, emphasis on immunization status assessment, education, and referral have increased.

Cognitive Development

Cognitive development influences school achievement and behavior.

The National WIC Evaluation found that by ages 4 to 5 years, children enrolled in WIC prenatally had better vocabulary scores, and children enrolled in WIC after the first year of life had significantly better memory for numbers.

In summary, the evidence indicates that WIC facilitates the receipt of timely and appropriate immunizations and prenatal care, assists in the development of healthy eating habits for pregnancy and for life, prevents poor birth outcomes, and reduces anemia and other dietary problems. In doing so, WIC prevents problems that are known to hinder early learning and long-term educational outcomes. It may also play an early role in the prevention and management of debilitating conditions such as cancer and heart disease that often strike adults in later years, and which have been increasingly linked to diet.

FOOD STAMP PROGRAM—EFFECTS OF WELFARE REFORM

Question. We see in USDA's budget materials that Food Stamp participation is falling while requests for the WIC program continue to climb. How do you account for the fall in one program and an increase in the other?

Answer. The Food Stamp Program is an entitlement program designed to respond to changing needs during times of economic expansion and contraction. Legislative changes in eligibility criteria affect participation levels from one year to another, and people who are eligible for food stamps must also choose to apply for them.

Food stamp participation has fallen dramatically, by 9.7 million persons between March 1994, the peak, and February 1999, the latest data we have. Part of this drop can be explained by the strength of the economy and the success of welfare reform, which has helped to move families from welfare to work. Part of the drop is due to new restrictions on the participation of legal immigrants and able-bodied unemployed adults without dependent children.

But other factors may also be at work. Between 1995 and 1997, food stamp participation fell five times as fast as poverty, a sign that the nutritional needs of some low-income people may be going unmet. The number of people in poverty fell by 850,000 over this period while the number of food stamp participants fell by 4.4 million, suggesting that many poor families have left the program despite their continuing eligibility.

Unlike the Food Stamp Program, participation in the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) increased from 6.5 million in fiscal year 1994 to 7.4 million in fiscal year 1998. WIC serves a different population, with families with incomes of up to 185 percent of the poverty line eligible.

As the economy has improved in recent years, the number of persons estimated to be eligible for WIC has declined somewhat. Yet, there are still many unserved eligible mothers, infants and children. Our best estimates indicate that current participation is more than 1 million persons below the number eligible to participate.

Question. To what extent are these changes results of Welfare Reform?

Answer. From 1994 to 1997, over 800,000 legal permanent residents and 500,000 ABAWDS left the food stamp roles. The numbers, however, do not reflect the impact of immigrant restorations and new Employment and Training funds in Agriculture Research. To the best of our knowledge, no one has yet been able to determine what percent of the drop in food stamp participation is attributable directly to the success of welfare reform in moving people from welfare to work. In January 1998, the Congressional Budget Office observed that the rapid decline in food stamp caseload was something of a mystery. The same can be said today. While several contributing factors are easily identified, including the success of welfare-to-work efforts, the relative importance of these factors has so far resisted quantification.

Question. What special management and/or budgetary problems is USDA experiencing in the administration of the Food Stamp, WIC, and other programs as a result of Welfare Reform?

Answer. In addition to the direct impact of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA) on the Food Stamp Program (FSP), there are a number of management issues that resulted from the Act's elimi-

nation of the Aid to Families with Dependent Children (AFDC) program, and the creation of the Temporary Assistance to Needy Families (TANF) program:

—*Ensuring FSP Access*.—Since passage of PRWORA, Food Stamp caseloads have fallen more quickly than can be explained fully by the changes in eligibility rules, the strength of the economy and the success of welfare reform. The drop in FSP participation, which significantly exceeds the decline in the poverty rate, suggests that many poor families have left the program despite their continuing eligibility. Problems related to the transition to TANF may be a factor; the TANF emphasis on moving people off cash assistance may have inadvertently reduced Food Stamp Program participation. Some families who leave TANF for work may not be aware that they still may be eligible for food stamps; however, we did detect limited instances of local departments implementing restrictive procedures in two urban areas. In each such instance, USDA worked closely with the State and local agencies involved to review the situation and to assure that corrective measures were implemented.

—*Administrative Cost Offset*.—Soon after passage of PRWORA, Congress recognized that States might charge the FSP for administrative costs that were previously paid by AFDC and grandfathered into the TANF grant amount. As a result, Congress enacted an administrative offset provision to prevent "double payment" of these costs by the Federal government. For fiscal years 1999 through 2002, FNS will reduce Federal amounts otherwise paid to States for administrative costs of the FSP by amounts HHS determined were grandfathered into the TANF grant. The agency began implementing this provision on April 1,1999.

—*FSP/TANF Conformity*.—FNS finds increasing interest from States to make FSP rules conform to TANF rules—which vary from State to State—or to make FSP rules support TANF work philosophy. In certain cases, States have been given the opportunity to do so. For example, States can conform some of their sanction policies to match TANF sanctions; 7 States have decided to reduce FSP benefits for non-compliance with TANF rules. While this option gives States additional flexibility, it also adds to administrative complexity and burden at the Federal level. Many conforming changes proposed by States increase Federal costs, or adversely effect household eligibility.

—*Quality Control*.—One important FSP/TANF conformity issue is quality control. Under TANF, States are no longer required to administer a quality control system to measure benefit accuracy; in addition, TANF requires new measures of State performance. States have expressed concerns about operating quality control for the food stamps alone, and have suggested that FNS consider new performance measures that are integrated with the TANF requirements for new measurement systems.

—*Public Charge Issues*.—Implementation of welfare reform legislation has raised questions about whether non-citizens who participate in Food Stamps, Child Nutrition and WIC programs are "public charges"—non-citizens who must rely on the U.S. government for support. Public charge status potentially can result in deportation, denial of entry into the United States, or denial of changes in alien status.

Working with the Immigration and Naturalization Service (INS), FNS has determined and communicated to State program cooperators that participation in Food Stamps, Child Nutrition and WIC programs does not render a non-citizen a public charge. This FNS policy is based on interim guidance from the INS, which is in the process of issuing more formal guidance. However, it is evident that Federal and State governments must continue to work to communicate and educate at local grassroots levels to assure that civil law groups, program operators, advocates, universities, and participants themselves all fully understand that alien status has no bearing on eligibility for Food Stamps, Child Nutrition or WIC programs, and that such participation does not constitute a public charge issue.

—*Indian Tribal Issues*.—TANF permits Indian tribes to directly administer TANF. Tribes are beginning to administer TANF and as a result FNS is seeing more interest from tribes in the administration of the FSP as well. FNS is considering how to respond to this interest, given that the Food Stamp Act allows tribal administration of the FSP only if States cannot administer the program.

Question. Currently, the State of Wisconsin is requesting you to exercise waiver authority provided by Welfare Reform that would allow the state to privatize certain elements of the Food Stamp program? What is the status of this request?

Answer. The State of Wisconsin submitted its waiver on August 5, 1998. On October 5, 1998, FNS requested clarification from the State about a number of program, finance, and technology issues. Our letter also requested clarification about how the State would evaluate the demonstration project. The State's initial request did not

include a research design describing how the demonstration would be evaluated. At the State's request, we have participated in several conference calls to assist the State in its development of a research design. The State submitted its research design on March 1, 1999. We are in the final stages of reviewing the waiver and will be providing the State with a final answer soon.

Question. Have similar waivers for other states been granted? Why or why not?

Answer. FNS has not approved any waiver allowing a State to privatize the Food Stamp Program's certification and eligibility determination process. One demonstration waiver request from the State of Arizona was denied December, 1998, because FNS determined the State's request did not ensure program access for food stamp applicants and recipients. More specifically, the request did not provide adequate justification to waive the requirement for the use of merit employees (public) in the certification process that results in the final determination of program eligibility. FNS can waive Food Stamp Act requirements to test alternative methods that would further improve administration and meet the nutrition assistance goals of the Food Stamp Program.

To date, FNS has denied one waiver request (Arizona) and is in the process of reviewing a demonstration waiver request from the State of Wisconsin. The State of Florida submitted a demonstration waiver request to FNS January, 1998. FNS is waiting for a response to our request for clarification on a number of issues. Finally, the State of Texas sought to privatize the Food Stamp Program's certification process Statewide. The State of Texas was not seeking a demonstration waiver request. The Administration advised the State that the Food Stamp (and Medicaid) certification process must, by law, be conducted by public employees. Question. The Washington Post reported last month that welfare reform has resulted in a certain "chilling effect" among certain parts of our population, especially immigrants who are eligible for benefits, as a reason for the decline in program utilization.

Question. Is that the case with the Food Stamp Program?

Answer. Restrictions on participation by legal immigrants may have deterred participation by their children, many of whom retained eligibility for food stamps. Between September 1996 and September 1997, participation among U.S.-born children living with their legal immigrant parents fell significantly faster than participation among children living with native-born parents. During this period, the number of participating U.S.-born children living with legal immigrants fell by 37 percent, versus 15 percent of children living with native-born parents. The source of data for this is the Food Stamp Program Quality Control data.

STUDIES AND EVALUATIONS

Question. For the past couple of years, the Studies and Evaluation functions of the Food and Nutrition Service have been placed with the Economic Research Service. Is there proper coordination between the nutrition programs and other USDA agencies regarding information?

Answer. The Food and Nutrition Service and the Economic Research Service (ERS) have made a good faith effort to create a practical study agenda that responds to the operational needs of the Nutrition Assistance Programs. This effort helped shape some of ERS' funding decisions and resulted in an agreement between the two agencies that allows FNS to pursue some of our operational study priorities with ERS funding support. However, because the agencies have fundamentally different research goals and methods, the agency firmly believes that effective program management can best be supported by locating the studies and evaluation functions within FNS. This will ensure tat important policy issues in FNS programs are addressed in the agenda.

Effective program management requires a strong study and evaluation function that is sensitive and responsive to emerging policy issues and the needs of program operators. This is best achieved by maintaining such a function within the agency responsible for Federal Nutrition Assistance Programs. While both FNS and ERS have important roles to play in developing research that supports the FNCS mission, managing the right kind of applied studies and evaluations requires the program expertise, sensitivity to evolving policy issues, and relationships with multiple stakeholders that can only be developed and sustained within FNS.

Question. Secretary Watkins, would you like to comment on reasons for which these activities should be returned to the Food and Nutrition Service?

Answer. In a nutshell, I firmly believe that effective program management requires a strong study and evaluation function that is sensitive and responsive to emerging policy issues and the needs of program operators. This is best achieved by maintaining the study and evaluation function within the agency responsible for critical Nutrition Assistance Programs.

Restoration of FNS study and evaluation funding is critical to the effective management, administration, and oversight of Federal Nutrition Assistance Programs. Lawmakers, Federal and State policymakers and program operators need access to high-quality, practical research findings grounded in the experience of program operators. Managing the right kind of applied studies and evaluations requires the program expertise, sensitivity to evolving policy issues, and relationships with multiple stakeholders that can only be developed and sustained within FNS.

The ability to establish and carry-out the study agenda is an essential tool in managing the nutrition programs under my jurisdiction. The importance of effective strategic planning for results requires timely data and analysis. Under the current arrangements, the research foundation for strategic planning, problem definition, policy change and innovation rests in another mission area within USDA. This division between research and program operations has made management of program improvements and ongoing operations significantly more difficult.

NUTRITION, EDUCATION AND TRAINING PROGRAM (NET)

Question. One of the things that the Child Nutrition Act reauthorization did not do last year was to return the Nutrition, Education, and Training (NET) program as a mandatory item. Consequently, no funding was provided for NET in fiscal year 1999. Please describe the effect this lack of funding has had on the administration of feeding programs this year.

Answer. Because there has generally been no funding for NET activities this year, the traditional support that NET has provided to the programs has been unavailable. While we do not have conclusive data, the information available to us suggests that training and technical assistance efforts have been greatly diminished due to the lack of funding, and if funding is not restored as soon as possible, the positive impact of NET will cease to exist and the infrastructure that has taken years to build will dissipate. For these reasons, it is vitally important that the program receive the minimal funding requested in the President's budget and that a solution to permanent funding for NET be found.

Question. Please explain the primary reasons this funding should be restored.

Answer. NET performs an extremely valuable service to the Child Nutrition Programs by providing a link at the State level for Federal training and technical assistance efforts. Moreover, NET enables States to tailor materials and assistance specifically to the needs of their local operators. Finally, by making grants available to local operators, NET is able to support creative initiatives at the local level for a modest investment. In short, NET provides a significant complement to other programs, such as Team Nutrition, which are intended to help local professionals plan and prepare meals which are both nutritious and appealing.

Question. I have noted from time to time, public announcements in various locations that up to 25 percent of the areas children go to bed hungry every night. These announcements are usually associated with appeals for contributions to food banks or some other form of food assistance outlet. Still, given the level of assistance provided through USDA and other federal, state, local, and charitable organizations. I am struck by what seems a very high percentage of children in the United States living in this condition. Please provide information relating to the status of hunger in the United States, especially among the young, elderly, and other vulnerable populations and the level to which USDA programs are meeting those needs.

Answer. Despite America's ability to produce more food than it can consume, food insecurity and hunger still exists. In September 1997, on the occasion of the first National Summit on Food Recovery and Gleaning, we released the results of USDA's comprehensive effort to measure the extent of hunger as commonly understood by most Americans. Our estimates are based on the pattern of responses among about 45,000 households in a supplement to the Current Population Survey (a Nationally representative sample selected and interviewed by the Bureau of the Census).

The results tell us that hunger existed among persons in 4.2 million households, about 4.1 percent of all households, at some time during the year ending in April 1995. Not all households are equally likely to experience hunger. A larger proportion of households with children (5.3 percent) and a smaller proportion of households with elderly (1.9 percent) experienced hunger. Black and Hispanic households with children were about twice as likely to experience hunger as their White counterparts. Households headed by single women were four times more likely to experience hunger than households headed by married couples. And the chance of experiencing hunger increased as income fell.

The Nation's Nutrition Assistance Programs—food stamps, school meals, WIC—are in the front lines of the fight to end hunger and improve nutrition. More than

18 million people receive food stamps, over 26 million receive a school lunch, and over 7 million women, infants, and children receive supplemental foods. But everyone can and should play a role. Earlier this year, Secretary Glickman unveiled his Community Food Security Initiative to create partnerships that will help communities help themselves, to work at the grass roots to weed out hunger.

DEPARTMENT OF HEALTH AND HUMAN SERVICES

FOOD AND DRUG ADMINISTRATION

STATEMENT OF JANE E. HENNEY, M.D., COMMISSIONER

ACCOMPANIED BY:

MICHAEL A. FRIEDMAN, M.D., DEPUTY COMMISSIONER FOR OPERATIONS

ROBERT J. BYRD, DEPUTY COMMISSIONER FOR MANAGEMENT AND SYSTEMS, CHIEF FINANCIAL OFFICER

DENNIS P. WILLIAMS, DEPUTY ASSISTANT SECRETARY FOR BUDGET, DEPARTMENT OF HEALTH AND HUMAN SERVICES

OPENING REMARKS

Senator COCHRAN. Our next panel this morning is from the Food and Drug Administration. We're pleased to welcome the Commissioner, Dr. Jane Henney. Also with the Commissioner, we have Dennis Williams, Deputy Assistant Secretary for Budget of the Department of Health and Human Services; Dr. Michael A. Friedman, Deputy Commissioner for Operations; and Robert J. Byrd, Deputy Commissioner for Management and Systems, and FDA's Chief Financial Officer.

Earlier this year, the committee held a food safety hearing at which Dr. Henney and others appeared to help us consider the budget request as it related to food safety initiatives and our effort to make sure that a healthy wholesome food supply continues to be available to America's consumers.

FDA has a very important role to play in that, and important statutory responsibilities, along with the Department of Agriculture and other agencies. So, we had that hearing already. Today's hearing will look at other obligations and activities of the FDA that are funded in this budget request.

We're aware of a lot of the initiatives of this agency. Its responsibility extends from medical devices to animal drugs to blood products. Not only does it regulate these domestic products, but it also has the responsibility of monitoring imports of these same products to ensure their safety and effectiveness for the public's use and consumption.

Dr. Henney, welcome. We ask you to make whatever comments and description of the budget request that you think will be helpful to our committee. Thank you very much.

Dr. HENNEY. Mr. Chairman, members of the committee, I am truly honored to address you as the Commissioner of Food and Drugs. It's a privilege today to present the agency's plans and expectations as reflected in the administration's proposed budget for fiscal year 2000.

I would also like to take this opportunity to share with you my thoughts on where I hope to lead the Food and Drug Administra-

tion, both the tasks that I believe are most urgently demanding the agency's attention and perhaps as important, my approach to these tasks which emphasizes a commitment to heighten effectiveness and an openness to our constituencies.

Many of the things that I remembered about FDA's dedication to the health and safety of Americans have not changed since I left the agency several years ago but I am reminded on nearly a daily basis how much has changed since I was last here.

The FDA Modernization Act, the administration's reinventing government initiatives and the Prescription Drug User Fee Act have triggered significant changes in many of the agency's processes and outcomes.

One of the most important changes that has followed the FDA Modernization Act is a renewed commitment to listen and learn from those affected by FDA regulations—consumers, patients and the industry. I firmly believe that we must seek out and listen to the views of all.

My early focus has also been on an issue within the agency. As I promised in my confirmation testimony, I have conducted a reorganization study of the office of the commissioner. And, as a result, I have realigned certain functions within the commissioner's office and moved other functions to the centers.

The steps I am taking will reduce the size of the office of commissioner by approximately 12 percent while moving those resources closer to where the programmatic work of the agency is most appropriately conducted.

However, I am here today to request your support for a substantial increase in FDA's budget, indeed, the largest requested increase in the agency's history.

This request is intended to allow us to begin to rebuild our capabilities, to strengthen our science base, the foundation of sound regulatory decisions, and to continue several long-range high priority programs that are vital for the protection of the public health.

As large as this budget request is, it provides only the first steps toward rebuilding an effective agency able to carry out its basic responsibilities and to respond to emerging public health problems.

Among those priorities, number one, is the full implementation of the FDA Modernization Act. I am committed to the full and effective implementation of this law both in its letter and spirit. Recognizing the priority that Congress gave to enactment of the FDA Modernization Act, the FDA has devoted unprecedented resources to implementing the new statute within the timeframe set forth in the Act.

The agency has completed over 80 FDA modernization actions and has met nearly all of its statutory deadlines at the same time continuing to perform the other important tasks that the American people have come to expect from us.

As directed by the Act, FDA has undertaken a comprehensive analysis of what needs to be done to meet the agency's statutory obligation. FDA has identified three programmatic areas that must be addressed beginning with the fiscal year 2000 budget in order to meet statutory obligations and to provide the level of public health protection expected by American consumers.

These three areas are injury reporting, product safety assurance and pre-market application review.

With respect to injury reporting, at present no integrated system for the reporting, monitoring and evaluation of all FDA regulated product related injuries currently exists. Therefore, the administration is requesting a total of $15.3 million to begin critically needed improvements to the FDA injury reporting system.

With respect to product safety assurance, FDA is responsible for monitoring the safety and quality of a rapidly growing number of increasingly complex products from domestic and foreign sources.

FDA's ability to meet this responsibility through inspections and enforcement actions even in conjunction with its state partners has significantly declined. The agency is, therefore, requesting $52.2 million in fiscal year 2000 to increase its inspectional and enforcement capabilities.

Third, pre-market application review. Although FDA product review times in programs benefiting from user fees have shown dramatic improvements, other categories of product reviews for which we did not receive user fees continue to suffer from unacceptably long review times.

While we will continue to undertake management initiatives to attempt to meet these deadlines, the administration is asking for $28 million in both new appropriated funds and new added user fees to improve review times for food additive petition reviews, food contact substantive reviews and the more complex of the medical device reviews.

A second area of major priority for the agency is to strengthen the science base of the agency. I believe this is an urgent issue. The increasing investments made in both basic and applied research by the National Institutes of Health and the pharmaceutical, biotech and medical device industries will result in a burgeoning growth of new products.

FDA must have the scientific sophistication necessary to understand and adequately and properly evaluate these products.

With respect to a third area of high priority, as you have already mentioned, Mr. Chairman, I did appear before this committee on March 16th to address food safety issues.

The agency did receive additional appropriations for food safety in fiscal year 1998 and 1999 and it has used these funds to lay a solid foundation for improving our food safety programs. Our fiscal year 2000 budget request includes $30 million for food safety activities.

A fourth area is the safety of the blood supply. Each year more than 3.5 million Americans receive blood from volunteer donors. While blood and blood derivatives can be life saving, blood products can pose risk to patients. At the same time, shortages of blood can be life-threatening.

The administration is requesting $6.2 million for FDA's blood safety initiative as part of the overall increase of $52.2 million which as I mentioned before is requested for product safety assurance.

A fifth area is tobacco. The administration recently has renewed its commitment to reducing young people's use of tobacco products. We are pleased that the Supreme Court has agreed to hear the

case regarding FDA's regulation of tobacco. Our budget request before you includes a $34 million increase in funding for our tobacco program.

In conclusion, Mr. Chairman, and members of the committee, FDA is an agency that has prided itself on being a can-do agency. But it is clear that the agency can't do everything without additional resources. The funds that we are asking you to appropriate in this budget will make great strides towards moving us toward these goals.

PREPARED STATEMENT

I make a public commitment to you today that if we are given these funds we will spend them wisely and well.

[The statement follows:]

PREPARED STATEMENT OF JANE E. HENNEY

INTRODUCTION

Mr. Chairman, members of Congress, ladies and gentlemen, my name is Jane Henney. I am honored to address you as the Commissioner of Food and Drugs. It is my privilege today to present the Agency's plans and expectations as reflected in the Administration's proposed budget for fiscal year 2000. I also would like to take this opportunity to share with you my thoughts on where I hope to lead the Food and Drug Administration in the coming months: both the tasks that I believe most urgently demand the Agency's attention, and perhaps as important, my approach to those tasks, which emphasizes a commitment to heightened effectiveness and an openness to our constituencies.

Let me begin by offering a few reflections on my first five months as Commissioner. Fortunately, many of the things that I remembered about FDA's dedication to the health and safety of Americans have not changed since I left the Agency several years ago. The FDA is filled with energetic, hardworking, talented people. There are strong traditions throughout the Agency of protecting and promoting the public health. These are traditions that I will seek to preserve. I also am reminded, on a daily basis, of how much has changed since I was last here. The FDA Modernization Act (FDAMA or the Act), the Administration's Reinventing Government initiatives, the Animal Drug Availability Act, and the Prescription Drug User Fee Act have triggered significant changes in many of the Agency's processes and outcomes.

One of the most important changes that has followed FDAMA is a renewed commitment to listening to those affected by FDA regulation: consumers, patients, and the industry. FDAMA directs the Agency to be in touch with all of its constituencies. I firmly believe that we must seek out and listen to the views of all. This is critical to the continued effectiveness of the Agency. As an old English proverb says, "Only the wearer knows where the shoe pinches."

As I will explain in more detail later, the Agency has formally undertaken its statutory obligation to consult with stakeholders. In the same spirit, I, too, have undertaken in my first months in office to meet with members of the regulated industry, consumers, and the academic community. I have visited seven FDA field offices and have plans to visit nearly all of our districts throughout the country during the coming year. These visits have allowed me not only to meet and hear directly from FDA's field staff, but to meet with important constituencies in each district, as well. For example, when visiting our district office in Denver, I met with the Southwest Medical Device Grassroots Coalition, a group of device manufacturers. While in Chicago, I held an open forum to listen to the concerns of drug, device, and food manufacturers, State officials, academics, and consumer representatives. And, while visiting our district offices in Cincinnati and Miami, I met with a wide range of consumer groups, including groups representing the elderly, persons with HIV, and minority communities.

I also am committed to fostering our co-operation with other federal and State agencies. In Philadelphia and Chicago, I met with local transportation officials and Customs representatives to tour shipping and airport cargo terminals that serve as major ports of entry for such products as fresh fruits and vegetables, and saw firsthand where and how FDA investigators and our State and federal partners examine incoming products. And I met with the heads of the Departments of Agriculture and

Health of Ohio, Kentucky, and Florida to discuss our partnership with the States on many important issues, including mammography and food safety.

I also have used my travels to the District Offices to meet with representatives from the academic community with whom I intend the Agency to form stronger alliances. I am particularly interested in harnessing the intellectual capabilities of the academic community and other science-based agencies. For example, on my trip to the Cincinnati District Office, I asked the Dean of the University of Cincinnati Medical School to tour our laboratory facilities with me. Exchange is a two way street—opportunities for health professionals, students, and faculty members alike exist and our facilities and likewise our scientists will benefit from access to the great educational research institutions in this country. I also visited Chicago's National Center for Food Safety and Technology (NCFST) at the Moffett campus, a major food safety research and education center established in 1987 by FDA and the Illinois Institute of Technology, with participation from the food industry and the University of Illinois. The NCFST, which is currently working on a wide range of projects relevant to FDA's food safety initiative, serves as an outstanding model of collaboration between industry, academia, and government.

In my first five months, my focus also has been on an issue closer to home. I know that the Subcommittee is concerned about the size and structure of the Office of the Commissioner. I have undertaken a formal review of the Office with the goal of creating a more streamlined, efficient office that will provide leadership without compromising programmatic functions. I can assure the Subcommittee that I will keep you informed as I make decisions about specific changes in the Office of the Commissioner.

That is a thumbnail sketch of the last five months. Today, the Administration is asking for a substantial increase in FDA's budget, indeed, the largest requested increase in the Agency's history. This budget request is intended to allow us to begin to rebuild our capabilities, to strengthen our science base, the foundation of sound regulatory decisions, and to continue several long-range, high priority programs that are vital for the protection of the public health. As large as this budget request is, it provides only the first steps toward rebuilding an effective Agency able to carry out its basic responsibilities and to respond to emerging public health problems.

PRIORITIES

Implementation of FDAMA

I will now discuss the substantive issues that I intend to make priorities during my term as Commissioner. First, and most important to me, is the implementation of FDAMA. The passage of FDAMA was the culmination of several years of work by Members and staff from both the House and the Senate and from both sides of the aisle. The Act's final text represented countless hours of negotiation involving Congressional staff, the Administration, the regulated industry, and representatives from consumer, patient, and health professional organizations. The result of this process was sweeping legislation that touches on nearly every facet of the Agency's mission and thus impacts nearly every citizen in the country.

Let me emphasize, as I did in my confirmation testimony, that I am committed to the full and effective implementation of FDAMA—both the letter and spirit of the law. I embrace the principle that the best organizations find ways to constantly improve themselves. Such organizations re-examine their processes, tasks, and goals, and use their daily experiences to refine their efforts in approaching the next task. FDAMA provides the Agency with valuable opportunities to conduct such a re-examination and challenges us to change. Making continual changes based on past performance with an eye on the goal of improvement is essential to FDA's effectiveness. As someone once said, "Every time history repeats itself, the price goes up." While FDA has many great traditions, it can never afford to stop evolving in response to the diverse and changing needs of those it serves.

Recognizing the priority the Congress gave to enactment of FDAMA, FDA in turn has devoted unprecedented resources to implementing the new statute within the time frames set forth in the Act. As you know, the passage of FDAMA imposed a daunting array of challenges on the Agency. FDAMA explicitly required that the Agency complete over 60 regulations, guidance documents, notices, reports, and other tasks, including studies or lists. Many of the statutory requirements had specific deadlines for completion. In addition, in order to have full and proper implementation that was consistent with the letter and spirit of the law, FDA needed to make numerous conforming changes to existing regulations, and to issue guidance to clarify new provisions. The Agency has already completed over 80 FDAMA-related actions. In completing this impressive amount of work, the Agency met nearly

all of its statutory deadlines—while continuing to perform all of the other important tasks that the American people have come to expect.

These implementation tasks were not simply numerous, but important. The Act addresses everything from the evidentiary standard for devices to the review process for health claims on food. Some of these provisions clarify longstanding Agency practices or procedures, others codify important practices to assure their full and consistent application, and still others establish important new programs for the Agency to administer.

Some of the high profile initiatives completed within this past year include:

—Guidance to industry on the streamlined development and approval process for new therapies for serious and life-threatening conditions;

—Publication of a final rule on the information that manufacturers can offer about the uses of medicines that are not approved.

—Implementation of a process to obtain financial incentives for conducting studies on the use of drugs in children;

—Development of exemptions from pre-market notification for certain low-risk medical devices;

—Clarification of the procedures for administrative appeals of decisions made by the Agency; and

—Guidance to industry on "health claims" that can be made for foods based on authoritative statements from scientific bodies.

Aside from the completion of the tasks listed above, the Agency has worked to ensure that those affected by FDAMA, both inside and outside the Agency, have received appropriate information about the new law. FDA has held internal training sessions, as well as a series of public meetings to discuss specific provisions in the law. We also have received many suggestions from our stakeholders on implementation.

As I mentioned earlier, section 406(b) of FDAMA required FDA to consult with our stakeholders prior to submitting the Agency's plan for statutory compliance with the Act to Congress last November. In order to comply with this requirement, FDA reached out to the general public and to those segments of society most directly affected by FDA to solicit their views on how the Agency can best meet its public health mission. FDA held eight public meetings to hear the views of our stakeholders on how we could do our job better. The Agency heard from more than 75 different speakers at meetings attended by more than 600 people.

We heard several consistent messages from those who participated, including the following:

—FDA should assure that its processes are equitable, open, and transparent;

—FDA should collaborate with other government agencies, academia, and international organizations to better coordinate the protection of the public health; and

—FDA should be commended for reengineering its processes to make them even more efficient and effective, and should continue these activities, as well as efforts to reduce the burdens of complying with regulatory procedures.

This is good advice. But, to paraphrase La Rochefoucauld, it is not enough to receive good advice; we must also have the wisdom to profit from it. In this case, the Agency not only listened carefully to the advice it received, but took that advice seriously in developing a realistic plan for complying with our statutory obligations. The completed plan was published in the Federal Register last November.

I would like to highlight briefly one of the statutory obligations that we have not been successful in meeting, however, and that we are unlikely to be able to meet without additional resources. The statute requires FDA to conduct inspections every two years of establishments that make prescription drugs and higher risk medical devices. FDA's ability to conduct these inspections has fallen considerably over the past few years, even as consumer expectations concerning the safety of the products they use continues to rise. As a result of the healthy economy, many new businesses have been formed in the past five years, increasing dramatically the number of establishments to be inspected. Between 1990 and 1998, the number of firms to be inspected rose from 89,000 to 114,000, an increase of 26 percent. To raise the frequency of inspections of all product areas, and to improve the quality of FDA's laboratory capabilities, bringing FDA closer to conformance with its statutory obligations, the Administration is requesting $52.2 million.

FDAMA also included the reauthorization of the Prescription Drug User Fee Act of 1992 (PDUFA). PDUFA is among the most successful Agency programs in history. Within its first five years of implementation, the increased resources provided by PDUFA to hire additional review staff has resulted in cutting the average review times for new drugs in half, without compromising the high standard that FDA has traditionally applied in weighing the risks and benefits of drugs and thereby in de-

termining their safety and effectiveness. PDUFA is widely regarded by Congress, industry and patient groups as an example of how to achieve success through funding increases tied to ambitious performance goals. I will work to make sure that the Agency continues this performance under PDUFA for the next five years.

I would like to take a moment to update you on the improvements made in product review times in fiscal year 1998. The Center for Drug Evaluation and Research (CDER) increased the speed of its review in all user fee drug categories. The median total time to approval for new original drugs was 12 months, compared with 14.4 months in 1997. For priority drugs, that is, those drugs considered to be of potentially exceptional public health value, the median approval time was 6.4 months. Several important drugs were approved in 6 months or less, including efavirenz for treatment of HIV and AIDS (just over 3 months), and fomivirsen for treatment of CMV retinitis (4½ months).

Approval times also decreased for the most important categories of biological products. For products containing a substance or combination of substances never before approved for the U.S. market, the median approval time dropped from 12 months in 1997 to 11.5 months in 1998. Moreover, the median approval time for priority products dropped to 6.9 months, from 8.9 months in 1997. Among the important new products approved under the new Fast Track program were Trastuzumab, a new breast cancer therapy, and Etanercept, a new treatment for severe rheumatoid arthritis. These two therapies are also among a growing number of bioengineered products that are approved each year, demonstrating how the investment in biotechnology is fulfilling its promise.

Although FDA product review times in programs benefitting from user fee expenditures have shown dramatic improvements, other categories of product reviews for which we do not receive user fees have seen some improvement, but continue to suffer from unacceptably long review times. Programs for which we do not receive user fees include blood and blood components, animal drugs, generic drugs, medical devices, and food additives. Section 406(b) of FDAMA directs the Agency to find ways to meet the statutory deadlines for review of all product categories. While we will continue to undertake management initiatives to attempt to meet these deadlines, we believe that prospects for significant improvement in review times for these product areas are dim without additional resources, especially as technology yields more complex products, developed at a much faster pace. The Administration is therefore asking for $28 million in both new appropriated funds and new additive user fees to improve review times in areas of particular concern: food additive petition reviews, food contact substance reviews, and medical device reviews.

The increases in the speed of review for products covered by PDUFA, of which FDA is justifiably proud, raise an important question. In the quest for more rapid reviews, has the Agency compromised the standards that govern the approval of new products? The answer is no. FDA has a critical obligation to the American public to ensure not only that life-saving drugs and devices are available in a timely way but that they are safe and effective. Several well-publicized market withdrawals of new prescription drugs in 1997 and 1998 have led some people to conclude that faster drug reviews are resulting in the approval of unsafe products. The products in question were two diet drugs, dexfenfluramine and fenfluramine (the "fen" component of "fen-phen," a combination fenfluramine and phentermine that was widely used off-label), terfenadine (Seldane) for treatment of allergies, mibefradil (Posicor) for treatment of hypertension and chronic stable angina, and bromfenac (Duract), a painkiller.

Let me assure you that the agency has carefully reviewed these withdrawals with this question in mind, and has concluded that there is no relationship between the speed of approval of these products and the reasons for their withdrawal. Some of these drugs were approved years ago: fenfluramine in 1973, and terfenadine in 1986. Moreover, FDA's review shows that, since the advent of PDUFA and more rapid review times, the percentage of drugs withdrawn from the market has actually decreased. One important finding of FDA's review of the product withdrawals was that drug approvals are necessarily made on the basis of limited information about a few thousand patients given the drug during clinical trials. Inevitably, a more complete picture of a drug's toxicity is developed as a drug is administered to a much larger group of patients after it reaches the market. For this reason, Injury Reporting is an increasingly crucial component of drug safety assurance, especially with respect to relatively rare or unpredictable problems that may not have evidenced themselves completely in the initial more limited and more rigorous setting of the clinical trials. The importance of Injury Reporting is also great for products, like foods and dietary supplements, for which there is no premarket review. Although product-related injuries are a significant cause of injury and death in the U.S., no integrated system for the reporting, monitoring, and evaluation of all FDA

regulated product-related injuries currently exists. Therefore, to reduce the incidence of deaths and disability resulting from injuries with FDA-regulated products, the Administration is requesting a total of $15.3 million to begin critically needed improvements to FDA's Injury Reporting system.

This initial investment will begin to build the foundation for a modern, integrated system for spontaneous reports. Spontaneous reporting systems are used to find rare or unexpected types of injuries. Additional investments will be needed in subsequent years to make a comprehensive system a reality. To gain a better understanding of the whole range of injuries from FDA-regulated products, active surveillance systems based in large health care systems will be needed. The Agency is not requesting the resources required to develop active surveillance systems adequate to study the epidemiology of all product-related injuries, but plans in the future to build a more comprehensive system upon the groundwork provided by this budget. Funds for limited implementation of a sentinel site program for medical devices are also included in the budget request.

As I have already stated, I believe that FDA has accumulated a very impressive record on implementing FDAMA, especially considering the ambitious timeframes that had to be met in the first year. You have my assurance that these efforts will continue as we fully implement of FDAMA.

Strengthening the Agency's Science Base

My second priority is to strengthen the science base of the Agency. Sound scientific principles must underpin our decisionmaking and guide the critical policy decisions that we make. FDA's investigators must have adequate scientific training to make good decisions in the field. Our product review teams sit in judgment of applications resulting from work done by the nation's leading scientists and the review teams must apply sound, often cutting-edge science to product reviews. This is an urgent issue. The increasing investments made in both basic and applied research by the National Institutes of Health and the pharmaceutical, biotech and medical device industries will inevitably result in a burgeoning growth of new products that must be reviewed by FDA before they come to the marketplace. FDA must have the scientific sophistication necessary to understand and adequately evaluate these products. I am committed to seeing that our scientific expertise matches the complexity of the new products moving toward the market, for our decisions will be only as strong as our expertise.

There is a compelling need for an adequate scientific foundation in almost all of FDA's activities and for a strong, scientifically-skilled workforce. First and foremost FDA is a science-based regulatory agency. It is therefore critical that we invest wisely in those that we recruit for these tasks. It is also imperative that we have mechanisms and resources available to see that we maintain a presence in the world of science. We can ill afford to have our staff become stagnant, for if this were to occur, our decisions would become inappropriately risk-averse—or worse—wrong. We will need to pay particular attention to improving our recruitment and retention of our best scientists and to leveraging the intellectual power of other science-based governmental agencies and academia.

The results of a strong science base can have wide-ranging benefits for the public health. Let me offer a few experiences that illustrate the importance of ensuring that FDA's scientific capabilities are of the highest order.

In several cases, scientists at FDA's Center for Devices and Radiological Health (CDRH) have been able to pinpoint the cause of reported injuries from medical devices, and in at least one instance, help correct a product defect, when even the manufacturers were unable to do so. In the first case, when new small bore catheters were used to administer continuous spinal anesthetics, patients began to suffer nerve damage and even paralysis. The cause of these injuries was unknown until FDA scientists discovered the source of the problem through laboratory testing and analysis: the slow flow rate through the small bore catheters decreased mixing of anesthetic with spinal fluid, causing nerves to be bathed in nerve-damaging concentrations of anesthetics.

In the second case, a new device used to close holes in the heart by means of a spring-loaded umbrella inserted into the heart by a catheter began to cause severe complications when used in children. Several children required emergency surgery after developing tears in the structure of their hearts. FDA scientists were able to identify the role of the device in these complications, and helped the manufacturer to redesign a safer device by changing the shape of the springs used to open the umbrella.

In the third case, FDA had been receiving reports of sporadic implantable cardiodefibrillator and pacemaker failures resulting in hundreds of problems and three deaths. No one understood the pattern of the failures in these devices until

FDA scientists identified a common cause: helium was leaking from the body of the pacemaker into the electronic clock, destroying the vacuum in the clock's timing crystal. The damage to the clock in turn caused the pacemaker to fail.

Well-qualified and trained scientists can also identify dangerous products even before they reach the market. Scientists in the Center for Drug Evaluation and Research were able to prevent a potentially dangerous drug from entering the U.S. market, because they recognized that seemingly innocuous laboratory results signaled a high likelihood that the drug would cause serious liver injury. A new drug application (NDA) was submitted for Dilevalol, a drug in the usually safe class of blood pressure drugs known as beta blockers. FDA scientists saw that the drug had caused several cases of increased liver enzymes associated with modestly elevated bilirubin. Although these effects were not in and of themselves harmful, the scientists knew from their training and experience that such effects predict serious liver injury, which had not been recognized by the drug's manufacturer. When the manufacturer reviewed the post-marketing experience with the drug in Portugal, serious injuries were in fact found, and the drug was withdrawn worldwide.

Highly trained scientists at CBER familiar with, and able to improve upon, the latest test methods, also were able to avert the withdrawal of an important childhood vaccine by demonstrating that an apparent threat to the safety of the vaccine did not in fact exist. In the summer of 1995, scientists at the Swiss National Center for Retroviruses, using a new and highly sensitive assay, detected the presence of retroviruses in the vaccine for mumps, measles, and rubella (MMR). Because retroviruses can be highly infectious, the Swiss government informed the World Health Organization that it was considering withdrawing the MMR vaccine. This proposed action required FDA to consider whether to withdraw the MMR vaccine from the American market. CBER scientists quickly undertook research which showed that the assay used by the Swiss had detected a form of retrovirus which was not infectious, thus establishing that the vaccine did not pose a risk of infection to children. In addition, our scientists have been able to modify the assay to make it more precise in its ability to discriminate between true infectious retroviruses and normal cellular enzymatic activity in a vaccine.

This example also illustrates the global nature of the public health issues that FDA must address and underscores the importance of working with our international partners, including the World Health Organization, to ensure that global standards for marketing new products and for addressing emerging infectious diseases are as high as possible.

Other significant scientific contributions that FDA is often alone in providing, and that must be supported and strengthened, include:

—development of rapid and sensitive methods to analyze foods for microbial contaminants;
—swift identification of pathogens in the food supply by our field laboratories, preventing widespread illness;
—development of methods to ensure identity, purity, and potency of vaccines;
—examination of adverse interactions between drugs that may be prescribed at the same time,
—evaluation of degradation and molecular changes in implantable device materials;
—development of risk assessment and risk management models, and
—development of test systems to improve the review of new products for safety and efficacy.

These examples underscore our need to support the scientific skills of those entrusted with carrying out FDA's many responsibilities. We must invest in maintaining and enhancing those skills to ensure that our decisions and actions continue to be grounded in the best science and continue to command respect in this country and around the world. Indeed, we cannot afford to do otherwise.

Food Safety

Another area that I have identified as a high priority is the safety of our food supply. Last month, I appeared before this subcommittee to address that portion of our budget. At that hearing, members of the subcommittee raised several issues to which I would like to respond briefly today.

The subcommittee questioned the success of our Hazard Analysis and Critical Control Point (HACCP) system for seafood. We believe that this program has been a great success despite the fact that some problems were identified for a majority of the seafood firms in the first year of implementation. Only 4½ percent of those inspections were serious enough to require official action. The seafood industry is a uniquely complex one, consisting of more than 4,000 domestic seafood producers—mostly small businesses—processing more than 300 varieties of seafood from numer-

ous different habitats. Consequently, instant compliance was never expected. Rather, gradual and steady progress was the goal. In this respect, the program is on track:

—FDA dramatically increased its inspection frequency of the seafood industry to at least once a year to provide steady, consistent feedback to industry regarding HACCP.

—FDA created a seafood HACCP guidance document for the industry that essentially contains all the agency's knowledge on hazards and controls. This document is being adopted by other countries.

—FDA has focused on educating firms to understand how to identify and fix problems in order to accomplish a fundamental cultural change in the industry.

—The HACCP program has served as a catalyst for the formation of the Seafood HACCP Alliance, a consortium of Federal and State agencies, academia, and industry, to develop low cost training for industry in basic hazards and controls.

The subcommittee also questioned our actions in the area of produce safety. FDA believes the steps we have taken in this area have successfully helped to prevent foodborne illness. As with seafood, improving the safety of produce is extremely complex. The agency must consider the differing cultivation, harvesting, packaging, and shipping practices for a wide variety of fruits and vegetables with differing physiological characteristics to determine what preventative interventions are appropriate. Unfortunately, our scientific knowledge in this area is limited. While we are using our food safety dollars to increase research in this area, we believe that educational activities will be most productive in preventing foodborne illness at this time.

The agency has taken numerous steps toward our goal of minimizing foodborne illness associated with fresh produce:

—FDA has developed a guidance document on Good Agricultural Practices and Good Manufacturing Practices to minimize microbial hazards in fresh fruits and vegetables. This document is in the process of being adopted by the CODEX Food Hygiene Committee as the international standard for produce production.

—FDA has initiated educational programs on production and processing for domestic and international producers.

—FDA and USDA have jointly undertaken an ambitious research program for both post- and pre-harvest production of produce.

—FDA and USDA have jointly undertaken a survey of the agricultural community to better understand current agricultural practices in order to determine how to maximize public health impact while minimizing economic impact on the agricultural community.

We have come before this committee for three years in a row asking for additional funding to protect the public from foodborne illness. While the diversity of products we regulate make our job a difficult one, we believe that we have done the best job possible in improving the safety of the food supply. With the additional funding we have requested for fiscal year 2000, we will be able to move that much closer to our goal of putting a strong, science-based food safety system in place that maximizes public health.

Blood Safety

Each year more than 3½ million Americans receive blood from volunteer donors. While blood and blood-derivatives can be life-saving, blood products can pose risks to patients. Among the most serious of these risks is the possibility of transmission of undetected infectious diseases. At the same time, shortages of blood can be life-threatening. The safety and adequacy of the blood supply and blood products is one of the highest priorities of the FDA and the Department of Health and Human Services, and is one of my priorities as well.

FDA already has taken many steps to address this issue. The Agency has developed a Blood Action Plan to increase the effectiveness of our scientific and regulatory actions and to ensure greater coordination with our PHS partners. The Action Plan addresses such issues as (1) evaluation, scientific investigation, and management of emerging infections that may pose a threat to the blood supply, (2) reinventing blood regulations with the goal of simplifying paperwork and moving to a standards-based approach to blood safety, and (3) the ability to notify product users in the event of recalls or other situations in which particular blood products may pose a risk to patients.

FDA also has significantly increased its oversight of the blood industry. The Agency now inspects all blood facilities at least every two years, and problem facilities are inspected more often. FDA also provides the industry with detailed and updated guidance on how to ensure blood safety, and holds regular workshops for the blood industry, the academic community, and health care providers.

Several key issues in blood safety still must be addressed. The technology associated with disease detection in blood donors is continually improving, but risks to those who receive donated blood and blood products remain. For a number of serious and life-threatening infections, including HIV infection, there is a limited period after a would-be blood donor has been infected in which the infection is not detectable by available methods. Blood donated during this period can transmit infection. We must therefore find ways to further reduce the window period during which infection with HIV and Hepatitis A, B, and C is undetectable. We also must reduce the risk to patients from bacterial contamination of blood and from blood bank errors.

One of the greatest threats to the blood supply is posed by unknown or emerging agents that are not inactivated or removed during processing. This is an ever-present threat because new infectious agents that may endanger the blood supply may emerge at any time. FDA must have a strategy for managing, and the resources to address, each new infectious agent as it is identified.

Finally, the Agency and the industry must find ways to manage blood and blood product shortages. Many shortages arise when FDA discovers violations of quality control procedures or other hazards that result in manufacturing plant closures or require the removal of products from the marketplace. The goal of ensuring safe blood and blood products thus competes with the goal of providing an adequate supply of blood and blood products, and achieving an appropriate balance is a constant challenge. The Administration is requesting $6.2 million for FDA's blood safety initiative, as part of the overall increase of $52.2 million requested for product safety assurance.

Tobacco

The Administration recently has renewed its commitment to reducing young people's use of tobacco products. Every year over 400,000 Americans die from tobacco-related illnesses, almost all of whom began use of tobacco as children. A program that successfully keeps tobacco from children has the potential for unprecedented improvements in public health. FDA's budget request includes an increase in funding for its tobacco program to assure progress in all states towards the President's goal.

The first two provisions of FDA's tobacco rule, a federal minimum age of purchase and a requirement that retailers check photo identification, went into effect in 1997. In fiscal year 1997, the FDA initiated a $4.9 million pilot enforcement program in 10 states, contracting with state and local governments to conduct compliance checks of retail outlets that sell tobacco.

In fiscal year 1998, with a new $34 million appropriation for the tobacco program, FDA built upon the success of the pilot program and expanded its enforcement and outreach programs to 41 states, plus the District of Columbia and the Virgin Islands. By fiscal year 2000, the Agency plans to contract with or have an enforcement presence in all 50 states and most territories.

The preliminary results from our enforcement and outreach efforts are encouraging. In fiscal year 1998, FDA's State partners conducted over 39,000 compliance checks, including reinspection of those retailers found to have violated the rule. FDA expects to conduct approximately 189,000 compliance checks during fiscal year 1999, as new states begin enforcement efforts. The preliminary violation rate from over 69,000 checks conducted through March has been approximately 25 percent, ranging from a low of approximately 11 percent to a high of 43 percent. States with low violation rates typically have had their own very active enforcement efforts in addition to FDA activity. We anticipate that these rates will vary widely as more states begin conducting compliance checks for the Agency. Also in fiscal year 1998, FDA began seeking civil money penalties from those retailers found to have sold tobacco to minors at least twice.

To assist its enforcement efforts, the Agency launched a multi-media advertising campaign, including radio, print, and billboard advertising. A free retailer kit using humorous illustrations and a folksy approach was created to make it easier for retailers to comply with the new regulations. The campaign reminds retailers and clerks to check young people's photo identification and tries to defuse some customers' resentment towards the new rules and urges them to cooperate with retailers.

Litigation concerning FDA's assertion of jurisdiction over tobacco continues in federal court. Following the District Court's 1997 decision upholding FDA's assertion of jurisdiction and the access provisions of the regulations, the Fourth Circuit issued a decision in 1998 finding both FDA's assertion of jurisdiction and issuance of regulations invalid. January 19, 1999, the government filed a petition for a writ of certiorari with the Supreme Court. Under the rules of the Fourth Circuit and the Su-

preme Court, the age and ID provisions of the rule continue in effect, pending Supreme Court review.

For fiscal year 2000, the Administration is seeking a $34 million increase in the tobacco program. With this increased funding, the Agency plans to inspect an increased number of retail outlets that sell tobacco and will intensify its efforts in certain targeted-demonstration areas. Outreach efforts are planned to be expanded to include the creation of new billboard material, print, radio and in-store advertising and the expansion into two new and important media—television and news weeklies.

Bioterrorism

In an era of global instability, there is growing concern about the possible deployment of biological and chemical agents by certain third world countries. FDA has been called upon by the President to help respond to the threat of bioterrorism. The Agency is in a unique position to assist in this effort by reviewing products that may be used to treat illnesses caused by biological and chemical agents, as well as to assist in the rapid development of diagnostic tools and treatments for disease outbreaks that could be caused by such weapons. In fiscal year 2000, FDA is requesting a total of $13.4 million for this Presidential initiative as part of the Public Health and Social Services Emergency Fund. Additionally, in fiscal year 1999, there is a supplemental request to provide FDA $3.3 million in funding to engage in anti-bioterrorism activities. While this request is not before you, it is very important to us.

THE BUDGET

The President's budget includes an increase of $95.5 million for injury reporting, product safety assurance, and application review activities, many of which respond to goals laid out in FDAMA. At the same time, because of the absorption of pay raise and other inflationary costs for the past several years, FDA has had to reduce its staffing substantially, and the increases requested will enable us to sustain our core public health responsibilities and to add staffing in key areas where FDA's science base must be strengthened.

This $95.5 million increase includes a request for $20 million for design and for the first phase of construction of a new District Office and Laboratory in Irvine, California. This facility not only will enable us to bring our Los Angeles laboratories up to date, it will eliminate severe security problems at our present Los Angeles office.

In addition, we are requesting increases totaling $77 million for the Presidential initiatives on food safety, tobacco, and countering bioterrorism.

Our total request for fiscal year 2000 is for total spending authority of $1.35 billion, of which $1.16 billion is for budget authority, with the remaining $196 million derived from user fees and other sources. I would like to emphasize that the only new user fees we are proposing, $17 million for the review of new medical devices, food additives, and food contact substances, would expand our programs in these areas, rather than fund current activities. As we know from our past experience with PDUFA, user fees work best when several principles are adhered to: 1) Consensus of need by the Congress, industry, and Administration, 2) The fees are applied to the timely review of products, and 3) Aggressive but realistic performance goals are set. The legislation to authorize these fees will be submitted shortly by the Administration to the Congress. I also would note that there is a proposed increase of $13.1 million for PDUFA activities under our current five-year plan for continued improvement in the review of new drugs. Lastly, we are requesting $3 million in transition costs and projecting $12.7 million in user fees for the voluntary seafood inspection program currently operated by the Department of Commerce. This program is proposed to be transferred to FDA in fiscal year 2000. A legislative proposal will be submitted to make this a Performance Based Organization under the Vice President's program for reinventing government.

I am also pleased to be able to report to you that there is $56 million in the General Services Administration's fiscal year 2000 budget request for design and initial construction of new consolidated laboratories for FDA at the former Naval facility in White Oak, Maryland. While facilities are now under construction at College Park, Maryland, for our headquarters Foods program, FDA's other headquarters laboratory programs are widely dispersed and in need of state-of-the-art facilities. The initial phase of construction at White Oak will provide new laboratories and animal holding space for several of our human drug laboratories. As additional facilities are constructed in future years, more of our scientists will be able to utilize the most up-to-date laboratory technology, and will be able to work together, permitting the most productive use of the Agency's scientific resources. Coordination

among all of FDA's headquarters programs will be improved, as will operational efficiency.

CONCLUSION

I want to thank you for the opportunity to testify before you today. It is often said, Mr. Chairman, that FDA is America's most important consumer protection agency, because it regulates a quarter of all consumer spending. The products that comprise that trillion dollars in annual sales are ones we rely on every day—over-the-counter and prescription drugs, contact lenses, microwave ovens, most of the food we eat—the list goes on and on. Americans have high expectations for the safety and reliability of these goods. The industries that make these products and the scientific advances that fuel their innovations are vigorous and growing. FDA needs the resources and scientific expertise to keep up with that growth, or both consumers and industry will suffer.

FDA is an Agency that has prided itself on being a can do agency. But it is clear that the Agency can't do everything without additional resources. We must make sure we can capture and analyze and take appropriate action on the adverse events that occur each year from products we regulate. We must be able to inspect the companies that make those products as the Congress has directed us to do. And all important new products must get to the market as quickly as possible, consistent with our mandate to assure safety and effectiveness. The funds that we are asking you to appropriate in this budget will make great strides toward moving us toward these goals. I make a public commitment to you today that, if we are given these funds, we will spend them wisely and well.

TOBACCO

Senator COCHRAN. Thank you very much, Dr. Henney. I had a group in my office the other day from Mississippi complaining about the FDA sting operations that are designed to enforce the rules against selling tobacco to teenagers.

The point they were making to me was in our State of Mississippi, the attorney general has his own enforcement program which involves city and county law enforcement officials. They also have a training program.

Mississippi is one of the states that filed one of the first suits, maybe the first suit or settled the first suit. So funds are available for trying to do a better job of curtailing teenage tobacco use.

And then they tell me there is now an FDA sting operation or enforcement operation in Mississippi. The first fine is $250. Subsequent fines can go as high as $15,000. These are fines that are imposed on store owners, convenience stores, and service stations that sell gasoline and liquor.

My question is it seems like we're spending a lot of money and this group is convinced this is a duplicative and wasteful use of federal funds when there is a state program.

They also tell me the state enforcement officers promptly advise the store owner of any violation of the rules. The officer explains to the clerk who was involved what they did wrong, what they should have done, what the penalties are. If they do it again, they write a letter to the store owner.

In the case of the FDA operations, they do not notify the store owners promptly. I am told sometimes it's months that go by or weeks before the store owner is advised that there has been a violation. Then the citation is received. There's an appeals process. They tell me that no one to their knowledge has had any successful appeal of an FDA citation.

They don't see the point in having the feds down there as well as the state involving local enforcement officials.

And so I'm passing this on because I asked them to put all of this in a letter to me so I would understand all of the complaints that have been submitted to this group. And I pass that on and ask for your comments.

Dr. HENNEY. Senator Cochran,

Mr. Chairman, I would appreciate hearing from the group directly and hope that you will also send along their letter to me so that we can get a full picture of the extent of their concerns.

I think that there certainly are differences about the program. I think that I would be remiss if I did not mention that our work with the state coordinator in Mississippi together with the state attorney general has been one of the most positive relationships that we have had with states.

We rely on state law enforcement officials through contracts with the state to carry out our compliance checks. But as we continue to improve our own program, I am most receptive to the kind of feedback you are receiving.

With respect to the fines or penalties associated, I think it would be important for you and others to know that if the convenience store or 7-Eleven store does not meet our standard on the first review, they are simply given a warning. There is not a fine associated with that. It is only on subsequent times of noncompliance that the fine process starts kicking in.

I think we do need some clarification around the specific issues and hopefully we can work together as we all try to solve, and get our arms around, this issue of teenage smoking.

REORGANIZATION OF THE OFFICE OF THE COMMISSIONER

Senator COCHRAN. I appreciate that very much. And I will pass on to you the specific information that I have received.

I was interested in hearing your proposal to reorganize the Office of Commissioner with the goal of streamlining and making it more efficient.

Have you completed the formal review to the extent that you can tell us some of the specific things that you have in mind about the current size and functions of the office?

Dr. HENNEY. Mr. Chairman, I asked a group to undertake this study for me very early on as I came into the agency. I think that they worked very diligently conducting a number of interviews, analyzing functions, resources and the like and made recommendations to me.

I announced to the staff of the FDA this week the extent of those reorganizations, the kind of programmatic endeavors that had been in the office of the commissioner that would now be transferred to the centers and other activities. We want to get more of the real resources down into the centers where they can be appropriately applied to our day-to-day and programmatic work.

But I will be glad to provide you for the record a copy of the memo that fully outlines the changes and the extent of the changes involved.

[The information follows:]

MEMORANDUM FROM JANE E. HENNEY, M.D.

Date: April 22, 1999
From: Commissioner of Food & Drugs
Subject: Restructuring of the Office of the Commissioner
To: FDA Staff

My first four months as FDA Commissioner have been interesting and challenging. I feel fortunate to have the opportunity to work with such dedicated and talented staff. I have thoroughly enjoyed being reacquainted with the people of FDA both here in the Washington area and in the field offices. I have learned a great deal about our innovative programs across the Agency in these last few months.

At every opportunity I have reiterated my five priorities for my tenure as FDA Commissioner: full and complete implementation of the FDA Modernization Act of 1997; restoring and enhancing FDA's science base; and fund the Administration's initiatives of food safety, blood safety and tobacco.

During my confirmation hearing in addition to stating my priorities, I also committed to reviewing the size and structure of the Office of the Commissioner (OC) with an overall goal of creating a more streamlined, efficient office that will provide leadership without compromising programmatic effectiveness. At my request, a four-person task force made up of staff from the Centers and from the Office of the Commissioner reviewed and analyzed the OC structure and functions as they currently exist and made recommendations to me for improvement. My specific goals were:

To create an Office of the Commissioner for which the principal focus was to provide leadership in building effective, two-way communication between the Agency and all of our stakeholders including: patients, consumers, Congress, the Administration, Agency employees, the regulated industry, health care professionals, and other scientific advisors.

To enable us to implement the Agency's priorities and to develop Agency policy with primary input from the Center Directors, the Associate Commissioner for Regulatory Affairs, and with legal advice from the Chief Counsel.

To streamline the OC to make the overall Agency more effective and efficient with roles and responsibilities clearly delineated.

To retain in OC only those staff functions which cannot be reasonably and more effectively performed in the Centers or the Office of Regulatory Affairs (ORA).

Using the basic recommendations from the task force, the major changes that will occur with the reorganization are as follows: The Office of the Commissioner will return to using a single deputy managerial model. Dr. Michael Friedman will assume this important role. The Center Directors and the Associate Commissioner for Regulatory Affairs will report directly to the Commissioner.

Within the immediate office of the Commissioner, a new position will be established, the Senior Associate Commissioner. I have asked Dr. Linda Suydam, currently the Associate Commissioner for Strategic Management, to assume this role. Her responsibilities will include coordinating all activities within the Office of the Commissioner, as well as directly supervising the following offices: Chief Mediator and Ombudsman staff, Office of the Executive Secretariat, Office of Public Affairs, Office of Orphan Products Development, the Internal Affairs staff, Advisory Committee Oversight, and the Office of Tobacco Programs.

Several other functions within the Office of the Commissioner will be realigned. The former position of Deputy Commissioner for Policy will be converted to Senior Associate Commissioner for Legislation, Policy and Program Planning. I have asked Mr. William Hubbard to assume the duties of this position. He will oversee the functions of policy coordination, legislative affairs, and planning and evaluation.

As a result of the growing importance of international policy and activities, Deputy Commissioner Sharon Smith Holston has been asked to lead the consolidation of all of these activities under a new Office of International and Constituent Relations. The Offices of Consumer Affairs, Women's Health and Special Health Issues will continue to report to Ms. Holston.

The Office of Management and Systems will continue to be led by Deputy Commissioner Robert J. Byrd. This Office will be relatively unchanged in function except that many of the transactional functions of management will be decentralized to the Centers, and as previously mentioned, the Office of Planning and Evaluation will move to the policy grouping.

Ms. Holston and Mr. Byrd will carry the title of Deputy Commissioner for International and Constitutent Relations and Management and Systems respectively. In keeping with my intention to move to a single deputy model; however, these titles will remain with the current incumbents as long as they are in these jobs and convert to Senior Associate Commissioner thereafter.

The Office of Equal Employment and Civil Rights will report directly to the Commissioner with Ms. Rosamelia Lecea continuing as its Director. Ms. Lecea has been requested to reassess how her Office is leading the complaint management process and to assume the diversity program functions previously carried out in the immediate Office of the Commissioner.

The Office of Chief Counsel led by Ms. Margaret Jane Porter will remain unchanged.

The reorganization will specifically move some functions now residing in the Office of the Commissioner to the Centers or ORA. Other functions will remain in OC but will be regrouped. A limited number of functions will be abolished altogether, and I have requested that, in those few instances where functions are being abolished, a special Placement Committee be established to assist employees in locating suitable reassignments in one of the Centers or ORA.

Please be assured that no employee will lose his or her job and that all employee rights will be protected, and every effort will be made to accommodate individual employees. I am also fully committed to working with those bargaining unit employees who are represented by the National Treasury Employees' Union (NTEU) and to fully comply with our collective bargaining requirements to assure that our specific obligations are met.

I would like to take this opportunity to thank all FDA employees for your hard work and continued commitment to the public health, especially the employees in the Office of the Commissioner. Each of you works to make the programs of the Food and Drug Administration excellent. Your individual and collective contributions are pivotal to our success. I know that change is never easy, but I ask for your support as we implement this reorganization and work together in the days ahead.

Senator COCHRAN. Thank you very much.

SCIENCE BASE

We also understand from your statement your emphasis on the strengthening of the science base of FDA and your commitment to seeing that scientific expertise in the agency matches the complexity of the new products that are coming into the marketplace and the complexity of the marketplace itself.

There are some interesting challenges that we know the agency faces. Would you please tell us what your specific goals are for improving the science base? How you plan to go about improving the recruitment and retention of the best scientists available to you?

Dr. HENNEY. Mr. Chairman, the goal of maintaining and strengthening the science base is to make sure that the scientists that work at the agency or the expertise from outside that the agency draws on is always at the top of its game in terms of scientific credibility, scientific currency, scientific analysis and ability to review very complex issues that come into the agency.

How to achieve that goal will take a number of initiatives on our part. Clearly there are issues around recruitment and retention and making sure that we have ongoing opportunities for continuing education, be they didactic or be they of a practical nature for our own scientists.

Certainly they will involve how we better leverage the intellectual capital from across this country, be it in other federal agencies or be it in academia or even the regulated industry. And we are working together to develop a plan for how we achieve this.

I think, as you might see, our budget next year will be a bit more transparent in terms of what we want to do ultimately in terms of this issue of strengthening the science base and that is how we are now constructing our discussions for next year's budget planning process.

I would, also, say that in addition to having top-notch scientists, they need a top notched and first-rate facility to work in. And currently in the Washington, D.C., area we are spread around in many, many different facilities. It limits our capability and capacity for having strong comprehensive reviews because there is just the time delay, the geographic diversity has challenges all of its own.

And so this year in GSA's budget, there is a proposal to finally develop the full plan for the consolidation of FDA's headquarters here in the Washington area and to build construct one building on that site, the first of multiple buildings that would come on line.

I would hope that the Senate and the full Congress would look upon that request favorably because it will under-gird and strengthen our efforts to maintain a strong scientific base for the agency.

AQUACULTURE

Senator COCHRAN. Thank you. I have other questions and I will submit most of them for you to respond to for the record.

But let me point out one other parochial concern and that is in my state, we have a big new aquaculture industry and it requires drugs that are approved by FDA and other efforts to control disease.

There has come to my attention the fact that aquaculture drug data packages recently submitted to the FDA Center for Veterinary Medicine are not being reviewed in a timely fashion.

I'm told that the Center is more than six months behind in completing reviews of these submissions. I want to bring this to the attention of the agency leadership and ask that you look into it and try to ensure that a more timely review of aquaculture drug data submissions takes place, if possible.

Dr. HENNEY. Mr. Chairman, I clearly don't know the specifics of the case but will be glad to look into it for you and get back to you promptly.

[The information follows:]

The situation that you asked about regarding an, aquaculture drug submission from Mississippi is an example of the pressures FDA must deal with as new industries emerge. In 1991, CVM developed a program to educate the aquaculture industry about the animal drug approval process. CVM hired a specialist in aquaculture who spoke frequently before industry groups in order to help there understand the steps necessary to get new aquaculture drugs approved, CVM also developed several written documents to provide guidance to the aquaculture industry. As a result, this aquaculture industry responded to the new challenge and developed numerous coalitions that generated a significant amount of new data necessary for drug approvals.

The aquaculture drug development program created a burgeoning workload for CVM. At the same time, FDA faced reduced budgets and significant staffing shortages. In the face of staffing shortages, FDA has been unable to direct adequate resources to many critical areas, including aquaculture drug review, illustrating why FDA is asking for additional review resources for fiscal year 2000.

Senator COCHRAN. Thank you. The Senator from Wisconsin.

COST OF PRESCRIPTION DRUGS

Senator KOHL. Thank you, Mr. Chairman.

Dr. Henney, people all across the country talk about the continuing rise in the cost of prescription drugs. In fact, I believe that it is more serious in this country than perhaps anywhere else in the world.

I'd like to ask you what the FDA is doing about this problem and I would also like you to comment on the extent to which the long delays in the approval of generic drugs makes the problem more serious than it might be otherwise.

Dr. HENNEY. Senator Kohl, I think the first and foremost responsibility of the agency to pharmaceutical development in this country is making sure that those products that do come to market are safe and effective.

We have little control and have been given little responsibility for drug pricing or drug pricing issues. I think that our colleagues within the industry would speak to you about their own investments and trying to recoup that in terms of their research and development.

But as we review products, we have little ability to look at issues related to drug costs except in the area which you raise and that is the review, the timely review of generic products.

And while I think that I have alluded to, in my testimony, areas that have not benefited from the user fee program, some have longer review times than the areas that have benefited from user fees.

Let me give you a flavor of the difference. Currently our average review time for prescription drugs is approximately twelve months. For generic drugs, it's approximately 18 months.

But to get a flavor of how often reviews of generic drugs occur, there is nearly a new generic drug approved every single day. In fact, I think last year there was some 354 generic approvals given. So it is not as if generics are not coming to market. Could they be done in a more timely fashion with additional resources? The answer to that is probably yes.

But I think that this particular group of people that work on generic drugs, have, through a series of management initiatives, really cut down review times in very significant ways in the past few years from a time in which these reviews took over 30 months to now taking 18.

Is there a way to go? The answer is probably yes. Are there the resources in the program to review them within the same time as prescription drugs? Not quite yet.

Senator KOHL. I thank you very much. I thank you, Mr. Chairman.

Senator COCHRAN. The Senator from Illinois.

SINGLE USE MEDICAL DEVICES

Senator DURBIN. Thank you, Mr. Chairman. And thank you, Dr. Henney, for joining us today. I'm glad that you're head of the FDA. I recall working with you in years gone by and I've always respected the fact that you brought extraordinary expertise to the agency then and extraordinary leadership now. And I'm happy to have you here before us.

I'd like to ask you about several specific areas of concern. One of them relates to an article which appeared in Forbes Magazine sometime earlier this year. I don't have the exact date on it. But it relates to single use medical devices.

As it turns out, many medical devices used in hospitals today are purchased with the understanding that they are disposable or sin-

gle use devices. In fact, they are being reprocessed and used over again without the knowledge of the patients in most instances.

There has been a growing concern that these reprocessed disposable devices may be dangerous to the patients. There have been stories about tips of catheters breaking off and contamination of these devices when they're being reused.

I notice that France has banned the use of disposable medical devices and other countries are starting to look at this more carefully. There is a competing interest here. The company that makes the devices would surely like to sell more and not see their devices reused to the detriment of their profit margin.

And then, of course, hospitals are hoping to cut costs by using reprocessed disposable devices. I'm basically going to ask you from the consumer and patient's point of view, what do you think our policy should be and what is the FDA doing to address it?

Dr. HENNEY. Senator Durbin, first of all, it is great to be back and to have the opportunity to work with you and all of the members.

I appreciate your compliment on my expertise. But on the issue that you raise, I think I'm going to ask the real expert on this who is Dr. Jacobson, the current acting director for the Center on Devices.

Dr. JACOBSON. First of all, let me compliment you for asking a really tough question. This is one that we've been very concerned about as well. Up until now we've taken the approach that in the absence of data that there was a problem, we've been taking a conservative approach to what we should do because, as you said, there are a number of things to be considered here not the least of which is that the hospitals themselves are doing a lot of reprocessing. And we're not getting a lot of adverse reaction reports.

All that being said, we are concerned about the safety of some of the higher risk devices. It used to be that only things like surgical instruments were reprocessed routinely. But now much more complicated devices are being reprocessed—devices that may pose a higher risk if they're not reprocessed carefully both from the materials aspects, that is can the materials stand up to the reprocessing, as well as from an infection control aspect. Are reused devices being adequately cleaned, disinfected, and sterilized prior to use?

In May FDA is co-sponsoring a meeting on re-use with the American Association for the Advancement of Medical Instrumentation, and number of other co-sponsors. We are bringing together all of the experts we can find to sit down and talk about this issue. What needs to be done. What action should FDA be taking. We have really put a lot of work into it.

Senator DURBIN. Is there any requirement if a reprocessed disposable device is used that there be an entry in the medical record of the patient of that fact?

Dr. HENNEY. Pardon me?

Senator DURBIN. If a hospital decides to reprocess a single use device, a catheter for example, and use it in the treatment of a patient, are they required to put in the medical record of that patient that they used a reprocessed catheter?

Dr. HENNEY. Senator Durbin, I do not believe that they are required to do that.

Senator DURBIN. Would it not be difficult to really track the incidents or problems without that information?

Dr. JACOBSON. Yes. That is one of the issues.

Senator DURBIN. I'm glad to hear that you're addressing it and it's something of concern, I'm sure, not only to me but to anyone, if you go in the hospital to know whether or not you're receiving the best treatment with the best possible medical devices.

Thank you, Dr. Jacobson.

OFF-LABEL PROMOTIONS

Let me ask you about off-label promotions. This is something that has come up over the years where people have said that drugs originally approved for specific use turn out to have value in other applications. Many drug companies cannot justify in their own minds going through the process, again, for those off-label applications. Doctors know that they have some value. And the question remains as to whether or not these off-label applications are being sufficiently monitored to protect consumers and patients.

I'd like to ask how much the review of off-label promotions is presently costing the FDA and whether or not the company is benefiting from these off-label promotions should share in the agency's cost of reviewing their promotional literature.

Dr. HENNEY. Senator Durbin, the issue of off-label use was addressed, in part, in the FDA Modernization Act which tried to strike a balance between providing non-misleading information and the tension that had always been there for the real life situation of drug promotion. At the time of review of a drug and the appropriate labeling of that drug, what is considered is what is in the application; what population was this drug or product studied on; and that defines what's on the label.

As the drug moves into the marketplace and further study of the drug is done or further trials of how the drug is used for other purposes, physicians have found other uses far beyond the labeled indications.

Oftentimes these are written up in the medical literature and now through the Modernization Act, those kinds of materials can be appropriately provided to other physicians.

The caveat also in the Modernization Act is that within a reasonable period of time—I believe the time period is some two to three years—the company must come in with data so that the agency is in a position to analyze that off-label use as to whether it can now go on the label. So that is part of the solution to the question you pose.

I think that we still have concern, in part, at times when off-label use has created real safety issues. Probably the most recent episode of that where it led to the agency having to recall product and remove product from market was the case of the diet drug combination Phen/Fen.

Those were drugs that were used together in a way never provided for on the label. It was clearly an off-label use and the result of that meant an absolute removal of the products from the market.

Senator DURBIN. What I'd like to zero in on is that safety is paramount. There's nothing more important. I'm trying to get down to the bottom line of the resources of the FDA to deal with it.

If a drug company is coming in for approval of a new drug and they, of course, want to sell it for on-label applications and indications, then it's my understanding that they defray some of the costs of the FDA in reviewing that drug. But when it comes to the off-label application, it's my understanding that the FDA bears the full brunt of the cost. Is that correct?

Dr. HENNEY. Senator Durbin, no, I do not believe that is correct because the proposal would come in as a supplement. And those supplements are covered under the user fee program if we're talking about a prescription drug. So we would receive resources in order to conduct the review of that supplement.

Senator DURBIN. How about the promotions, the money to review off-label promotions. Do you receive any compensation from the drug companies for that purpose?

Dr. HENNEY. Senator Durbin, no, we do not.

Senator DURBIN. Do you know what that costs the FDA to do?

Dr. HENNEY. I would be more than glad to provide you that for the record. And we could provide you what we do in terms of promotion in general and any monitoring we've done of the off-label area.

[The information follows:]

FDA does not have positions devoted solely to the review of off-label promotions. The specific cost to the FDA of reviewing all off-label promotions is not tracked and the following description is meant to provide a rough estimate of FDA's Center for Drug Evaluation and Research contribution.

Staff in the Division of Drug Marketing, Advertising, and Communications (DDMAC) check for the inclusion of off-label uses of a drug in their routine review of promotional materials. Last year, ten regulatory reviewers monitored submissions by drug companies, as required under the postmarketing reporting requirements (21 CFR 314.81). These submissions consisted of promotional materials that included reprints, sales aids, journal ads, monographs, videos, broadcast ads, etc. Reviewers checked these materials for compliance with the regulations, consulted with others in CDER when necessary, and took enforcement actions on materials that contain violative claims or issues. Violative claims or issues include, for example, misleading presentations, lack of risk information, and off-label uses. FDA receives no money from drug companies for enforcement actions.

Regarding other off-label submissions, on November 20, 1998, 21 CFR Part 99 was published entitled, "Dissemination of Information on Unapproved/New Uses for Marketed Drugs, Biologics, and Devices." This rule is intended to implement section 401 of FDAMA which amended the act to permit drug, biologic, and device manufacturers to disseminate certain written information concerning the safety, effectiveness, or benefits of a use that is not described in the product's approved labeling. This information can be disseminated to health care practitioners, pharmacy benefit managers, health insurance issuers, group health plans, and Federal and State Government agencies. The information to be disseminated must be about a drug or device that is being legally marketed; it must be in the form of an unabridged reprint or copy of a peer-reviewed journal article or reference publication; and it must not be derived from another manufacturers clinical research, unless that other manufacturer has given its permission for dissemination. Sixty days prior to the dissemination, the manufacturer must submit to FDA a copy of the information to be disseminated and any other clinical trial information that the manufacturer has relating to the safety or effectiveness of the new use. The manufacturer must include a copy of a protocol to support the new use and agree to submit a supplemental application (covered under the user fee program) for that use within a specified period of time, unless a supplemental application already has been submitted or FDA has exempted the manufacturer from that requirement.

For drugs, the review of FDAMA section 401 submissions involves personnel from DDMAC and elsewhere within CDER. Accurate estimates for the amount of time this involves are not available. However, we can roughly estimate that this activity involves 100 percent time for 1.2 FTE per year for DDMAC personnel and 100 percent time for 1.0 FTE for other CDER staff. This costs the Agency approximately $250,000 per year on off-label promotion activities.

Senator DURBIN. Thank you.

ORPHAN DRUG PRODUCT DEVELOPMENT

I included a colloquy on the floor last year about another area, the orphan drug product development. It appeared to me that the Food and Drug Administration was using some of the funds which we appropriated for that purpose for other purposes. And in the colloquy I tried to make it clear that we wanted the orphan drug product development money to be spent for that purpose.

Are you familiar with the agency procedure and whether it is using these funds for another purpose?

Dr. HENNEY. Senator Durbin, I am very aware of your interest and concern about the orphan drug program. It has been highly successful in moving products to the marketplace where there is a small population, if you will, to use these drugs.

I think it has been a real success story of the agency. It has been a program that in nearly all of the budget restrictions and reductions that the agency has had to undergo in the past few years—was protected from those kind of cuts.

This past year when we had to absorb additional cuts, we did ask the orphan drug program to take a proportional share to meet the increases needed for payroll. I do not think that it will significantly impair their ability to do a good job this year. But we cannot stand for it to happen another year in a row.

Senator DURBIN. Mr. Chairman, I have two or three more questions. But if you would like to ask, I can come back on a second round.

Senator COCHRAN. No. Why don't you go ahead and finish. I've just got a couple more questions I want to ask and then I will submit the rest so we get over to the military supplemental hearing.

PRESCRIPTION DRUG ADVERTISING

Senator DURBIN. One of the real revolutions in terms of prescription drugs in modern times has been the advertising and promotion of these drugs to the general public.

There was a time when the promotion of a prescription drug was confined to medical journals and direct contact by drug representatives with doctors, for example. Now we find drugs like Claritin and others, prescription drugs that are being promoted in general television and magazine and newspaper advertising.

They usually—I think they're required to make some record of the contraindications and warnings associated with the drug in magazines that borders on ridiculous, to turn the page and see on the other side of a full colored ad for a prescription drug, something that looks like the fine print from the old days of Pravda where you're supposed to try to work your way through it and figure out what the dangers of this drug might be.

I'm concerned. I understand what the drug companies are up to. They clearly want patients to say to doctors. I just heard about a new drug. Didn't I read in The Washington Post this morning there's a drug that's going to help me lose some weight. What about it, doctor, can I have that. That's the natural feeling on this.

There seems to be an interest by the FDA to make sure that the consumers are well informed about the dangers of certain drugs

even beyond what their doctors might tell them with the development of the so-called MedGuides that were to be distributed by the pharmacies to the consumers directly.

We got embroiled in that controversy last year as to whether we should restrict the distribution of these MedGuides. And I think we ended up with half a loaf when it was all over.

Could you tell me what the FDA policy is in terms of these MedGuides, not only the mandatory MedGuides for the most dangerous drugs but the voluntary distribution of these MedGuides to these consumers?

Dr. HENNEY. Senator Durbin, you raise several different issues within the context of your question.

With respect to the MedGuides, they are restricted, if you will, to the most significant or dangerous products.

With respect to the issue of direct to consumer advertising, like most issues that the agency deals with there are at least two very strongly held opinions.

One is that there is not enough information provided to patients to make an informed choice and the other that even if this does cause a patient to query their health professional about a product that they have read about, it provides an opportunity for an encounter of that patient and that health professional discuss their health condition and why or why not they are suited to that product or others.

So there is real debate on the issue of the direct to consumer advertising. I think from the agency's point of view, our strongest emphasis has to be on seeing that the information provided is balanced and not misleading. And I think that we are trying with the increased use of this direct to consumer advertising and to see that this proper balance is struck.

Senator DURBIN. I hope that the Congress will support you in that. I think as it is legal for these companies to advertise direct to consumers, we have an obligation at the governmental level to make certain that consumers are well informed about the adverse effects that a drug might have on them personally.

SEAFOOD INSPECTION

I have a couple of other questions about seafood inspection. But I'm going to send you a direct letter on that.

I'd just like to ask you one other final question before making an observation and that is I am an advocate for a single food safety inspection agency. We have so many different agencies. The federal government, including yours, that have a responsibility here and so many different standards between, for example, the U.S. Department of Agriculture and the Food and Drug Administration.

What is the frequency of inspection by the FDA of the food processing agencies that are under your jurisdiction?

Dr. HENNEY. Senator Durbin, I would ask Mr. Levitt if he could give you that precise information but as my memory serves me it is close to once every ten years in terms of many of the processing plants that we can inspect.

This issue is one that I tried to raise within the context of that part of the budget that looks at our post marketing surveillance capabilities; where we have not been able, because of limited re-

sources, to meet our food inspection goals within the context of our current budget.

Joe, could you be more precise about the answer.

Mr. LEVITT. Thank you.

Number one, seafood—let me take it in tiers—seafood inspection is now once every year. That is thanks to the appropriations that are provided by the Congress.

Senator DURBIN. And I might say just for the record. In context, meat and poultry inspection is on a daily basis. Seafood inspection is on an annual basis.

Proceed.

Mr. LEVITT. Okay. Thank you.

It is our goal to be able to do an annual inspection—in all of the, what we consider, high risk establishments, that is establishments that process products that are at high risk of microbiological contamination.

There are about 6200 such firms. The money that we have requested in this year's budget submission would allow us to do that. We have raised the frequency of those and we're now doing those every two to four years but we would like to get that down to one year.

The remaining firms are then food processors which would be regular food companies. And then we also have food warehouses which are also food establishments. We try to titrate overall—if you include all the food warehouses, the federal government is inspecting on the order of seven to ten years.

If you include states which also have a presence in a number of these areas, that the time comes down significantly. One of our goals is to increase our cooperation and collaboration not just with other federal agencies, as you've mentioned, but also with the states so that together we can provide the kind of food inspection presence that I think the consumer wants.

INTERNATIONAL INSPECTIONS

Senator DURBIN. In terms of international inspections, do you do any overseas inspections of food exporters to the United States?

Mr. LEVITT. We have a relatively small program that is growing. This year we are doing 100 overseas inspections. In our proposal in the budget before you; we would be able to more than double that to about 250 inspections.

Senator DURBIN. Out of a universe of how many plants that are subject to our jurisdiction?

Mr. LEVITT. Certainly, you know, many more than that. We are also——

Senator DURBIN. In the hundreds? In the thousands?

Mr. LEVITT. It is certainly in the thousands.

We are, I might add, complementing our overseas inspection effort, recognizing the magnitude that we're working with, complementing direct inspections with both technical assistance and foreign assessments.

In fact, yesterday and today at the University of Maryland, we're conducting a conference in conjunction with USDA on imported fresh fruits and vegetables. There are representatives of over 100 countries participating.

When I was at the Conference there was a lot of interest in providing for many of our trading partners the kind of food standard practices that we want to see here. It was good to see the enthusiasm that those people brought.

Senator DURBIN. Thank you. I think most Americans would be stunned to hear this. They believe that the level of inspection is going along at a much more frequent rate. That is not to take away anything from your agency.

I happen to think that the billion dollars that is appropriated for the Food and Drug Administration is one of our best investments at the federal level. But I think that, frankly, consumers across America are asking for us to do a better job and we need to provide you with the resources to accomplish that.

Mr. LEVITT. Thank you. That is why each year we are asking for increments at each stage.

Senator DURBIN. I'll close by saying that I believe there's a request for an increase of some 19 percent in your appropriation, if I'm not mistaken, for fiscal year 2000. And among the purposes is food safety, product safety, pre-market review and the like.

I'm afraid that under the budget resolution which we've enacted you may see a cut in your budget as opposed to a 19 percent increase. I hope that's just not the case. I just believe that we are shortchanging the safety of consumers across America if we do that.

Thank you, Mr. Chairman.

PHYSICIANS PAY COMPENSATION

Senator COCHRAN. Thank you, Senator Durbin.

I notice in the budget submission this statement about physicians pay compensation: "The fiscal year 2000 request reflects the administration's proposed cap on the increase of physician compensation at 6 percent. FDA's prorated share of the resulting reduction is $2.3 million which was taken from each of the affected program areas."

My question is what is that about? Is that an administration edict? Is this sort of budget gamesmanship? Does this really mean that physicians are going to get their compensation increased at something higher than 6 percent if there's not a cap ordered or included in the budget? Do we have to legislate this cap? Is this a previously legislated cap and it's just recited in here?

Dr. HENNEY. Mr. Chairman, I am glad you raised the issue but I am equally glad that Mr. Williams has volunteered to answer your question.

Mr. Williams: Mr. Chairman, this does not require legislation but it does—it is an increase. It's a limit on how much can be spent. It's not a reduction but a limit on the increase. And it arises from a concern by OMB about the level of physician compensation in the department and they've asked us to review our situation and to report back to them.

And it is obviously also in the context of a balanced budget. The Office of Management and Budget is seeking opportunities to economize where possible.

So we are to examine the effect of this limit and we expect to have further dialogue with the OMB. As far as we know, we are the only agency subject to this limit.

There are other agencies that employ physicians and have physician compensation systems similar to ours. But as far as we know, we're the only agency subject to this limit.

BIOTERRORISM

Senator COCHRAN. The budget proposes also a $13.4 million transfer to the FDA for anti-bioterrorism activities as part of the public health and social services emergency fund.

Specifically, my question is what is the FDA's role in this presidential initiative and what FDA activities will be supported with the $13.4 million transfer?

Dr. HENNEY. Mr. Chairman, the major thrust of the agency's effort with respect to the bioterrorism initiative is around the whole issue of vaccine development and the review of those products; an area where we have considerable expertise that we can bring to this issue.

A small portion of the amount requested is for the issue of food as it might be used in the event of bioterrorism or a bioterrorist attack. But it is a very small portion of this particular budget.

Senator COCHRAN. Let me thank you, Dr. Henney and your colleagues for your assistance to our committee.

We appreciate your presence and the fact that we had to reschedule this hearing and then had the full committee schedule another hearing on top of our schedule. So we had to speed this along a little faster than we would have liked. We appreciate your understanding and your patience with us the morning.

SUBMITTED QUESTIONS

Senator COCHRAN. We have additional questions that we will submit to you in writing to be answered for the record.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED BY SENATOR THAD COCHRAN

INJURY REPORTING

Question. For fiscal year 2000, FDA is requesting a $15.3 million increase to begin to improve FDA's Injury Reporting system. Dr. Henney, you indicate in your testimony that "no integrated system for the reporting, monitoring, and evaluation of all FDA regulated product-related injuries currently exists." FDA currently has several programs to gather information on adverse events/injuries associated with the misuse or failure of FDA-regulated medical products and foods, including MedWatch, the Adverse Events Reporting System, FoodNet, the National Antimicrobial Resistance Monitoring System, and the Vaccine Adverse Events Reporting System. Is your plan to integrate these systems or to replace them with an entirely new Injury Reporting System?

Answer. Our intention is to have an integrated "system" for the reporting, monitoring and evaluation of adverse events and product defects associated with FDA-regulated products. Such a system is not merely defined by electronic/computerized hardware and software but an entire program of implementing effective interventions, a comprehensive system for effectively communicating risk information to health care providers and consumers who need it, as well as effective processes to continuously evaluate and improve all of our risk-associated activities. We believe that some components of this overall system do not currently exist in the Agency

and that other areas need enhancement and integration, such as many of the reporting systems listed in your question. There is no plan to replace existing reporting systems with a new system.

Question. Please describe how the Injury Reporting System FDA envisions will operate.

Answer. FDA's strategic goal is to minimize injuries, illness and deaths occurring from the use of FDA-regulated products, and improve the quality of available health care. The true risks associated with products become apparent only after they are in widespread use. Ongoing accurate identification and measurement of risks associated with all medical products, foods and cosmetics is the first step in an overall risk management strategy. Minimization of injuries also involves implementation of effective interventions, a comprehensive system for effectively communicating risk information to health care providers and consumers who need it, as well as effective processes to continuously evaluate and improve all of our risk-associated activities.

The "ultimate system" would begin with an integrated science-based mechanism for reporting, monitoring and evaluating adverse events and product defects associated with FDA-regulated products. In addition, full funding would provide FDA the resources to hire the necessary professionals trained to manage and track the flow of reports and to conduct the essential epidemiological, statistical and medical and scientific evaluations quickly enough for early intervention when significant problems arise. Current information systems are inadequate and are not systematically linked with any ability to share data electronically. Additionally, lack of connections with health care facilities, academia, and broad-based health information databases make it difficult to quickly explore potentially serious problems or conduct thorough investigations, e.g., FDA rarely has any denominator data available to evaluate the significance of specific reported problems.

One of FDA's primary objectives is to develop and implement a system which will improve the quality of information on adverse events and product defects associated with FDA-regulated products. Prompt identification of new, previously unrecognized problems with FDA-regulated products has the potential to decrease morbidity and mortality associated with those products and maximize their safe use. Thousands of deaths and injuries could be avoided, or their consequences reduced, through a comprehensive strategy aimed at finding out why incidents occur and implementing strategies to prevent them from happening again. A full understanding of the causes of product-related deaths and injuries is necessary to ensure that causes attributable to product labeling, design, or composition are addressed in the premarket review programs, where required. For products for which premarket review programs do not exist, such as dietary supplements and cosmetics, FDA needs information about the safety and usage patterns of such products in order to develop appropriate responses.

Accurate, complete, and efficient operation of adverse event reporting systems is only the first step in the management of product injury. Reported events must be analyzed, and other sources of data must be accessed to make sense of the reports and to determine what action, if any, is needed. All FDA safety programs need access to various medical databases. Successful use of these databases requires investment of time by FDA project managers, programmers, and epidemiologists, as well as investment in computing equipment. Modest funding increases for both staff and access to databases through contract vehicles are included in the proposal. In addition, funding for initiation of a sentinel site program for medical device adverse event reporting required by FDAMA is included. This active surveillance concept, if successful, may offer another mechanism by which FDA could acquire additional information regarding the nature, extent, and frequency of injuries due to FDA-regulated products.

Finally, the request includes funding for risk communication activities, particularly for professional and consumer outreach and education . These are intended to both improve the quality and scope of adverse event reporting by the health care community, and to communicate safety issues. Broader communications with health care professionals will be essential in ensuring that improved knowledge about product injuries actually improves people's health.

Question. Dr. Henney, you indicate that $15.3 million is the initial investment to implement an injury reporting system and that additional investments will be required in subsequent years to make a comprehensive system a reality. What is the estimated cost of the system FDA is planning?

Answer. The Agency performed an analysis and determined that $64.5 million in funding would be required for a comprehensive system. The fiscal year 2000 request includes $15.3 million to begin to address this. Such a system would include construction of an Agency-wide reporting system for product injuries, linkage with external databases to provide baseline data on the rate and characteristics of injuries,

strengthening of FDA's scientific research efforts in the area of epidemiology, and developing effective outreach and educational programs to facilitate better reporting and improve overall product-related risk management throughout the health care system.

Question. Dr. Henney, you indicate in your prepared statement that funds for the "limited implementation of a sentinel site program for medical devices are also included in the budget request". Would you please explain this program. Is this included in the $15.3 million increase requested to initiate an Injury Reporting System?

Answer. Yes, funding for this project is included in the $15.3 million increase requested for FDA's overall plan for injury reporting systems. FDA has substantial evidence of gross under reporting of adverse events from device users. In response to this concern, FDA initiated the Sentinel Surveillance pilot program to identify barriers to reporting and explore methods to improve both the quality and quantity of data from the clinical community. Sec. 213 of the 1997 FDA Modernization Act provides the Agency with the opportunity to implement a national Medical Device Surveillance Network, the design of which is based on extensive research from the pilot program, other surveillance systems, and safety experts. The system would provide more timely and better quality data and allow FDA clinicians and analysts to more accurately identify and assess medical device-related problems. Mandatory universal user facility adverse event reporting would be phased out. The Medical Device Surveillance Network will consist of a random sample of eligible health care facilities, stratified by type and perhaps several other variables. The sample would consist primarily of hospitals with additions of other types of care and/or specialty facilities e.g. maternity, children's etc. as needed. Facilities recruited into the Network would be encouraged to report all device-related problems, whether or not the problem resulted in a patient injury. As demonstrated in the pilot program, being alerted to potential problems prior to patient injury will allow FDA to focus on prevention. The availability of population exposure and denominator data from the Surveillance Network will allow FDA to quickly and reliably evaluate the extent of a problem and its impact on the public health. In addition, the Agency would have options for reducing or eliminating unnecessary user facility reporting costs. The Agency expects that industry will save approximately $19 million in reporting costs.

Question. How much is requested for this medical device sentinel site program?

Answer. FDA requested an overall increase of $15.3 million in the fiscal year 2000 budget for injury reporting and of this amount, the device program was allocated $3.2 million to implement phase one of a national Medical Device Surveillance Network.

Question. What level of funding is now being spent on these existing programs to collect information on adverse events, product defects, and product defects associated with FDA-regulated products?

Answer. We estimated our fiscal year 1998 base spending for these activities to be approximately $28 million, including approximately $11 million for information management systems.

TRANSFER OF THE COMMERCE SEAFOOD INSPECTION PROGRAM TO FDA

Question. The fiscal year 2000 budget proposes the transfer of the voluntary Seafood Inspection Program from the Department of Commerce to FDA. Why is the transfer of this program being proposed?

Answer. Transfer of the Seafood Inspection Program from the Department of Commerce to FDA will improve the safety of seafood in several ways. Establishing a Performance Based Organization or PBO at FDA will establish FDA as the sole seafood agency with one federal HACCP standard, thereby promoting efficiency, effectiveness, and consistency of seafood regulation. This centralization will help both domestically and internationally. In addition, the PBO will provide the potential of additional trained inspectors to implement the HACCP regulations, resulting in increased frequency of inspection. Consumers will benefit by improved food safety from an increased federal regulatory presence and a single HACCP standard established by FDA.

Question. The budget proposes that the Seafood Inspection Program be transferred from Commerce to FDA through appropriations language. Why isn't the Administration seeking legislative authority through the appropriate authorizing committees of the Congress for this transfer?

Answer. While the Administration has requested appropriations language to transfer the program as is, without establishing it as a Performance Based Organization or PBO, the longer term solution is authorizing legislation that would establish the Seafood Inspection Program as a PBO with the Department of Health and

Human Services. Department of Health and Human Services is currently working with the Department of Commerce and other parts of the Administration to finalize a draft proposal that would accomplish such a PBO. We are eager to work with Congress to achieve this goal.

Question. The current costs of the Seafood Inspection Program are covered by user fee collections from industry. The budget proposes that the program continue to be financed through user fee collections derived from the seafood industry. Why will the transfer of this program result in an additional $3 million cost to the American taxpayer?

Answer. Of the one time transfer cost of $3 million in budget authority requested, $1.5 million is requested for training. The Agency, in conjunction with the National Marine Fisheries Service, plans to provide FDA HACCP training for Seafood Inspection Program inspectors . This training will enhance and ensure uniformity in inspection approaches and the application of inspection techniques and safety standards at the federal level. In addition these resources may provide for some general training similar to the basic training provided to newly hired investigators and inspectors, which includes food and drug law, evidence development, interviewing techniques, and quality auditing. The balance of the requested funds will be used to educate the industry regarding the PBO, provide for other administrative or transitional costs and establish an operating reserve.

Question. What are the "transition costs" to FDA related to the proposed transfer of this program?

Answer. The budget request also includes $200,000 in anticipated start-up costs to facilitate the transfer and establishment of the PBO. These costs include information technology and other administrative costs associated with the transfer of the PBO.

Question. The budget indicates that the Administration will submit a legislative proposal to the Congress to make the Seafood Inspection Program a Performance-Based Organization under the auspices of FDA. Would you please explain this proposal more fully.

Answer. FDA and the Department of Health and Human Services are currently working with the Department of Commerce and other parts of the Administration to finalize a draft proposal that would transfer the Seafood Inspection Program of the National Marine Fisheries Service in the Department of Commerce to FDA in the form of a Performance Based Organization or PBO. A PBO is a quasi-public organization that is located in a federal agency but operated like a business in that it is to be financially self-sustaining. Although the federal agency oversees the PBO, the PBO is given a great deal of autonomy to run day-to-day operations, particularly in the areas of personnel and procurement, in order to respond quickly to customers' needs and marketing conditions.

The seafood inspection PBO would continue to perform the voluntary, fee-for-service inspection, grading, certification, and training services for the seafood industry and other customers currently performed by the Seafood Inspection Program in the Department of Commerce. In addition, FDA would be able to utilize these trained inspectors to perform regulatory HACCP inspections under one Federal HACCP standard.

Question. Would this legislative proposal be submitted if the program remains within the Department of Commerce?

Answer. We assume, if Congress rejects the $3 million requested in budget authority, that the proposed transfer and establishment of a PBO would be delayed, and that the Seafood Inspection Program currently authorized would continue to operate as it has for many years within the Department of Commerce. The legislation will be transmitted before the fiscal year 2000 appropriations bills are enacted

Question. Will the transfer of the seafood inspection program from Commerce to FDA improve food safety? If so, how?

Answer. Yes, the transfer of the Seafood Inspection Program currently located at the Department of Commerce to a PBO within FDA would improve food safety. First, such transfer would establish FDA's HACCP standard as the single safety standard at the federal level. Because the FDA standard would be employed uniformly in both voluntary and regulatory inspections, increased compliance with the seafood HACCP regulations will result. Second, the transfer would increase the federal regulatory presence throughout the seafood industry. The legislation would authorize FDA to commission PBO inspectors to perform regulatory inspections and would also allow FDA to rely on the results of the voluntary inspections to fulfill its regulatory obligation, perhaps eliminating the need for FDA to perform an additional regulatory inspection of a facility participating in the voluntary program.

PRODUCT SAFETY ASSURANCE

The budget requests an increase of $31.8 million in FDA's salaries and expenses appropriation to achieve statutory time frames for inspections. The justification indicates that this additional funding will, among other things: (1) allow FDA to leverage the Agency's enforcement capability internationally by working toward regulatory agreements with the European Community and other nations so that imports meet quality and safety standards, (2) increase the frequency of inspections for domestic products across-the-board, and (3) provide for targeted inspections on those areas with the most potential for serious injuries.

Question. What level of funding is now being devoted to FDA's enforcement of imports?

Answer. In fiscal year 1999, FDA is devoting $83.3 million and 941 FTE to the enforcement of imports. 15. ORA, OEA

Question. What regulatory agreements are currently in effect with other nations to assure that imports meet quality and safety standards?

Answer. We would be happy to provide for the record a table which shows what regulatory agreements are currently in effect with other nations.

INTERNATIONAL COOPERATIVE AGREEMENT

Country	FDA Sponsor	Title	Effective Date	Termination Date
Australia	CFSAN	Dry Milk Products	11/28/79	Indefinite
Australia	CFSAN	Shellfish Certification	9/12/86	Indefinite
Australia	CDRH	Inspect. Info on Medical Device GMP (EOLs).	2/17/93	Indefinite
Australia	FDA	Orphan Products	8/13/97	Indefinite
Belarus	CDER CBER	Info Exchange on Drugs/Biologics	3/27/96	3/25/99
Belgium	CFSAN	Dry Milk Products	11/6/74	Indefinite
Canada	CDER	GMPs Exchange of Drug Plan Inspection Information.	10/1/73	Indefinite
Canada	CDRH	Exchange Information on Compliance Program Efforts.	12/16/74	Indefinite
Canada	CFSAN	Shellfish Sanitary Controls	4/30/48	Indefinite
Canada	CFSAN	Monitoring Food, Beverage & Sanitary Srvs. on Common Carriers.	7/26/88	7/26/98
Canada	ORA	GLPs Phase I/Non-Clinical Labs	5/10/79	Indefinite
Canada	CVM	Agricultural Trade	12/4/98	Indefinite
Canada & Mexico	FDA	Scientific and Regulatory Fields of Health.	10/30/95	Indefinite
Chile	CFSAN	Exported Oyster, Clams, & Mussels	5/18/89	5/18/99
Chile	ORA	Safety of Imported Fresh Fruit	10/27/89	10/27/99
Chile	CFSAN	Fish & Fishery Products	5/13/96	5/13/01
China	CFSAN	Certification of Ceramic Ware	12/26/88	Indefinite
Denmark	CFSAN	Dry Milk Products	1/19/79	Indefinite
European Union	CDRH & CDER	Mutual Acceptance of device, drug and biological inspection reports.	5/18/98	Indefinite
Finland	CFSAN	Certification of Imported Food Products..	3/4/84	Indefinite
France	ORA	GLPs Phase II Info. Exchange of Toxicological Labs.	3/18/86	Indefinite
France	CFSAN	Caseins	1/15/74 & 1/15/87.	Indefinite
France	CFSAN	Cert Program for Listeria in Cheese	1/21/87	Indefinite
Germany	ORA	GLPs Phase II (Joint with EPA)	12/23/88	Indefinite
Iceland	CFSAN	Safety of Fresh/Frozen Shellfish	12/28/78	Indefinite
Ireland	CFSAN	Certification Requirements for Caseins.	11/5/96	11/5/01
Italy	ORA	GLPs Phase II	12/19/89	Indefinite
Japan	CFSAN	Shellfish Improving & Standardizing Sanitation Practices.	10/24/62	Indefinite
Japan	ORA	GLPs	4/15/83	Indefinite
Japan	CFSAN	Puffer Fish	10/24/88	Indefinite
Korea	CFSAN	Shellfish Certification	4/8/87	4/7/97
Korea	CFSAN	Conservation & Rational Exploitation of Fishery Resources.	11/24/72	Indefinite

INTERNATIONAL COOPERATIVE AGREEMENT—Continued

Country	FDA Sponsor	Title	Effective Date	Termination Date
Mexico	CFSAN	Control of Fresh/Frozen Bivalve Mollusca for Exportation.	11/12/88	11/12/98
Mexico	ORA	Regulation of Raw Agricultural Products.	11/28/88	11/28/98
Netherland s	CFSAN	Dry Milk Products Examined for Salmonellae.	1/8/79	Indefinite
Netherland s	ORA	GLPs Phase II	12/20/88	Indefinite
New Zealand	CFSAN	Shellfish Sanitation	10/30/80	Indefinite
New Zealand	CFSAN	Fish & Fishery Products	12/20/95	12/20/00
New Zealand	CFSAN	Dry Milk Products Facilitate & Improve Importation Procedures for.	11/11/75	Indefinite
New Zealand	CFSAN	Horticultural Produce Pesticides	3/13/95	Indefinite
Norway	CFSAN	Importation of Rennet Casein	2/26/82	Indefinite
Norway	CFSAN	Listeria Program for Smoked Salmon.	10/15/96	Indefinite
Philippines	CFSAN	Certification of Food Products	9/18/86	Indefinite
Russia	CFSAN	Food Products	3/29/96	Indefinite
Russia	CDER	Drugs & Biological Products	2/2/94	2/4/2000
Russia	CDER	Drugs & Biological Products Annexes.	1/30/96	Indefinite
Russia	CDRH	Medical Devices Info	1/30/96	Indefinite
Sweden	CFSAN	Dry Milk Products	11/7/77	Indefinite
Sweden	ORA	GLPs Phase I /Non-clinical Labs	5/25/79	Indefinite
Sweden	CDER	Upgrade Quality of Drugs in International Commerce.	10/17/72	Indefinite
Switzerland	ORA	Inspection of Production of Swiss Drugs.	10/28/68	Indefinite
Switzerland	ORA	GLPs Phase II Exchange Information.	4/29/85	Indefinite
Taiwan	CDRH	Info Exchange on Medical Devices	1/9/98	Indefinite
United Kingdom	CFSAN	Processing & Labeling of Fresh & Frozen Clams.	9/7/82	Indefinite
United Kingdom	CDRH	Mutual Recognition of Medical Device Inspections.	6/6/86	Indefinite

PRODUCT SAFETY ASSURANCE

Question. What additional agreements is FDA working towards?

Answer. We would be happy to provide for the record a table which shows what proposed regulatory agreements FDA is currently working to implement. [The information follows:]

PROPOSED INTERNATIONAL COOPERATIVE AGREEMENTS

	Subject
AUSTRALIA/Drug GMPs	Agreement on drug GMPs and pre-approval program.
AUSTRALIA/CVM EOLs	Exchange information on animal pharmaceuticals.
CANADA & MEXICO Scientific & Regulatory Areas.	Cooperation in scientific and regulatory fields of health
CANADA/MEXICO/Emergency Info	Agreement to enhance cooperation and to continue to exchange timely information in emergency situations.
CANADA/Seafood MRA	Mutual acceptance of seafood inspection results.
CHILE/Fresh Fruits & Vegetables MOC	Exchange of information and technical cooperation with regard to food safety control practices to protect public health and to facilitate trade of selected fresh fruit and vegetables.
CHINA/Ceramicware	Covers ceramicware intended for use in the preparation, serving, or storage of food or drink.
EU/Veterinary Products	Focus on developing a framework for working towards equivalence of systems. USDA and USTR are also parties to the agreement.

PROPOSED INTERNATIONAL COOPERATIVE AGREEMENTS—Continued

	Subject
KOREA/Shellfish Extension	Assure that imported fresh frozen molluscan shellfish are safe and wholesome and meet NSSP sanitation principles.
UKRAINE/Drugs and Biological Products	Importation of drugs and biologics into Ukraine.

DOMESTIC INSPECTIONS

Question. You indicate that the goal is to increase the frequency of inspections for domestic products (except for foods) to once every two years, as mandated by statute, through FDA inspections and additional state contracts. For drugs, biologics (registered blood banks), animal drugs, and medical devices, this would be inspecting the manufacturer every two years.

What is the current inspection level for each of these areas?

Answer. The current inspection level in fiscal year 1999 for a two-year statutory interval, by category, is drugs 22 percent, biologics 43 percent, animal drugs and feed 27 percent, and medical devices 26 percent. Successful biennial inspections would mean that inspections for each area should be at the 50 percent level. Although there is no statutory interval for food manufacturers, high risk food inspection levels are currently at 33 percent.

Question. What inspections are now being performed through state contracts and what additional contracts are being sought?

Answer. Currently, FDA has contracts with states to conduct inspections under the following areas: 40 food contracts; 19 medicated feed contracts; 49 MQSA contracts; and, 17 tissue residue contracts. We are planning to conduct a feasibility study to see how best to expand this program with the funds requested in the fiscal year 2000 budget.

Question. What is the inspection goal for foods? How frequently are inspections being performed now?

Answer. FDA established three primary inspection goals for foods in fiscal year 2000. The goals reflect the Agency's strategy in addressing risk with regard to both domestic and imported foods. These goals are for FDA to increase the frequency of high-risk domestic food establishment inspections to once every one to two years, and annually beginning in fiscal year 2001, achieve adoption of the Food Code by at least 35 percent of the states, and increase the number of inspections/evaluations of foreign food establishments from 100 to 250.

FDA is currently inspecting the 54,000 establishments in its inventory every 7 to 10 years. However, the Agency also has contracts with states to conduct inspections. This has increased the frequency of inspections to once every 4 to 5 years.

Question. What is the current domestic inspection funding and staffing levels and what increases are being sought?

Answer. The current domestic inspection funding is $87.7M and staffing level is 984 FTE. The increase sought for domestic inspections is $15.4M and 80 FTE. We would be happy to provide a table that displays a breakout of these totals by program area.

RESOURCES FOR DOMESTIC INSPECTIONS

[Dollars in millions]

	Current FDA domestic inspection staffing level (FTE)	Current FDA domestic inspection funding
TOTAL FDA	984	$87,730
FOODS	368	33,541
BIOLOGICS	185	15,649
HUMAN DRUGS	203	16,720
ANIMAL DRUGS	53	4,276
DEVICES/RAD HEALTH	175	17,544

The increase sought for domestic inspections is $15.4M and 80 FTE. The increases will be used to improve the frequency of inspections for domestic products through

increased inspections and state contracts. These efforts will not fully meet the statutory requirement of once every two years for biologics, human/animal drugs, and medical devices, as mandated by statute, but will improve product safety and quality systems conformance. The inspectional emphasis will be on high-risk product areas, i.e., for Medical Devices, Class II and III Manufactures only. We would be happy to provide a table that displays a breakout of these totals by program area.

FDA—INCREASES IN PRODUCT SAFETY ASSURANCE DOMESTIC INSPECTIONS ONLY

[Dollars in millions]

	Increase of staffing level (FTE)	Funding increase
TOTAL FDA	80	$15,400
FOODS	27	4,000
BIOLOGICS	13	3,200
HUMAN DRUGS	15	1,900
ANIMAL DRUGS & FEEDS	9	1,500
DEVICES/RAD HEALTH	16	4,800

Tables include Postmarket inspections only.
Tables do not include domestic sample collections and analyses, research, and Premarket inspections.
Tables do not include Tobacco and Other activities.

Question. What level of resources will be targeted on areas with the most potential for serious injuries?

Answer. We would be happy to provide a table that displays a breakout of these totals by program area.

FISCAL YEAR 2000 DOMESTIC INSPECTION FUNDING BY PROGRAM

[Dollars in millions]

	Staffing level (FTE)	Funding
TOTAL FDA	1,655	$199,600
FOODS	399	37,900
BIOLOGICS	236	22,900
HUMAN DRUGS	489	45,600
ANIMAL DRUGS & FEEDS	91	8,300
TOBACCO	28	42,000
OTHER ACTIVITIES	163	15,000
DEVICES	249	27,900

DOMESTIC INSPECTIONS—HIGH RISK AREAS

Question. What high-risk areas have been identified?

Answer. The high risk areas in the medical devices program that have been identified are those products that are intended for surgical implant into the body or to support or sustain life and whose failure to perform, when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury to the user.

A limited example of those products include: cardiovascular devices, pacemakers, stents, intra-aortic balloon and control systems, cardio-electrodes, defibrillators, implantable orthopedic devices, infusion pumps, anesthesiology devices, ventilators, condoms, surgical gloves, intra lens, peritoneal dialysis systems, surgical lasers, electro-surgical products, and many others.

High risk areas in the human drugs program include adverse drug event investigation and follow-up, nontraditional drugs, drug products with microbiological contamination issues, controlled release dosage forms, stability problems, process validation issues, medical gas manufacture and delivery, and Y2K readiness

It is important to consider that a prolonged priority-based program will cause us to not inspect for very long periods important numbers of drug firms in the lower priority levels. This lack of contact causes broad scope drift to out of compliance situations. The biennial inspection allows us to interact with companies and provide

the kind of direction which may keep many firms from going out of compliance, while also finding those with the violative conditions and practices requiring full compliance attention. Over the long run biennial inspections keep many companies, especially he smaller ones from being involved in serious compliance problems.

The biologics program high-risk areas that have been identified are registered blood banks; source plasma operations; and biological product manufacturing establishments. The Food and Drug Modernization Act of 1997 or FDAMA requires FDA to perform biennial good manufacturing practice, or GMP inspections of registered biologic firms.

The high risk areas in the animal drugs and feed program include Bovine Spongiform Encephalopathy or BSE—an immediate health hazard; illegal drug residues in Meat and Poultry; National Milk Monitoring, a chronic public health risk; feed contaminants, an acute public health risk involving mycotoxins, pesticides, dioxins, microbials, contamination response issues, etc.; and Drug Process and New Animal Drug and Medicated Feed Inspection where experience has shown reduced coverage causes increased lack of statutory compliance, thus an increased public health risk.

The Foods high risk areas include ready to eat products which will undergo no or minimal processing, such as heating, freezing, washing, that would eliminate a pathogenic organism on the food. These products include fresh fruits and vegetables, bakery goods, cheeses, cooked pasta dishes, etc.; heat and serve products which normally receive a heat treatment prior to final consumption by the consumer; all low acid canned and acidified foods which if not properly processed may present a potential hazard to health in the form of botulism; seafood products particularly those that are scrombotoxic e.g. mahi mahi, pompano, tuna, salmon, swordfish, those susceptible to ciguetera, e.g. grouper, snapper, Spanish mackerel and those susceptible to other natural toxins including paralytic fish poison, amnesic shellfish poison, gemphlotoxin, etc.; and infant formula.

SPENDING PRIORITIES

Question. In its plan for Statutory Compliance, FDA indicates that "significant additional resources, as well as prioritization of FDA activities, are essential if FDA is to meet its statutory requirements on a sustained basis and to meet public expectations". It is unlikely that significant additional resources will be available to this Committee given that spending must be brought below the fiscal year 1999 levels to comply with the statutory caps on discretionary appropriations. Given this, what can you tell us about FDA's plans to prioritize its activities and redesign its internal operations and processes to better utilize its existing resources to meet its statutory obligations and to meet newly emerging challenges?

Answer. In an effort to meet its statutory obligations and emerging public health challenges, FDA must continuously and carefully examine its priorities. Our focus on risk-based decision making , the use of third parties in the regulatory process, technologic enhancements, and systems reengineering will all contribute to a better, more efficient use of resources. Involving our external stakeholders, as well as state and federal government collaborators becomes increasingly important in an environment of diminished resources. These constituents help the Agency in understanding emergent issues, and they contribute ideas to improve our systems.

Within this scenario of funding limits, FDA's overall strategic directions that are outlined in the FDA Modernization Act "Plan for Statutory Compliance" remain as viable approaches to a fiscally uncertain future.

FDA's six strategic directions mentioned here include establishing risk-based priorities, strengthening the scientific and analytical basis for regulatory decisions, working more closely with external stakeholders, continuing to re-engineer FDA processes, adopting a systems approach to Agency regulation, and capitalizing on information technology. We believe that these six strategic directions constitute a framework for managing environmental changes of many different sorts—fiscal, scientific, human resource, consumer preferences, and so forth. Even with this strategic framework, however, the outcomes become a matter of degree in relation to the resources available to address those statutory or public health priorities.

Question. Given the likelihood that this Committee will not have additional resources available to it above the fiscal year 1999 level, what priority would you place on the increases FDA requests for fiscal year 2000?

Answer. FDA has requested an increase of $216 million in appropriated funding for fiscal year 2000. This increase request resulted from a comprehensive analysis of our current performance levels and those levels needed to achieve our statutory obligations. Our experience tells us that without additional resources, progress toward many very important outcomes cannot be achieved.

For example, $95.5 million of the increase request is intended to boost the public health infrastructure. That includes reducing injuries from the improper use of FDA regulated medical products, protecting consumers and industry from unsafe products by enhancing inspectional coverage of domestic and imported products, and reducing delays in getting important new products on the market. Without additional funding, FDA cannot meet its statutory obligations in the short-term or the long-term. Even with system-wide improvements in setting priorities and increasing efficiencies, the diminishing resources cannot be overcome because the future cost of rebuilding the public health infrastructure will be considerably higher than the incremental maintenance of the existing system.

Other components of the increase request include the Presidential Initiatives for addressing bioterrorism, preventing tobacco use among youth, and food safety, as well as mammography quality standards. Without increased resources, FDA will be ill-equipped to respond to those priorities.

PREMARKET APPLICATION REVIEW

Question. The fiscal year 2000 budget requests an increase of $11 million for premarket application review to improve FDA review times for premarket approvals to meet statutory requirements, supplemented by $17 million in collections from proposed new "additive" user fees.

The budget justification submitted to this Committee indicates that premarket review of food and color additive petitions "is one particular area where FDA recognizes the need to improve performance." How has the agency worked over the past several years to improve its level of performance in this area within existing resources?

Answer. In April 1995 and May 1996 FDA reported to a Congressional oversight committee regarding the premarket review of food and color additive petitions. At the time of the 1995 hearings FDA had an inventory of 295 petitions of all types.

FDA has implemented several activities to improve the level of its performance. In late 1995, and again in late 1996 FDA's Center for Food Safety and Applied Nutrition or CFSAN, reallocated resources within the Center to transfer 23 employees from other programs to the premarket review program for food and color additives. In addition, FDA provided an influx of 7 million dollars for infrastructure improvements and for third party reviews to provide scientific input into premarket reviews to help reduce the number of overdue petitions and speed the review of newer petitions. By the end of fiscal year 1996, FDA had reduced the 1995 petition inventory of 295 by more than 100 petitions. Since the 1995 hearing FDA has received over 220 food and color additive petitions, including over an increase of more than 50 percent in the number of petitions submitted from fiscal year 1997 to fiscal year 1998, and has successfully completed the review of over 100 of those approximately 220. The current inventory is approximately 220 petitions.

Since April 1995, CFSAN also has codified a threshold of regulation process for exempting low-risk food additives migrating from food packaging from the requirement of a food additive petition. FDA estimates that this process has thus far eliminated the need for over 200 petitions to be submitted to the agency.

Question. The FDA plan for statutory compliance issued in November of 1998 indicates that FDA has successfully adopted a number of innovations and re-engineering approaches to improve review performance, but has now reached the point where additional improvements in performance for non-PDUFA statutory requirements cannot be met without additional resources. What innovations and re-engineering approaches has FDA adopted to improve review performance times?

Answer. PDUFA is a successful model both in terms of reduced review times and terms of facilitating the development of needed products. In other areas, however, this is a problem because there is a mismatch between the enormous societal investment in new product development and the resources available to FDA to fulfill its expanded role of facilitating the development of these new therapies. The consequence is evident in FDA's performance plan. In Medical Devices, it is estimated that the percentage of Premarket Applications reviewed within 180 days will drop from 83 percent to 70 percent between fiscal year 1998 and fiscal year 1999. In Veterinary Medicine, the percentage of New Animal Drug Applications and Abbreviated New Animal Drug Applications reviewed within 180 days is projected to decrease from 75 percent in fiscal year 1998 to 65 percent in fiscal year 1999. Even if review times are maintained, this will be achieved by devoting increasing proportions of the science base resources to application review. But, with resources that keep pace with America's R&D investments, FDA can hope to keep up with industry's scientific and technological advances, and not only reduce review times in all areas of product review, but also play the vital role in shaping a more efficient and produc-

tive product development process in accordance with the new FDAMA mission statement.

Question. How have review times been improved through these innovations and approaches?

Answer. I would be happy to provide a detailed report of how review times have been improved for each of FDA's review activities.

Center for Devices and Radiological Health

FDA continued with its major reengineering effort, initiated in 1997, to improve the device review program and make it more responsive to stakeholders. FDA also made substantial progress in implementing the device provisions of the FDA Modernization Act (FDAMA). FDA anticipates that improvements and changes that arise from reengineering and FDAMA activities, when fully implemented, will enhance performance levels beyond fiscal year 1999. The table below shows that for fiscal year 1998, FDA met its goal in reviewing 510(k) first actions within the statutory time limit but a lot improvement is still needed in the review program for 510(k) final actions, PMAs, and PMA supplements.

[In Percent]

Goal Statement	FDA Performance in fiscal year 1996	Performance in fiscal year 1997 (reengineering Initiated)	Performance in fiscal year 1998	Statutory Performance
Complete review of PMA first actions within 180 days and HDE actions within 75 days	51	74	79	100
Review final actions for PMA Supplements within 180 days	69	65	89	100
510(k) firstactions within 90 days	94	98	99.6	100
Complete 510(k) final actions within 90 days	65	70	75	100

Center for Drug Evaluation and Research

These initiatives are directed at reducing the total time to approval of generic drugs (ANDA's), not specifically to reduce review times. (As background, approval times include agency review times as well as time with firms to address any deficiencies identified by agency reviewers. Average review times for original ANDA and major amendments has not changed by much in several years, i.e., we review about 50 percent of the ANDA's within 180 days.)

However, as a result of these initiatives, total time to approval of generic drugs has decreased as shown:

Fiscal year	*Median approval time in months*
1995	28.2
1996	4.7
1997	9.6
1998	8.7

Center for Veterinary Medicine

Review times for the Animal Drugs and Feeds Program have not yet improved. FDA's move away from the traditional review process for New Animal Drug Applications toward the phased review process has added a small amount of work to the review of applications. However, this change is expected to increase animal drug availability, reduce the overall animal drug development time, and reduce the time and costs to sponsors for developing new animal drugs.

Center for Biologics Evaluation and Research

The Prescription Drug User Fee Act (PDUFA) has resulted in more and better applications that can be filed immediately, and reviewed and approved more quickly. New products get on the market faster, and the American consumer and the pharmaceutical industry benefit. The cumulative effects of additional human and financial resources; the use of project management methodology to guide the review process and monitor the increasing workload; the elimination of overdue applications; and the increased emphasis on timeliness as a performance measure, have signifi-

cantly improved Agency and industry performance, predictability, and accountability.

The median approval time (from application receipt to approval) for PDUFA product license applications (PLAs) and biologic license applications (BLAs) at CBER has declined dramatically from 31.3 months in fiscal year 1993, to 12.0 months in fiscal year 1997. (CBER's performance against the fiscal year 1998 12-month review performance goals will not be available until the end of fiscal year 1999, 12-months after the end of the fiscal year.) In fiscal year 1993, the year before PDUFA became effective, CBER's median PLA/BLA approval time was 31.3 months for PDUFA-type applications.

FDA's review performance with non-PDUFA license applications has also improved, however, not as dramatically as with the PDUFA applications. In fiscal year 1997, CBER's median approval time for non-PDUFA PLAs/BLAs was 8.3 months compared to 23.3 months in fiscal year 1993.

Question. And, why has the agency now reached the conclusion that no further improvements can be made without additional resources?

Answer. For the past several years, the Agency has made concerted effort to reengineer its application review process. However, we do not foresee any additional improvements on the immediate horizon that will have a substantial impact Improvements at this point are likely to have only minor savings for the review process. This is a serious concern if the rate of submissions of new applications continues to increase as it has over the past few years. With reengineering efforts and implementation of FDAMA activities, FDA has made substantial progress in many aspects of its application and review program. For example, review times for certain applications have decreased significantly and backlogs have been eliminated. However, improvements in other areas are still needed and prospects for these improvements are dim without additional resources. The Agency has been asked to take reductions each year to streamline operations, while expending substantial reviewer and other resources to implement other initiatives. Just as was the case for PDUFA applications, with additional resources to hire more reviewers and improve the information technology infrastructure, the Agency can achieve the levels of performance the American people deserve.

NEW USER FEES

Question. The fiscal year 2000 budget indicates that user fee legislation will be submitted to the Congress to enable FDA to expand its programs for the review of new medical devices, food additives, and food contact substances.

When will these legislative proposals be transmitted to the Congress?

Answer. Proposed legislation to authorize new fees to enhance the quality and timeliness of premarket review for both direct and indirect food and color additives, and for medical devices is in clearance within the administration. The legislation is anticipated to be completed shortly and submitted to the appropriate committees in Congress.

Question. What fee schedules were assumed as the basis of the budget estimate that an additional $17 million can be collected and available to the FDA in fiscal year 2000 from these proposed new user fees, if enacted into law?

Answer. The budget proposes FDA be authorized to charge fees totaling $17.0 million in fiscal year 2000 to improve performance in review of medical device applications and food and color additive petitions. It also requests a premarket notification program for food contact substances established under the FDA Modernization Act. FDA proposes a device user fee program that will generate approximately $7 million in premarket review fees associated with high-risk devices and device registration fees each year of its existence. The Agency also proposes a foods premarket review fee program that will generate approximately $10 million in fees, $4 million for food additive petitions and $6 million for a premarket notification program for food contact substances. The exact amounts of the individual fees will be forthcoming with the transmittal of the Administration's legislative proposal.

The Food and Drug Administration Modernization Act of 1997 amends section 409 of the Food, Drug, and Cosmetic Act to establish a process whereby the manufacturer or a supplier of a food contact substance can notify the FDA of the intent to market certain food contact substances and, unless FDA objects to the notification within 120 days, the manufacturer may proceed to market the product. This premarket notification program for food contact substances is a replacement for the food additive petition, or FAP, process for the majority of food additives that are food contact substances. It also is an alternative to the Agency's threshold of regulation or TOR process for exempting food additives from the requirement of an approval regulation.

The Agency expects that this notification process will be very attractive to industry because a notification will require information comparable to that in an FAP or TOR submission, but will automatically become effective after a 120-day review period if FDA does not object to the marketing of the substance for the proposed use. Unlike food additive approvals, premarket notifications will be proprietary since such notifications will authorize the marketing of substances only for the substance identified in the notification and not similar or identical substances prepared by someone other than the manufacturer listed in the PMN. Based upon these two factors, the Agency expects to receive a larger number of notifications than it presently receives as FAPs and TOR submissions for food contact substances.

As amended, section 409 requires that the Agency object to a premarket notification within 120 days of its filing in order to prevent a food contact substance from being marketed. While food contact substances are used such that they typically enter the diet only at relatively low levels, they also may be or contain toxic chemicals. Therefore, it is essential that the Agency have the necessary resources to complete the review of PMNs within the allotted time and identify those substances that have not been shown to be safe. Likewise, it is important to ensure that existing resources in the FAP and TOR programs are not redirected prematurely.

Food Additive Petitions will still be required for certain food contact substances of greatest public health concern and for food additives added directly to food. These required petitions are typically the most resource intensive to review. FDA's program for premarket review of food additive petitions needs adequate support to meet goals established under the Government Performance and Results Act, to reduce the current petition inventory, and to make progress towards meeting statutory time frames, as mandated by Section 903 of the Federal Food, Drug, and Cosmetic Act, as amended by FDAMA. Thus, if the resource demands of the PMN program are not adequately provided for, resources from the related food additives program may need to be redirected to PMN, with the result that goals of the food additives program would be undermined.

Legislation would authorize collections of additive user fees to support costs of review of food and color additive petitions and would conform the current additive user fee authorization to the fee authorization for food additives. Fees would be assessed on each person who submits a food or color additive petition and on food ingredient manufacturing establishments as defined in the bill. Revenue from the fees would be used to increase resources available for the review of food additive and color additive petitions and related activities, with the goal of significantly expediting these reviews and supporting more prefiling discussions and consultations with petitioners.

Regarding device user fees, as indicated by FDAMA requirements, Congress and Agency stakeholders expect more timely and interactive PMA reviews. Accordingly, FDA will use these additive device user fees to significantly increase the effort devoted to PMA and PDP reviews, including enhancing the timeliness and quality of the review process as well as increasing interactions and consultations with industry. In addition, the user fee revenue will enable FDA to stay current with increasingly complex new technologies, update review standards and provide high quality, timely guidance to industry and reviewers. The medical device strategy is to concentrate resources on high risk, high impact products or work areas where they are likely to have the greatest impact on public health. With the proposed user fees, the percentage of reviews completed within established time frames will increase, average review times will go down, and the FDA will be able to support increased interaction with industry.

Question. Has the FDA consulted with the affected industries in the development of these user fee proposals?

Answer. In the area of food additives, review fees are proposed for increasing support for the review of food and color additive petitions, and funding the program, established in FDAMA, of premarket notification for food contact substances, or so-called indirect food additives such as food packaging materials.

With regard to food contact substance premarket notification, it is our understanding that this program is generally supported by the affected industry. Further, the program as incorporated in the Senate version of the FDAMA legislation included a user fee provision that we understand was supported by industry.

With regard to fees to support the review of food and color additive petitions, we understand a group of the larger companies that produce food additives directly added to food and several major trade groups of the food industry have endorsed the concept of user fees, as long as those fees are additive to the base budget, are targeted explicitly to improving the timeliness of petition review, and are accompanied by clear, publicly articulated performance goals. The industry is also concerned that any fee program include legislative and management changes to the re-

view process. We certainly agree with the principles expressed, and believe we can work with the industry and consumer groups on process changes that we can all endorse.

FDA is requesting a total of $7.0 million in medical device fees to improve the quality and timeliness of its medical device review process. Growth in the size of the device industry and in the complexity of new medical devices will continue to challenge the FDA unless additional resources for device reviews are available. The proposed user fee funding will enable the FDA to expedite review of PMA/PDP applications and achieve statutorily established performance goals by 2002. In 1997 during FDAMA discussions, the device industry made it clear they wanted substantive review and decisions in 90–180 days from submission.

Question. Will the Administration's proposals affect small businesses or will small companies be exempt?

Answer. The vast majority of the device industry are small businesses, 96 percent have fewer than 100 employees and 98 percent have fewer than 500 employees. Therefore, fees are being focused on PMA applications, which tend to be submitted by larger firms, and some waivers for small businesses are being considered. Administration officials are in the process of discussing this proposal with industry.

GENERIC DRUGS

Dr. Henney, this Subcommittee for the past two years has directed additional funding to the Office of Generic Drugs. An increase of $1 million was provided for each of fiscal years 1998 and for fiscal year 1999.

Question. Please provide the total funding level and full-time equivalent staffing level for the Office of Generic Drugs in each of fiscal years 1997, 1998 and 1999.

Answer. I would be happy to provide a table that displays that information.

OFFICE OF GENERIC DRUGS RESOURCES

Fiscal Year	Funding Level/ Operating Budget	FTE Ceiling
1997	$8,991,000	127
1998	9,693,000	132
1999	10,693,000	132

Question. Please indicate how the full-time equivalent staffing positions for the Office of Generic Drugs were allocated in each of fiscal years 1997, 1998, and 1999.

Answer. We do not calculate staffing allocations based on ceiling levels. However, I will provide a chart with information about the on-board staff by discipline.

OGD ON-BOARD STAFF BY DISCIPLINE

Discipline	Fiscal year 1997	Fiscal year 1998	Fiscal year 1999
Chemistry Reviewers	47	48	44
Bioequivalence Reviewers	24	22	25
Consumer Safety Officers/Project Managers/Techs	17	17	15
Clerical (Secretaries/Clerks, TIA's)	10	11	11
Labeling Reviewers	9	11	11
Legal, Administrative, Management	8	9	7
Microbiologists	2	2	4
Application Examiners	2	2	2
Medical Officer	1	1	1
Computer Specialists	.....	1	2

Question. What is the fiscal year 2000 total funding request and full-time equivalent staffing level for the Office of Generic Drugs?

Answer. The total funding request for the Center for Drug Evaluation and Research's Generic Drug Evaluation program for fiscal year 2000 is 366 full-time equivalents, and a total request of $38,298,000. This total includes a $1.9 million proposed increase in funding for the Office of Generic Drugs, which would include funds for 11 additional FTE.

Question. For fiscal year 2000, the President's budget proposes to add 11 more full-time equivalent positions to the Office of Generic Drugs and to increase funding by $1.9 million. If this Subcommittee ultimately approves that increase, what assurances can you provide the Subcommittee that the funds will go towards the hiring of more generic reviewers and not be diverted to other areas of the Center for Drug Evaluation Reviews (CDER) or the Office of Regulatory Affairs?

Answer. The requested resources will be directed toward the review of generic drugs to provide additional review staff as well as infrastructure support and improvement for the Office of Generic Drugs. As in years past, if concurrent cuts in resources are mandated in the Agency, the Center will not be able to protect the generic drugs program from such cuts. Therefore, the additional resources would have to, at least in part, offset any mandated reductions. If approved, this increase for the Office of Generic Drugs will provide improved general information technology infrastructure environment which currently results in delays in approvals of generic products; expedite the transition toward electronic review; allow the Office to recruit hire, and train new generic drug reviewers; maintain the system for electronic reviews and the database for use by reviewers, or archival submissions for the Entry Validation Application program introduced by CDER's Office of Pharmaceutical Science in 1997 for electronic structured submissions of bioequivalence data that accompanies generic drug applications; enhance systems to include electronic microbiology and labeling data and other related initiatives e.g., online copies of labeling.

Question. While the Office of Generic Drugs has made some positive improvements in its approval times for drug applications, it still falls short of meeting its statutory obligation to approve applications within a 6-month period. According to FDA's own figures, the average approval time in 1998 was 18 months, three times more than the statutory period. Equally troubling is the fact that since 1994, the number of generic applications pending over the 6-month period has grown from 54 to 127 in 1998. What amount of resources does FDA need to meet the 6-month approval time required by law?

Answer. The increase of $1.9 million, including 11 FTE, will not allow FDA to meet the statutory requirement to review abbreviated new drug applications (ANDA's) within a 6-month period.

As background regarding ANDAs, the Food, Drug and Cosmetic Act states in Section 505(b)(4)(A), "Within one hundred and eighty days of the initial receipt of an application under paragraph (2)... the Secretary shall approve or disapprove the application." Therefore, either an approval or disapproval is considered by FDA to be a final action. The agency makes every attempt to meet this requirement; however, for a number of reasons it is not always possible to do so. After receiving a disapproval action, manufacturers frequently resubmit applications that address the deficiencies indicated in the disapproval action.

Neither the Center nor the Office of Generic Drugs has conducted a study on the budgetary needs to review the majority of applications within 180 days given the current review environment. However, we believe the needs are substantial and would have to include the needs of other Agency components that play a supporting but critical role in the generic drug review process.

At this time, we believe that the key to addressing current review backlog and improving action times is increasing the number of chemistry, microbiology, and labeling reviewers within OGD. In addition, funding is needed for research to support the development of scientifically rigorous bioequivalence testing methodologies for nonsytemically absorbed drug products. The review and approval of such products are often subject to challenge by innovator firms. The stronger the scientific support of these approvals, the more likely it will be the Office can successfully meet innovator challenges.

RELOCATION COSTS

Question. The fiscal year 2000 budget requests an increase of $4.64 million for one-time costs associated with the relocation of the Center for Food Safety and Applied Nutrition to its new College Park, MD, facility.

Will the $4.64 million fully satisfy the costs of installation of the building's telecommunications system and security equipment costs?

Answer. The fiscal year 2000 budget request included funds for one-time costs to cover those items that must be purchased early to prepare the building for occupancy. The $4.64 million will satisfy the major portion of the building's telecommunications system, as well as most of the security equipment costs.

Question. You indicate that occupancy of the new facility is scheduled for early 2001. Will this move result in an increase in GSA rental of space costs or relocation costs in fiscal year 2001?

Answer. Preliminary discussions with GSA have indicated that the addition of the College Park rental payment along with the elimination of the FB–8, Switzer Building, and Vermont Avenue rental payments will result in a relatively similar or slightly lower annual rental costs. Until final rental costs are received from GSA, FDA is unable to determine the exact amount, if any, of the change in rental costs. There will be one time expenses to move the existing laboratory and office equipment and furnishings from Washington to the College Park location in fiscal year 2001.

Question. What additional costs are anticipated?

Answer. Additional costs are anticipated for a number of expenses including new laboratory equipment needed due to laboratory design, audio-visual equipment for the auditorium, training and conference rooms, some furniture, special computer requirements, an electronic database and microfilming to compensate for smaller library size and other items. Funding for these additional costs will be requested in the fiscal year 2001 budget.

TOBACCO

Question. The fiscal year 2000 budget proposes to double funding for FDA's youth tobacco prevention activities to $68 million from $34 million in fiscal year 1999. Would you please tell us how FDA is spending its current resources (1) on State contracts for inspection of retail outlets that sell tobacco, (2) on its multi-media advertising campaign, and (3) on product regulation, etc.

Answer. The fiscal year 1999 budget is divided into two active components: enforcement and outreach. Twenty-two million dollars is budgeted for contracts with states and territories to enforce the age and ID provisions of the regulations. Ten million dollars is budgeted for outreach efforts. Two million dollars is budgeted for salaries and overhead. The Agency did not budget money for product regulation while the Supreme Court considers the case. However, certain limited activities are ongoing in the regulation area for example, the agency, in conjunction with other agencies within DHHS, is conducting an 18 month research project into the efficacy of the FTC tar and nicotine testing procedure at the request of the FTC.

Question. How effective have we been in each of these areas to date, and will the fiscal year 2000 requested funding enhance these efforts?

Answer. In 1997, over a 3 month pilot period, the program completed 1,400 compliance checks. In fiscal year 1998, the Agency completed 30,095 checks, and in fiscal year 1999 the Agency has contracted to perform approximately 200,000 checks. 48,778 compliance checks have been completed so far in fiscal year 1999. With the enhanced funding requested, FDA could inspect 400,000 facilities and could ensure that many retailers in America were visited at least once a year.

In order to determine the effectiveness of these activities, FDA is working with other agencies within DHHS to coordinate data and surveillance needs. These needs include monitoring tobacco use by youth, retailer compliance rates etc. FDA itself has established a computerized tobacco database to gather the results from its compliance checks, including the number of violations, the amount of civil money penalties, etc. The database will allow FDA to measure the effectiveness of its own enforcement efforts. Finally, the Agency conducted the first of many tracking studies to evaluate the effectiveness of its outreach efforts. Findings from the first ten media markets indicate that awareness of salient provisions of the tobacco regulation rose following FDA outreach campaign.

Question. Please provide a table providing a breakdown of the FDA tobacco budget for the past three fiscal years, indicating the available funding and obligations by fiscal year for each aspect of the program, advertising, compliance, enforcement, product regulation, etc.

Answer. I would be happy to provide a table which shows a breakdown of the FDA tobacco budget.

TOBACCO BUDGET

[In millions]

Category	Fiscal year 1997	Fiscal year 1998	Fiscal year 1999
Enforcement [1]	$2.0	$16.4	$22.0
Outreach [2]	1.0	12.8	10.0
Salary & Overhead	1.9	2.0	2.0

TOBACCO BUDGET—Continued

[In millions]

Category	Fiscal year 1997	Fiscal year 1998	Fiscal year 1999
Information Technology		2.8	

[1] Enforcement includes enforcement, compliance, state contracts etc.
[2] Outreach includes national advertising, retailer education, maintenance of a hot line, etc.

Question. Dr. Henney, you indicate in the prepared statement that in fiscal year 1998, FDA began seeking civil money penalties from retailers found to have sold tobacco to minors at least twice. What were the collections from these civil penalties in fiscal year 1998 and in fiscal year 1999 to date?

Answer. So far, the civil money penalties that have been assessed and paid have amounted to over $223,000. These amounts were collected from retailers found to have violated the rule twice and in a few cases three times. First violations result in a warning and second violations result in a complaint seeking $250 fine. Mitigating circumstances in some cases can justify a reduction in the fine below $250. The program has just started processing civil money penalty complaints for third violations. The fine for a third violation by the same retailer is $1500. All civil money penalty fines are payable to the U. S. Treasury.

In fiscal year 1998, the program collected $42,625 in civil money penalties from second time violators. In fiscal year 1999, the program has collected, to date, $181,000 in civil money penalties from second and third time violators.

Question. Are these receipts available to the FDA or are they deposited in a Department of Treasury receipt account?

Answer. The checks are made out to the US Treasury and are not credited to FDA's use.

Question. The Substance Abuse and Mental Health Services Administration (SAMHSA) has been conducting enforcement efforts for years. Why should the FDA duplicate their efforts by conducting their own training for their enforcement and their own sting operations?

Answer. The FDA and SAMHSA efforts are not duplicative. Under the Synar program, SAMHSA oversees a program that conditions the states' receipt of substance abuse block grants on certain tobacco control activities. The Synar program is built around statistical sampling of youth access to tobacco products. The FDA program currently consists of direct enforcement of two provisions of the Agency's final tobacco rule. These provisions establish 18 as the minimum age of sale of cigarettes and smokeless tobacco products, and require retailers to verify age by demanding photographic identification from customers under the age of 27 seeking to purchase cigarettes or smokeless tobacco products. The FDA rule contains many other access and advertising restrictions that are not in effect. FDA and SAMHSA closely coordinate their efforts. In fact, states are permitted to include their Synar compliance checks in the checks that are being conducted under contract to FDA.

Question. Many retailers have complained that notifications of violations are taking too long, sometime up to four months, and due to the high turnover rate of employees, the information provided comes too late to use for secondary training of clerks. What has the FDA done to address this problem?

Answer. Retailers are entitled to timely notification of violations of the FDA tobacco rule. We have made significant progress in providing more timely notification. Today, 90 percent of the letters informing retailers of a first violation of the tobacco rule are mailed within 2 weeks of the date of the inspection. In addition, FDA allows inspectors to return at the end of the day or the end of the shift to notify a retailer of a violation of a comparable state law prohibiting the sale of tobacco products to minors. We are also piloting a program in which investigators immediately notify a retailer of a violation of the FDA tobacco rule or a comparable state law.

PRESCRIPTION DRUG USER FEE ACT

Question. What are the fiscal year 1998 and current fiscal year 1999 base appropriation levels for prescription drug review and approval activities which are enhanced by collections from the Prescription Drug User Fee Act user fees?

Answer. The Prescription Drug User Fee Act specifies certain conditions that must be met each fiscal year based on the FDA's Salaries and Expenses appropriation before the FDA can collect any fees. One of these conditions is that the amount of FDA's Salaries and Expenses appropriation are equal to or greater than the amount of appropriations for the salaries and expenses of the Food and Drug Ad-

ministration for fiscal year 1997 multiplied by the adjustment factor applicable to the fiscal year involved. For making this comparison, FDA's 1997 Salaries and Expenses appropriation must be adjusted each year by an adjustment factor, which is defined in section 735(8) of the Act. The term 'adjustment factor' applicable to a fiscal year is the lower of the Consumer Price Index for all urban consumers, representing the United States city average, for April of the preceding fiscal year divided by such Index for April, 1997, or the total of discretionary budget authority provided for programs in the domestic category for the immediately preceding fiscal year, divided by such budget authority for fiscal year 1997. Over the period of time since 1997, due to low inflation, the Consumer Price Index has been the lower of these two factors, and thus determines the adjustment.

For fiscal year 1998 only, the fiscal year 1997 Amendments to PDUFA specified that the base required appropriation be the same as that for fiscal year 1997. For fiscal year 1999, the consumer price index of April 1998 (162.5) divided by the Consumer Price Index of April 1997 (160.2) gives an adjustment factor of 1.0144. This factor is applied to the fiscal year 1998 base Salaries and Expenses appropriation that was $819,871,000. For fiscal year 1999, the FDA appropriation minimum is $831,743,368.

For fiscal year 1998, FDA's total Salaries and Expenses appropriation, excluding user fees, was $857, 501,000. For fiscal year 1999, FDA's total Salaries and Expenses appropriation, excluding user fees and $82,866,000 in GSA rent, was $888,001,000.

Since the fiscal year 1998 amount exceeds the fiscal year 1997 amount, and the fiscal year 1999 amount exceeds the fiscal year 1997 amount, as adjusted, the conditions of the Prescription Drug User Fee Act have been met.

The other appropriations requirement specified in PDUFA is that the amount FDA spends on the process for the review of human drug applications be as much as in Fiscal 1997, adjusted in Fiscal 1999 and following years in a similar manner as the adjustment factor for the salaries and expenses appropriation. In Fiscal 1997, FDA spent $147,959,689 within its Salaries and Expenses Appropriation on the process for review of human drug applications. In Fiscal 1998, FDA was required to spend the same amount, but actually spent $151,836,635. In Fiscal 1999, FDA will be required to spend, exclusive of fees, $150,083,965 on the drug application review process. FDA expects to spend at least that much.

FISCAL YEAR 2000 APPROPRIATION BASE FOR PDUFA

Question. What is the base level assumed in the fiscal year 2000 budget request?

Answer. For Fiscal 2000, the Consumer Price Index (CPI) is the lower of the two possible adjustments. Based on the CPI-U for April of 1999 (166.2 versus 160.2 in April 1997), the required base appropriation for FDA's Salaries and Expenses, excluding user fees and GSA Rent, will be $850,681,524. If this amount were not appropriated, the FDA would be unable to continue to collect fees under PDUFA. In addition, FDA will be required to spend $153,501,250 within its Salaries and Expenses appropriation for the process for the review of new human drug applications.

These calculations do not include the amounts of FDA's Salaries and Expenses Appropriation that is for payment of GSA Rent for fiscal year 1999 and fiscal year 2000. Prior to fiscal year 1998, FDA's rent payments to GSA were appropriated in a separate appropriation for the purpose of limiting those costs to FDA. These GSA rent payment were capped at $46.5 million. For fiscal year 1999, the Administration proposed including GSA Rent within FDA's Salaries and Expenses Appropriation at a level of $82.9 million, and Congress appropriated the funds in that fashion.

This substantial increase in FDA's GSA Rent costs would distort the purpose of the base appropriation requirements in PDUFA if the current GSA Rent costs are included in the calculation, while for comparability the fiscal year 1997 costs are adjusted to include what was then a separate appropriation for these costs. Since the changes to PDUFA passed by Congress in 1997 specify fiscal year 1997 as the new base year for this calculation, we believe that FDA's Salaries and Expenses appropriation should be the basis for calculating whether FDA's appropriations for its operating budget have increased as required by PDUFA, and this requires adjusting fiscal year 1999 and subsequent years to exclude GSA Rent costs.

PDUFA FEE COLLECTIONS

Question. Please provide a summary of PDUFA collections over the past five fiscal years, indicating how much has been spent in each year and the balance, if any, carried over into subsequent fiscal years.

Answer. Under PDUFA, any fees collected and not spent by the end of a fiscal year continue to remain available to the Agency in future fiscal years. These reve-

nues are referred to as carryover balances. The net result of operations in fiscal year 1998 provided a carryover balance of $67,518,297. This balance is a result of a one-time spike in fiscal year 1998 collections, attributable to collection of the second half of application fees for many prior fiscal year submissions, receipt of full application fees for all fiscal year 1998 submissions under the amended PDUFA procedures passed in 1997, and constraints on spending because of concerns regarding the shortfall in fee revenues in fiscal year 1999. I will be happy to provide a table reflecting the carryover balances with explanation for the record.

[The information follows:]

SUMMARY OF PDUFA COLLECTIONS, OBLIGATIONS AND CARRYOVER BALANCES

Fiscal year	Beginning		Year-End	
	Carryover	Collections	Obligations	Carryover
1994	$19,582,996	$53,730,244	$39,951,020	$33,362,220
1995	33,362,220	70,953,500	74,064,015	30,251,705
1996	30,251,705	82,318,400	85,053,030	27,517,075
1997	27,517,075	93,234,125	84,289,046	36,462,154
1998	36,462,154	132,671,143	101,615,000	67,518,297
1999	67,518,297			

The carryover balances do not include estimated receivables from fiscal year 1998 and prior years, which total $13,759,458.

While the carryover balance grew substantially in fiscal year 1998, there are also a number of claims on these funds. These claims are as follows: (1)

—Collection ceiling: PDUFA imposes a collection ceiling which prohibits the Agency from keeping fees in excess of the amount specified in appropriations for each fiscal year through fiscal year 1997. Amounts collected that exceed the collection ceilings will be refunded. Under FDAMA, balances collected in excess of amounts specified in appropriations after fiscal year 1997 may be kept, and used to reduce fee charges that would otherwise be made in a later fiscal year.

—Operating funds: FDA must ensure adequate operating funds in the first 4 months of each new fiscal year. Each year, two-thirds of the PDUFA fees, including product and establishment fees, are not paid until January 31. The FDA needs to carry forward some operating costs into each new fiscal year to cover expenses until the fees are received.

—Perfommancegoals: Approximately $25 million from the carryover balance has been allocated to FDA components in fiscal year 1999 to assure that perfommance goals for fiscal year 1999 will be met.

BUILDINGS AND FACILITIES

Question. The fiscal year 2000 budget proposes a $20.4 million increase in FDA Buildings and Facilities account to fund a portion of the construction of the Los Angeles Laboratory and Office project. Given the limitations on discretionary appropriations, what is the urgency of initiating construction of this project?

Answer. The original lease for the Pico Boulevard facility in Los Angeles expired in 1992. The agency negotiated a six-year extension with two additional one-year options, and funded several necessary renovations to the aging and obsolete facility. The final lease option for the existing Los Angeles laboratory expires on March 31, 2000. The facility has aged far beyond its useful life. The lab cannot efficiently handle necessary increases in staff to support the expanded import work, and at this point the infrastructure of the existing 30 plus year old facility will no longer accommodate renovations desperately needed to bring the building up to current laboratory standards. If funding is not received to begin construction of the replacement facility, the agency will have no other option but to consider closing the laboratory, and moving the functions elsewhere.

The fiscal year 2000 budget request includes a funding of $20.4 million to begin construction. The replacement laboratory will serve to consolidate three Los Angeles district sites, the laboratory on Pico Boulevard, the current district office in Irvine, and the San Pedro resident post, into one location, replacing three existing leases currently costing $2 million annually.

Expected benefits from the construction of the new Los Angeles laboratory include providing a much safer location and a vastly improved working environment for FDA and state laboratory personnel. A concentration of scientific talent will be

available which will permit better management of the analytical workload and provide significant improvement in operational efficiency. Also, better analytical coverage will be provided during emergencies. Additional benefits include a more efficient use of costly analytical equipment and better equipped laboratories in a state-of-the-art facility.

Question. What is the total cost of the project and what phase of the project will be funded with the $20.4 million requested?

Answer. The fiscal year 2000 budget requests $20.4 million for Phase I. This phase includes the construction of the core and shell for the entire building with major mechanical and electrical infrastructure systems. Phase II completes the mechanical and electrical infrastructure and completely fits-out both the laboratory and the office at an estimated cost of $20.0 million. The total estimated construction cost of $40.4 million is based upon receiving total project funding in fiscal year 2000. This cost includes laboratory casework, fume hoods, construction management and escalation costs to a midpoint of construction. The estimated construction cost does not include funding for furniture, telecommunication systems, or security systems. Funding for furniture and the telephone system will come from the FDA appropriations in the year in which they are needed. The security system is estimated to cost approximately $310,000 and the telephone infrastructure is estimated to cost approximately $300,000. The request for funding to cover these costs will be included in our fiscal year 2001 budget request.

Should Phase II funding be provided in fiscal year 2001, the construction cost will need to be adjusted for inflation. Based upon receiving funds for Phase I in fiscal year 2000 the construction contract for Phase I would be awarded in late 1999 and would take approximately one year to complete. If the remaining funds for Phase II are appropriated in fiscal year 2001, the construction contract would be awarded in late 2000 and would take approximately one year to complete. This construction schedule would result in a projected move-in of early to mid 2002.

Question. Funding of $9.8 million was provided in fiscal year 1995 to purchase land and begin engineering and design work for replacement of the Los Angeles Laboratory and Office. Is the land purchase and engineering and design work for this project complete?

Answer. Yes. The site, a 10 acre land parcel located at the corner of MacArthur Boulevard and Fairchild Road adjacent to the campus of the University of California at Irvine, California was purchased by FDA in September 1996. The balance of funds was used to design the new laboratory and office facility. The architectural firm in joint venture with a consulting engineer firm is in the process of completing the design for the new facility. The design is expected to be complete in mid 1999. The solicitation for construction proposals will be advertised shortly thereafter to be able to award a construction contract in November 1999 should fiscal year 2000 funds be appropriated.

Question. Funds have been provided over the past four fiscal years to continue the modernization of the Arkansas Regional Laboratory at Jefferson, Arkansas. Would you please give us an update on this project.

Answer. The construction of the Arkansas Regional Laboratory or ARL project was separated into three phases to best utilize the available funding. Phase I includes the foundation, substructure, superstructure, exterior enclosure, and the roofing for the laboratory building as well as major building systems, such as fire protection, heating/ventilation/air conditioning, and electrical. Phase II continues the construction of the laboratory building by completing the building systems and providing some office and laboratory fit-out. Phase III provides the renovation of the existing Building 50 in its entirety and completes the common ORA/NCTR administrative and support area.

In October 1997, White Construction Company of Clarksdale, Mississippi, was given notice to proceed on Phase I of the project. Since that time White Construction has also been given notice to proceed on Phase II and a portion of the Phase III work. The projected completion date for Phases I & II is December 1999. The laboratory building project is currently approximately 60 percent complete. Current work includes finishing the building enclosure and installation of the building systems. The fiscal year 1999 appropriation included $3 million to begin the construction on a portion of Phase III that includes exterior demolition, structural, and masonry work as well as some roofing repairs. The Phase III portion of the awarded work is approximately 15 percent complete. Current Phase III activity involves demolition of the existing Building 50 exterior masonry.

FDA requested $3.0 million in fiscal year 2000 towards completing Phase III. Approximately $7.0 million in additional funding will be needed in subsequent fiscal years to complete Phase III. The construction contract FDA awarded included as an option, the construction of Phase III. When FDA awarded just a portion of the Phase

III work in December 1998, the contractor escalated the remaining costs, which are currently fixed until November 1999. In order to exercise this option at the current cost estimates, the balance of ARL funding would need to occur in fiscal year 2000. Should this not be forthcoming all costs for the project are expected to increase. Therefore, any request in fiscal year 2001 or beyond would include an escalation increase in construction, construction management, and A/E post design services costs for completion of the project.

OFFICE OF COSMETICS AND COLOR AND RELATED FIELD ACTIVITIES

Question. What is the total funding and staffing levels for the Office of Cosmetics and Color and its related field activities in each of fiscal years 1997, 1998, and 1999?

Answer. I will be happy to provide the total funding and staffing levels for the Office of Cosmetics and Color and its related field activities in each of fiscal years 1997, 1998 and 1999. to the Committee.

[The information follows:]

	Dollars	FTE
Fiscal year 1997:		
Headquarters	4,389	46
Field	1,795	26
Fiscal year 1998:		
Headquarters	2,825	29
Field	405	5
Fiscal year 1999:		
Headquarters	4,405	43
Field	1,795	15

Question. What funding and staffing levels are proposed for fiscal year 2000?

Answer. I will be happy to provide that information to the Committee.

[The information follows:]

	Dollars	FTE
Fiscal year 2000:		
Headquarters	4,405	43
Field	1,795	15

CLINICAL PHARMACOLOGY PROGRAM

Question. The conference agreement on the fiscal year 1999 appropriations act makes $700,000 available for Clinical Pharmacology program competitive grants. The justification indicates that the FDA will make available $500,000 to continue the operation of the four previously-competed grantees in this program throughout fiscal year 1999. Please provide for the record the amount of the grant award provided to each of the four previously-competed program grantees for fiscal year 1999, and how the remaining $200,000 provided for the program is being allocated.

Answer. The Agency has had to absorb pay raise and other inflationary costs, forcing the Agency to reduce operating funding in all parts of the Agency. In particular, the Agency has had to substantially reduce its extramural research contracts, including the Clinical Pharmacology program. For fiscal year 1999, the FDA asked the current grantees what they would need to continue through the end of the fiscal year. $500,000 is the amount the grantees determined they would need collectively to continue through the end of the fiscal year. Those programs that do not receive new funds will receive no-cost extensions to enable them to use previously-awarded funds to cover this time period. If it turns out that one or more of the grantees requires more funding than presently anticipated through the end of the fiscal year, then funding up to the full amount of $700,000 specified will be awarded.

FDA will grant a six-month extension in the amount of $369,129 to the University of Illinois at Peoria, and a three-month extension in the amount of $130,871 to Meharry Medical College. Both Peoria and Meharry have concurred with FDA's proposal for a low cost extension based upon their fiscal year 1998 expenditure rates to continue their projects through the end of the fiscal year. Mayo has requested, but not demanded, additional fiscal year 1999 funds. SUNY has agreed to a no-cost

extension, if FDA confirmed in writing our long standing promise that they will continue to be given no-cost extension so long as they have unobligated federal funds.
58. OFM

Question. Are funds included in the fiscal year 2000 request for the Clinical Pharmacology Program?

Answer. No, funds are not included for the Clinical Pharmacology Program in fiscal year 2000.

Question. What level of funding is included in the request for this program?

Answer. There is no funding request for this program.

Question. Please describe the Clinical Pharmacology Program and its purpose.

Answer. The Clinical Pharmacology Program is a program to support a grant for establishment of a clinical pharmacology training program since there is currently a nationwide shortage. The purpose of the grant is to: (1) increase the number of trained biomedical scientific personnel in clinical pharmacology, and (2) establish a clinical pharmacology training program at a medical school currently without such a program.

Question. Please provide for the record the total funding provided for the Clinical Pharmacology Program in each year since the program's inception. Indicate how the funds were awarded in each fiscal year, showing the recipients of the funds and the amount awarded to each.

Answer. I will be happy to provide that information to the Committee.

CLINICAL PHARMACOLOGY PROGRAM

	Mayo Foundation	Meharry Medical College	University of Illinois	State University of New York
Fiscal year 1993	$201,532	$536,558	$749,998	$411,912
Fiscal year 1994	247,000	538,976	748,084	516,000
Fiscal year 1995	201,532	536,558	749,998	411,912
Fiscal year 1996	201,532	536,558	749,998	411,912
Fiscal year 1997	181,379	482,902	674,998	370,721
Fiscal year 1998	60,460	.....	224,999	.....
Fiscal year 1999	.....	130,871	369,129	.....

REVIEW OF AQUACULTURE DRUG SUBMISSIONS

Question. The growth of the United States Aquaculture industry requires legally safe and effective drugs to control disease. The industry in my State of Mississippi has formed a variety of partnerships and has developed many Aquaculture drug data packages that recently have been submitted to the FDA's Center for Veterinary Medicine for review. I am told, however, that the Center is unable to complete reviews of these Aquaculture drug data packages in a timely manner, and they are over 200 days overdue.

Is the Center aware of this problem and what is being done to ensure the timely review of Aquaculture drug data submissions?

Answer. Yes, the Center for Veterinary Medicine, CVM is aware of the problem and is doing what is can to ensure timely review of aquaculture drug submissions as well as submissions for all other animal drug products.

The situation in is an example of the pressure FDA must deal with as new industries emerge. In 1991, CVM developed a program to educate the aquaculture industry about the animal drug approval process. CVM hired a specialist in aquaculture who spoke frequently before industry groups in order to help them understand the steps necessary to get new aquaculture drugs approved. CVM also developed several written documents to provide guidance to the aquaculture industry. As a result, the aquaculture industry responded to the new challenge and developed numerous coalitions that generated a significant amount of new data necessary for drug approvals.

The aquaculture drug development program created a burgeoning workload for CVM. At the same time, FDA faced reduced budgets and significant staffing shortages. In the face of staffing shortages, FDA has been unable to direct adequate resources to many critical areas, including aquaculture drug review, illustrating why FDA is asking for additional review resources in fiscal year 2000.

RULE ON CFCS

Question. The appropriations justification indicates that FDA plans to comply with the fiscal year 1999 conference report directive and publish a proposed rule on

CFCs by September 1, 1999. Could you please give us a better idea of where FDA is in the process of preparing this proposed rule, what the FDA timetable is for issuing the final rule?

Answer. The FDA has completed its assessment of all the submitted public commentary on the ANPR related to the use of CFCs in metered-dose-inhalers. While the FDA has no explicit timetable, nor are all aspects of the publication of the NPR within FDA control, the FDA takes the conference report directive seriously, and is working to meet that directive for the publication of a Notice of Proposed Rulemaking.

ORPHAN DRUG RESEARCH GRANT PROGRAM

Question. I note from the budget justification that FDA has reduced the funding for Orphan Product Grants from the $11,542,000 level provided by the conference committee on the fiscal year 1999 Appropriations Act to $11,150,000. Why?

Answer. FDA has reduced staffing and cut operating costs across the board to absorb pay raise and other inflationary costs. For fiscal year 1999, we thought it was appropriate for the orphan product grant program, even though it is an important program to us, to absorb a small reduction in funding, from the prior budgeted level of $11.5 million to $11.1 million.

Question. How much of the funding provided for Orphan Drug Research Grant Program is taken to cover overhead and administrative costs? Please provide an accounting of these costs for fiscal year 1999.

Answer. In fiscal year 1998 FDA's cost to administer the Orphan Product Drugs program was $1.6 million for payroll and $.2 million in operating expenses. In fiscal year 1999 the cost to administer the Orphan Drugs program is estimated at $1.8 million for payroll and $.1 million for operating expenses. For fiscal year 2000 the estimated expenses to administer the Orphan Drugs program for payroll will cost FDA an estimated amount of $1.6 million and an estimated amount of $.1 million in operating expenses.

OVER-THE-COUNTER SUNSCREEN MONOGRAPH

Question. Last year, the FDA indicated to the Committee that the final rule for over-the-counter (OTC) sunscreen drug products was to be published no later than May 21, 1999, the date set by the FDAMA. Please update the Committee on the schedule for publishing this final rule.

Answer. The Agency remains committed to meeting the requirements of the FDA Modernization Act, FDAMA, regarding the issuance of regulations for OTC sunscreen drug products not later than May 21, 1999.

OFFICE OF SEAFOOD INSPECTION

Question. How much is included in the fiscal year 2000 budget request for the Office of Seafood Inspection?

Answer. FDA's request for increased funding for the Office of Seafood Inspection activities in fiscal year 1999 was $27 million. If received, the Office of Seafood Inspections will remain at the $27 million level in fiscal year 2000.

Question. Does the fiscal year 2000 budget request include continued funding for a grant to the Interstate Shellfish Sanitation Commission?

Answer. Yes, The Interstate Shellfish Sanitation Commission, or ISSC, grant will be funded jointly by way of an Interagency Agreement between the FDA's Center for Food Safety and Applied Nutrition, or CFSAN, and the National Marine Fishery Service, Department of Commerce. The cost of the ISSC grant is $275,000. FDA funds $200,000 of the grant.

Question. Please give us a summary report on the work being carried out by the Interstate Shellfish Sanitation Commission.

Answer. The Interstate Shellfish Sanitation Commission (ISSC) is a consortium of State shellfish control officials, representing both environmental and public health agencies; including the FDA, the Environmental Protection Agency (EPA), and the Department of Commerce's National Marine Fisheries Services. The major goal of the ISSC is to improve information exchange and transfer among States, Federal agencies, industry and the consumer, and to strengthen State activities by providing them with procedural and policy guidance, technical training, research and materials for consumer education.

In the improvement of information exchange and transfer among States, federal agencies, industry, and consumers, the ISSC has been involved in at least fifteen activities to facilitate this aim. For example, the ISSC participated in various fora supporting international shellfish restoration, the regional shellfish sanitation as well as CFSAN's priorities. Furthermore, relevant information regarding illness out-

break, recalls of shellfish and Biotoxin methodology research and the Food Code has been provided to States, consumers and ISSC membership.

The ISSC also has reported important procedures and policy statements to guide States in executing the NSSP in areas such as Vibrio parahaemolyticus outbreaks, Vibrio vulnificus controls and regulations for implementation of HACCP in State shellfish programs.

Important undertakings of the ISSC include interaction with States in resolving problems between States or between FDA and a State regarding conformity to the NSSP; communicating procedures and policy statements to guide States in executing the NSSP, and interacting with States and FDA in the development of uniform and effective state program evaluation criteria; providing program auxiliary support in facilitating State involvement in technical training, research and consumer education; and coordinating the collection and maintenance of information relating to U.S. coastal waters classified for shellfish harvesting and coordinate the development of a digitized mapping network (SIMS).

Significant accomplishments include providing World Health organizations (WHO) with information explaining ISSC integration of HACCP into the NSSP; reviewed and commented on a FDA Shellfish Program Review Workshop Report; utilized the ISSC unresolved issue process to resolve State of Florida non-compliance with the NSSP; coordinated and provided third party involvement for FDA shellfish plant inspections in the State of Florida; utilized the ISSC unresolved issue process to address Gulf Oyster Industry Council complaints regarding the Texas Department of Health response to the 1998 Vibrio parahaemolyticus outbreak in Galveston Bay.

The ISSC will continue to interact with States to implement Vibrio vulnificus consumer educational programs, develop risk reduction controls for Vibrio vulnificus, and develop criteria for assessing Vibrio vulnificus risk reduction controls while at the same time, obtain information from States and industry to provide consistent and coordinated input to FDA in implementing a Model Shellfish Ordinance.

GOVERNMENT PERFORMANCE AND RESULTS ACT

Question. What specific steps have you taken as the head of the agency to achieve performance-based management within your agency, as required by the Government Performance and Results Act?

Answer. For the past several years, FDA's Office of Planning and Evaluation, OPE, has coordinated performance-based management systems across the Agency in order to meet the intent of the Government Performance and Results Act, GPRA. We have used a multi-level approach that promotes the use of performance management practices. This has included intensive training for senior and mid-level managers, participation in internal and external performance management conferences and workshops, development of a GPRA-focused web site, development of a liaison network between planning and budgeting staff within our Centers, and periodic Agency-wide planning meetings to discuss performance planning and improvement.

The Food and Drug Administration Modernization Act, FDAMA, of 1997 has become a top priority for the Agency. FDAMA established a new mission and specific performance targets that impact not only what the agency does but how it goes about achieving those goals. I would be happy to provide you with further information.

New Mission and Specific Performance Targets

GPRA and FDAMA together emphasize performance management. As a result of the legislative mandates, FDA has been able to focus its energies on ways to achieve long range results through strategic, year-to-year performance planning. This process has resulted in six strategic directions for the future:

—Establish risk-based priorities
—Strengthen the scientific and analytical basis for regulatory decisions
—Work more closely with external stakeholders
—Continue to re-engineer FDA processes
—Adopt a systems approach to Agency regulation
—Capitalize on information technology

Question. How are your agency's senior executives and other key managers being held accountable for achieving results?

Answer. FDA's senior executives and key managers play a primary role in setting the Agency's strategic and performance goals. For both the GPRA annual performance plan and the FDA Modernization Act's Plan for Statutory Compliance, senior executive and key managers worked together to define performance levels that emphasize public health and safety results within the context of available resources. Assessing progress toward achieving the performance levels set forth in the GPRA and FDAMA plans is of growing importance at multiple levels within the Agency.

A second accountability issue relates to the capability of Agency managers to understand the changing context of FDA's responsibilities and to set priorities within that evolving context. For FDAMA and GPRA, FDA's senior leadership identified agency-wide strategic directions in order to focus energies on those areas of critical public health and safety importance. This ability to see the changing shape of the environment speaks directly to the question of accountability for achieving results.

Question. How is performance information being used to manage the agency?

Answer. FDA has used performance information for many years to communicate its mission in protecting public health and safety. For example, performance relating to new product evaluation, product safety assurance, food safety, and injury reporting systems are reflected in the wide array of communications from FDA. In addition, those data become the basis for continuously improving the quality and efficiency of Agency activities from year to year.

Of growing importance is the use of performance information to help identify funding needs. FDA's 1998 analysis helped us to forecast the resources needed to achieve full statutory compliance based on past performance information. This type of analysis lends itself well to building strong cases for changes in funding levels. GPRA and the FDA Modernization Act require more intensive and sophisticated performance tracking, which in turn translates into more meaningful knowledge for fiscal decision making.

Question. How did program performance factor into decisions about funding requests for fiscal year 2000? Please provide examples.

Answer. FDA has a good understanding of the resource requirements needed to achieve most of its performance goals. Inspectional coverage of food establishments, review time for new drug applications, assessment of mammography facility quality, and tobacco enforcement are a few examples of areas in which good performance data are available or will be available soon. With that information, we can demonstrate how resources impact program performance. For example, our 1998 analysis of the "gap" between available resources and the necessary resources to achieve the highest performance possible helped illustrate FDA's continuing need to set risk-based priorities.

As we gain experience in implementing GPRA, we continue to improve our ability to evaluate the impact of changes in funding level on our programs and our ability to achieve the performance commitments outlined in the Annual Performance Plan. In some instances, changes in funding level may require an increase or decrease in program efforts and target level of performance. It may require development of new performance goals.

Over the past few years, FDA has practiced several strategies for operating with reduced resources in spite of an increasing workload. These strategies have included reducing program efforts, refocusing program efforts to target the highest priority health risks, re-examining the role we play in protecting public health relative to other government agencies, third parties, industry; and so forth. Some of those strategic changes have caused us to change our activity measures. In some instances, for example, the number of inspections conducted is not as appropriate a measure as the percentage of products approved by third-party sources. However, changes in approach will not change the agency's desire to improve health outcomes.

Question. What specific program changes has the agency made to improve performance and achieve the goals established in the strategic and annual plans?

Answer. FDA's performance planning coupled with statutory commitments found in FDAMA have laid a groundwork for systematic program enhancements. Across the Agency a series of themes reflects this commitment to performance improvement. I would like to provide this information for the record.

Systematic Program Enhancements

—*Establish Risk-Based Priorities*.—as evidenced by "fast track" processes to address the most urgent therapeutic needs so that these therapies can enter the marketplace rapidly but safely.

—*Adopt A Systems Approach*.—as evidenced by the Food Safety Initiative, the integrated adverse event reporting initiative, and the import monitoring systems that build upon the knowledge and capabilities of other governmental and independent sources.

—*Work More Closely with External Stakeholders*.—as evidenced by progressively sooner and more frequent dialogue between FDA officials and regulated industry representatives on matters such as electronic submissions of applications, drug labeling improvements, standards, third-party reviews, and training needs.

—*Re-engineer FDA Processes*.—as evidenced by various regulatory simplification strategies including a new phased review process for animal drugs that enables

the Agency to provide periodic feedback to product sponsors throughout the drug review process.

—*Strengthen the Science Base for Regulatory Decisions*.—as represented by cooperative research agreements with FDA, professional societies, and industry in order to provide a venue to organize and conduct research on critical questions about pharmaceutical manufacturing that can help to inform regulatory decision makers in such areas as supplement submission requirements or bioequivalence studies after there are manufacturing changes.

—*Capitalize on Information Technology*.—as exemplified by automation of portions of the drug review process, posting new drug therapy information on the Internet for access by consumers and patients, and expanding the use of electronic communications not only to disseminate information of particular importance to stakeholders but also to receive their comments and suggestions, all of which help to reduce the for communicating adverse effect information.

FDA has found that by promoting Agency-wide, systematic strategies for enhancing performance that the intent of GPRA and other statutory requirements can be appreciated. The effect is, that instead of being isolated within those components of the Agency that understand performance planning best, the best ideas relating to program results are shared openly and cooperatively.

Question. How does the agency budget structure link resource amounts to performance goals?

Answer. The performance goals in the annual performance plan link directly to the budget. Each individual performance goal supports a somewhat broader program strategic goal, which in turn supports a major FDA program. In the performance plan, budgeted amounts, both dollars and FTE, are aggregated at the program strategic goal level. So, for each major program area, the total budget request represents the total of the program strategic goal amounts. I will provide this information for the record.

Major Program Area	*Number of Program Strategic Goals*
Foods	4
Human Drugs	3
Biologics	3
Animal Drugs and Feeds	3
Medical Devices and Radiological Health	6
National Center for Toxicological Research	3
Tobacco	3

The process used to link performance goals to budget activities involved program managers, planners and budget representatives from each major program area, their field counterparts, and analysts in the Office of Planning and Evaluation and the Office of Financial Management in the Office of the Commissioner. It involved several steps, the most significant of which was the gap analysis. This activity brought agency decision-makers together to look carefully at the difference between current agency performance and specific performance targets established by statute, such as FDAMA. In this way we could focus on resources needed to close the gap between actual and intended performance.

Question. What, if any, changes to the account and activity structure in the budget justification are needed to improve this linkage?

Answer. At this time, we believe the budget justification and the annual performance plan structures work well as complementary documents. While we continue to look for ways to incrementally improve these documents and the manner in which they are used within the Agency, we have no plans to make major changes to their structure.

In FDA's annual performance plan, budget amounts are set at the program strategic goal level, which is one level above the performance goal. For each program strategic goal, between one and twelve related performance goals have been developed. Therefore, while budget amounts are not assigned to each individual performance goal, budget amounts are specified for these clusters of related performance goals.

In both the budget justification and the annual performance plan, dollar amounts are identical at the program level as well as the Agency level. When viewed from the performance goal perspective, the aggregate of FDA's individual performance goals equals the Agency's appropriation.

Integration of the budget and the annual performance plan is a continuous learning process. We continue to look for meaningful ways to relate Agency outcomes with resource allocation decisions. With no single answer on the horizon, we continue to emphasize Agency results as a key driver for fiscal decisions.

Question. Does the agency fiscal year 2000 Results Act performance plan include performance measures for which reliable data are not likely to be available in time for the first performance report in March 2000? If so, what steps are planned to improve the reliability of these measures?

Answer. The fiscal year 2000 Results Act performance plan includes the final goal statements for the Agency's fiscal year 1999 performance plan. FDA will report on the fiscal year 1999 final goal statements by the March 2000 deadline.

We expect to have reliable data for each performance goal. Depending on the nature of the goal statement, either metric, milestone, or system improvement, the data will be presented either numerically or descriptively. Strengths, weaknesses, or other qualifying statements will provide additional information about the Agency's performance toward that goal.

FDA's Office of Planning and Evaluation, OPE, produces guidance documents and training programs, as well as arranges individual consultations with program managers to promote good performance planning practices. An important aspect of that guidance has been information about data reliability, verification and validation. Since this will be the first time that results will be reported, we anticipate a considerable amount of discussion during calendar year 1999 on strategies to assure data reliability. By the time we report on the fiscal year 2000 performance goals in 2001, we expect to be more proficient at managing and reporting performance information.

Question. How will future funding requests take into consideration actual performance compared to expected or target performance?

Answer. FDA has developed the capacity to measure performance in most areas. This is prerequisite to any discussion about basing funding requests on performance.

Baseline data exist for the vast majority of our performance goals. In areas such as regulatory compliance, product evaluation, both pre-and post-market, and standards development the Agency has a history that enables us to compare performance with fiscal resources. However, many of these past year performance measures have been output-oriented. Similarly, many FDAMA objectives are output-oriented. This means that while they may be relatively easy to measure, they may not fully capture the important public health and safety outcomes with which FDA is charged.

To address our commitment to health and safety outcomes, we have aggregated the performance goals into program strategic goals. These program strategic goal statements and their associated resources are scrutinized and carefully worded to see that they emphasize outcomes. We anticipate that the majority of program strategic goals will be stable from year-to-year, although modifications may be necessary.

Equipped with data showing prior years' performance, we can justify requested increases or decreases in funding.

Question. To what extent do the dollars associated with specific agency performance goals reflect the full costs of all associated activities performed in support of that goal? For example, are overhead costs fully allocated to goals?

Answer. FDA's annual performance plan includes its highest priority, mission-critical performance goals. Various associated activities that support or relate to these goals may not be fully articulated in the performance plan even though they may be important to the Agency's accomplishing that goal. Nevertheless, we have taken into account these activities such that the aggregated costs shown at the program strategic goal level reflects the estimated full cost of the individual performance goals and their associated activities.

Base amounts and proposed increase amounts include full costs, including overhead, associated with those goal statements and associated activities.

QUESTIONS SUBMITTED BY SENATOR BOND

REGULATORY REVIEW

Question. In light of your past remarks highlighting an increased focus on the science-based nature of the Food and Drug Administration, what is the agency doing to ensure that regulatory considerations reflect a 1999 level of scientific understanding?

Answer. The Science Board Subcommittee on FDA Research was established in March 1996, to provide preliminary recommendations to the parent advisory committee, the Science Board to the Food and Drug Administration, on appropriate criteria for determining the quality and mission relevance of FDA-sponsored laboratory investigation. The subcommittee unanimously and emphatically affirmed that, " the presence in the FDA of a vigorous, high quality, intramural program of scientific

research provides the essential foundation of sound regulatory policy and performance, and ensures that the FDA is, and will continue to be, best positioned to carry out its statutory responsibilities to protect, promote and enhance the health of the American people."

To this end, the Agency has placed renewed emphasis on improving its science base, in support of making sound regulatory decisions. All Centers are actively reviewing their science programs and developing approaches, both internal and collaborative with other parts of the scientific community, to build on its existing scientific expertise. Each Center's research program is being reviewed by committees of external, world class scientists. The role of these committees is to develop a better understanding of the scope and needs of each Center's research program and to make recommendations on how to better target research towards FDA's regulatory responsibilities and on how to improve and modernize its infrastructure to meet the challenges of the future.

I have asked the Deputy Commissioner, Dr. Michael Friedman, to take the lead role in working with the Centers and the rest of the scientific community to develop strategies for fostering an environment that assures that regulatory decisions are based on the best science available.

Maintaining an expert science base requires a significant amount of resources to hire and train scientific experts and to build and equip laboratories that make use of the most modern and efficient technology. Therefore, the Agency is requesting additional resources in the fiscal year 2000 budget to strengthen its science base, including research, necessary to ensure that its regulatory decisions reflect the state-of-the-art science.

Question. Specifically with respect to autologous tumor vaccines and the workshop FDA conducted in conjunction with the National Cancer Institute on December 10–11, 1998, has FDA reached any conclusions about how to deal with the unique challenges presented by these therapies so that potentially valuable research in this area can proceed? (I am still awaiting a response to my March 22 letter to Dr. Henney on this issue.)

Answer. The Agency shares your interest in the development of potential new cancer therapies, and is providing the following information regarding actions taken since the workshop on Tumor Vaccines. An internal Center for Biologics Evaluation and Research Tumor Vaccine working group met to discuss critical issues pertaining to dendritic cells as tumor vaccines. This group is working with sponsors to characterize products for phenotype and functional activity to ensure lot-to-lot consistency. FDA is also encouraging sponsors to develop potency assays and as a result, several sponsors have already initiated the development of potency assays for autologous and allogenic tumor cell vaccines. In addition, CBER is setting up a scientific program to develop potency assays for autologous tumor cells as tumor vaccines and to determine the identity and potency of dendritic cells, to help sponsors develop a scientifically sound test for product development.

CBER is collaborating with the National Cancer Institute, NCI regarding tumor vaccine research and standards. CBER and NCI scientists met to discuss the issues regarding the critical supply of interleukin–4, a key cytokine necessary for the activation of dendritic cells for autologous tumor vaccines. As a result of joint efforts by CBER and NCI, the sponsor has agreed to supply this critical biological reagent to investigators for development of autologous dendritic cell based tumor vaccines.

On April 10, 1999, CBER scientists participated in the National Tumor Vaccine and Cell Therapy working group meeting organized as a satellite meeting of American Association of Cancer Research. This group discussed various aspects of immunotherapeutic approaches for cancer. One of the sessions, chaired by a CBER scientist, focused on autologous vaccines. Discussion with several hundred scientists at the meeting led to the conclusion that characterization of potency for autologous tumor cells is necessary to ensure lot-to-lot consistency.

CBER scientists provide extensive consult on a daily basis to numerous investigators and sponsors on tumor vaccines including autologous tumor vaccines product development. FDA will continue to work with all sponsors on the development of tumor vaccine products, as well as other promising therapies for cancer and other life-threatening diseases, so that patients can benefit from safe and effective new therapies as quickly as possible.

Question. What is being done to make sure that current evaluation of biologics is done pursuant to a science-based approach?

Answer. To provide effective regulatory review of biological products, which include vaccines, blood products, allergenic extracts, certain diagnostic products, and biotechnology-derived products, FDA's Center for Biologics Evaluation and Research, CBER conducts active, mission-related regulatory research to maintain and expand its knowledge of fundamental biological processes. Regulatory research

projects are prioritized based on CBER's knowledge of the type of cutting edge technology being employed by the scientific community, Government, academia and industry that is most likely to result in innovative products or may pose unknown health threats.

To ensure scientific expertise in biological product application review, CBER uses what is referred to as the "research/reviewer model." In this model, the application review personnel spend a portion of their time in research-related activities. CBER researchers are fully integrated into the application review process. CBER researchers participate in the following regulatory procedures: review of initial new drug applications, and biologic license applications; development of policy and guidance documents; meetings with sponsors and advisory committees; participation in pre-license and biennial inspections; and evaluation of adverse drug reactions and risk assessment.

CBER also collaborates with the NIH, the Centers for Disease Control and Prevention, the Health Resources and Services Administration and the Health Care Financing Administration on public health issues.

REUSE OF SINGLE USE MEDICAL DEVICES

Question. A recent Forbes magazine article (March 22, 1999) explored the reuse of single-use medical devices and whether this practice poses a threat the patients. I understand the Office of Science and Technology (OST) at FDA has done a study on the issue with results expected soon. What is FDA's position on this issue?

Answer. A FDA research team is evaluating the effect of cleaning procedures and sterilization procedures on the material and mechanical properties of materials likely to be in devices that are designated for single use but are known to be candidates for reuse by physicians and user facilities. The study initially focused on generic materials and then was extended to specific cardiac catheters such as balloon angioplasty catheters, electrophysiology catheters, and cardiac ablation catheters. These are devices that come in contact with blood. These catheters presented special problems in terms of complexity, e.g. many channels, narrow lumens, lumens closed at one end, and delicate materials and design. Data obtained to date indicate or suggest that cleaning and sterilization of these devices can be very difficult. The material properties and device performance can be affected by re-sterilization. Changes in device performance that may result from resterilization are model specific and a general statement cannot be made for all of the device models in a given category. It has been noted that minor changes in a given model have been observed to have potentially substantial effects on the ability to reprocess. This information will be presented at the FDA/AAMI Conference on Reuse of Single Use Devices on May 5–6, 1999 in Crystal City, Virginia. These data will be considered carefully when FDA makes its decision on how to address the issue of reuse of single use devices.

Question. Does reuse of these supposedly single-use medical devices put patients at risk?

Answer. FDA is concerned that if a single use device is going to be reused, it must be done safely. FDA published a Compliance Policy Guide, CPG 300.500, several years ago that focused on hospital operations. That CPG stated that there is a lack of data to support the general reuse of single use devices. If an institution chooses to engage in this practice, the CPG stated that the hospital should demonstrate that the device can be adequately cleaned and sterilized; that the physical characteristics or quality of the device will not be adversely affected; and that the device remains safe and effective for its intended use. This CPG is still in effect. FDA is also conducting research to try to obtain data to answer the public health questions associated with reuse of single use devices.

Question. What, if anything, do you intend to do about this issue?

Answer. FDA is and will continue to use its mandatory and voluntary Medical Device Reporting Program to keep track of infections, injuries, and other adverse events reported by manufacturers and device users involving the reuse of single use devices. FDA is enlisting the cooperation of other organizations to obtain reuse experience data. FDA is currently working with the Health Care Financing Administration to include questions about device reuse during HFCA inspections of user facilities.

Although FDA does not have specific information regarding the efficacy of these processes, it is evaluating reuse literature and information from equipment manufacturers and conducting research to gain additional knowledge of the effects of reprocessing on device materials.

FDA is also assessing whether additional regulation or other attention to reprocessing is needed. At the May 5–6, 1999 FDA/AAMI conference, attention will be focused on regulatory and public health considerations regarding this practice. FDA

will continue to work with groups represented at that conference to resolve outstanding issues and concerns and consider new regulatory approaches. One factor that needs to be carefully thought through are the costs and benefits of reprocessing on device users and patients.

Question. Could you provide me with information about how the FDA sets its criteria for certain foods (such as breads, pastas, and cereal products) to be called "enriched"?

Answer. Historically, the addition of nutrients to foods has been undertaken as a public health measure to promote nutritional public health goals. The enrichment of white flour and bread, and other cereal grain products, has been an effective safeguard in improving the nutrient intake of the U.S. population and, therefore, preventing nutrient insufficiencies.

Under Title 21 of the Code of Federal Regulations, §104.20 FDA sets forth its fortification policy and principles for the rational addition of nutrients to foods. FDA will provide for the record the criteria in these fortification guidelines that apply to "enriched foods".

[The information follows:]

ENRICHED FOODS

(1) A nutrient(s) may be added to a food to correct a dietary insufficiency recognized by the scientific community to exist and known to result in nutritional deficiency disease.

(2) A nutrient(s) may appropriately [1] be added to a food to restore such nutrient(s) to a level(s) representative of the food prior to storage, handling, and processing (including milling and refining).

(3) A nutrient(s) may be added to a food in proportion to the total caloric content of the food, to balance the vitamin, mineral, and protein content.

(4) A nutrient(s) may appropriately be added to a food that replaces traditional food in the diet to avoid nutritional inferiority.

(5) A nutrient(s) may be added to foods as permitted or required by applicable regulations established elsewhere in Chapter I of Title 21.

Question. As you may know, the Centers for Disease Control and Prevention recommends that women of childbearing age consume 400 micrograms of folic acid daily to help prevent birth defects, yet I understand the FDA criteria for "enriched" foods only requires a substantially lower amount of folic acid to be present. Has FDA considered changing it's criteria for "enriched" foods to require more folic acid in these products?

Answer. In establishing the levels of folic acid for the fortification program, FDA had to balance the competing factors of increasing the intakes of women of childbearing age to a significant degree while not increasing the intakes of all gender and age groups to levels that could cause adverse effects. In dealing with these competing issues, FDA sought input from many sources. For example, FDA consulted frequently with other agencies in the Public Health Service, CDC and NIH, and held three public meetings with its Food Advisory Committee and an ad hoc Working Group. Also, the fortification regulations went through notice and comment rulemaking procedures. FDA considered all comments to the docket in finalizing this rulemaking.

The fortification regulations became fully effective in January, 1998. At this point, FDA is actively collaborating with other federal government agencies to monitor both the safety and effectiveness of the current folic acid fortification program. As new data become available and as the evidence supports the need for change, FDA, in consultations with other PHS agencies, will consider adjustments in its folic acid fortification program as supported by such evidence.

[1] A nutritient added to a food is appropriate only when the nutrient: a) is stable in the food under customery conditions of storage, distribution, and use, b) is physiologically available from the food, c) is present at a level at which there is a reasonable assurance that consumption of the food containing the added nutritient will not result in an excessive intake of the nutrient, considering cumulative amounts from other sources in the diet, and d) is suitable for its intended purpose and is in compliance with applicable provisions of the Federal Food, Drug, and Cosmetic Act and regulations governing the safety of substances in food.

QUESTIONS SUBMITTED BY SENATOR MCCONNELL

TOBACCO RULE

Question In papers filed with the Fourth Circuit Court of Appeals, the FDA indicated that it would limit its activities to enforcing the minimum age restriction and identification requirement, pending review by the Supreme Court.

In addition, you stated in your confirmation hearing that you would not expand on the youth access activities that were ongoing before the court's ruling. You also assured the House Agriculture Appropriations subcommittee that the FDA is not spending any money for any purpose beyond enforcing the minimum age and identification requirements.

However, your budget justification indicates that in fiscal year 2000, the FDA will begin to conduct activities related to product regulation.

Your budget justification also indicates that the FDA plans to begin studying how to enforce the advertising and marketing provisions of the FDA rule that the Fourth Circuit and the District Court have invalidated. In fact, the FDA just published a Federal Register notice soliciting comment on the paperwork requirements that would be imposed by its advertising regulations.

Question. A spending money beyond the enforcement of its minimum age regulations, despite your assurances to the Congress and to the Fourth Circuit Court of Appeals that the FDA would limit its activities to minimum age enforcement pending further court decisions or congressional action?

Answer. The budget justification describes activities related to product regulation that are all within FDA's current legal authority. For example, the agency would allocate a limited amount of funds to begin to develop a scientific and regulatory framework to properly analyze issues posed by current and new tobacco products as well as by existing products for the treatment of nicotine dependence. This would include pursuing research issues raised by new or so called "less hazardous" nicotine delivery devices. It would also include continued assistance with other DHHS agencies to the Federal Trade Commission in the analysis of the public health issues raised by the testing and reporting of the tar and nicotine content of cigarette smoke.

The recent Federal Register notice on agency information collection activities was a request for an extension, pursuant to the Paperwork Reduction Act of 1995, of the collection approved by the Office of Management and Budget, OMB in 1996. The 1996 OMB approval covered several reporting and recordkeeping provisions of the 1996 tobacco rule. Due to litigation, these provisions were not made effective, although the district court upheld some of the provisions. However, the litigation has not affected or suspended the expiration date for the OMB approval. Consequently, FDA requested an extension of the OMB approval because, in the event the regulations become effective, a valid OMB approval of the rule's information collection provisions is necessary for those provisions to be enforceable. If OMB approval expired and the regulations became effective, persons subject to the rule would not be required to respond to the information collection provisions, and those provisions would have no legal force and effect until the agency requested and received a new OMB approval. The request to renew OMB approval places no new burdens on the industry, and maintains the status quo for the regulations until the litigation is resolved. In addition, it is much less resource-demanding for the agency to request an extension of OMB approval than to let the approval expire and seek a new OMB approval after the litigation is resolved.

Question. Do the FDA's contracts with the states regarding enforcement of the FDA's minimum age regulations permit the states to use such funds to enforce the states' own minimum age requirements?

Answer. Under our contracts, states are permitted to use the results of FDA compliance checks as a basis for separately proceeding with enforcement action under comparable state laws. FDA funds cannot be used to enforce state law. Using their own funds, the states can use the results of our inspections to proceed under state law.

Question. If not, what will happen to these funds if the Supreme Court affirms the Fourth Circuit's decision?

Answer. It is premature to speculate about how the Supreme Court might rule in this case.

QUESTIONS SUBMITTED BY SENATOR BURNS

CODEX ALIMENTARIUS

Question. Since the WTO now uses Codex Alimentarius standards in the dispute resolution process, are the US. Government's efforts sufficiently funded to ensure that U.S. policies are adopted by Codex?

Answer. While the FDA cannot respond on behalf of other U.S. Government agencies, FDA believes that increased funding for Codex activities would enhance U.S. efforts to ensure both public health and fair trade.

The Codex mandate is to protect the health of consumers while ensuring fair trade practices. As the importance of Codex in setting standards that are recognized by the WTO grows, FDA must use a greater percentage of its base resources each year to prepare for and represent U.S. interests at critical Codex meetings. Further, as the number and complexity of Codex issues increase so also must FDA resources be expended on Codex increase. Today's efforts extend far beyond the presence at Codex Committee meetings. They involve substantial preparation for the increasingly complex technical issues, e.g., risk assessment and risk management, interagency discussions, attendance at many key Codex working group meetings, a very important increased involvement with non-governmental organizations, and an enhanced advocacy effort to obtain foreign government agreement with U.S. positions. These additional or enhanced responsibilities require adequate funding if they are to be done successfully. The current resources expended on Codex, in our judgement, are insufficient to adequately fulfill the needs that the U.S. Government now has with respect to Codex.

Question. Does FDA currently have sufficient resources to fully participate in Codex meetings and proceedings?

Answer. FDA does not have a defined budget for Codex activities. While the U.S. Codex Office, which has oversight over U.S. Codex activities, resides in the USDA Food Safety and Inspection Service, most of the Codex activities are decentralized throughout government agencies, including FDA. Since the beginnings of the Codex Alimentarius Commission in 1962, FDA has devoted considerable resources to ensuring that Codex international food standards reflect the level of safety and quality expected by the U.S. consumer. Currently FDA provides the U.S. Delegate or the Alternate Delegate to 13 of 16 Codex Committees; a portion of 39 individuals time approximately 11 FTE plus staff support, is involved with the work of Codex. Recognizing both the responsibility of FDA under the Food and Drug Administration Modernization Act of 1997, FDAMA, and the increased importance and level and type of activities with Codex mentioned in Question 91, additional resources for Codex related activities would be beneficial. The new responsibilities with Codex, increased number and technical complexity of the Codex issues, the increased frequency of working group meetings, the need for increased communications with other U.S. governmental agencies and with non-governmental organizations on Codex issues, and the need to assist in advocacy efforts to help assure U.S. success on Codex issue, are all added responsibilities since the recent 1995 advent of the WTO Trade Agreement with only a minimal addition of resources. Additional resources are needed to better enable FDA to properly carry out its Codex responsibilities.

STATUTORY REVIEW TIMES—MEDICAL DEVICES

Question. Meeting statutory review times is a key element of the statute and one that I believe should be the agency's highest priority. Given the fact that user fees are not likely, what other ways do you intend to meet this statutory obligation?

Answer. Meeting statutory review times is certainly among our highest priorities in promoting the public health. However, without additional resources, FDA is unlikely to be able to meet the statutory review times for non-user fee programs such as the device review program. While FDA will continue with its reengineering initiatives and the implementation of FDAMA, significant additional improvements in review times for the complex 510(k) applications and PMA applications are unlikely without additional funding. FDA will continue to redirect resources to high-risk, high-impact product areas where direct intervention helps consumers and health care professionals the most. FDA's direct involvement in some low-risk product areas will continue to be examined and acceptable alternatives to direct FDA involvement will be considered while ensuring that adequate consumer protection is maintained. In addition, FDA will continue to work with industry to encourage broader use of regulatory options like third party review for 510(k)s, special and abbreviated 510(k)s, and product development protocols, PDPs.

Question. Assuming that user fees are not enacted, how would you reallocate the $19 million, which has been requested in appropriations, to ensure that device reviews do not fall further behind?

Answer. FDA's plans, as reflected in the Administration's proposed budget for fiscal year 2000, are to focus increased appropriated funding on injury reporting and product safety assurance activities. The appropriated increase requested in fiscal year 2000 reflects the Administration priority of restoring the balance between postmarket activities and review activities. Since the postmarket surveillance resources had been redirected to device review for the past several fiscal years, the fiscal year 2000 increase will be used to rebuild the postmarket portion of the program. In addition, the core budget for the medical device program has been relatively unchanged since fiscal year 1995 despite increases in Federal pay and inflation. This has effectively decreased the purchasing power of the annual appropriations received by the device program by about 4—5 percent per year.

FDA and the Administration believe that the requested budget increase for this program is necessary for the promotion and protection of the public health. FDA estimates that there may be as many as 300,000 injuries and deaths per year associated with device use. FDA is requesting $3.2 million to implement the first phase of a National Sentinel Reporting Network that will keep FDA and the medical community better informed about device problems involving device misuse or user error. In addition, as devices become more complex and the device industry continues to grow domestically and internationally, it becomes increasingly critical for FDA to work towards achieving statutory timeframes for inspections and be in a position to enforce new standards for various products. Although with the requested increase of $15.8 million for product safety assurance for devices, FDA will improve product safety and quality systems conformance, the Agency still will not meet its inspectional statutory requirements. Since FDA has already reallocated declining resources from postmarket to review over the past several years, we cannot afford to do so in the future. FDA has estimated that it would take an additional $12.8 million to fully meet its statutory review obligations for 510(k)s, PMAs, and PMA supplements. Without the enactment of user fees, FDA will maintain fiscal year 1999 performance levels by continuing with its reengineering initiatives as well as continuing to redirect resources to high-risk, high-impact product areas where direct FDA intervention helps consumers and health care professionals the most.

Question. You have announced that your number one priority is implementation of the letter and spirit of FDAMA. How do you justify a budget with no additional appropriated funds for one of FDA's most important functions medical device reviews?

Answer. Through FDAMA, Congress and Agency stakeholders expect more timely and interactive PMA reviews. Accordingly, FDA's fiscal year 2000 budget proposes to use these additive device user fees to significantly increase the effort devoted to PMA and PDP reviews, including enhancing the timeliness and quality of the review process as well as increasing interactions and consultations with industry. In addition, the user fee revenue will enable FDA to stay current with increasingly complex new technologies, update review standards and provide high quality, timely guidance to industry and reviewers. The medical device strategy is to concentrate resources on high risk, high impact products or work areas where they are likely to have the greatest impact on public health. With the proposed user fees, the percentage of reviews completed within established time frames will increase, average review times will go down, and the FDA will be able to support increased interaction with industry.

USER FEE LEGISLATION

Question. You have stated that a consensus is needed among Congress, FDA, the industry and consumers before a user fee program will work. Yet, you have proposed a program with little detail and no proposed legislation. Why not go through more appropriate processes to open up this dialogue?

Answer. Proposed legislation to authorize new user fees to enhance the quality and timeliness of premarket review of both direct and indirect food and color additives, and for medical devices is currently in clearance within the administration. The legislation is anticipated to be completed shortly and submitted to the appropriate committees in Congress. While we have not had any specific discussions with the authorizing committees about the proposed new fees in the fiscal year 2000 budget, the Administration intends to initiate such discussions following submission of the requisite legislative proposals. These proposals will take into consideration the discussions held regarding previous proposals.

COLLABORATION AND FDAMA

Question. Working with the regulated industry can often produce better products in a more efficient way. Since you have pledged to improve agency-industry relations, will you commit to reversing the FDAMA noncollaboration policy and encourage the use of agency-industry working groups to address key FDAMA implementation issues?

Answer. FDA has no noncollaboration policy. In fact, the Agency has recognized the value of receiving input from its constituents before issuing guidance documents or regulations to implement FDAMA. Because of the very demanding statutory deadlines placed on the Agency, in the interest of time, the Agency has generally relied on the processes that it has in place, namely notice and comment rulemaking and Good Guidance Practices. At the same time, it has also recognized that there are times when it would be important to meet with outside groups to hear their views on implementation issues and to discuss drafts of FDAMA documents that were made available to the public at large. The Agency also has established public dockets for written comments related to specific FDAMA provisions and has specifically invited such comment. In addition, the Agency already has held a number of public meetings to discuss FDAMA implementation. These practices will continue to be available in the future.

Question. Enactment of FDAMA was the first step in a process intended to change the culture at FDA. Essentially, the vision was to provide life-saving, life-enhancing products to patients quickly, efficiently and safely. Yet there are reports that frontline staffers have yet to be fully informed or fully trained in the full requirements of FDAMA. What steps do you intend to take to make the full promise of FDAMA a reality at your agency, especially with those staffers who deal most immediately with manufacturers?

Answer. The Agency is fully committed to implementing FDAMA. Part of implementation includes ensuring that staff are adequately trained regarding the new law, and that provisions are being implemented consistently across the Agency. One of the most effective ways to do this is to develop guidance on different provisions that can be given to those both inside and outside the Agency. As you know, the Agency has already completed dozens of guidance documents, and will continue to do so. In addition, the Agency often holds training sessions with its staff in order to ensure consistent application of its regulations. For example, our Center for Devices has quarterly meetings to review past IDE decisions so that each division can hear from each other and work harder to develop a more consistent approach. Companies are allowed to ask for reconsideration of their IDEs at these meetings, in order to make this process very open and accommodating. We feel that these sort of training exercises are very helpful to increase the quality and consistency of our product reviews, and will continue them in the future. In addition, each Center has held training sessions specifically on FDAMA and its related issues.

Question. The agency has not yet issued any guidance documents as promised in the November 18, 1998 final regulation implementing section 404 of FDAMA. When will those guidance documents be issued?

Answer. The FDA Center for Biologics Evaluation and Research, CBER, and the Center for Drug Evaluation and Research, CDER, published in accordance with the Good Guidance Practices, a Draft Guidance for Industry: Formal Dispute Resolution: Appeals Above the Division Level on March 19, 1999. This is presently a draft for comment. The Center for Veterinary Medicine, CVM, is in the process of issuing dispute resolution draft guidance that will contain a new procedure for resolving a scientific dispute. The CVM has had in place for some time, a procedure for the handling of an internal review of an appeal. This draft guidance will be issued for comment and finalized in a separate action following consideration of the comments. FDA's Center for Devices and Radiological Health, CDRH, is establishing new procedures for resolving scientific disputes which were published April 17, 1999, in a Federal Register notice announcing the availability of a draft guidance document, Resolving Scientific Disputes Concerning the Regulation of Medical Devices—An Administrative Procedures Guide to Use of the Medical Devices Dispute Resolution Panel (64 F.R. 22617). Comments on this proposed guidance are being accepted through July 26, 1999. These documents can be accessed from FDA's home page at www.fda.gov. I would be happy to provide a list of the topics currently on that website by FDA center.

Center for Devices and Radiological Health

General:

—Guidance for Staff, Industry, and Third Parties Implementation of Third Party Programs Under the FDA Modernization Act of 1997 (Issued 10/30/98)

—List of Devices for Third Party Review Under the FDA Modernization Act of 1997 (Updated 2/8/99)
—List of Accredited Persons for 510(k) Review under the FDA Modernization Act of 1997 (Updated 4/14/99)

IDE/PMA/510(k) Related Documents:
—Guidance for Industry General/Specific Intended Use (Issued 11/4/98)
—Guidance to Industry Supplements to Approved Applications for Class III Medical Devices: Use of Published Literature, Use of Previously Submitted Materials, and Priority Review (Issued 5/20/98)
—PMA/510(k) Expedited Review—Guidance for Industry and CDRH Staff (Issued 3/20/98)
—30-Day Notices and 135-Day PMA Supplements for Manufacturing Method or Process Changes, Guidance for Industry and CDRH (Issued 2/19/98)
—Determination of Intended Use for 510(k) Devices—Guidance for Industry and CDRH Staff (Issued 1/30/98)
—Procedures for Class II Device Exemptions from Premarket Notification, Guidance for Industry and CDRH Staff (Issued 2/19/98)
—New Section 513(f)(2)—Evaluation of Automatic Class III Designation, Guidance for Industry and CDRH Staff (Issued 2/19/98)
—Guidance on PMA Interactive Procedures for Day–100 Meetings and Subsequent Deficiencies—for Use by CDRH and Industry (Issued 2/19/98)
—Guidance on Amended Procedures for Advisory Panel Meetings (Issued 1/26/99)
—Guidance on IDE Policies and Procedures (Issued 1/20/98)
—Early Collaboration Meetings Under the FDA Modernization Act (FDAMA), Guidance for Industry and CDRH Staff (Issued 2/19/98)

Postmarket Surveillance /Device Tracking:
—Guidance on Criteria and Approaches for Postmarket Surveillance (Issued 11/2/98)
—SMDA to FDAMA: Guidance on FDAs Transition Plan for Existing Postmarket Surveillance Protocols (Issued 11/2/98)
—Guidance On Procedures to Determine Application of Postmarket Surveillance Strategies (Issued 2/19/98)
—Guidance on Procedures for Review of Postmarket Surveillance Submissions (Issued 2/19/98)
—Guidance on Medical Device Tracking (Issued 2/99)

Standards:
—Guidance on the Recognition and Use of Consensus Standards (Issued 2/19/98)
—FDA Recognized Consensus Standards Appendix A (Updated 9/98)[text]
—Guidance on Frequently Asked Questions on Recognition of Consensus Standards (Issued 12/21/98)
—Opportunity to Recommend Standards for CDRH Recognition

Other Documents:
—Draft Guidance on Resolving Scientific Disputes Concerning the Regulation of Medical Devices; Administrative Procedures on Use of the Medical Devices Dispute Resolution Panel (Issued 4/27/99)
—Related Document: Final Rule: Administrative Practices and Procedures; Internal Review of Decisions (issued 11/18/98)
—Medical Device Appeals and Complaints—Guidance on Dispute Resolution (Issued 2/98)
—FDA Modernization Act of 1997 Guidance for the Device Industry on Implementation of Highest Priority Provisions (Issued 2/6/98)

Center for Drug Evaluation and Research

General:
—Classifying Resubmissions in Response to Action Letters (Issued 5/14/1998, Posted 5/14/1998)
—Enforcement Policy During Implementation of Section 503A of the Federal Food, Drug, and Cosmetic Act (Issued 11/1998, Posted 11/20/1998)
—Fast Track Drug Development Programs—Designation, Development, and Application Review (Issued 11/17/1998, Posted 11/17/1998)
—Formal Dispute Resolution: Appeals Above the Division Level (Issued 3/1999, Posted 3/18/1999)
—Formal Meetings With Sponsors and Applicants for PDUFA Products (Issued 3/1999, Posted 3/18/1999)
—Implementation of Section 120 of the Food and Drug Administration Modernization Act of 1997-Advisory Committees (Issued 10/1998, Posted 11/02/98)

—Implementation of Section 126 of the Food and Drug Administration Modernization Act of 1997—Elimination of Certain Labeling Requirements (Revised 7/1998, Posted 7/20/98)
—National Uniformity for Nonpresciption Drugs—Ingredient Listing for OTC Drugs (Issued 4/1998, Posted 5/5/1998)
—Providing Clinical Evidence of Effectiveness for Human Drug and Biological Products (Issued 5/14/1998, Posted 5/14/1998)
—Qualifying for Pediatric Exclusivity Under Section 505A of the Federal Food, Drug and Cosmetic Act (Issued 6/29/1998, Posted 6/29/1998)
—Repeal of Section 507 of the Federal Food, Drug and Cosmetic Act (Revised 5/1998, Posted 6/12/1998)
—Standards for Prompt Review of Efficacy Supplements (Issued 5/15/1998, Posted 5/15/1998)
—Submission of Abbreviated Reports and Synopses in Support of Marketing Applications (Issued 8/1998, Posted 9/15/98)
—Submitting and Reviewing Complete Responses to Clinical Holds (Issued 5/14/1998, Posted 5/14/1998)
—Women and Minorities Guidance Requirements (Issued 7/20/1998, Posted 11/25/1998)

Center for Biologics Evaluation and Research

General:
—Federal Register Notice: List of Documents Issued by the Food and Drug Adminstration That Apply to Medical Devices Regulated by CBER—4/26/99
—Draft Guidance for Industry: Formal Dispute Resolution: Appeals Above the Division Level—3/19/99
—Draft Guidance for Industry: Formal Meetings With Sponsors and Applicants for PDUFA Products—3/19/99
—Guidance for Industry: Fast Track Drug Development Programs—Designation, Development, and Application Review—11/18/98
—Guidance for Industry; Advisory Committees: Implementing Section 120 of the Food and Drug Administration Modernization Act of 1997—10/30/98
—Draft Guidance for Industry: Developing Medical Imaging Drugs and Biologics—10/14/98
—Federal Register: Food and Drug Administration Modernization Act of 1997; Allergenic Patch Test Kits; Request for Comments or Data—10/1/98
—FEDERAL REGISTER Biological Products Regulated Under Section 351 of the Public Health Service Act; Implementation of Biologics License; Elimination of Establishment License and Product License; Proposed Rule—7/31/98
—Guidance for Industry: Implementation of Section 126, Elimination of Certain Labeling Requirements of the Food and Drug Administration Modernization Act of 1997—7/21/98
—Guidance for Industry: Qualifying for Pediatric Exclusivity Under Section 505A of the Federal Food, Drug and Cosmetic Act—6/98
—FEDERAL REGISTER—Dissemination of Information on Unapproved/New Uses for Marketed Drugs, Biologics and Devices; Proposed Rule—6/8/98
—FEDERAL REGISTER Regulations for In Vivo Radiopharmaceuticals Used for Diagnosis and Monitoring; Proposed Rule—5/22/98
—Guidance for Industry: Providing Clinical Evidence of Effectiveness for Human Drugs and Biological Products—5/15/98
—Guidance for Industry: Standards for the Prompt Review of Efficacy Supplements, Including Priority Efficacy Supplements—5/15/98
—Guidance for Industry: Classifying Resubmissions in Response to Action Letters—5/14/98
—Guidance for Industry: Submitting and Reviewing Complete Responses to Clinical Holds—5/14/98

Question. What is the agency's legal reasoning for not using notice and comment rulemaking to establish these procedures?

Answer. The Agency has taken the position that the current appeals procedures in place are adequate, and that is would be helpful to clarify that certain decisions may be taken to an advisory committee, at FDA's discretion. It was recommended that additional guidance would be helpful for industry, which is why the Agency agreed to issue guidance clarifying its current regulations.

Question. Will they contain any new procedures for resolving scientific disputes?

Answer. There have been several developments in this area that I would like to address more specifically in a document for the record:

RESOLVING SCIENTIFIC DISPUTES

Center for Biologics Evaluation and Research

The Center for Biologics Evaluation and Research (CBER)and the Center for Drug Evaluation and Research (CDER) have published, in accordance with the Good Guidance Practices, a Draft Guidance for Industry: Formal Dispute Resolution: Appeals Above the Division Level on 3/19/99. This is presently a draft for comment. The URL for this document is www.fda.gov/cber/gdlns/disputedft.pdf . This lays out the procedures that sponsors or applicants may use to request resolution of a dispute. It includes the procedures for requesting a review by an Advisory Committee under revised 21 CFR 10.75.

CBER has also written and posted a Standard Operating Procedure for dispute resolution. It contains the internal procedures for CBER staff to follow. It is SOPP #8005—Major Dispute Resolution Process <8005.htm> and can be found on the internet atwww.fda.gov/cber/regsopp/8005.htm .

All of CBER's recent guidance documents explain the options for dispute resolution, including scientific disputes, usually by referring to the guidance document mentioned above.

Center for Drug Evaluation and Research

There is draft guidance document entitled, "Guidance for Industry: Formal Dispute Resolution: Appeals Above the Division Level" available on the internet at www.fda.gov/cder/guidance/index.htm. This guidance document is intended to provide guidance for industry on procedures adopted by the Center for Drug Evaluation and Research (CDER) and the Center for Biologics Evaluation and Research (CBER) for resolving scientific disputes that cannot be resolved at the Division level.

In addition, CDER's manual of policies and procedures includes a document entitled, "Resolution of Disputes: Roles of Reviewers, Supervisors, and Management; Documenting Views and Findings and Resolving Differences." This document is also available on the internet (www.fda.gov/cder/mapp.htm). This document provides a general description of the roles of the reviewer, supervisors and team leaders, and management in arriving at institutional decisions in the drug application review process; guidance on how each individual involved in the scientific review process is to document his or her views or findings; and a procedure for resolving differences.

Center for Veterinary Medicine

The Center for Veterinary Medicine (CVM) is in the process of issuing dispute resolution draft guidance that will contain a new procedure for resolving scientific disputes. The Center has had in place for some time, a procedure for the handling of internal review of appeals. The dispute resolution draft guidance will be issued for comment and finalized in a separate action following consideration of the comments. The draft guidance simplifies the existing procedures for the handling of a request for an internal review and describes the new procedure for a review of a scientific controversy by the advisory committee. These appeal procedures apply to a decision that affects animal drugs and other products regulated by the CVM.

Center for Devices and Radiological Health

FDA's Center for Devices and Radiological Health (CDRH) is establishing new procedures for resolving scientific disputes. On April 17, 1999, CDRH published a Federal Register notice announcing the availability of a draft guidance document, Resolving Scientific Disputes Concerning the Regulation of Medical Devices—An Administrative Procedures Guide to Use of the Medical Devices Dispute Resolution Panel (64 F.R. 22617). Comments on this proposed guidance are being accepted through July 26, 1999.

To implement section 404 of FDAMA and to comply with 21 CFR 10.75, the center is proposing to establish a new Medical Devices Dispute Resolution Panel, which will operate under FDA's Medical Devices Advisory Committee. In addition to serving as a useful forum in which scientific disputes in general can be aired, the Dispute Resolution Panel would implement four provisions of the Federal Food, Drug, and Cosmetic Act:

—Section 514(b)(5)(B) of the act requires the establishment of an advisory committee to take referrals of any matter concerning the establishment, amendment, or revocation of a performance standard which requires the exercise of scientific judgment.

—Section 515(g)(2)(B) of the act requires the establishment of an advisory committee to take referrals of petitions for review of: (a) the approval, denial, or withdrawal of approval of a premarket approval application, or (b) the revocation of an approved product development protocol (PDP), a declaration that an

approved PDP has not been completed, or a revocation of an approved Notice of Completion that permitted marketing of a device developed under a PDP.

—Section 522(b) of the act, which was added by section 212 of FDAMA, requires a process to resolve any disputes concerning the need for FDA to order a manufacturer to conduct postmarket surveillance for more than 36 months.

—Section 562 of the act requires FDA to provide a procedure for review of all scientific disputes regarding the regulation of medical devices, including review by an appropriate scientific advisory panel, but only to the extent that other provisions of the act or FDA regulations do not already provide a right of review.

FDA believes its current procedures already provide methods to obtain review of most, if not all, scientific disputes. The establishment of the Dispute Resolution Panel provides an additional, more focused, procedure for the timely review of scientific disputes. This draft guidance document sets forth guidelines that will govern the operation of the Medical Devices Dispute Resolution Panel. Those guidelines include the appointment of a CDRH Ombudsman, who will be designated to receive, review, and make recommendations with respect to requests for review by the resolution panel. CDRH intends to ensure that a center ombudsman is in place before the final guidance goes into effect.

Question. Why did the agency chose not to establish a stand-alone dispute resolution mechanism?

Answer. The Agency felt that there were adequate dispute resolution mechanisms already in place, but that it would be helpful to clarify our regulations concerning the availability of advisory committees for certain types of appeals. This change has been finalized, and the Agency has issued guidance on this regulation. Therefore, a stand-alone mechanism was not necessary.

QUESTIONS SUBMITTED BY SENATOR KOHL

COST OF PRESCRIPTION DRUGS

Question. I hear from many constituents about the continuing increase in the cost of prescription drugs. In fact, I understand the problem of rising drug costs in the U.S. is among the most serious in the world.

What is FDA doing to help control the rising price of prescription drugs.

Answer. FDA plays an important, but indirect, role in helping control the price of prescription drugs. The agency carries out this role through the operation of a highly efficient and effective generic drug review process. As generic drugs are approved and enter the market place they reduce the cost of medication to the U.S. public.

Question. To what extent is the approval of generic drugs slowing these rising costs and if it is significant, why is FDA not doing more to encourage the availability of generic drugs?

Answer. Generic drugs reduce the cost of medication to the U.S. public when they enter the market place. If there are delays in the approval of the generic drugs beyond the patent and/or exclusivity period, then the U.S. public will not receive the full benefit of generic approvals.

We believe that the key to encouraging the availability of generic drugs is increasing the number of chemistry, microbiology, bioequivalence, and labeling reviewers, as well as support staff within the Office of Generic Drugs. In addition, funding is needed for research to support the development of scientifically rigorous bioequivalence testing methodologies for nonsystemically absorbed drug products. The review and approval of such products are often subject to challenge by innovator firms. The stronger the scientific support of these approvals, the more likely it will be the Office can successfully meet innovator challenges. Additionally, increasing the quality of industry submissions—abbreviated new drug applications; accelerating implementation of the electronic submission initiative on an industry-wide level; and increasing the level of training and professional development received by reviewers and review support staff would also help improve the availability of generic drugs.

FDAMA

Question. Please describe the progress at FDA in meeting the challenges of the recent FDA reform legislation.

Answer. Published in November 1998, the FDA Plan for Statutory Compliance addresses requirements set forth in Section 406 of the FDA Modernization Act, FDAMA. This plan outlines the actions necessary to bridge the gap between what FDA is required to do by statute and what it is able to accomplish with current resource levels. The first official progress report will be issued in late 1999. However,

the Agency is able to report on several accomplishments toward meeting the letter and intent of the legislation.

As the first year anniversary of the enactment of FDAMA, the Agency had met nearly all of the deadlines for implementing the many varied provisions of the law. In many cases the agency was able to complete these initiatives well ahead of schedule. In April 1999 FDA convened a live, national teleconference for the purpose of discussing the Agency's progress in implementing FDAMA and to seek additional input on specific performance targets. Highlights showing FDA's progress in meeting challenges of the reform legislation are being posted on the FDA web site at http://www.fda.gov/opacom/7modact.html. We will provide selected examples for the record.

—Biologics—FDA has issued over 50 guidance documents which will assist industry in getting products to market more quickly while continuing to ensure the same high level of safety and efficacy.

—Drugs—FDA has finalized the industry guidance for submission of New Drug Applications in electronic form and posted it on FDA's web site.

—Devices and Radiologic Health—FDA has shifted resources from low-risk to high-risk products, and involved stakeholders earlier during application review process.

—Food Safety—FDA held public meetings on health claims and nutrient content claims on foods based on authoritative statements, including proposal to permit such health claims on dietary supplements.

—Veterinary Medicine—FDA is conducting research to determine if the Agency can require fewer animal studies or reduce the number of animals needed in studies to support certain new animal drug applications.

Question. How is it affecting the budget?

Answer. The FDA reform legislation has drawn attention to the fact that current levels of funding are insufficient to meet the Agency's statutory obligations. Successful implementation of the FDA Modernization Act, FDAMA, depends on a commitment of resources focused on the Agency's overall public health and safety responsibilities. In light of the increasingly complex public health challenges facing the Agency in the 21st century, success will depend on innovative approaches by FDA, creative collaboration with stakeholders, prioritization of activities, and an adequate long-term resource investment to implement the necessary changes.

The affect of this legislation on FDA's budget is somewhat unclear. Inflation has reduced the real resources available for certain FDA responsibilities delineated in FDAMA. These include inspections to ensure product safety; review of devices, food additives, blood products, animal drugs, and generic drugs; and adverse event reporting and follow-up. Statutory requirements for new product review times and for inspectional coverage are not being met in all areas, due in part to budgetary limitations. Preparing and executing the budget, therefore, challenges the Agency to applying its strategic decision framework that focuses on the highest priority commitments.

Question. In what ways does FDA plan to restructure the agency to meet these challenges?

Answer. The FDA Modernization Act, FDAMA, defines the Agency's new mission. In that mission, Congress indicates not only the regulatory and public health responsibilities of FDA, but also the manner in which those roles are carried out. One key statement in the mission is that the Agency shall carry out its responsibilities, "in consultation with experts in science, medicine, and public health, and in cooperation with consumers, users, manufacturers, importers, packers, distributors, and retailers of regulated products."

With this in mind, several changes have been planned. The newly reorganized Office of the Commissioner, OC, will have as its principal focus to provide leadership in building effective, two-way communication between FDA and all stakeholders including: patients, consumers, Congress, the Administration, Agency employees, the regulated industry, health care professionals, and other scientific advisors. The OC will retain only those staff functions which cannot be reasonably and more effectively performed in those centers or offices that interface most directly with stakeholders. Other short-term changes will address a growing emphasis on international policy and activities, women's health, consumer issues, and systems improvement.

The emphasis of FDAMA on the involvement of stakeholders is changing the manner in which restructuring decisions can be made. As we compile the suggestions of our constituents, strategies for enhancing FDA's effectiveness as a scientific, regulatory agency will become more evident. Subsequent decisions regarding organizational structure will be made as appropriate for the Agency within the context of the rapidly changing national and global environment.

Question. Would you please comment on these reports and the obvious challenges of moving quickly, but not too quickly?

Answer. Although the FDA process is faster, every application is reviewed thoroughly and completely. In addition, the FDA standards for approval, which include how many patients must be studied in clinical trials and what benefits must be demonstrated, have not changed. Available evidence shows that shortened review times under the Prescription Drug User Fee Act Program have not led to less safe products being approved for marketing.

None of the U.S. safety withdrawals over the last 18 years, 13 of which were drugs, involved drugs that underwent particularly fast reviews. In fact, the fastest of these reviews was for the drug mibefradil which took 15 months—well above the current average review time under user fee performance goals. Many drugs are reviewed faster. A forthcoming article in a peer reviewed medical journal will provide a thorough analysis of new drug safety withdrawals showing them to be unrelated to approval time or approval year.

BIOTERRORISM

Question. Please explain FDA's role in the administration's Anti-Bio Terrorism policies.

Answer. FDA has a primary role in creating and maintaining a stockpile of pharmaceuticals and biological products and furthering research, design, development and approval of diagnostics, antibiotics, therapeutics and vaccines to be used to prevent and treat the exposure to deadly chemical and biological agents. This is an integral component of the Department of Health and Human Services' overall responsibility is to meet the Nation's public health and medical needs associated with terrorist events. The President's fiscal year 2000 budget for DHHS contains a request for $230 million for these purposes. The FDA, CDC, NIH, Substance Abuse and Mental Health Services Administration, and Office of Emergency Preparedness, working closely with the Department of Defense and the Department of Veterans Affairs have developed a four-pronged approach to prepare for and respond to a biological or chemical attack. The four priorities include revamping the public health surveillance system; strengthening our medical response capability; creating and maintaining a stockpile of pharmaceuticals and biological products; and enhancing research, design, development and approval of diagnostics, antibiotics, therapeutics and vaccines. FDA' s counter-bioterrorism initiative focuses on the priorities for creating and maintaining a stockpile of pharmaceuticals and biological products, and furthering research, design, development and approval of diagnostics, antibiotics, therapeutics and vaccines. I would like to provide additional information for the record.

BIOTERRORISM INITIATIVE

FDA's Stockpile Responsibility

FDA is responsible for ensuring the safety, purity, and potency of biological products intended for use in the diagnosis, treatment, prevention, or cure of diseases or conditions resulting from exposure of the American people to these deadly biological and chemical agents in this country or on foreign. FDA must evaluate the safety and effectiveness of these products prior to their release to the public. In addition, FDA must continue to ensure the safety and efficacy of these products through the inspection of manufacturing facilities for compliance with regulations, verification that product lots conform to preapproval standards and product consistency prior to their release into distribution, and evaluation of surveillance reports, such as adverse experience reports.

The release of a biological weapon, producing mass civilian or military casualties, will create a public health crisis in the United States requiring extraordinarily large amounts of antibiotics, antivirals and vaccines for treating those who become ill or for protecting those who may have been exposed. If such products are unapproved, FDA must be prepared to review them quickly and efficiently to assure their safety and efficacy. In addition, FDA will play a role in establishing any needed requirements for critical pharmaceutical supplies to be available to these biowarfare victims in less than 24 hours. This requires FDA to identify the biological or chemical agents that present the greatest threats, estimate the potential size of the population that may be affected, determine the best prophylaxis or treatment options, and then decide how best to assure immediate access to sufficient quantities.

The proposed stockpile would assure an immediately available quantity of appropriate pharmaceutical and biological products that would meet the needs of the affected population in the event of the release of a chemical or biological weapon. The need for a stockpile at several strategic locations around the United States is based

on the fact that some pharmaceutical products, required exclusively during a biological or chemical weapon attack, would not otherwise be available on a timely basis and in sufficient quantity. Normally these products are not found in the marketplace in adequate amounts to meet a mass casualty need and production lead times may be too long if there is a bioterrorism incident. The products in this type of stockpile, however, require careful monitoring for potency and sterility and will have to be replaced from time to time.

Research and Development

FDA is actively working on the interagency group to identify the agents that pose the greatest threat, to outline the current capabilities to deal with these agents, and to identify the goals and research needs necessary to respond to a potential bioterrorist attack using these agents.

In order to facilitate the development, approval, and continued safety and efficacy of the products, FDA scientists must plan and conduct research on the methods of testing safety, purity, potency, and efficacy of these products. The public health of the United States cannot risk the wide distribution of products that are unsafe. Based on their research, FDA scientists will be able to develop industry-wide testing techniques, standards and methods; to improve existing products; and promote the development of new products. FDA needs to conduct research regarding the agents that bioterrorists may use in order to further understand the agents and the effect they will have on humans who are exposed to them and to have a better understanding of the proposed treatments when FDA reviews applications.

Terrorist events involving biological agents will be very different in character from those employing chemical agents. Moreover, preparedness for and response to an attack involving biological agents are complicated by the large number of potential agents, most of which are rarely encountered naturally, their sometimes long incubation periods and consequent delayed onset of disease, and the potential for secondary transmission. In addition to naturally occurring pathogens, agents used by bioterrorists may be genetically engineered to resist current therapies and evade vaccine-induced immunity.

A research program to counter bioterrorism must address disease priorities, with initial emphasis on microbes such as smallpox and anthrax. For the longer term, research must target agents and diseases such as Ebola virus, brucellosis, plague, turalemia, viral encephalitides, viral hemorrhagic fevers and botulism. While current research programs are understandably focused on a few microbes that have the greatest potential for use as a weapon of mass destruction, in the future, additional research programs must address other potential microbial agents of bioterrorism.

A research program to produce vaccines and therapeutics for biological weapons faces the challenge of not being able to proceed with human Phase III efficacy clinical trials. Given ethical and safety concerns that would rule out infecting human subjects with a deadly organism in order to test a vaccine or therapeutic, trials with humans cannot be undertaken. Therefore, the regulatory process for approval of treatments or preventative medicines and diagnostics may need to be modified to permit the emergency use of antibiotics/therapeutics and vaccines that have been shown to be safe and efficacious in animal models. FDA has drafted a proposed rule to allow animal data to be used.

Since it is likely that an intentional release of a bioweapon will become apparent in the form of a disease outbreak, emphasis must also be placed on the development, evaluation and approval of rapid diagnostics. The ability to rapidly identify and characterize a suspected biological agent will permit speedy treatment and/or prophylaxis. The rapid diagnostic technologies to be developed should be capable of detecting known biological agents as well as genetically engineered organisms.

FDA's proposed activities and corresponding outcomes include:

Activities:

—Research and review activities related to expeditious development and licensure of new vaccines and therapeutics;
—Timely application reviews of new drugs and biological products and new uses of existing products;
—Participation in the planning and coordination of public health and medical response to a terrorist attack involving a biological or chemical agent;
—Participation in the development of rapid detection and decontamination tests for agents of bioterrorism such as C. botulinum, E. coli, B. Anthracis;
—Assuring the safety of regulated foods, drugs, medical devices and biological products; and arranging for seizure and disposal of affected products;
—Development of techniques to detect genetic modifications of micro-organisms which make them more toxic or resistant to antibiotics or vaccines;
—Rapid determination of a microbes sensitivity to drug therapy;

—Rapid determination of the mechanism of replication and pathogenicity/virulence of organisms, including those elements which can be transferred to other organisms in order to circumvent detection, prevention or treatment;
—Enhanced ADR surveillance capabilities.

Outcomes:
—Safe and efficient products to prevent, either prior to or subsequent to exposure, and treat toxicity of biological and chemical agents;
—Methods to rapidly detect, identify and decontaminate hazardous organisms;
—Increased ability to ensure the safety of the food supply;
—Increased ability to provide appropriate medical care and a public health response.

FIELD CONSOLIDATION

Question. Please explain the status of FDA field consolidation and the budgetary impact of those actions.

Answer. FDA began this initiative in 1994 with approval from the Secretary of Health and Human Services to proceed with streamlining field laboratories. The Agency was unable to maintain eighteen field laboratories due to rising rent and maintenance costs, overcrowding, and inadequate and obsolete laboratory space. Many leases for facilities built to FDA specifications in the 1960's were expiring. Faced with the prospect of acquiring new and more expensive replacement leases for special purpose laboratory space, the plan to focus and consolidate shrinking resources evolved. Nine of eighteen field laboratories will be closed, with staff and functions consolidated. Five large multi-purpose laboratories in New York; Atlanta; Jefferson, Arkansas; Seattle; and Los Angeles; and four smaller specialty laboratories in San Juan; Winchester, Massachusetts; Cincinnati; and Philadelphia will house the FDA field analytical science activities. Savings in estimated rent, maintenance and utilities from the start of the project in 1994 through 2014 are estimated to be in excess of $90 million. FDA will maintain its inspection, investigation, and compliance presence in all locations where laboratories are closed.

In 1997, laboratories were closed in Chicago, Buffalo and Cincinnati. In 1998 the laboratory in New Orleans was closed. The Baltimore laboratory will close in 1999; and, Dallas, Detroit and Minneapolis laboratories will close in 2000.

The new FDA field multi-purpose laboratory at NCTR in Jefferson, Arkansas is under construction with occupancy expected in December 1999. With a partial appropriation of $3 million in fiscal year 1999, FDA has recently awarded a contract to begin the third and final phase of the project, the renovation of Building 50 at NCTR, which will house joint ORA and NCTR administrative and support staff and services. $10.3 million will complete phase III; $3 million is requested in fiscal year 2000.

In 1995, $9.8 million was appropriated to FDA for land acquisition and design for the new laboratory and district office facility in Los Angeles. Land was purchased on the campus of the University of California at Irvine, and design is virtually complete. The fiscal year 2000 request includes $20.4 million, which is approximately one-half of the $40.4 million needed to complete construction of this much needed multi-purpose laboratory facility.

A new laboratory annex to the existing facility in Atlanta came on line last spring, and the facility is fully operational. The multi-purpose laboratory in Atlanta is complete and has been accepting additional staff from closing laboratories.

A new multi-purpose laboratory and office facility in Jamaica, Queens, New York, to be leased through GSA, is well underway with an expected occupancy in January 2000.

FDA has recently renovated the drug specialty laboratory in San Juan; expanded the drug specialty laboratory in Philadelphia; and, moved into a new facility in Cincinnati which houses the district office and the National Forensic Chemistry Center.

Question. As you are aware, I am concerned about the rising cost of drugs. I am also supportive of the goals of the Orphan Drug Act and the benefits it provides for people with rare disorders. However, concerns have been raised that implementation of the Act, in some instances, has had the effect of stifling competition and, ultimately, raising drug costs to consumers. Specifically, these concerns focus on those cases in which the exclusivity of one drug has expired, yet competition is still not allowed if there is another similar drug for which exclusivity is still in effect.

Commissioner Henney, please review and report to me on the implementation of the Orphan Drug Act in terms of the exclusivity rule and the effect it is having on competition in the market place and the ultimate cost to consumers.

Answer. The 7-year exclusive marketing period after approval for a designated orphan product is one of the most meaningful incentives of the Orphan Drug Act. As

of May 1, 1999, 189 orphan products have been marketed over the last 16 years. This exclusivity, like patent terms, restricts competition intentionally. Orphan drug exclusivity provides an additional economic incentive for sponsors to invest in the research and development for what are generally limited patient groups and markets. Many orphan products have no other source or basis for intellectual property protection. The exclusivity bar does not preclude products which show either greater efficacy or safety from being approved by FDA. FDA does not maintain nor have access to economic, pricing, or other financial data for these or any other regulated products. A premise of the orphan products program is that the most costly product is one that is neither known nor available when needed. FDA believes that consumers are served best when a proven safe and efficacious treatment is marketed and available when needed. In many cases, an orphan product displaces other restrictive and more costly care and improves the quality of life for the patient and affected family.

QUESTIONS SUBMITTED BY SENATOR HARKIN

OTC SUNSCREEN MONOGRAPH

Question. "Skin cancer is a serious public health problem in the United States, and regular use of sunscreen is considered an important element of sun protection. The FDA Modernization Act requires that FDA publish regulations for OTC sunscreens. In addition, Congress specifically directed FDA to address the review of foreign sunscreen ingredients as part of the OTC sunscreen monograph.

"Would you discuss how FDA is proceeding with this monograph, and what sort of timeline you foresee for its publication?"

Answer. A final sunscreen monograph published was in the Federal Register on May 21, 1999, (64 FR 2766). The Agency addressed the process for including sunscreen active ingredients based solely on foreign data and marketing experience in Comment 13 of the preamble to the final rule.

TOBACCO FUNDING

Question. Would you please describe in more detail what share of the money appropriated for the FDA initiative against youth smoking goes out to state authorities for their use in carrying out compliance checks and any other smoking prevention activity?

Answer. In 1997, $2 million (out of $4.9 million) went to state contracts to enforce the rule. In 1998, $16.4 million went to state contracts. In 1999, the Agency has allocated $22 million towards state contracts.

Question. Please describe in a more detailed breakdown just how the funding for this initiative is used, that is, the types of activities that are supported, how the money is distributed among these activities, and how the money is apportioned between federal and state level activities.

Answer. In fiscal year 1997, FDA designed a pilot program and infrastructure to enforce the rule. The Agency, consistent with its practices in other areas, determined that it would commission state and local officials to enforce the federal rule—specifically to conduct unannounced visits to retailers using adolescents younger than 18, who would attempt to purchase cigarettes or smokeless tobacco. Initially, the Agency contracted for enforcement in 10 states. In fiscal year 1997, contracts were awarded to Florida, Illinois, Washington, Texas, Massachusetts, Colorado, Pennsylvania, Minnesota, Arkansas, and California. These states were required to conduct approximately 200 to 400 inspections per month. Compliance checks began in the first state in August 1997. These contracts resulted in approximately 20,000 compliance checks during the 10 month pilot program.

In fiscal year 1998, the Agency expanded its enforcement efforts and solicited bids from all 57 states and territories to contract with FDA to do compliance checks. By the close of fiscal year 1998, FDA had signed contracts with 43 states and territories totaling $16,382,912. Under these contracts, the states will conduct approximately 186,500 compliance checks by September 30, 1999. The average contract is approximately $390,000. With the signing of each new contract, FDA's headquarters or regional staff trains the designated state and local officials. Headquarter staff has also spent countless hours answering questions from tobacco retailers and providing technical assistance to the states.

All 10 states who participated in the pilot program, renegotiated contracts to continue doing compliance checks in their states. In at least two states, the programs had been so successful that the states chose to expand the initial limited coverage provided by the first contract. In Arkansas, for example, the pilot contract provided

for compliance checks to be conducted only in and around Little Rock. Similarly, in Colorado, only a few counties were included in the original contract. In both cases, the subsequent contracts substantially increased the areas of the state that would be included in the investigations.

The existing contracts resulted in 39,439 attempted and completed compliance checks during fiscal year 1998, including reinspection of retailers found to have violated the rule. The Agency's legal staff devised and established the framework for the imposition of civil money penalties, sent out complaints, and negotiated or litigated contested cases. In fiscal year 1998, FDA began seeking civil money penalties from those found to have violated the rule's restrictions on sales to minors for a second time. In fiscal year 1999, FDA began investigations of retailers who have been found to have already violated the rule two times. The agency anticipates seeking civil money penalties for third violations within the first quarter of fiscal year 1999. A penalty schedule for violations of other portions of the regulation will be developed when these provisions go into effect.

In the second half of fiscal year 1998, the Agency contracted with Battelle Memorial Institute to study the tobacco program's business processes, outline the program's work flow and conduct a requirements analysis. From this requirements analysis, Battelle proposed a system design to automate the program's processes. In addition, Battelle presented a proposed plan to obtain and maintain a list of retailers selling tobacco in each state that would be more complete, accurate and user friendly than the lists constructed by the Agency during its first full year of operation.

Based on the design, Battelle has launched a multi-year effort to provide reliable retailer lists and an infrastructure designed to maintain the list and make it user friendly for FDA and for all contracting states. Battelle will also design and implement an information technology system which will automate all the program's various functions, including contracting, outreach, enforcement, compliance checks, litigation, collection of civil money penalties, etc. The new system will increase the efficiency of the program and will improve communications internally as well as with state contractors and with other stakeholders. The various system design components will be implemented incrementally as they are developed beginning in early 1999. The entire system should be operational by 2001. The amount dedicated to this multi-year project in fiscal year 1998 is $2.8 million.

In fiscal year 1998, the Agency designed a comprehensive outreach program designed to inform retailers and ensure compliance. This multi-faceted program consisted of advertising, direct mail, press events and materials, exhibits and speeches, and dissemination of materials requested via a hotline or mail order.

In fiscal year 1998, the Agency designed a multi-media advertising campaign, including radio, print, and billboard advertising. A free retailer kit using humorous illustrations and a folksy approach also was created to make it easier for retailers to comply with the new regulation. A series of focus group discussions were held with retailers, sales clerks, young people between 18 and 27, children ages 12 to 18, and the general public to test the advertising campaign and retailer kits. During fiscal year 1998, approximately 500,000 retailers kits were produced and sent to stores across the country.

The FDA conducted a tracking study in 10 media markets to evaluate the effectiveness of the campaign. Findings indicate that awareness of the photo identification age provision rose dramatically from approximately one-third of retailers to more than one-half of all retailers. In addition, there was a three-fold increase in recall of the fine for repeat violations in the test markets. Further, in test markets, twice as many clerks used 27 as the cut-off age after the campaign compared to before the campaign. Importantly, retailers reported that minors were somewhat less likely to try to buy tobacco and retailers said that customers were less likely to be irritated when asked to show photo identification as a result of the advertising campaign. By the close of fiscal year 1998, the Agency had obligated approximately $12.5 million for outreach activities. This covers the costs of the paid advertising campaign as well as the printing and dissemination of nearly a half million retailer kits.

In 1997, $2 million (out of $4.9 million) went to state contracts to enforce the rule. In 1998, $16.4 million went to state contracts. In 1999, the Agency has allocated $22 million towards state contracts.

SUPREME COURT AND TOBACCO

Question. What is FDA's response to the Supreme Court's granting of certiorari to review the Fourth Circuit case?

Answer. The Administration stated on the day of the Supreme Court announcement that it was pleased that the Court has agreed to hear this important public health case.

Question. It is my understanding that FDA retains full authority pending the Supreme Court decision to carry out the photo I.D. and minimum age rules, in cooperation with its state partners. Is that correct?

Answer. Yes, pending the outcome of the Supreme Court's consideration of this case on the merits, FDA continues to have the authority to enforce the age and photo ID provisions of the tobacco rule.

Question. Given the history of the tobacco industry in marketing tobacco products to young people, and frankly in not being truthful about so many of its activities, does it not make sense that the industry should provide at least some of the resources needed to carry out the efforts of FDA and its state partners to prevent kids from taking up smoking? For example, under the Prescription Drug User Fee Act, an industry regulated by FDA provides some of the resources for FDA activities.

Answer. Funding via industry user fees is not contained in the Administration's fiscal year 2000 budget request for FDA's tobacco program.

Question. Now, the situation regarding tobacco is not exactly the same, of course, but it seems there is an even stronger case in many respects for having the tobacco industry support FDA activities than there is for prescription drug user fees. What is FDA's position on obtaining resources from the tobacco industry to support FDA smoking prevention efforts?

Answer. Funding via industry user fees is not contained in the administration's fiscal year 2000 budget request for FDA's tobacco program.

QUESTIONS SUBMITTED BY SENATOR DORGAN

PRESCRIPTION DRUGS

Question. As the FDA Commissioner knows, U.S. consumers pay on average 30–60 percent more for the exact same medications than consumers in Canada, the United Kingdom, and Sweden. Part of the reason for this is that federal law and regulation have essentially created a closed market for prescription drug manufacturers.

What are the statutory barriers to allowing free trade of prescription drugs?

Answer. Under the Federal Food, Drug, and Cosmetic Act, the Food and Drug Administration must approve all new drugs, including prescription drugs, before they may be commercially distributed in the United States. This review function performed by FDA provides an essential protection to the health of the American people by helping ensure that the drug products that are available are safe and effective for their intended use. To obtain approval, the sponsor of a drug, usually the manufacturer, must submit sufficient information to the agency in the form of either a new drug application for innovator drugs that are not generic equivalents of currently marketed drugs or an abbreviated new drug application for generic equivalents of currently marketed drugs. Information that must be included in the application includes the chemical composition of the active chemical entity, the identity and composition of excipients and other inactive ingredients, and information concerning the place and methods of manufacture. On the basis of that application, as well as information obtained through inspections, FDA reviewers determine whether the drug is safe and effective for a particular use. If a sponsor does not file a new drug application with FDA, FDA cannot approve the drug, and the drug cannot be commercially distributed in the United States. A limited exception to the prohibition on distribution of unapproved new drugs exists to permit non-commercial distributions of unapproved new drugs intended solely for investigational use by experts qualified by scientific training and experience to investigate the safety and effectiveness of drugs.

One provision of the Prescription Drug Marketing Act, Public Law 100–293 § 2(4), which was incorporated into the Federal Food, Drug, and Cosmetic Act, may also affect the importation of approved drugs. Congress enacted this provision pursuant to its finding that, "Large amounts of drugs are being reimported to the United States as American goods returned. These imports are a health and safety risk to American consumers because they may have become subpotent or adulterated during foreign handling and shipping." Accordingly, Congress passed 21 U.S.C. § 381(d)(1), which prohibits the reimportation of a prescription drug or insulin that was manufactured in the United States, and exported, unless the drug is reimported by the manufacturer of the drug or FDA authorizes reimportation of the drug for emergency medical care.

Finally, other provisions of the Federal Food, Drug, and Cosmetic Act which prohibit the distribution of adulterated or misbranded drugs, could act to deny admission to certain entries of prescription drugs, depending on the condition of the drugs.

Question. What barriers exist in FDA's statute to prohibit pharmacies from purchasing pharmaceuticals in other countries when those products are approved for sale in the U.S. and produced at FDA-certified facilities?

Answer. The Federal Food, Drug, and Cosmetic Act does not prohibit the purchase of approved prescription drugs in other countries. However, one provision of the Prescription Drug Marketing Act, which was incorporated into the Federal Food, Drug, and Cosmetic Act, may affect the subsequent importation of approved prescription drugs, if those drugs were originally manufactured in the United States. This provision, 21 U.S.C. § 381(d)(1), prohibits the reimportation of a prescription drug or insulin that was manufactured in the United States and exported, unless the drug is reimported by the manufacturer of the drug or FDA authorizes reimportation of the drug for emergency medical care.

IMPORTATION PRESCRIPTION DRUGS

Question. During a recent meeting with Deputy Commissioner Michael Friedman, he identified 3 barriers that prevent consumers and pharmacists from importing prescription drugs from other countries to take advantage of lower prices: 1) GATT, which prevents the U.S. from treating its trading partners differently; 2) the Prescription Drug Marketing Act, which permits only pharmaceutical manufacturers to re-import their drugs into the U.S.; and 3) the Federal Food, Drug and Cosmetic Act, which requires the FDA to ensure that drugs are made using good manufacturing practices.

Can the FDA Commissioner recommend what changes could be made in the law to facilitate the importation of FDA-approved prescription drugs without undermining the public's safety?

Answer. The first and third items discussed above might act as barriers to the importation of prescription drugs that are not manufactured pursuant to an FDA-approved new drug application and, therefore, not in compliance with the Federal Food, Drug, and Cosmetic Act. However, they are not likely to have an impact on the importation of prescription drugs manufactured pursuant to an FDA-approved new drug application.

With regard to item 1, GATT and other United States trade agreements limit the United States' ability to distinguish arbitrarily among its trading partners. For example, if the United States were to put to the side all other legal concerns, including concern with compliance with the Federal Food, Drug, and Cosmetic Act, and decided to allow the importation of unapproved drugs manufactured in Country A, but to disallow the importation of unapproved drugs manufactured in Country B, the United States might be accused of making an arbitrary distinction between Country A and Country B. This concern is not relevant when the United States decides to allow the importation of approved drugs from Country A, but to disallow the importation of unapproved drugs from Country B. That distinction is on its face a reasonable one, based on the laws of this country designed to assure public health and safety.

With regard to item 3, the Federal Food, Drug, and Cosmetic Act requires all manufacturers, processors, packers and holders of drugs to conduct their operations in conformity with current good manufacturing practice. All United States manufacturers, and all foreign manufacturers who manufacture drugs pursuant to approved new drug applications, are required to adhere to current good manufacturing practice. Neither the Federal Food, Drug, and Cosmetic Act, nor the regulations promulgated thereunder, attribute to approved prescription drugs that have traveled outside the United States a presumption that the drugs were, or were not, handled in accordance with current good manufacturing practices. All such determinations would be based on the individual circumstances surrounding the handling of the drugs. However, when drugs are handled outside the United States, we have very little information regarding handling conditions. A concern about poor handling during extended foreign shipments of drugs manufactured in the United States led to the passage of a provision of the Prescription Drug Marketing Act, PDMA. The PDMA provision, 21 U.S.C. § 381(d)(1), could impede the importation by a consumer of FDA-approved prescription drugs because it prohibits the reimportation of a prescription drug or insulin that was manufactured in the United States, and exported, unless the drug is reimported by the manufacturer of the drug or FDA authorizes reimportation of the drug for emergency medical care. In passing this legislation, Congress expressly found, "Large amounts of drugs are being reimported to the

United States as American goods returned. These imports are a health and safety risk to American consumers because they may have become subpotent or adulterated during foreign handling and shipping." Public Law 100–293 § 2(4). FDA has also concluded that this provision provides greater assurance that recalls of prescription drug products will be conducted effectively. For example, if a manufacturer's records indicate that a drug has been distributed in Asia, not the United States, the manufacturer will provide all recall notifications to entities in Asia. United States consumers may hear nothing about the recall.

You have asked FDA to recommend changes to this provision that would facilitate the importation of FDA-approved prescription drugs without undermining the public's safety. However, FDA believes that this provision affords the public an important safeguard. As part of the FDA Modernization Act of 1997, Congress recently amended section 381(d)(1) to include insulin, a non-prescription drug, within the prohibition on reimportation. FDA supported that extension because insulin is temperature sensitive and requires refrigeration. Adverse storage conditions during international transport could cause the drug to become subpotent, could compromise the stability of the drug, or could cause physical changes in the drug, such as precipitation and clumping. Any of these changes could affect the effectiveness of the insulin dose administered to a diabetic patient.

These concerns apply also to prescription drugs, since handling and storage conditions can affect the effectiveness of all drugs encompassed by 21 U.S.C. § 381(d)(1).

Question. The Prescription Drug Marketing Act of 1987 prohibits the re-importation of drugs produced in the United States to this country by anyone other than its manufacturer. I understand that the policy goals of this law were to prevent the counterfeiting, mislabeling, or adulteration of drugs sold to American consumers.

Are there other ways to achieve these same goals without curtailing competition?

Answer. The agency lacks the economic expertise to analyze the effect on competition of this law, or alternative formulations. Moreover, the agency does not have data on the volume of prescription drugs that are manufactured in the United States in accordance with an approved new drug application, but distributed outside the United States.

FSI FUNDING

Question. The budget request includes funding for the Food Safety Initiative in the amount of $79 million, including an increase of $30 million and 156 FTEs. Can you describe in more detail how funds will be used to develop a food safety net?

Answer. The $79 million is a total for the Food Safety Initiative and includes the $24 million increase in fiscal year 1998, the $25 million increase in fiscal year 1999, and the $30 million request for fiscal year 2000. I would be happy to proved additional information for the record.

Performance Goals for the Food Safety Program

Funding for the Food Safety Initiative will be used to develop a food safety net based on the following:

—The performance goals for the Food Safety Program represent major milestones in FDA's efforts to achieve significant improvements in the safety of the Nation's food supply.

—Each of the performance goals is tied to one or more of the six elements identified in the President's Food Safety Initiative as being critical to efforts to improve the safety of the Nation's food supply. These six elements are improved foodborne disease surveillance, improved interagency coordination on responses to foodborne illness outbreaks, increased food safety education, improved compliance monitoring, effective risk assessment techniques for microbial pathogens, and improved techniques for pathogen detection, control and prevention. Moreover, the activities reflected in the performance goals are designed to help the Agency improve its ability to address food safety issues that currently pose significant threats to the health and well being of American consumers. These threats include emerging pathogens, bacterial toxins contamination, poor food handling practices in the home and retail establishments, and uninspected imported foods, especially fresh fruits and vegetables. By the year 2001 it is expected that data generated by foodborne disease surveillance will be adequate to establish baselines against which FDA and other federal agencies can begin to assess the impact that their programs are having on reducing the number of foodborne illnesses that occur annually.

—Additionally, benefits gained in terms of improving the safety of the food supply from NARMS in the past are multiple: NARMS has made contributions to food safety when CDC provided information to public health departments on the presence, in specific areas of the country, of Salmonella typhimurium DT104,

a multi-drug resistant pathogen identified by NARMS; the NARMS report has been utilized by food animal producers to identify problems associated with drug resistance in some food animal populations; NARMS has also been a source of well characterized isolates from food animals for researchers developing rapid assays to identify human pathogens in food, such as the Salmonella typhimurium DT104 rapid assay announced by the Secretary of the Department of Agriculture. Benefits to be gained in the future in terms of improving the safety of the food supply from increasing the numbers of isolates tested in NARMS are: 1) an increased ability to detect outbreaks of food-borne disease early in an outbreak and earlier recall of adulterated products preventing exposure of larger proportions of the population, 2) improved ability to identify the source of resistant human food-borne pathogens, 3) improved characterization of the magnitude and type of resistance in food animal populations to be used in policy development and risk assessments and 4) improved capability to determine the magnitude of resistance transfer in food-borne pathogens.

—The research conducted will facilitate our ability to determine the contribution of animal feeds to the development of antibiotic resistance in food-producing animals. Information strategies can be developed to reduce the level of pathogens in animals feeds, thereby reducing the exposure of food-producing animals to pathogens and will provide the basis for the development of strategies to reduce the pathogen load in food-producing animals, which contributes to the persistence of resistance pathogens.

Question. How does this program compliment and support the recommendations of the President's Council on Food Safety/National Academy of Sciences Report to develop a comprehensive national food safety plan?

Answer. I would be happy to describe this compliment for the record.

In the May 1997 report—"Food Safety From Farm to Table: A National Food Safety Initiative", the food safety agencies made a commitment to prepare a 5-year comprehensive strategic plan, with the participation of all concerned parties. On August 24, 1998, President Clinton signed an Executive Order to create the President's Council on Food Safety, giving the responsibility for the development of a comprehensive strategic plan for federal food safety activities to the Council. The Council will develop a comprehensive plan to improve the safety of the nation's food supply by establishing a science-based food safety system. The plan will address the steps necessary to achieve this improved system, focusing on key public health, resources, and management issues that include measurable outcome goals.

The National Academy of Sciences report, "Ensuring Safe Food From Production to Consumption," made the following recommendations. Following each recommendation is a statement indicating how FDA is already involved in addressing these concerns.

—Recommendation One: The food safety system should be based on science. FDA provides numerous examples where this is already the case, including the development and implementation of the FoodNet and PulseNet systems for surveillance and identification of foodborne pathogens and the implementation of new science-based inspections of seafood. FDA has also identified areas that should be strengthened such as improving the ability to assess health risks from pathogens in food.

—Recommendation Two: Federal statutes should be based on scientifically supportable risks to public health. The President's Council on Food Safety, of which FDA is a part of, will call on Congress to work with it to create scientifically-based statutes to promote food safety. The Council will conduct a thorough review of existing statutes and determine what can be accomplished with existing regulatory flexibility and what improvements will require statutory changes.

—Recommendation Three: A comprehensive national food safety plan should be developed. The first steps to lay the groundwork have already been taken, the food safety agencies have participated in interagency strategic planning sessions and drafted a vision statement encompassing the agencies' vision for the U.S. food safety system and the roles of all those involved in food safety.

—Recommendation Four: A new statute should be enacted that establishes a unified framework for food safety programs with a single official with control over all federal food safety resources. The Council supports the goal of a unified framework for food safety programs and will conduct an assessment of structural models and other mechanisms to strengthen the federal food safety system through better coordination, planning, and resource allocation.

—Recommendation Five: Agencies should work more effectively with partners in state and local governments.

The Council, of which FDA is a part, held four public meetings (October—December 1998) to engage consumers, producers, industry, food service providers, retailers,

health professionals, State and Local governments, Tribes, academia, and the public in the strategic planning process.

The base of the Food Safety Program encompasses Surveillance, Research, Risk Assessment and Education. This base lays and strengthens a strong scientific foundation for a nationally integrated food safety system. The system begins with identifying pathogenic microorganisms in animals, conducting HACCP surveillance activities at slaughter facilities, and monitoring activities to prevent or contain outbreaks of food-borne illness. Antimicrobial resistance fits into all aspects of the foundation—surveillance, research, risk assessment and education due to the use of antibiotics in food-producing animals for therapy and growth promotion purposes. The Animal Drugs and Feeds portion of FSI focuses on developing and expanding the National Antimicrobial Resistance Monitoring System (NARMS) as a surveillance tool that will enable us to detect emerging resistance and take appropriate public health action in response. This will allow us to target education on proper use of antimicrobials, conduct research to develop a better understanding of the mechanisms of the transfer of antibiotic resistance among bacteria, and carry out risk assessment to identify the level of antibiotic resistance that poses public health risk and to direct resources to minimize those risks.

The Food and Drug Administration is in constant communication with other federal food safety agencies to ensure that proper surveillance and research activities are being undertaken and to reduce the level of duplication to a minimum. NARMS, which was established in January 1996, is a collaborative effort among the FDA, USDA, and CDC which was initiated in response to public health issues associated with the approval of fluoroquinolone products for use in poultry. We also work very closely with USDA on research related activities. Scientists from USDA were actively involved with the development of our research plans, in large measure to avoid duplication of effort. In addition, scientists from FDA participated in the planning activities of these same agencies. This process has continued to keep the other agencies apprised of our ongoing activities as well as their activities, explore areas for collaborative research efforts, and be able to respond to changing research needs and priorities.

Question. Explain in detail your partnerships with Federal and state departments of agriculture and health on food safety.

Answer. A national, rapid, effective response to foodborne illness outbreaks requires a coordinated effort that crosses agency lines, while recognizing the unique statutory responsibilities of each federal, state, and local agency involved. This requires agreement about roles and responsibilities of public health officials at all levels and the most expeditious manner of operating within those parameters in responding to outbreaks, collecting epidemiologic data, and quickly initiating traceback investigations.

From the outset of the President's Food Safety Initiative, the Administration has recognized the need for strengthening partnerships between Federal agencies and State and local public health agencies. In the first two years of the Food Safety Initiative, additional funds were provided to improve coordination between all agencies involved in the food safety system. Within the framework of the initiative, additional funds helped establish the successful working relationships for implementing FoodNet, PulseNet, NARMS, Foodborne Outbreak Response Coordinating Group-FORC-G-, the Risk Assessment Consortium, and the Partnership for Food Safety Education. In addition, Food Safety Initiative funds have enabled food safety agencies to provide training and materials to State and local agencies for expanding and improving their on-going inspection and compliance capabilities, food safety education efforts, and foodborne illness surveillance capabilities.

Great progress has also been made by cooperative Federal agencies in implementing HACCP systems for seafood, meat, and poultry and a comprehensive initiative for ensuring the safety of fruits and vegetables. Other efforts include the coordination of activities for ensuring the safety of food during transportation and at the retail level. These are complex issues involving numerous Federal, State, and local officials. The partnerships established and strengthened under the President's Food Safety Initiative have contributed to the ability of Federal food safety agencies to leverage resources, avoid duplication, and provide the basis for an integrated and seamless food safety system. Additional partnerships will be formed with the states to increase the number of high risk, non-meat and poultry, food inspections and to enhance the capabilities of states to improve food safety at the retail level.

In September, 1998, representatives of food safety agencies from all 50 states, Puerto Rico, and the District of Columbia met with HHS and USDA in Kansas City to discuss how federal, state, and local food safety activities could be better integrated to provide a more effective and efficient food safety system. The State representatives strongly support the concept of a nationally integrated food safety sys-

tem building on the current Federal-State partnerships. The 2000 budget proposal includes funds for HHS, with USDA, to accelerate their planning with the states, including opportunities for public input, so as to be fully prepared to begin implementing such a system. To further foster progress toward a seamless, science-based food safety system, the 2000 budget includes funds to enable USDA and HHS to develop stronger ties with State food safety agencies.

USDA is currently providing the training and equipment necessary for State personnel in the 25 State meat and poultry inspection programs to assure that State programs implement meat and poultry HACCP requirements that are 'at least equal to' the Federal program of continuous inspection. Providing the 25 State meat and poultry inspection programs access to Federal computer networks will facilitate the coordination of inspection coverage between the two programs and ensure a consistent approach to inspection and an efficient allocation of resources. In addition, legislation will be proposed to authorize the Secretary of Agriculture to enter into Federal-State cooperative agreements that provide for State meat and poultry inspection programs to enforce Federal meat and poultry inspection laws and regulations with their State as part of a seamless national inspection program. Products shipped under such new Federal-State cooperative agreements would be permitted to enter interstate commerce.

Another major aspect of the 2000 budget proposal is to significantly increase HHS efforts to coordinate its Federal inspection responsibilities with State and local agencies. Through grants, contracts, and other mechanisms, FDA will utilize State-conducted inspections to increase the frequency of coverage for domestic firms. With the additional resources, HHS estimates that a combination of Federal and State inspectors will be able to reduce the existing inspection cycle from once seven years for any particular establishment to a risk-based approach that enable highest risk operation to be inspected once a year.

Encouraging the use of preventive control measures, such as HACCP and the Food Code, by the retail food industry will be the third major focus of cooperative federal-state activity. HHS and USDA, have worked, through the Conference for Food Protection, a forum for all stakeholders to have input into the code development process, with the states to promote use of safe practices in retail food operations and adoption of Food Code provisions, including HACCP. The Food Code is a model that provides scientifically sound technical and legal basis for regulating the retail segment of the food industry. It is the Federal government's best advice on a comprehensive system of regulation to ensure food in restaurants, retail food stores and institutional establishments is safe.

The target audience of the Food Code is the 75 State and territorial agencies and over 3,000 local agencies directly regulating over one million retail operations. In fiscal year 2000, the agencies will continue to work with and provide training, assistance, and resources to improve the safety of food products at retail.

DHHS, with the assistance of USDA, will also work cooperatively with foreign governments to evaluate foreign food production and inspection systems. Under the initiative, DHHS and USDA will increase the number of international arrangements for assuring food safety to facilitate the mutual understanding of the risks associated with foreign products, exclusive of meat and poultry, and the control measures necessary to reduce those risks. FDA will also follow-up on foodborne illness outbreaks associated with imported products and work toward equivalence determinations for other countries.

FDA in collaboration with CDC and USDA established and is expanding the National Antimicrobial Resistance Monitoring System, NARMS, to detect potential hazards through systematic collection, analysis and interpretation of antimicrobial susceptibility surveillance data. Seventeen state and local health departments, including CA, CO, CT, FL, GA, KS, Los Angeles County, MA, MD, MN, NJ, New York City, NY, OR, TN, WA, and WV, submit human clinical isolates of non-typhoid Salmonella and E. coli and began submitting human S. typhi and Shigella isolates in January 1999. Campylobacter isolates are submitted by eight health departments and, in addition, MN, GA, MD and OR are submitting Campylobacter isolates from poultry retail samples. A pilot study involving these four states to monitor the resistance of human and poultry Enterococcus isolates to 27 antimicrobials began in 1998. Three veterinary sentinel sties were recently added to NARMS in the states of CA, WA, and NY. In addition, our Office of Research serves as a PULSENET laboratory, collaborating with the USDA laboratory at Athens, GA on Campylobacter samples and collaborating with USDA on molecular identification of Salmonella samples.

FDA provided USDA with a list of priorities for research funding by USDA. This is based on the fiscal year 1999 Appropriation directive that directs the USDA to consult with FDA regarding food safety research objectives of that agency and rec-

ommends that $5M of the funds provided for the food safety component of the National Research Initiative, USDA, be used to meet those needs.

FDA plans to develop an international database with WHO for food-borne organisms and susceptibility patterns, if funding will allow, to share information globally that will improve our ability to detect emerging pathogens and their resistance patterns.

Question. Part of the increase requested is to expand educational activities in preventing food borne illness for fruits and vegetables and seafood. In addition, FDA admits scientific knowledge in this area is lagging.

How will the requested increase be used to minimize food borne illness associated with fresh produce including seafood? How will the requested increase be used to minimize food borne illness associated with fresh produce including seafood?

Answer. Regarding fresh produce, we have determined that the most effective mechanism to promote use of the voluntary guidance is through education and outreach efforts by FDA and USDA. Efforts will be directed to growers and producers who supply produce to the U.S. market and be developed in cooperation with industry groups, state and foreign governments and trade organizations.

While we are not always able to identify the specific cause of contamination in many cases of foodborne illness, in most cases we know the potential sources of pathogens and can take steps to protect public health with regard to those sources. The guidance is based on current sound science and knowledge of the common pathways for pathogens on fresh produce, which include manure, water, workers, field sanitation, packinghouses, and transport operations. The guidance recommends well-accepted methods to minimize the potential for microbial contamination of fresh produce.

In addition, FDA and USDA are jointly accelerating the research outlined in the fiscal year 1998 President's Food Safety Initiative, to develop new technologies to more rapidly identify and eliminate or reduce levels of pathogens; developing research-based educational programs targeting producers, processors, handlers, and consumers; and assisting in providing guidance and procedures to reduce or eliminate contaminants; and with FAS, providing technical assistance to foreign countries, where appropriate, to improve the safety of their products.

Question. How does FDA propose to implement educational programs on production and processing for domestic and international producers to protect the public from food borne illness?

Answer. In order to develop credible and useful education programs, FDA is meeting with both domestic and foreign growers and producers of fresh fruits and vegetables to begin the process for determining how to develop an education and outreach program to address the Good Agricultural Practices "Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables." A National Food Safety Science and Education Conference was called for in the February 1998 "Initiative to Ensure the Safety of Imported and Domestic Fruits and Vegetables: Status Report to the President." In April 1999, two workshops were held. The first was geared toward growers and producers of fresh fruits and vegetables grown in the United States. The goals of the workshop were to enhance the coalition building process for those involved in implementing the "Guide"; determine education and outreach needs of growers and producers and the most effective and efficient methods of meeting those needs; identify research needs in support of implementation of the "Guide."

Attendees included extension specialists, growers, producers, buyers, processors, distributors, trade organizations, state and federal regulators, and educators who are involved in growing, harvesting, processing and transporting fresh fruits and vegetables.

The focus of the second conference, designed to harmonize with the domestic conference, began the process of determining how to develop an education and outreach program for growers and producers of fresh fruit and vegetables imported into the United States. Foreign and domestic scientific experts, foreign government agriculture and health officials, and industry representatives discussed applications of the guide. Representatives from donor organizations addressed infrastructure improvements needed to enhance food safety. Participants addressing goals similar to the domestic workshop, also identified key elements for a base training model on good agricultural practices for fresh produce and called for an alliance of government, industry and academia to address these training needs. An analysis of information gleaned from both conferences is currently underway and "next steps" are being determined.

On another front, a grant has been provided for development of a domestic curriculum covering the "Guide," which will serve as a basic core component course. Efforts are also underway to begin a database of available courses to be housed at

the FDA/USDA Foodborne Illness Education Information Center at the National Agricultural Library.

Question. How many outbreaks of food borne illness have occurred to date this year as compared to last year?

Answer. We will provide a chart for the record with the information we have been able to obtain.

[The information follows:]

	State	Onset date range	No. ill/ hospitalized	Number lab confirmed	Vehicle	Agent	Source comments
Salmonella Anatum in Orange Juice.	FL	Mid Jan—early Mar	4/?	4	Fresh Squeezed Unpasteurized Orange Juice.	Salmonella Anatum	Nokomis Groves (retail) No IS.
Salmonella Thompson	CA	Late Feb—Late Mar	>60/?	([1])	Unknown	Salmonella Thompson	Possible Mexican Restaurant connection.
WIC program Infant Formula-Vomiting, projectile vomiting, and diarrhea.	FL	Feb-present	?/?	0	Infant Formula	Unknown Samples being analyzed for B. cereus and Staph toxin, & Chemical Screen.	Nestle Carnation Many lots suspect.
Chinese Restaurant-Salmonella Enteriditis.	CA	Jan 99	?/?	?	Suspect Eggs	Salmonella Enteriditis	Isolate(s) confirmed as PT 4 and sent to CDC.
Party in Maryland-Salmonella.	MD (party)	Apr 17	25/?	12	Chicken salad	Salmonella	Same caterer in Delaware for all 3 events.
	MD (church)	Apr 16	2+/?	2		Group D	
Group D	DE	Apr 17	1/?	1		(not confirmed Enteriditis yet).	Same caterer in Delaware for all 3 events.
Infant Formula-Enterobacte r Sakazaki..	FL	Apr/May?	1/1	?	Similac with Iron	Enteroba cter Sakazaki	Unknown where organism isolated from (patient, pro-duct), FDA sample to be collected.

[1] Unknown.

QUESTIONS SUBMITTED BY SENATOR FEINSTEIN

MICROBIAL RESISTANCE

Question. What is the FDA's position on the proposal to ban or phase out the use antibiotics in animals if the same drugs are used by humans?

Answer. FDA is engaged in discussions to resolve questions about appropriate uses of antibiotics, and the Agency is very concerned about the ever-expanding antibiotic resistance in organisms that cause illness in humans. Our draft framework document, "Proposed Framework for Evaluating and Assuring the Human Safety of the Microbial Effects of Antimicrobial New Animal Drugs Intended for Use in Food-Producing Animals", sets out a conceptual risk-based process for evaluating the microbial safety of antimicrobial drugs intended for use in food-producing animals. This document has been released to the public and has been the subject of a great deal of appropriate public debate.

FDA has the authority under Section 512 of the Federal Food, Drug, and Cosmetic Act to withdraw approval of applications of new animal drug products, including antimicrobials, when certain conditions are met such as drugs shown to be unsafe under approved conditions of use. Sponsors of applications for such products must be given an opportunity for a hearing on the proposed withdrawal. Section 512 also gives FDA the authority to suspend an approval if the Secretary finds the drug poses an imminent hazard to the health of man or animals. In such cases, sponsors must be given an opportunity for an expedited hearing on the suspension. That section also gives FDA the authority to withdraw an approval through a notice-and-comment rulemaking process.

If FDA suspends or withdraws an approval, any product covered by the suspension or withdrawal that is subsequently offered for sale is considered adulterated and subject to seizure or other remedies.

Question. If the U.S. were to ban the animal use of antibiotics, what would be the impact on the price and quality of meat and poultry available for consumption?

Answer. For FDA to ban growth promoting antibiotics by withdrawing all current approvals would require the Notice of Opportunity of Hearing process. This process could take 3–5 years, if the process proceeds on a similar timeframe for previous withdrawals, hopefully giving the industry time to develop alternatives. A definitive answer would require a market analysis. In the absence of such an analysis, however, we estimate that the impact on price and quality would be minimal because of the time available for industry to develop alternatives.

Question. This proposal forces companies to prove that there is no risk to human health before new antibiotics are approved for animal usage. What steps is the FDA taking to address human resistance to existing antibiotics being used in livestock feed?

Answer. FDA's proposed framework document specifies that currently approved antimicrobials for food-producing animals will be addressed on a risk prioritized basis. Thus, if the framework is implemented FDA would place highest priority on evaluating those currently approved drugs that are classified Category I, those that are the same as or closely related to human antimicrobial drugs that are essential for treating a life-threatening disease or important for treating a food borne illness.

FDA has the authority under Section 512 of the Federal Food, Drug, and Cosmetic Act to withdraw approval of applications of new animal drug products, including antimicrobials, when certain conditions are met, such as drugs shown to be unsafe under approved conditions of use. Sponsors of applications for such products must be given an opportunity for a hearing on the proposed withdrawal. Section 512 also gives FDA the authority to suspend an approval if the Secretary finds the drug poses an imminent hazard to the health of man or animals. In such cases, sponsors must be given an opportunity for an expedited hearing on the suspension. That section also gives FDA the authority to withdraw an approval through a notice-and-comment rulemaking process.

Question. The proposal is currently in the "discussion" phase. What is your time frame to formally propose these guidelines and when do believe it can be implemented?

Answer. Based upon the increasing evidence that therapeutic and non-feed uses of antimicrobials in food-producing animals may select for resistant bacteria of public health concern, in November 1998, the Agency announced new guidance, number 78 in this area. The Agency stated that FDA now believes it is necessary to evaluate the human health impact of the antimicrobial effects associated with all uses of all classes of antimicrobial new animal drugs intended for use in food-producing animals. Following the publication of this guidance, the Agency developed another document entitled, "A Proposed Framework for Evaluating and Assuring the Human

Safety of the Microbial Effects of Antimicrobial New Animal Drugs Intended for Use in Food-Producing Animals". This document outlines proposed microbiological safety assessments for all food animal uses of antimicrobials but categorizes requirements based upon public health risks associated with the product use. It is imperative that FDA institute the principles outlined in the framework document as soon as possible to control the public health hazard from development of resistance in food-borne pathogens and their transfer to humans. Based on the comments received to the framework document, the Agency intends to revise guidance number 78 as soon as possible. FDA intends to provide the industry with guidance on how to conduct pre-approval studies which can be used to predict the development of resistance in food-borne pathogens.

The key component of FDA's overall strategy on antimicrobial resistance is a national surveillance program that monitors resistance among enteric pathogens in both animals and humans. This has already been implemented. In 1996, the FDA, the Centers for Disease Control and Prevention and the U.S. Department of Agriculture established the National Antimicrobial Resistance Monitoring System: Enteric Bacteria, NARMS, to prospectively monitor changes in antimicrobial susceptibilities of zoonotic enteric pathogens from human and animal clinical specimens, from healthy farm animals, and from carcasses of food-producing animals at slaughter.

ELECTRONIC SUBMISSIONS

Question. It is my understanding that the FDA is considering allowing applicants to electronically submit for approval drug labeling information. This would appear to significantly accelerate the approval process.

Is that true? If so, what is the status?

Answer. The initiative to enable electronic submission of New Drug Applications, or NDAs, began in August 1997—the effective date of the FDA's Electronic Records; Electronic Signatures rule, 21 CFR Part 11. In September 1997, CDER published the first edition of guidance enabling applicants to submit electronic patient Case Report Tabulations, CRTs and Case Report Forms, CRFs CRTs and CRFs represent 2 of 18 sections of an application and normally comprise 60–75 percent of the entire volume of a paper NDA. In January 1999, CDER published a second edition of "Guidance for Industry—Providing Regulatory Submissions in Electronic Format—NDAs" which enabled applicants to submit almost the entire NDA, including product labeling, in electronic format.

Since the inception of the electronic NDA program in September 1997, CDER has received the equivalent of over 10 million pages of NDA information in electronic format.

The electronic NDA program is the initial phase of a larger initiative within FDA called "Electronic Regulatory Submissions and Review", ERSR. The goal of the ERSR initiative is to develop processes to enable the electronic submission and review of all regulatory documents submitted to CDER by 2002. In addition to NDAs, it is expected that the electronic submission of many other types of regulatory filings will be enabled including Post Marketing Adverse Experience Reports, Investigational New Drug Applications, and Drug Master Files.

Question. If such a program were implemented, how much time and personnel could be saved and moved to other operations?

Answer. At the present time, the submission of electronic NDA information instead of paper filing, including product labeling, is voluntary. Our experience thus far shows us that electronic submissions have been favorably accepted by the drug industry. The number of electronic submissions versus paper submissions continues to rise and we expect this trend to continue as we continue to expand the program to include additional submission types.

It is tempting to focus on the potential for electronic NDAs to create cost savings and the opportunity to reprogram resources to other operations. But while we do expect cost savings, at this time the primary driving force behind the Electronic Regulatory Submissions and Review or ERSR program is to contain the historically growing costs to manage and store the volume of paper we receive, and, more importantly, to help reduce review time for important new drugs and make them available to the public without lowering the high standards of safety and effectiveness the public expects. CDER has been very successful in reducing review times over the past few years to meet performance goals established by the Prescription Drug User Fee Act, PDUFA, and now PDUFA II. ERSR will contribute to this by helping to reduce the time consuming administrative tasks during a review such as search time for reference information, eliminating manual creation of data sets for analysis,

quicker navigation through an application, and eliminating re-typing of text from applications.

REUSE OF SINGLE USE MEDICAL DEVICES

Question. FDA approves some devices for one-time or single use only such as endoscopes and catheters used in non-invasive surgery. These are difficult to clean and were never intended for reuse. But according to a March 22 article in Forbes magazines, some hospitals may be reusing some devices intended by the manufacturer and the FDA for one-time use. In my view, this practice, if it is occurring, raises questions of cleanliness and patient safety. The article cites a burgeoning reprocessing industry to serve hospitals.

What action is FDA taking?

Answer. FDA is carefully evaluating this practice and plans to increase our presence in this area. FDA and AAMI will co-sponsor a 2 day conference on May 5–6, 1999 in Crystal City, Virginia to look at a number of issues that exist regarding this practice including, ethical issues such as informed consent; regulatory or legal issues such as even handed regulation of manufacturers and reprocessors; scientific issues such as whether a device intended for a single use only can be safely reprocessed and reused; and economic issues such as whether manufacturers are labeling devices as "single use" for economic reasons only or whether there other reasons that they can not be reused. FDA is committed to working with the groups represented at the conference to resolve these types of issues and to ensure improved public health protection relative to this practice.

A FDA research team is evaluating the effect of cleaning procedures and sterilization procedures on the material and mechanical properties of materials likely to be in devices that are designated for single use but are known to be candidates for reuse by physicians and user facilities. The study initially focused on generic materials and then was extended to specific cardiac catheters such as balloon angioplasty catheters, electrophysiology catheters, and cardiac ablation catheters. These are devices that come in contact with blood. These catheters presented special problems in terms of complexity, e.g. many channels, narrow lumens, lumens closed at one end, and delicate materials and design. Data obtained to date suggest that cleaning and sterilization of these devices could be very difficult. The material properties and device performance can be affected by re-sterilization. Changes in device performance that may result from resterilization are model specific and a general statement cannot be made for all of the device models in a given category. It has been noted that minor changes in a given model have been observed to have potentially substantial effects on the ability to reprocess. These data will be considered carefully when CDRH makes its decision on how to address the issue of reuse of single use devices.

Question. Do you agree that this is in fact happening?

Answer. Yes, reprocessing of single use devices is occurring within both hospitals and clinics and in third party reprocessing facilities, who perform these activities at the request of the hospitals and clinics. The main reason that some hospitals state they have made the decision to reuse single use or disposable products is to cut hospital-operating costs. Capitation has reportedly had a significant impact on the need for hospitals to reduce costs whenever possible.

Question. Are you trying to determine if it is occurring?

Answer. FDA is aware that reprocessing and reuse of single use devices is occurring in hospitals and clinics. FDA inspects third party reprocessors and has been actively involved in evaluating an monitoring this practice for some time.

Question. What assurances can you give me that devices approved for one-time use will not be reused?

Answer. Some single-use medical devices are being reprocessed and reused. FDA's concern is and has been the safety and effectiveness of the reprocessed devices. FDA published a Compliance Policy Guide, CPG 300.500, several years ago that focused on hospital operations. That CPG stated that there is a lack of data to support the general reuse of single use devices. If an institution chooses to engage in this practice, the CPG stated that the hospital should demonstrate the device can be adequately cleaned and sterilized; the physical characteristics or quality of the device will not be adversely affected; and that the device remains safe and effective for its intended use. This CPG is still in effect.

TRAINING OF RESOURCES

Question. Some drug, device and biotech industry representatives have indicated that FDA personnel have difficulty getting and maintaining appropriate expertise

to review applications. This is understandable , particularly in the drug and biotech areas, where advances can be very rapid and complex.

What steps is FDA taking to ensure that FDA staff are knowledgeable so that they can adequately review applications?

Answer. We will be happy to provide the answer for the record.

FDA's Center for Drug Evaluation and Research, CDER, has a long established scientific education program, dedicated to ensuring that CDER reviewers stay abreast of their scientific fields. The science education program for CDER reviewers has been revitalized to include the following activities available on an on-going basis for all CDER reviewers:

—Committee for Advanced Scientific Education (CASE), focused on identifying and evaluating scientific education programs for CDER reviewers

—Weekly Scientific Seminars and Scientific Rounds, dedicated time each week for CDER reviewers to learn from invited guests, experts in their fields (in the seminars), as well as each other (Scientific Rounds) on topics specifically relevant to the Drug review process

—Development of CDER and reviewers/discipline core competencies. a program that has identified the critical tasks, knowledge, and skills required to do the job of a reviewer. We are now in the process of preparing learning paths with the information collected. These learning paths will be used to develop specific training programs for reviewers in areas critical to the drug review process

—Special seminars and workshops, such as the recent "Drugs and the Liver: What they do to each other" two-day workshop, especially relevant to the recent liver toxicity issues related to CDER work; as well as the "Genetics" workshop, a program co-sponsored with Pharma and BIO to introduce many new scientific concepts to CDER staff

—Targeted policy training programs designed to ensure that CDER staff understand and can apply the guidances and regulations for industry before they become final, such as the recent Pediatric Exclusivity training program where almost 500 CDER reviewers were trained in less than a month on a critical area.

We are also in the process of developing two additional programs for CDER: one dedicated to bringing academicians on sabbatical to CDER for a two to four week period to develop and deliver specific scientific courses, while working directly with CDER reviewers; the second dedicated to providing time for CDER reviewers to develop their expertise in a specific area and time to develop a course for their colleagues in that area.

In addition, many of our programs are videotaped, so that staff who are unable to attend the live program may review the video tape.

The Center for Biologics Evaluation and Research, CBER, developed a reviewer training program in 1993 with the advent of user fees, and hiring of large numbers of reviewers. The purpose of the training was to provide consistent information across the Center, in a forum where staff could hear the same information at the same time. The program was designed to provide the basic information required to perform a review of a biologics application. Over time, the program has gone through many iterations to include changes in processes, new regulations and guidances, and new ways of doing business.

The reviewer training program was developed by a curriculum committee comprised of office representatives who were involved in the review process. It included 9 major modules on the phases of review, including the overview of the regulation of biologics, investigational new drug applications INDs, product license applications, PLAs, establishment license applications ELAs, clinical aspects and good manufacturing practices GMPs. Over time, the GMP sessions were moved into the inspection training program as prerequisites to the inspection workshops.

In early 1998, based on requests from Center staff a new curriculum committee was established to develop the research/review model that was more specific in nature, and which impacted on the actual review. These programs included not only the basic regulatory issues but also the research issues that supported the regulatory review. Topics such as lot-release and surrogate endpoints have been delivered, as have been programs on the International Conference on Harmonization, ICH. In development are programs dealing with process validation, assay validation, and other manufacturing issues.

To ensure scientific expertise in biological product application review, CBER uses what is referred to as the "research/reviewer model." In this model, the application review personnel spend a portion of their time in research-related activities. CBER researchers are fully integrated into the application review process. CBER researchers participate in the following regulatory procedures: review of initial new drug applications, and product license applications; development of policy and guidance documents; meetings with sponsors and advisory committees; participation in pre-li-

cense and biennial inspections; and evaluation of adverse drug reactions and risk assessment.

In addition to formal reviewer training, computer-applications training is provided in order to receive and review submissions electronically. This includes the Agency standard Microsoft suite applications as well as JMP for statistical reviews, and Adobe Acrobat to read the electronic submissions.

CBER coordinates with the other Centers on programs of joint interest such as the Center for Devices and Radiological Health's FDAMA training for device reviewers and the Center for Drug Evaluation and Research's packaging guidance.

Regarding professional development, many of CBER's physicians participate in this program by working in clinics, labs and other health-care settings for a specified number of hours each year. The purpose of this participation is to both enhance their current skills, and to maintain state of the art knowledge of medicine.

TAMOXIFEN

Question. I have been told that tamoxifen may be listed as a carcinogen in the National Toxicology Program, in their 9th report, and that FDA has made a recommendation that it be listed in another pharmaceutical category which would create less alarm and could better convey the risks and benefits of tamoxifen. Some breast cancer advocates are concerned that listing tamoxifen in the carcinogen report could create great confusion.

Will the drug be listed in the carcinogen report? If so, why?

Answer. We agree with the concern that you raise. Whether or not tamoxifen will be listed in the Ninth NTP Report on Carcinogens is not the decision of the FDA. That decision will be made by Secretary of DHHS in consultation with the Director of the National Toxicology Program, NTP. We have appealed to NTP that if it needs to be listed, tamoxifen and other pharmaceutical agents be listed in a category by that name separate from other substances listed as carcinogens in the Report for the very reason that you state.

Question. Has FDA made a recommendation? If so, what was your recommendation? If not, are you planning to make a recommendation.

Answer. The FDA made a recommendation to NTP in a conference telephone call with myself and Dr. Friedman on April 20, 1999. The recommendation was that if tamoxifen is going to be listed in the NTP Report on Carcinogens, it should be listed along with other pharmaceutical agents in a category separate from non-pharmaceutical chemicals. This would emphasize the need to consider the benefits of drugs and the fact that substances listed under this heading have all undergone extensive review by the FDA prior to approval of their use as drugs. The pharmaceutical category should clearly and fully convey the potential benefits of the drugs. In the case of tamoxifen, for example, its use decreases the overall incidence of cancer in the indicated high-risk population.

TOBACCO ACTIVITIES

Question. Unfortunately, last year, Congress did not pass a tobacco bill and affirm FDA's jurisdiction over tobacco products. In my view, FDA should regulate tobacco products and discourage the use of tobacco.

What activities are you currently conducting?

Answer. In fiscal year 1997, FDA designed a pilot program and infrastructure to enforce the rule. The Agency, consistent with its practices in other areas, determined that it would commission state and local officials to enforce the federal rule—specifically to conduct unannounced visits to retailers using adolescents younger than 18, who would attempt to purchase cigarettes or smokeless tobacco. Initially, the Agency contracted for enforcement in 10 states. In fiscal year 1997, contracts were awarded to Florida, Illinois, Washington, Texas, Massachusetts, Colorado, Pennsylvania, Minnesota, Arkansas, and California. These states were required to conduct approximately 200 to 400 inspections per month. Compliance checks began in the first state in August 1997. These contracts resulted in approximately 20,000 compliance checks during the 10 month pilot program.

In fiscal year 1998, the Agency expanded its enforcement efforts and solicited bids from all 57 states and territories to contract with FDA to do compliance checks. By the close of fiscal year 1998, FDA had signed contracts with 43 states and territories totaling $16,382,912. Under these contracts, the states will conduct approximately 186,500 compliance checks by September 30, 1999. The average contract is approximately $390,000. With the signing of each new contract, FDA's headquarters or regional staff trains the designated state and local officials. Headquarter staff has also spent countless hours answering questions from tobacco retailers and providing technical assistance to the states.

All 10 states who participated in the pilot program, renegotiated contracts to continue doing compliance checks in their states. In at least two states, the programs had been so successful that the states chose to expand the initial limited coverage provided by the first contract. In Arkansas, for example, the pilot contract provided for compliance checks to be conducted only in and around Little Rock. Similarly, in Colorado, only a few counties were included in the original contract. In both cases, the subsequent contracts substantially increased the areas of the state that would be included in the investigations.

The existing contracts resulted in 39,439 attempted and completed compliance checks during fiscal year 1998, including reinspection of retailers found to have violated the rule. The Agency's legal staff devised and established the framework for the imposition of civil money penalties, sent out complaints, and negotiated or litigated contested cases. In fiscal year 1998, FDA began seeking civil money penalties from those found to have violated the rule's restrictions on sales to minors for a second time. In fiscal year 1999, FDA began investigations of retailers who have been found to have already violated the rule two times. The agency anticipates seeking civil money penalties for third violations within the first quarter of fiscal year 1999. A penalty schedule for violations of other portions of the regulation will be developed when these provisions go into effect.

In the second half of fiscal year 1998, the Agency contracted with Battelle Memorial Institute to study the tobacco program's business processes, outline the program's work flow and conduct a requirements analysis. From this requirements analysis, Battelle proposed a system design to automate the program's processes. In addition, Battelle presented a proposed plan to obtain and maintain a list of retailers selling tobacco in each state that would be more complete, accurate and user friendly than the lists constructed by the Agency during its first full year of operation.

Based on the design, Battelle has launched a multi-year effort to provide reliable retailer lists and an infrastructure designed to maintain the list and make it user friendly for FDA and for all contracting states. Battelle will also design and implement an information technology system which will automate all the program's various functions, including contracting, outreach, enforcement, compliance checks, litigation, collection of civil money penalties, etc. The new system will increase the efficiency of the program and will improve communications internally as well as with state contractors and with other stakeholders. The various system design components will be implemented incrementally as they are developed beginning in early 1999. The entire system should be operational by 2001. The amount dedicated to this multi-year project in fiscal year 1998 is $2.8 million.

In fiscal year 1998, the Agency designed a comprehensive outreach program designed to inform retailers and ensure compliance. This multi-faceted program consisted of advertising, direct mail, press events/materials, exhibits and speeches, and dissemination of materials requested via a hotline or mail order.

In fiscal year 1998, the Agency designed a multi-media advertising campaign, including radio, print, and billboard advertising. A free retailer kit using humorous illustrations and a folksy approach also was created to make it easier for retailers to comply with the new regulation. A series of focus group discussions were held with retailers, sales clerks, young people between 18 and 27, children ages 12 to 18, and the general public to test the advertising campaign and retailer kits. During fiscal year 1998, approximately 500,000 retailers kits were produced and sent to stores across the country.

FDA conducted a tracking study in 10 media markets to evaluate the effectiveness of the campaign. Findings indicate that awareness of the photo identification age provision rose dramatically from approximately one-third of retailers to more than one-half of all retailers. In addition, there was a three-fold increase in recall of the fine for repeat violations in the test markets. Further, in test markets, twice as many clerks used 27 as the cut-off age after the campaign compared to before the campaign. Importantly, retailers reported that minors were somewhat less likely to try to buy tobacco and retailers said that customers were less likely to be irritated when asked to show photo identification as a result of the advertising campaign. By the close of fiscal year 1998, the Agency had obligated approximately $12.5 million for outreach activities. This covers the costs of the paid advertising campaign as well as the printing and dissemination of nearly a half million retailer kits.

In 1997, $2 million (out of $4.9 million) went to state contracts to enforce the rule. In 1998, $16.4 million went to state contracts. In 1999, the Agency has allocated $22 million towards state contracts.

TOBACCO ACTIVITIES

Question. What is the status of court challenges to FDA's rulemaking on tobacco?

Answer. On April 25, 1997, the District Court in Greensboro, North Carolina, ruled that FDA has jurisdiction under the Federal, Food, Drug and Cosmetic Act (FD&C Act) to regulate nicotine-containing cigarettes and smokeless tobacco as drug delivery devices. The Court upheld all restrictions involving youth access and labeling and struck down, as unsupported by the statutory provision relied on by the Agency, the rules advertising restrictions. The Court stayed implementation of all provisions, except those involving age and ID, pending appeal. Appeal was taken and oral argument was held in August 1997 and reargued on June 9, 1998 in the Fourth Circuit Court of Appeals. On August 13, 1998, the Fourth Circuit issued its decision, finding the FDA's assertion of jurisdiction and issuance of regulations invalid.

On April 26, 1999, the Supreme Court granted FDA's Petition for a Writ of Certiorari that requested the Supreme Court to review the August 14, 1998 decision of the United States Court of Appeals for the Fourth Circuit. The granting of the petition continues a stay of the issuance of the Fourth Circuit's mandate while the Supreme Court considers this case. The FDA regulations prohibiting the sale of tobacco products to minors and requiring photographic identification for certain sales therefore remain in effect pending the Supreme Court's final decision.

Question. What role do you think FDA should play in assuring product safety and discouraging tobacco use?

Answer. FDA's final tobacco rule is expressly designed to discourage and reduce tobacco use by young people. This is the cornerstone of our regulation. The agency is also prepared to pursue research initiatives that address product safety issues, such as tar and nicotine delivery, and tobacco and pharmaceutical products that raise questions related to reducing exposure to and harm from tobacco products.

ON-LINE DRUGGISTS

Question. The February 15, 1999 Boston Globe ran a story saying that "the first major Internet pharmacy, Soma.com, went on line with a prescription service" and has "filled thousands of orders through a distribution center in Ohio." Others such as AARP and Merck-Medco also have online ordering.

Do you view this as a good development. Do you have any concerns about patient records privacy?

Answer. If online pharmacies and their pharmacists are appropriately licensed and comply with all applicable federal and state requirements, they can provide benefits to consumers. For example, they can provide increased competition in the retail market for prescription drugs, OTC drugs, and other health-related products. Such competition may result in increased services and convenience, and reduced costs to consumers.

However, online pharmacies that do not meet federal and state requirements that have been established to protect and promote the public health may impose considerable risks to consumers. These risks include questions about the authenticity, potency, and purity of the product sold to them.

In addition, if consumers are obtaining prescription drugs online without a prescription or are relying on the prescribing services of the online provider, they may be incurring significant risks. They may not be communicating complete and accurate medical information about their condition or the drug may not be appropriate because of other medical conditions or other drugs they are taking.

Although patient medical and prescription record privacy is an important consumer issue, FDA has no information about whether or how online pharmacies protect medical records. Those matters are generally regulated by the states.

Question. Does FDA has a role in regulating these "pharmacies"? Should you?

Answer. FDA does not generally regulate pharmacies. FDA regulates products and certain activities related to those products, particularly when carried out by or on behalf of a manufacturer, packer, or distributor. Under the Federal Food, Drug, and Cosmetic Act, FDA can take action against illegal promotion, such as labeling and advertising, of a prescription drug; illegal labeling of an over-the-counter drug; the importation, sale, or distribution of an adulterated or misbranded drug; the importation, sale, or distribution of an unapproved new drug; and the sale or dispensing of a prescription drug without a valid prescription. The States, however, have traditionally regulated the dispensing of drugs. Internet sites that carry out any of the above illegal acts are subject to regulatory action by FDA or the appropriate state agency.

DRUG TESTING

Question. Many groups charge that clinical trials for drugs have traditionally largely used the "white, middle class male model," and have not sufficiently used women, children, the elderly or minorities. In the case of women, I know women of childbearing age would be especially cautious and should be. However, participation is voluntary and on an informed consent basis. And yes, children do represent a special case.

Don't you agree that testing drugs only on men is not sufficient?

Answer. CDER's position is that testing of drugs only in men is not sufficient. The 1993 gender guideline entitled "Guideline for the Study and Evaluation of Gender Differences in the Clinical Evaluation of Drugs", clearly states that we expect drugs to be tested in the full range of people who are expected to use them. In addition, in the case of serious and life threatening diseases, the agency published a proposed rule in 1997 entitled "Investigational New Drug Applications; Proposed Amendment to Clinical Hold Regulations for Products Intended for Life-Threatening Diseases" that would permit us to put on clinical hold, that is, stop from proceeding, a trial that excluded either women or men based solely on their reproductive capacity.

Question. What steps have you taken and are you taking to require manufacturers to expand the pool of participants in clinical trials?

Answer. Two important steps have been noted above, the 1993 guideline and the proposed rule for which we are reviewing comments. In addition, we emphasize to our review divisions the importance of communicating and emphasizing our expectations at the critical meetings with industry that occur during drug development, such as end of phase 2 meetings. We also have a regulation that permits us to refuse to file, that is, not accept for review, any application that lacks appropriate subpopulation analyses. Finally, it is worth noting that we are nearing completion of a system that will permit us to track compliance with these regulations.

Question. The January 28 USA Today magazine reported, "According to FDA, voluntary compliance with 1993 guidelines encouraging the participation of women in trials has been insufficient." Why is that?

Answer. We believe, and our examination of internal data supports, that the Gender Guideline is an effective and appropriate means of promoting enrollment of women into clinical trials. In our response to FDAMA, we explained that after careful examination of all our guidance relating to enrollment of women and minorities in clinical trials our conclusions was that additional guidance is not needed. However, in those instances where the disease is life threatening and early access to any therapy may be critical, we wish to have the regulatory authority to place on clinical hold a trial that excludes either men or women solely on the basis of their reproductive potential.

QUESTIONS SUBMITTED BY SENATOR DURBIN

ORPHAN DRUG FUNDING

Question. What assurances do we have that the money appropriated for Orphan Drug Development will not be used for other purposes by the FDA ?

Answer. FDA's history has been to fund orphan grants. This is shown in recent budgets and committee documents in prior years, by a steady level of funding for the grants program despite the Agency having to absorb payroll cost increases. This steady level of funding for the orphan drug program has been at the expense of other programs. This past year, FDA had to absorb additional cuts and asked the orphan drug program to take a proportional share of these reductions to meet the increase needed for payroll. It is not expected that this will be necessary again next fiscal year.

Question. Rare diseases have very little opportunities for development of drugs to treat them. Therefore, the funds appropriated for the Orphan Drug Development are very important for patients with rare diseases who have nowhere else to turn for cures. As I stated at the hearing, Senator Cochran and I engaged in a colloquy urging FDA not to cut Orphan Drug Development funds. What has FDA done to address this colloquy ?

Answer. FDA agrees that the Orphan Drug Development program is important and is striving to maintain the orphan drug program and the current level of appropriated dollars and FTE.

MEDGUIDES

Question. Easy to understand information on correct drug usage and inappropriate drug usage is very important to consumers. What is the time-line for FDA's implementation of the Medguide rule for those products that pose a significant public health risk if misused ?

Answer. The rule that will require that products posing a serious and significant public health concern necessitating distribution of FDA-approved patient labeling called "Medication Guides" was published on December 1, 1998, and will become effective June 1, 1999. After June 1, FDA will notify manufacturers with affected products that they must draft and submit for FDA review, patient labeling as specified in the rule. We expect that the vast majority of these products will be identified at the time of initial submission for approval, and we anticipate using the rule to require FDA-approved Medication Guides for only a small number of products currently being marketed. Once a product's Medication Guide is approved, it will be required to be distributed to patients along with the product.

FDA's Center for Drug Evaluation and Research is currently drafting an internal process guide for reviewers to help ensure that products that pose a "serious and significant public health concern" are expeditiously identified and a draft Medication Guide is submitted. In the meantime, an interim process has already been put in place in recognition of the June 1, 1999, effective date of the rule.

RE-USE OF SINGLE USE MEDICAL DEVICES

Question. The unauthorized re-use of medical devices that were designed for a single use may pose a significant threat to public health. Given that there is little documentation of the re-use of products, how does the FDA propose to track infections or injuries that may result from the inappropriate re-use of single use devices ?

Answer. FDA has an established regulation, Medical Device Reporting under 21 CFR Part 803, for the reporting of adverse event reports for all medical devices. FDA will continue to use this system for tracking infections, injuries and other adverse events reported by manufacturers and users involving the reuse of single use devices. Reports have been received where reuse was indicated but the information obtained to date has been insufficient to demonstrate that the reprocessing of a single use device has caused a reported adverse event.

FDA recognizes the need to continually educate manufacturers and users about the Agency's adverse event reporting requirements and types of events that need to be reported. FDA will also enlist the cooperation of other organizations to obtain reuse experience data. FDA is currently working with the Health Care Financing Administration to include questions about device reuse during HCFA inspections of user facilities.

Question. Should patient consent be sought when a medical facility seeks to use a secondhand device on that patient?

Answer. While most patients would probably choose a new device over a reprocessed one if given the choice, physicians frequently make choices for their patients without consulting them. These choices are made in an effort to administer the most effective medical care for the patient and includes decisions such as the type of device to use, the particular application or use and duration of use of that device, the type and amount of drug or antibiotic to administer, etc. Physicians routinely review the patient's medical history, including allergies, to make these decisions and oftentimes do not obtain specific informed consent. Use of a reprocessed single use product may be safe and appropriate depending on the specific device, how and where it will be used, and other considerations, including cost. Although FDA does monitor informed consent on clinical research with FDA-regulated products, FDA does not regulate the practice of medicine.

Question. Does FDA have information on the efficacy of sterilization or reprocessing of these devices?

Answer. FDA has access to data and information for the resterilization and reprocessing of single use devices that are performed by third party reprocessing firms. These firms reprocess under contract with hospitals and clinics and they are inspected by the FDA under the Quality System regulation, 21 CFR Part 820. The inspections are broad-based and cover the firm's quality assurance activities from the receipt and handling of incoming materials to the final packaging, labeling and release of the device. The inspections are designed to determine whether the reprocessing activities are validated—that is to demonstrate that the processes employed do not adversely affect device materials or functionality. When significant deficiencies are identified, follow-up regulatory action is considered. FDA has little data on the efficacy of resterilization and reprocessing in hospitals because the Agency does not inspect those operations. However, to the extent that those operations

caused an adverse event in a hospital, user facilities are required to report those event to FDA.

A FDA research team is presently evaluating the effect of cleaning procedures and sterilization procedures on the material and mechanical properties of materials likely to be in devices that are designated for single use but are known to be candidates for reuse by physicians and user facilities. The study initially focused on generic materials and was later extended to specific cardiac catheters such as balloon angioplasty catheters, electrophysiology catheters, and cardiac ablation catheters. These are devices that come in contact with blood. These catheters presented special problems in terms of complexity, e.g. many channels, narrow lumens, lumens closed at one end, and delicate materials and design. Data obtained to date indicate or suggest that cleaning and sterilization of these devices can be very difficult. The material properties and device performance can be affected by re-sterilization. Changes in device performance that may result from resterilization are model specific and a general statement cannot be made for all of the device models in a given category. It has been noted that minor changes in a given model have been observed to have potentially substantial effects on the ability to reprocess. These data will be considered carefully when CDRH makes its decision on how to address the issue of reuse of single use devices.

Question. What does FDA view as their role in regulating reprocessors?

Answer. FDA is currently reviewing whether additional regulation or other oversight of reprocessing is needed. FDA will continue to work with groups represented at the FDA/AAMI Conference on Reuse of Single Use Devices to resolve outstanding issues and concerns and consider new regulatory approaches. One factor that needs to be carefully thought through are the costs and benefits of reprocessing on device users and patients.

Reprocessors are divided into two categories, in-hospital reprocessing and third party reprocessing. FDA has jurisdiction over both types of reprocessors. For in-hospital reprocessing, FDA currently provides no routine direct oversight; however, if a serious adverse event occurred in a hospital involving a device, FDA would typically conduct an investigation. Additionally, FDA does receive and monitor adverse event reports and may initiate follow-up activities at a hospital, distributor, manufacturer, or other facility, as needed. The user facilities doing the reprocessing are liable for adverse outcomes.

Third party reprocessing is currently regulated by FDA in the following way. Firms that reprocess single use devices are required to register their establishment with FDA, list the devices they reprocess, comply with the FDA Quality System regulation for the design, manufacture, testing, packaging, and release of those devices, report adverse events under the Medical Device Reporting regulation, and label their products appropriately as outlined in 21 CFR Part 801, Labeling.

QUESTIONS SUBMITTED BY SENATOR BYRD

GENERIC DRUG APPLICATIONS BACKLOG

Question. The Food and Drug Administration (FDA) is the responsible federal agency for implementing policies designed to protect the health of the nation against impure and unsafe foods, drugs, and cosmetics, as well as other potential hazards. Today, I have several questions regarding the Office of Generic Drugs, and the premarket Food Contact Notification program.

The generic drug industry, including Mylan Laboratories, Inc., headquartered in West Virginia, has alerted me that consumers and all purchasers of pharmaceutical products, including the federal government, could realize substantial savings if the FDA adhered to its statutory deadline for the Office of Generic Drugs (OGD) to review generic drug applications, known as Abbreviated New Drug Applications (ANDA), within 180 days.

Please provide me with a report on the backlog of pending generic drug applications in the OGD, and what actions are being taken to meet the statutory deadlines and reduce backlog?

Answer. The backlog of original applications under the old counting system, was 714 on March 31, 1999. Of the 714 applications, 154 had been pending with the agency longer than 180 days. We have now reduced the total time to approval. Many, but not all, of those initiatives do help the agency meet the statutory deadlines and reduce backlog.

Question. Please estimate the cost of the backlog to consumers and the federal government.

Answer. The Agency does not have the information to measure or estimate the cost of the backlog of pending generic drug applications to the consumer. FDA estimates that it would need approximately 105 additional FTE to review the generic drug applications within 180 days, thus alleviating the majority of the backlog.

With regard to the pre-market Food Contact Notification (FCN) program, the FCN provisions of the FDA Modernization Act of 1997 are intended to expedite introduction of advanced food packaging materials while assuring the protection of public health. FCN has a significant impact on the Kanawha Valley Union Carbide plant in West Virginia that develops food contact materials, and I have the following questions:

Question. The FDA reform legislation that Congress enacted in 1997 included a streamlined regulatory process for approving food contact materials. What is the status of the implementation of the new FCN program?

Answer. FDA was allocated $500,000 to develop guidance, regulations, and procedures necessary to implement the notification program for food contact substances should that program be funded in fiscal year 2000.

On March 12, 1999 FDA held a public meeting at which the agency shared its tentative plans for guidance and regulations and for the administration of the notification procedure. The agency requested comments at this meeting on the agency's tentative plans and on the draft documents that the agency will use as the basis for completing guidance materials for the notification program. FDA is currently reviewing the comments.

FDA expects to publish Federal Register documents in mid-summer 1999. The first will announce the availability of guidance for preparing notifications and guidance on the administration of the process. The second, to be published simultaneously, will propose regulations for the implementation of the process. The Agency is currently hiring critical personnel for the implementation of the notification process.

FDA has and is acquiring a capability to incorporate cutting edge science and technology into the review process that will facilitate the review of notifications for food contact substances, while concurrently developing an electronic workflow tracking system to track the progress of the review for notifications for food contact substances.

Question. The FDA Modernization Act authorized $3 million for the FCN program. In today's dollars, is this amount adequate to implement the FCN program as envisioned?

Answer. Secretary of DHHS submitted a cost estimate for the fiscal year 2000 Premarket Notification, PMN, program for food contact substances on April 22, 1999 to the Senate Appropriations and Health, Education, Labor and Pensions Committees. FDA calculated a cost of $6.04 million to fully operate the premarket notification program.

CONCLUSION OF HEARINGS

Senator COCHRAN. This is the final hearing in our committee's review of the fiscal year 2000 budget request for activities and programs that are funded under the jurisdiction of this committee.

We appreciate all Senators and staff who have helped in this effort to review the budget and to understand the request from the administration and to make sure that we provide the funds that are needed to carry out the statutory obligations of these agencies and this department.

We thank you all for your cooperation. The committee stands in recess.

[Whereupon, at 11:20 a.m., Tuesday, April 27, the hearings were concluded and the subcommittee was recessed, to reconvene subject to the call of the Chair.]

AGRICULTURE, RURAL DEVELOPMENT, AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 2000

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

MATERIAL SUBMITTED BY AGENCIES NOT APPEARING FOR FORMAL HEARINGS

[CLERK'S NOTE.—The following agencies of the Department of Agriculture did not appear before the subcommittee this year. Chairman Cochran requested these agencies to submit testimony in support of their fiscal year 2000 budget request. Those statements follow:]

DEPARTMENT OF AGRICULTURE

ALTERNATIVE AGRICULTURAL RESEARCH AND COMMERCIALIZATION CORPORATION (AARCC)

PREPARED STATEMENT OF ROBERT E. ARMSTRONG, EXECUTIVE DIRECTOR

Mr. Chairman and members of the Subcommittee. I am pleased to testify today on the President's fiscal year 2000 budget request of $10 million for the Alternative Agricultural Research and Commercialization Corporation (AARCC). It is a pleasure to provide you with an update on the Corporation's investment successes and the effect the AARC Corporation is having on the economy of rural America.

I would like to offer the subcommittee a short background on how we got to where we are today. Congress created the AARC Center in the Food, Agriculture, Conservation, and Trade Act of 1990, and reauthorized it in the Federal Agriculture Improvement and Reform Act of 1996 as a wholly-owned corporation of the Federal Government within the U.S. Department of Agriculture (USDA). AARCC's creation followed a 1987 report of the New Farm and Forest Products Task Force. The Task Force met for 2½ years and recommended developing and commercializing a wide array of new farm and forest products using the excess production capacity of American agriculture as a way to revitalize ailing segments of rural America. The Chairman of AARCC's Board of Directors, Jeff Gain, served on that Task Force.

The idea of using agricultural materials as the raw materials for manufacturing and commercializing the things of everyday life is not new. In fact, the motto of USDA reads: Agriculture is the Foundation of Manufacture and Commerce. That was written in 1862. In more recent times, the Chemurgic Council advocated for agriculture to be the supplier of our raw materials. The Council was established in 1935 under the leadership of Wheeler McMillen, with financial support from Henry Ford. Other notables on the Council included Thomas Edison, Irene du Pont, MIT President Karl Compton, Nobel Laureate and physicist Robert Milliken, General Motors Vice President Charles Kettering, and Sears, Roebuck & Company Board Chairman Robert E. Wood. The USDA's four regional research laboratories grew out of this effort and were built in 1938–1941 for the express purpose of finding new uses for farm products.

Many historical examples exist of efforts to use agricultural materials for the manufacture of non-food and non-feed products. George Washington Carver devoted his life's work to this effort. Henry Ford even built a car body from vegetable plastic

and plant fibers. Today we are beginning to see a move in Europe to a car that can be totally recycled. Across many industrial sectors we are seeing a move toward a bio-based economy. In fact, the head of a major oil company was recently quoted as saying that the world is entering "the last days of the Age of Oil."

The advantages of a bio-based economy are numerous, but three in particular are worth noting. First, such an economy uses agricultural materials that are domestically produced and annually renewable. I am certain the geopolitical and economic advantages of such a source of raw materials is not lost on the members of this Subcommittee. Second, unlike petroleum—our current main source of raw materials—it is not economical to ship bio-based raw materials long distances for processing and manufacturing. The processing and manufacturing must take place close to the source of the materials, and that means jobs in rural America. Finally, using bio-based materials means that at the end of a product's lifetime, it can be composted and used to grow the next year's supply of raw materials. Thus, an economy based on biology, instead of geology, takes full advantage of America's agricultural production capacity, provides jobs for rural America, and contributes to the well-being of the environment.

As you know, the AARC Corporation's mandate is to assist or invest in companies that are commercializing non-food/non-feed products , processes, or technologies that use raw materials derived from agriculture, forestry, or animal by-products. Through its investment activities, AARCC is a leading force in the effort to put America at the forefront of a global bio-based economy. Like any investment firm, AARCC measures its success through the success of the firms in which it has invested. AARCC also measures its success through the impact it has in rural America. Let's examine some of the factors AARCC uses to gauge its progress.

The return on investment (ROI) is a standard measure for any investment firm. In AARCC's case, it is of particular interest, because we have been entrusted with the public's money. Typically, a venture capital firm focusing on the type of start-up and early-stage companies that AARCC does, would not anticipate repayments beginning until 6 or 7 years after an investment was made. In AARCC's case, our business plan projects a minimum of $100,000 and a maximum of $300,000 in repayment by this point in time. By the end of fiscal year 1998, AARCC had received $450,911.65 in repayments. AARCC is ahead of its ROI projections.

Another important measure is the amount of private capital that AARCC is able to attract into its client firms. The legislation requires fifty cents of private money to be matched against every dollar of AARCC investments. The actual ratio we see is approximately $3.50 of private money for every dollar of AARCC investments. Thus, since AARCC began its investment activities, we have attracted approximately $130 million from the private sector into rural America.

The expanded use of agricultural land is an additional factor that AARCC considers when making investments. Each year, about 10 percent of America's agricultural production capacity is fallow. AARCC is helping to put that land back into use. Since 1993, we estimate approximately 250,000 acres have been put back into production to grow the raw materials used by AARCC companies to manfacture their various products.

The most important measure of all is job creation in rural America. It is also the most difficult number to determine as it involves both direct jobs in the companies, as well as indirect jobs in the broader economy. Using various approaches to calculate the number, we estimate that AARCC has contributed—both directly and indirectly—to the creation of approximately 7,500 jobs in rural America.

Finally, I want to discuss AARCC's efforts with other Federal agencies to help the government realize the promise of Executive Order 13101, Greening Government Through Waste Prevention, Recycling, and Federal Acquisition. Working through USDA's Bio-based Products Coordinating Council and the Office of the Federal Environmental Executive, AARCC helped develop language for the Executive Order that encourages Federal purchasing agents to use set-asides and references to procure both recycled and bio-based products. Many of the bio-based products available to government purchasing agents today are made by AARCC-supported companies.

In conclusion, on behalf of the members of the Board of Directors of the AARC Corporation, I respectfully ask the Subcommittee to support the President's budget request of $10 million. With adequate appropriations, AARCC can continue its move towards privatization—as directed in the Federal Agriculture Improvement and Reform Act of 1996—and be an engine for development in rural America.

Mr. Chairman, I would be pleased to answer any questions you or your colleagues may have about the AARC Corporation.

COOPERATIVE STATE RESEARCH, EDUCATION, AND EXTENSION SERVICE

PREPARED STATEMENT OF DR. COLIEN HEFFERAN, ACTING ADMINISTRATOR

Mr. Chairman and Members of the Committee, I appreciate the opportunity to present the proposed fiscal year 2000 budget for the Cooperative State Research, Education, and Extension Service (CSREES), one of four agencies in the Research, Education, and Economics (REE) mission area of the United States Department of Agriculture (USDA).

CSREES works in partnership with the land-grant university system, other colleges and universities, and other public and private research and education organizations, in concert with the Secretary of Agriculture and the intent of Congress, to initiate and develop agricultural research, extension, and higher education programs. These programs are carried out by land-grant universities and other partners.

This strong partnership has supported great successes that have far reaching impacts on our Nation, the food we eat, the environment in which we live, and the quality of life of our citizens. For example, land-grant researchers are rapidly developing vaccines for some of the nation's most dreaded livestock diseases. A Mississippi State researcher has developed a single-injection, inexpensive vaccine that is estimated to reduce poultry deaths resulting from coccidiosis by up to 80 percent. Composting and recycling have benefitted farmers and homeowners as well as municipalities, landfills, and other operations. Through the coordination efforts of extension specialists, 1.2 million tons of yard waste is kept out of California landfills annually. At the Virginia Polytechnic Institute and State University, the Crop and Soil Environmental Science Department experienced a tenfold student enrollment increase and a 100 percent job placement rate in the last 10 years, demonstrating the need for agriculture college graduates. New Mexico State University scientists have discovered a method for controlling the Colorado potato beetle, the potato's most destructive pest, by inserting a gene in the potato that acts as a natural beetle repellent but does not harm humans or animals. These are just four examples from a long list of accomplishments of our university partners. They illustrate the success of a strong Federal/State partnership focused on agricultural knowledge that addresses broader issues in production, rural communities, the agricultural system, the environment, and people.

The fiscal year 2000 budget proposes an increase of 2.6 percent in discretionary funds. As reflected in the proposed increases, CSREES is committed to three overarching themes in its fiscal year 2000 budget:

Targeting High Priority Programs.—CSREES' goal is to target high priority research, education, and extension programs to meet the shared goals of the Federal/State partnership. These priorities include programs in food safety and programs that expand outreach to minority-serving institutions and help producers meet requirements under the Food Quality Protection Act.

Expanding the use of competitively-awarded Grants.—Agriculture needs to attract the best scientists, extension agents, educators, and other professionals to address key agricultural problems. We believe that this is best accomplished through competitive programs that are adequately funded. The CSREES commitment to improving the science base for agriculture through competitive grants is reflected in the $81 million increase for the National Research Initiative (NRI). The increase will enable the NRI to attract more of the best scientists, including those just beginning their careers, from a large scientific community which remains eager to seek solutions for agriculture but which has been discouraged by funding uncertainties. The $81 million increase will provide the resources needed to enhance and develop scientific areas that are critical to agriculture today, such as agricultural genomics, food safety, environment and natural resource management, and competitiveness and profitability of agriculture. Experience has shown that a significant portion of competitively-awarded grants go to land-grant institutions. Providing additional funding through the NRI, as well as mandatory programs, such as Section 401 of the 1998 research act and the Fund for Rural America, and the new Integrated Activities programs, will result in a substantial increase to land-grant institutions.

Integration of Research, Extension, and Education.—The CSREES commitment to integrating research, extension, and education, is reflected in the integrated grant authority established in the CSREES budget in accordance with Section 406 in the Agricultural Research, Extension, and Education Reform Act (AREERA) passed by Congress in June 1998. An increase and redirection of $72.8 million is provided in the budget for integrated research, education, and extension activities related to small farms, water quality, food safety, improved pest control, and food recovery and gleaning. This integrated grant authority allows the agency to support programs

that solve problems through multifunctional research, extension, and education activities without the distinction resulting from separate legislative authorities for research and extension. This approach is expected to promote a stronger linkage between research, extension, and education to ensure that the knowledge and technology generated by research is delivered to the end-users, including producers, consumers, communities, and students. The Integrated Research, Education, and Extension Grants Program is a competitively-awarded program under which eligibility includes all colleges and universities to ensure diversity in problem-solving approaches.

In developing a budget around these themes, the recurring challenge to CSREES has been to ensure that its programs are responsive to national needs, as expressed by stakeholders and as reflected in Department and Administration priorities.

FISCAL YEAR 2000 BUDGET HIGHLIGHTS

Achieving sustained long-term improvement in the competitive position of United States agriculture relies critically on the Federal government's assurance that producers and marketers have access to the basic tools for success. Studies have shown that successful producers (farmers, ranchers, and foresters) are better educated, more apt to adopt new technology, have lower costs of production, and take better advantage of or have more opportunities for spreading production and marketing risk across alternative enterprises and mechanisms, than their less successful counterparts. The fiscal year 2000 CSREES Budget proposes $4 million for a Small Farms Initiative that will develop research, education, and extension programs in appropriate marketing strategies for small farms, business skills for small farmers, and help beginning farmers establish viable farm operations and enterprises.

Food safety is dependent upon a production system that is well-integrated into an environment that is as pathogen-free as possible, a food processing and handling system free of pathogen contamination, and an educated public to ensure that both producers and consumers know their role in providing for the safe production, handling, and consumption of food. Food security is dependent upon an efficient and productive agricultural system based on healthy crops and livestock. The fiscal year 2000 budget proposes $15 million for an integrated research, extension, and education food safety program in support of the President's Food Safety Initiative. This integrated program will focus on research to improve the safety of food products and education and extension programs to create a public that is more informed about food safety issues.

Increases are proposed also to support the development and application of new technology and management practices to replace the traditional pest controls that are at risk of being restricted or prohibited due to the Food Quality Protection Act of 1996 (FQPA). The budget proposes $10 million to support long-term development and implementation of innovative pest management funds for major acreage crops, fruits, and vegetables through an integrated research, education, and extension competitive grants program. A $3 million increase is proposed for the development of alternative pest controls for fruit and vegetable crops to replace pesticides at risk of not meeting the new FQPA requirements.

An additional $5 million is proposed for development of practical management alternatives and technologies for commodities affected by the methyl bromide phase-out now scheduled for 2005 under recent amendments to the Clear Air Act. These programs, in conjunction with increased funding for the Pest Management Alternatives, Minor Crop Pest Management, the Expert IPM Decision Support System, the Pesticide Applicator Training Program, and sustained funding for the Integrated Pest Management research and extension programs, will ensure a more safe and secure food and fiber system.

Establishing the scientific basis for optimal health, developing knowledge of the eating habits of Americans, and modifying food intake behavior are critical components to having a well-nourished population. An increasingly important component to having a well-nourished population is empowering our communities to build their capacities to meet a greater share of their food needs. The fiscal year 2000 Budget proposes a $15 million Food Recovery and Gleaning Program to improve methods of collection, transport and storage of recovered and gleaned food, to enhance the technical assistance and education network, to empower local communities to establish and administer food recovery programs, and to develop and extend knowledge about technical issues in food recovery such as food safety and volunteer development. An increase of $2.3 million above the 1999 level also is proposed for the Expanded Food and Nutrition Education Program (EFNEP) to support nutrition education programs aimed at meeting the need of undernourished segments of the population, especially children.

As a Nation, we increasingly value the environment—clean air and water, unique ecosystems, and pristine land. We recognize that, given the vast amounts of land being used in agricultural or forest production, we must ensure that our production practices, as well as our public policies and programs affecting these practices, are consistent with the dual objectives of promoting competitiveness while preserving natural resources and environmental quality. To achieve these goals, a better understanding of the complex interactions between agricultural production and the environment is needed. Water Quality is a serious national concern as reflected in the President's Clean Water Action Plan. We propose an integrated research and extension water quality program that will support projects to address such issues as the linkage between agricultural practices and outbreaks of harmful algal blooms, which can lead to conditions that cause massive fish-kills, human health problems, and significant economic losses to the seafood industry. An increase of $0.5 million is proposed in the Sustainable Agriculture Research and Education Program to expand the availability of scientifically sound and practical methods for farmers and ranchers to achieve profitability, environmental stewardship, and quality of life for families and communities.

Americans recognize that their quality of life depends largely on economic, physical, and institutional factors affecting their families, businesses, and communities. The fast pace of changes in these factors, and their increasingly complex interactions, present a growing challenge. CSREES in partnership with the land-grant university system, enhances the capabilities of individuals, families, and communities to improve their quality of life. The fiscal year 2000 budget proposes an increase of $1 million for the Children, Youth, and Families at Risk program to enhance child care programs for those segments of the population in greatest need, including limited resource families, isolated farm and rural families, and families needing child care during non-traditional hours, such as families of migrant farm laborers.

CSREES strategies to ensure responsive and effective management of USDA's extramural research, extension, and education programs include: strengthening the Federal/State partnership; integrating research, extension, and education activities as appropriate; improving information management systems which are accessed by both internal and external users; and participating in efforts to improve financial management within USDA. The fiscal year 2000 budget proposes an increase of $1 million for the Research, Education, and Economics Information System (REEIS). Increased funding will support the broad implementation of the system to enable CSREES and the REE mission area to meet the reporting requirements of the Government Performance and Results Act and facilitate implementation of the provisions of the Agricultural Research, Extension, and Education Reform Act of 1998.

In response to USDA Civil Rights Action Team recommendations to address disparities in funding and enhance the Department's cooperative efforts with institutions of higher education that are primarily devoted to the needs of minority students, a number of increases are included in the CSREES budget. An increase of $0.3 million is provided for the Hispanic Serving Institutions Education Grants program; an increase of $3.6 million is provided for the 1890 Institutions Facilities program; an increase of $1.4 million is provided for the Extension Services at 1994 Institutions program; an increase of $667 thousand is provided to establish a new 1994 Institutions competitive research program; and an increase of $3.3 million is provided for the Extension Indian Reservations Program. Additionally, eligibility under the new Integrated Authority programs is open to all colleges and universities, including the 1890 and 1994 land-grant institutions.

In addition to the increase for the Hispanic Serving Institutions Education Grants program, funding is provided for other higher education programs to continue ongoing efforts to support graduate and undergraduate education aimed at improving instructional capabilities in food and agricultural sciences.

The fiscal year 2000 Budget also includes mandatory funding of $120 million for the Initiative for Future Agriculture and Food Systems under Section 401 of AREERA for competitive research, education, and extension grants to address critical and emerging agriculture issues. Mandatory funding also is available under the Fund for Rural America, where approximately $30 million is to be provided for a wide range of research, extension, and education activities. The budget also supports funding for the Community Food Projects grants program at $2.5 million (supported with mandatory funds provided by the Food and Nutrition Service Food Stamp Program).

An increasing portion of Federal funds will be distributed competitively to address the most critical needs of the agricultural community and fund the most highly meritorious projects. The increases proposed for competitive programs are partially offset by decreases in formula funds and non-competitive projects slated for reductions

due to constrained budget resources. The additional flexibility provided in the Agricultural Research, Extension, and Education Reform Act where a portion of the formula funds can be used to support either research or extension projects, allows states more authority to use Federal funds in addressing their highest priority needs.

The advent of the 21st century finds us poised to meet the many challenges facing the food and fiber system. The President's fiscal year 2000 Budget Request for CSREES reflects the commitment of the Administration to further strengthen the problem-solving capacity of Federally-supported agricultural research, extension, and higher education programs.

DEPARTMENTAL ADMINISTRATION

PREPARED STATEMENT OF SALLY THOMPSON, ACTING ASSISTANT SECRETARY, ADMINISTRATION

Mr. Chairman and members of the Subcommittee, it is a pleasure to present the President's budget proposal for fiscal year 2000 for USDA Departmental Administration. I am currently filling a dual role as the Acting Assistant Secretary for Administration and as the Chief Financial Officer. As Acting Assistant Secretary for Administration, I will be discussing the central administrative functions of the Department including: human resource management, government ethics, procurement policy and property management, facilities construction and operations, small and disadvantaged business utilization, program and administrative outreach, administrative law and Hazardous Waste Management. Ms. Rosalind Gray, Director of the Office of Civil Rights, will submit a separate statement on the civil rights progress and activities at the Department of Agriculture. I will also provide the Subcommittee with a separate statement covering the Office of the Chief Financial Officer.

We appreciate the support provided by this Subcommittee in recent years that has allowed us to continue critical administrative operations and the additional funding to continue essential support to the Department's civil rights effort.

Departmental Administration conducts varied and diverse oversight and support to provide quality leadership and service to the USDA agencies that deliver programs and services to the public. To give some idea of the wide range of these responsibilities, here are just a few examples of our on-going activities.

GOVERNMENT ETHICS

During fiscal year 1998, the Department established the Office of Ethics to oversee a vigorous government ethics program in USDA. With close coordination with the Office of the General Counsel and the U.S. Office of Government Ethics, this staff office is reviewing the ethics programs throughout the Department to assure that an effective ethics program is maintained within each of the Department's mission areas. An ethics Web site which provides training information and financial disclosure forms has already been established.

WELFARE TO WORK

The Office of Human Resource Management has coordinated the Department's implementation of the President's Welfare to Work Initiative. As of December 1, 1998, USDA had hired 374 employees from the welfare rolls. As a result, we have already achieved the Department's goal for the year 2000.

WORKPLACE CONFLICT MANAGEMENT

During fiscal year 1998, we established a Conflict Prevention and Resolution Center in USDA headquarters. Through this office, we are working with the agencies to identify potential areas of employee conflict and to train employees and management personnel to recognize and deal with potentially dangerous situations. We are actively engaged in the President's Interagency Working Group on Alternative Dispute Resolution, and in December 1998 we issued the USDA Handbook on Workplace Violence which was distributed to all employees.

BRINGING RURAL AMERICA VENTURE OPPORTUNITIES—BRAVO

The Office of Small and Disadvantaged Business Utilization has initiated the Bringing Rural America Venture Opportunities program to increase the participation of American Indian owned businesses with USDA. The BRAVO initiative establishes partnerships among rural communities, Indian nations, 1890 institutions, The

Hispanic Association of Colleges and Universities, Native American educational institutions, small disadvantaged companies, private companies, and government organizations. Large technology companies currently doing business with USDA provide mentoring and support. Initial projects are focusing on establishing businesses to provide software development, maintenance and technical support for USDA. Employees are being recruited/trained from Indian Reservations and economically disadvantaged surrounding areas. Participating USDA agencies will direct a small percentage of already budgeted and approved software development contracts to support this initiative. The President has endorsed this program as a way of addressing equal employment opportunity for American Indians.

CONTINUITY OF OPERATIONS PLANNING

Last year the President assigned the Cabinet officers the responsibility for developing a comprehensive plan to assure that the capability exists to continue essential government functions in the event of localized or general disaster. We are developing the Continuity of Operations Plan which includes: emergency delegations of authority (where permissible and in accordance with law); safekeeping of vital resources, facilities and records; emergency acquisition of resources necessary to reestablish essential functions; and alternative work sites.

DEPARTMENTAL ADMINISTRATION BUDGET REQUEST

The fiscal year 2000 Budget request for Departmental Administration is $36,117,000 which is $3,949,000 more than the fiscal year 1999 appropriation. The primary elements of this increase are: $931,000 to strengthen and expand the leadership and coordination capabilities for the Office of Outreach and expand outreach activities to minority and limited resource customers; $1,639,000 for the Office of Civil Rights to continue efforts to correct past weaknesses and strengthen USDA civil rights activities; and $1,050,000 for mandatory pay cost including the Office of Civil Rights. Absorbing these pay increases would require cuts in the program areas put in place with the fiscal year 1999 appropriation.

OUTREACH FOR SOCIALLY DISADVANTAGED FARMERS

For fiscal year 2000, we are requesting $10,000,000 for grants and contracts to community based organizations and certain educational institutions to provide outreach and technical assistance to socially disadvantaged farmers. This is an increase of $7,000,000 over the amount provided in fiscal year 1999. The current program supports 27 community based organizations and land-grant colleges that provide technical assistance and training to approximately 8,700 participants, primarily low-income farmers and ranchers, with a service area of 394 counties in 21 states. Our outreach efforts included town-hall meetings, workshops, and farmer field day activities that reached more than 107,000 people. Where the program is available, it has been successful in reducing the rate of land loss among small, limited-resource farmers. The budget increase will allow eight additional entities and double the number of counties to provide technical assistance and training that will help reverse the decline in the number of minority farmers and ranchers. This increase would also fulfill the Civil Rights Action Team Report recommendation to fully fund this program.

AGRICULTURE BUILDINGS AND FACILITIES AND RENTAL PAYMENTS

The fiscal year 2000 Budget requests $166,364,000 for Agriculture Buildings and Facilities and Rental Payments. This is an increase of $29,180,00 including $21,000,000 for South Building modernization, $7,485,000 for increased rental payments to GSA, and a net increase of $695,000 for building operations and maintenance.

USDA STRATEGIC SPACE PLAN

In our efforts to help reduce costs associated with housing our Washington area employees, USDA is implementing a long term plan to consolidate USDA Headquarters into two government-owned locations which will provide modern and safe facilities as well as enhance program operations. The Plan includes the new USDA Office Facility at the Beltsville Agricultural Center in Prince George's County, Maryland, and the modernization of the South Building in downtown Washington, D.C. Construction of the Beltsville Facility is complete and occupancy began in January 1998. We anticipate full occupancy by the end of fiscal year 1999. The new complex is an award winning facility for energy savings. In addition, we are pleased to note that USDA will be receiving the 1998 Government Award from the National

Industries for the Severely Handicapped, due in great part to our contract with Melwood, a community rehabilitation program, to operate this facility. The contract provides employment for over 60 people and is the first of its kind. It will provide new opportunities for the disabled in non-traditional careers such as building engineering.

The South Building is over 60 years old, eligible for listing on the National Register of Historic Places, and in dire need of repair and renovation to make it safe, efficient, and functional. The required renovation work includes fire protection systems; abatement of hazardous materials such as asbestos, PCB light fixtures, and lead paint; replacement of old, inefficient heating, ventilation and air conditioning systems for improved energy conservation and air quality; upgrade of electrical and plumbing systems; improved accommodations for disabled persons; and accommodation of modern office telecommunications systems. Construction of Phase 1—interior reconstruction of Wing 3—began in September 1998. The fiscal year 2000 funds are requested for the construction of Phase 2—interior reconstruction of Wing 4. The design for Phase 2 has been substantially completed so that a construction contract can be awarded as soon as funds become available.

HAZARDOUS WASTE MANAGEMENT

The Department requests $22,700,000 for the Hazardous Waste Management Program, an increase of $7,000,000 over the fiscal year 1999 level, to meet the minimum needs of the Comprehensive Environmental Response, Compensation and Liability Act; the Resource Conservation and Recovery Act; and related state and local laws. We must meet the challenge of cleaning up contaminated lands under USDA's jurisdiction. Our prior year activities generally concentrated on identifying contaminated sites, assessing the problems, and developing cleanup strategies. We are moving out of the investigation phase of these sites and conducting more complex and costly response actions. We have more than 2,000 contaminated sites remaining to clean up and restore. These remaining sites tend to be the most costly. For example, the cost of cleanup of problems caused by other responsible parties on facilities and lands that we manage, including abandoned mines and landfills, is estimated to exceed $2 billion. If we do not ensure that these sites are cleaned up in a timely manner, the potential for fines, penalties and law suits could rapidly exceed the cleanup.

CONCLUSION

Mr. Chairman and members of the Subcommittee, this concludes my statement on the Departmental Administration budget for fiscal year 2000. I want to reiterate our appreciation for the strong support which this Subcommittee has given us.

ECONOMIC RESEARCH SERVICE

PREPARED STATEMENT OF SUSAN E. OFFUTT, ADMINISTRATOR

Mr. Chairman and members of the Committee, I am pleased to have the opportunity to present the proposed fiscal year 2000 budget for the Economic Research Service.

MISSION

The Economic Research Service provides economic and other social science research and analysis on efficiency, efficacy, and equity issues related to agriculture, food, the environment, and rural development to improve public and private decision making.

BUDGET

ERS's appropriation for 1999 of $65.8 million consists of the 1997 appropriation level ($53.1 million), an increase of $12.2 million to evaluate food stamp, child nutrition, and WIC programs, and an increase of $.5 million to estimate the benefits of food safety. This appropriation was adjusted to $64.9 million with the move of Office of Energy to the Office of the Chief Economist. ERS continues implementation of its streamlining strategy and plans to maintain staff in 1999 at its current level of 525 full-time equivalents. ERS continues to make full use of early-out and buy-out authorities. In the future, ERS must manage its staff levels to maintain its non-salary program of agricultural data purchases and cooperative university research necessary to support its analytical program.

The agency's request for 2000 is $55.6 million, a net decrease of $9.3 million from the adjusted 1999 appropriation. The net decrease consists of seven parts: a $.9 mil-

lion increase for enhancing commodity market analysis; a $.7 million increase for a study on carbon sequestration; a $.3 million increase for the U.S. Global Climate Change National Assessment; a $.5 million increase for estimating the benefits of food safety; a $.3 million increase to meet the analytical information needs of small farmers, niche marketers, other casualties of an industrializing agricultural sector; a $.2 million increase to assess the potential impacts of electric utility deregulation; and a $12.2 million decrease for evaluations of food stamp, child nutrition, and WIC programs. Funding for these evaluation studies in 2000 is included in the Food and Nutrition Service (FNS) budget.

ERS CONTRIBUTIONS TO MISSION AREA GOALS

ERS shares five general goals with its fellow agencies in the Research, Education, and Economics mission area: a highly competitive agricultural production system, a safe and secure food supply, a healthy and well nourished population, harmony between agriculture and the environment, and enhanced economic opportunity and quality of life for all Americans. These goals are fully consistent with the U.S. Department of Agriculture mission.

Goal I: The agricultural production system is highly competitive in the global economy.

ERS helps the U.S. food and agriculture sector effectively adapt to changing market structure and post-GATT and post-NAFTA trade conditions by providing analyses on the linkage between domestic and global food and commodity markets and the implications of alternative domestic policies and programs on competitiveness. ERS economists analyze factors that drive change in the structure and performance of domestic and global food and agriculture markets; provide economic assessments of competitiveness and efficiency in the food industry; analyze how global environmental change, international environmental treaties and agreements, and agriculture-related trade restrictions affect U.S. agricultural production, exports, and imports; and provide economic analyses that determine how fundamental commodity market relationships are adjusting to changing trade, domestic policy, and structural conditions. ERS will continue to consider how the potential for increased commodity price and farm income variability affects market performance and interacts with Federal policies and programs. These analyses will include short- and long-term projections of U.S. and world agricultural production, consumption, and trade. ERS has increased the frequency of reporting on commodities' outlooks, even as it endeavors to strengthen the analysis that leads to an understanding of reported observations. In addition, ERS will continue preparation for the new World Trade Organization round (that will include agriculture) by analyzing the economic effects of Uruguay Round policy disciplines; assessing the economic effects of state trading and tariff-rate quota allocations; and assessing regional trade initiatives. In this latter category, ERS experts will take a more in-depth look at China's evolving role in world agricultural markets. ERS will conduct research on the changing structure (for example, vertical integration, concentration, and contracting) of the food marketing chain and will also analyze the effectiveness and use of alternative marketing strategies and risk management tools in mitigating farm income risk, including tools available from both private and public sector providers.

ERS analyses can help guide and evaluate resource allocation and management of public sector agricultural research, a key to maintaining increases in productivity that underlie a strong competitive position for U.S. farmers. ERS economists track and endeavor to understand the determinants of public and private spending on agricultural R&D; evaluate the returns from those expenditures; and consider the most effective roles for public and private sector research entities.

Enhancing Commodity Market Analysis

The request for an increase of $854,000 in fiscal year 2000 is to assure continued Agency strength in and sufficient capacity for commodity outlook analysis. Principal means for obtaining this assurance will be through the development of strategic alliances with Land Grant universities and other public institutions performing commodity market analysis, and improvement of the breadth, ease, and timeliness of access to USDA commodity market data and information. These plans preclude the development of information gaps or limited access to private market data and analysis as barriers to efficient production and marketing decisions by American farmers, marketers, or traders.

Information Needs of Small Farmers

Because small, limited resource, and socially disadvantaged farmers are particularly dependent on publicly disseminated market data and information, it is critical

for the efficient functioning of the entire American sector (not just the largest operations) that any differences in the nature of information most useful to strategic decision making by small and larger, more advantaged farmers be well understood by the public providers of commodity market analysis. The request for a one-time increase of $350,000 will assure that ERS has this knowledge by funding a study to discover the unique information needs of unique and disadvantaged groups in the American agricultural sector. Increasing the capacity to meet these unique information needs is supportive of the small farm initiative.

Goal 2: The food production system is safe and secure.

ERS focuses on improving the efficiency and effectiveness of public policies and programs designed to protect consumers from unsafe food by analyzing benefits of safer food and the costs of food safety policies; efficient and cost-effective approaches to promote food safety; and how agricultural production and processing practices affect food safety, resource quality, and farm workers' safety. This research helps government officials design more efficient and cost-effective approaches to promote food safety. Specifically, the ERS research program provides detailed and up-to-date appraisals of the benefits of safer food, such as reducing medical costs and costs of productivity losses from foodborne illnesses caused by microbial pathogens. In addition, ERS has undertaken new research on the costs to industry and consumers of alternative food safety policies, including assessment of the distribution of costs across the food industry and across demographic groups.

Understanding how food prices are determined is increasingly important in responding to domestic and international market events and opportunities that promote the security of the U.S. food supply. As the farm share of the food dollar declines, accurate retail price forecasts depend more heavily on understanding the marketing system beyond the farmgate. ERS systematically examines the factors that help set retail prices, including an assessment of the roles of the transportation, processing, manufacturing, wholesaling and retailing sectors, the impact of imports and exports, and linkages to the total economy.

Food Safety Risk Assessment Initiative

A project to assess the risks and benefits of pathogen control options is proposed for fiscal year 2000 at $453,000 as part of the President's Food Safety Initiative. A fundamental barrier to evaluating food safety programs and policies is imperfect knowledge about the sources of risk along the food chain and how these might be addressed by pathogen control options. Efforts to estimate the benefits and costs of options to reduce foodborne illnesses are hampered by lack of knowledge about how pathogen control efforts will eventually affect public health. Further research on risk assessment by economists, in collaboration with other scientists, will provide decision makers with better estimates of the benefits and costs of efforts to promote food safety. Ensuring that our efforts to improve food safety are carefully targeted and prioritized on the basis of cost-effectiveness is central to our goal of providing the Nation with the safest possible food supply. This initiative is a part of the President's food safety initiative and the produce and imported food safety initiative.

Goal 3: The nation's population is healthy and well-nourished.

ERS helps identify efficient and effective public policies that promote consumers' access to a wide variety of high-quality foods at affordable prices. ERS economists analyze factors affecting dietary changes; assess impacts of nutrition education and the implications for the individual, society and agriculture; and provide economic evaluations of food nutrition and assistance programs. The Agency studies the implications for producers and consumers of movement towards adoption of the dietary guidelines; the trends and determinants of American's eating habits; evolution of food product trade; and the determinants of food prices. Analysis of nutrition education efforts considers what kinds of information motivate changes in consumer behavior, the food cost of healthy diets, the influence of food assistance programs on nutrition, and the implications of healthy diets for the structure of the food system. Because trade in high valued agricultural products, including processed food, now exceeds the value of bulk commodity flows, ERS will spend more time to disaggregate the components of these trade flows, understand their relationships to international investment and strategic behavior of U.S. food firms; and investigate the implications for U.S. consumers of a globalized food marketplace.

Goal 4: Agriculture and the Environment are in Harmony.

In this area, ERS analysis helps support development of Federal farm, natural resource, and rural policies and programs that promote long-term sustainability goals, improved agricultural competitiveness, and economic growth. This effort requires analyses on the profitability and environmental effects of alternative production

management systems and on the cost effectiveness and equity of public sector conservation policies and programs. ERS analysts focus on evaluating the benefits and costs of agricultural and environmental policies and programs in order to assess the relationship between improvements in environmental quality and increases in agricultural competitiveness. In this vein, ERS provides economic analyses on the linkages between biodiversity and sustainability issues and agricultural performance, competitiveness, and structure.

Carbon Sequestration Initiative

We request an increase of $700,000 in fiscal year 2000 to assess the economic potential for using agricultural lands to sequester atmospheric carbon. This will increase the use of production practices that build organic soil carbon that enhance the quality and productivity of affected lands. This will also be in accordance with U.S. commitments to mitigate greenhouse gas emissions under the Kyoto Protocol, as well as assessing the potential to target existing USDA conservation programs to include carbon sequestration. Possible "carbon sinks" include shifting marginal agricultural lands into forests, shifting croplands into permanent grasses, and adopting production practices that result in higher levels of soil carbon. Expanding the quantity of U.S. farm land in forests and grasses could complement existing USDA conservation goals of reducing soil erosion, improving water quality, and enhancing wildlife habitat.

U.S. Global Change Program National Assessment

ERS will continue to participate in and support the U.S. Global Change Program National Assessment. An increase of $300,000 is requested to develop a detailed understanding of the consequences of climate change for various economic sectors, geographic regions, and the nation as a whole. The Administration strongly believes that increased funding for climate change initiatives as described above will make U.S. agriculture better prepared to reduce and respond to the impacts of those changes in the future.

Goal 5: Enhanced economic opportunity and quality of life for rural Americans.

The ERS contribution to improving opportunity and quality of life in the U.S. is based on analysis that identifies how investment, employment opportunities and job training, and demographics affect rural America's capacity to prosper in the global marketplace. ERS economists analyze rural financial markets and how the availability of credit, particularly Federal credit, spending, taxes, and regulations influence rural economic development. ERS analyzes the changing size and characteristics of the rural and farm populations and the implications of these changes in human capital, including skill development, on the performance of rural economies. In addition, ERS studies the economic structure and performance of non-farm economic activities in rural areas, including the fairly widespread rebound in population growth in non-metropolitan counties. The relevant analyses will involve monitoring rural earnings and labor market trends with emphasis on regional and other disaggregations in order to provide insight into the determinants of variation in trends among non-metro counties. Such work should yield a better understanding of the factors that promote rural vitality and the opportunities for effective public sector intervention.

Because the effects of changes in welfare programs may vary between rural and urban residents due to differences in labor markets and other aspects of a regional economy's structure, ERS social scientists will track implementation of recent program changes to understand any differential impacts. In particular, ERS analysis can help anticipate changes in participation across assistance programs, including those for which USDA has primary responsibility, in rural housing and in food. Another opportunity for understanding whether rural America faces unique circumstances will come with analysis of a recently-completed survey of the rural manufacturing sector.

ERS continues to monitor the financial situation of the farm sector, establishing farm business organization and performance benchmarks. This task includes study of the financial position of farmers who employ technological advances and innovative risk management strategies in their businesses, compared with the financial position of farmers who use more traditional approaches. Previous work on the use of production and marketing contracts by farmers will be extended to identify contractors by class to better define the role of non-farm businesses in the industrialization of farms. Analyses of financial performance will also measure the comparability of returns between farm and non-farm small businesses and assess the financial viability of commercial and non-commercial size farm operations.

Electric Utility Deregulation

In fiscal year 2000, ERS proposes a study to assess the potential impacts of electric utility deregulation on rural America. Electric utility deregulation began with the passage in 1992 of the Federal Energy Policy Act and has continued as State legislatures and regulatory agencies consider further deregulating the delivery of electricity to industrial and residential consumers. While these steps could result in substantial savings nationwide, the savings will not be uniformly distributed. The resulting changes will have important impacts on the competitiveness and well-being of agriculture, other businesses, and communities in rural America, as well as on rural electric cooperatives and USDA's electric utility loan programs. Recently the agency initiated work to better understand the issues involved in electric deregulation and to assess the impact of projected swings in electric utility rates on regional economies. The request for $200,000 will allow ERS and its cooperators to expand upon this early work and assess the potential impacts of deregulation on the Department's rural utility loan programs, on the competitiveness of rural businesses and communities, and on rural households.

CUSTOMERS, PARTNERS, AND STAKEHOLDERS

The ultimate beneficiaries of ERS's program are the American people whose well-being is improved by informed public and private decisionmaking leading to more effective resource allocation. ERS shapes its program and products principally to serve key decision makers who routinely make or influence public policy and program decisions. This clientele includes White House and USDA policy officials and program administrators/managers, the U.S. Congress, other Federal agencies and State and local government officials, and domestic and international environmental, consumer, and other public groups, including farm and industry groups interested in public policy issues.

ERS carries out its economic analysis and research in four divisions. ERS depends heavily on working relationships with other organizations and individuals to accomplish its mission. Key partners include: the National Agricultural Statistics Service (NASS) for primary data collection; universities for research collaboration; the media as disseminators of ERS analyses; and other government agencies and departments for data information and services.

CLOSING REMARKS

I appreciate the support that this Committee has given ERS in the past and look forward to continue working with you and your staff to ensure that ERS makes the most effective and appropriate use of the public resources. Thank you.

NATIONAL APPEALS DIVISION

PREPARED STATEMENT OF NORMAN G. COOPER, DIRECTOR

Mr. Chairman and members of the Subcommittee, I am pleased to appear before you to discuss the fiscal year 2000 budget request for the National Appeals Division.

INTRODUCTION

The National Appeals Division (NAD) was established by the Secretary of Agriculture pursuant to the Reorganization Act of 1994. The Act consolidated the appellate functions and staffs of several USDA agencies to provide for hearings on appeal of adverse agency decisions, and review of appeal determinations by the NAD Director. NAD appeals currently involve program decisions of the Farm Service Agency, Risk Management Agency, Natural Resources Conservation Service, Rural Business-Cooperative Service, Rural Housing Service, and Rural Utilities Service. NAD is headquartered in Alexandria, Virginia, and has regional offices located in Indianapolis, Indiana; Memphis, Tennessee; and Lakewood, Colorado. NAD's staff of 133 includes 75 hearing officers Nationwide.

MISSION

Our mission is to conduct evidentiary administrative appeals hearings and reviews arising out of program decisions of specific USDA agencies. Our strategic goal is to conduct timely hearings and issue timely and well-reasoned determinations that correctly interpret applicable regulations. In addition, in States covered by the United States Court of Appeals 8th Circuit, NAD Hearing Officer's adjudicate applications for fees under the Equal Access to Justice Act (EAJA). NAD's mission is

statutorily specific, but the administration is dynamic and challenging, given the complexities of changing laws, regulations and policies.

FISCAL YEAR 2000 BUDGET REQUEST

NAD is requesting $12,699,000 in direct appropriations for fiscal year 2000. This request represents an increase of $981,000 over the fiscal year 1999 appropriation. The increase is comprised of $392,000 for pay costs and $589,000 for training costs.

NAD employees must possess a broad, in-depth knowledge of many areas, including adjudication procedures as well as the laws and regulations of subject agencies. The hearing and review officers must stay abreast of changes in the law, regulations and agency policies, in order to issue determinations that are legally correct. Continuous training and development is essential to providing the public a competent and fair administrative appeal system that recognizes the rights of program participants and promotes the lawful operations of agency programs. NAD's budget request for training will be used to sustain high-quality training that is critical to accomplishing our goal.

We are also requesting $392,000 to offset the anticipated fiscal year 2000 federal pay raise. Our budget has remained fixed at the current level since fiscal year 1997. We cannot continue to absorb pay cost increases without jeopardizing our ability to provide an effective administrative appeals system.

CONCLUSION

NAD's administrative appeals process is a cost-effective service for program participants to have adverse agency decisions fairly and impartially adjudicated in a timely manner consistent with the intent of Congress. The initiatives in the fiscal year 2000 budget will help ensure that we accomplish our mission in a more efficient and effective manner, making correct determinations and continuing to assure the rights of all participants in appeals. The initiatives provide the groundwork for accomplishing the goals and objectives outlined in NAD's Strategic Plan and annual performance plan. More importantly, these initiatives assure farmers, ranchers, cooperatives, agencies, and others an avenue to a fair and equitable adjudicative process. I would like to provide for the record a copy of the brochure that describes these initiatives.

That concludes my statement, and I am looking forward to working with the Committee on the fiscal year 2000 National Appeals Division budget.

OFFICE OF THE CHIEF ECONOMIST

PREPARED STATEMENT OF KEITH COLLINS, CHIEF ECONOMIST

This statement discusses the functions and fiscal year 2000 budget request of the Office of the Chief Economist, or OCE.

OCE is a small staff of analysts located in Washington, D.C., plus one weather officer field unit in Mississippi. OCE reports directly to the Secretary of Agriculture and has four primary missions: (1) provide economic analysis to the Executive Branch and Congressional policy officials on alternative policies, programs and regulations; (2) serve as a focal point for the collection and reporting of economic and weather data, forecasts and projections related to agricultural commodities, and the performance of the agricultural economy; (3) provide economic and policy analysis on issues related to energy and new uses in agriculture; and (4) conduct statutory review and oversight responsibilities related to risk assessment and cost-benefit analysis of major USDA regulations. OCE also coordinates several activities that cut across USDA mission areas, which include global climate change, sustainable development and agricultural labor.

OCE has four functional units: the Immediate Office; the World Agricultural Outlook Board; WAOB; the Office of Risk Assessment and Cost-Benefit Analysis, ORACBA; and the Office of Energy Policy and New Uses, OEPNU. Some recent activities and accomplishments in each of these four areas are briefly discussed.

IMMEDIATE OFFICE OF THE CHIEF ECONOMIST

The immediate office, with a staff of nine, directs a wide range of analysis related to policy, program and legislative proposals, and regulations. The focus is on the most substantial, complex and controversial issues, usually at the request of the Secretary, other Administration officials, or members of Congress. The most important products are briefings, and briefing and analysis papers prepared on tight deadlines. These analyses generally focus on short- to medium-term effects, involve

staff from other agencies, and apply the results of existing, basic economic research to specific policy issues. The immediate office staff is also responsible for regulatory review. A key role of the staff is to coordinate analyses among USDA agencies. Examples of key activities during the past year are:

OCE works with other agencies to assess program options and guide effective Departmental decision making with respect to key program provisions. OCE provided numerous assessments to the Secretary and the administration on the state of the farm economy as conditions eroded in many areas during 1998. OCE led the development of the USDA proposal to OMB for emergency assistance to producers in 1998. OCE worked closely with the Marketing and Regulatory Programs mission area to address issues in concentration. OCE helped develop program options and analyzed proposed regulatory actions submitted by the public on ways to deal with concentrated markets. OCE provided continual advice and analysis to the Secretary on dairy policy, including Federal Milk Marketing Order reform. OCE coordinated Departmental analysis of proposed settlement between tobacco companies and State Attorneys General and buyout proposals for tobacco producers. OCE continues to assist the Animal and Plant Health Inspection Service—APHIS—in verifying compensation claims for producers, handlers and others affected by Karnal bunt regulations and assisted in drafting regulations, cost-benefit analyses, and decision memoranda dealing with Karnal bunt. OCE analyzed models of the Standard Reinsurance Agreement, or SRA, to assist the Risk Management Agency in their 1999 SRA negotiations with the crop insurance industry. The models were used to analyze the budget implications and industry rates of return of various reinsurance proposals, including reinsurance for catastrophic and revenue products.

OCE was an active member of the U.S. interagency group on climate change and was part of the country delegation attending meetings of the United Nations Framework Convention on Climate Change—FCCC—in Buenos Aires, Argentina and Bonn, Germany. OCE was instrumental in elevating the issue of carbon sequestration in the UN Intergovernmental Panel on Climate Change and the FCCC Subsidiary Body for Scientific and Technical Advice. OCE took the lead to coordinate an interagency group to assess the potential of sequestering carbon through forest management and crop land practices.

In the area of small farm issues, OCE participated in a Departmental interagency task force established to review and provide advice on implementation of the recommendations from the National Commission on Small Farms. OCE participated in the Secretary's Transportation Summit and on a special task force created to monitor and improve the performance of the western rail system. This task force initiated a new report, that provides an early warning of potential railcar shortages and bottlenecks in the movement of grain and grain products.

OCE served on the Economic Options Committee of the United Nations Technical and Economic Assessment Panel for the Montreal Protocol. The Committee prepared a report on economic issues pertaining to implementation of the scheduled phase out of ozone depleting substances. Included in the report are analyses of various alternatives for reducing production and consumption of ozone depleting substances.

During the past year, the staff reviewed analyses supporting Significant and Economically Significant regulations issued by the Department. The staff provided critical review and guidance in the Department's regulatory analyses for regulation of retained water in poultry and meat, storage temperature for eggs and meat imports. In addition, the staff assisted the Forest Service in developing the supporting analyses for revisions of timber sale contracts regulations and the proposed road construction.

OCE worked with the Department of Labor, National Economic Council, and the Immigration and Naturalization Service to streamline and improve for farm employers and employees the H–2A temporary agricultural worker program. The staff helped to develop a new program to assist farm employer's in California meet their labor needs and prospective workers to find work under California's welfare reform act. OCE staff maintained an Internet web page to provide the public information on farm employment rules and regulations, farm safety, and worker protection from pesticides.

OCE coordinates sustainable development activities within USDA. This is done chiefly through USDA's Council on Sustainable Development, chaired by the Director of Sustainable Development, which develops, coordinates, and integrates the principles of sustainable development into policies and programs across all mission areas of the Department. During the past year, the Director served as the lead USDA member of the U.S. delegation to the UN meetings on sustainable development. The Director also co-chaired USDA's Council on Sustainable Development, which implemented a Sustainable Agriculture Learning Initiative to bring together sustainable agriculture farmers with bankers and insurance specialists.

OCE advised Congress through testimony and staff briefings on the effects of the developments in markets, prices and income prospects and on global climate change.

WORLD AGRICULTURAL OUTLOOK BOARD—WAOB

The WAOB prepares world agricultural and weather assessments and coordinates USDA' work related to agricultural outlook, projections, weather, and remote sensing. The Board issues a monthly publication known as the World Agricultural Supply and Demand Estimates report and oversees long-term USDA forecasts required for preparation of the Federal budget. The Board also operates and manages the Joint Agricultural Weather Facility, JAWF, in cooperation with the National Oceanic and Atmospheric Administration, NOAA, and is home to the Department's Chief Meteorologist. In addition, the Board provides technical assistance and coordination for USDA's remote sensing activities.

Coordinating USDA Economic Forecasts.—The WAOB plays a critical role in assuring that the Department's commodity information system responds to today's rapidly changing world. The Board's mission is to ensure that USDA's intelligence on domestic and foreign agricultural developments is timely, accurate, and objective, and to speed the flow of that information to producers, consumers, and policy makers.

One of WAOB's primary functions is to coordinate and review all USDA forecasts and analyses of foreign and domestic commodity supply and demand conditions. USDA's Interagency Commodity Estimates Committees are chaired by staff of the WAOB. The purpose of these committees is to assure that sound information from domestic and international sources is fully integrated into the analytical process and that USDA's economic forecasts are objective, thorough, and consistent. The committees, with representatives from the Economic Research Service, Farm Service Agency, Foreign Agricultural Service, Agricultural Marketing Service, and WAOB, are responsible for developing official estimates of supply, utilization, and prices and reviewing economic reports issued by USDA agencies. In fiscal year 1998, the Board reviewed and approved for release approximately 150 reports.

In addition, daily market highlights and weekly briefing reports were prepared for the Secretary and top staff, weekly weather and economics briefings were presented to the Under Secretary for Farm and Foreign Agricultural Services, and international weather highlights were published in the Weekly Weather and Crop Bulletin.

Each month, the WAOB publishes the World Agricultural Supply and Demand Estimates [WASDE] Report, which forecasts production, trade, utilization, prices, and stocks. Coverage includes U.S. and world grains, oilseeds, and cotton and U.S. livestock and poultry products and sugar. Release is simultaneous with the U.S. Crop Production report. WASDE is internationally viewed as a benchmark for agriculture and provides timely knowledge of world commodity markets that is increasingly critical to our export-led farm economy. Equally important, the WASDE report gives early warning of changing crop production and supply prospects in the United States and in other countries.

Oversight of Long-Term USDA Commodity Projections.—WAOB chairs the Department's Interagency Agricultural Projections Committee that oversees preparation of long-term projections for farm commodities, the U.S. agricultural economy, and world agricultural trade. The Economic Research Service has the lead role in preparation of the projections. WAOB's role is to ensure a strong multi-agency effort and sound analytical procedures for the projections. The projections are used for a variety of analytic and mandated functions of the Department, such as preparing the USDA portion of the President's budget. These "baseline" projections provide an objective, rigorous, and thorough view of the likely path of the farm sector over the long term.

The most recent set of long-term projections, Agricultural Baseline Projections to 2008, was publicly released in February 1999 at the Department's annual Agricultural Outlook Forum. The projections reflect the adverse impact that poor worldwide growth prospects and increasing world supplies have on prospects for U.S. agricultural trade in the near to medium term. Nonetheless, despite problems in the next few years, more favorable long-term world economic growth supports gains in exports and farm income as we pass 2000. The overall farm financial picture shows assets accumulating faster than liabilities throughout the projection period, a sign that the sector as a whole remains fundamentally sound.

The annual USDA Agricultural Outlook Forum, conducted under OCE's leadership, is a public meeting on farm, food, and trade prospects. The Forum was planned in consultation with a large number of agencies, making this a true USDA team effort. The Chief Economist invited, and sessions were organized by, the Agri-

cultural Marketing Service; Animal and Plant Health Inspection Service; Grain Inspection, Packers and Stockyards Administration; Natural Resources Conservation Service; Foreign Agricultural Service; Economic Research Service; Farm Service Agency; and the Risk Management Agency. The Forum is rich with USDA's expertise on risk management, marketing, grain inspection, plant and animal health, and soil and water conservation.

Outlook Forum 1999, the seventy-fifth annual meeting, took place in late February 1999. Attendance, topping 1,100, was the highest in recent years. The program featured a spectrum of issues affecting the future of agriculture, discussed from many vantage points. In addition to near-term and long-range agricultural prospects, topics ranged from new marketing strategies to the impacts of biotechnology and environmental regulation. Speakers were drawn from farming, agribusiness, environmental groups, government, and academia. Extensive media coverage and posting of speeches on the Internet shortly after the Forum ensured the timely dissemination of information presented.

Monitoring Weather Impacts on Agriculture.—USDA places a high priority on incorporating weather-based assessments into all analyses. The focal point for this activity is the Joint Agricultural Weather Facility, JAWF. JAWF staff continually monitor global weather and assess its probable impact on agricultural output. JAWF briefings, reports, and special alerts are key inputs to the development of USDA crop yield estimates for both competitor and customer countries. JAWF weather assessments are made available to the public through the Weekly Weather and Crop Bulletin, the WAOB home page, and the news media. WAOB's Chairperson and Chief Meteorologist briefed government officials and news media frequently on changing crop conditions.

Disseminating USDA Numbers to the Public.—As commodity prices are affected less by Government programs and more by market forces, the need for objective and current market information is becoming especially critical. The WAOB recognizes the need for rapid information dissemination and strives to place the WASDE report Weekly Weather and Crop Bulletin in the hands of farmers and other users as quickly as possible. The goal is to provide simultaneous access at a minimum cost to all market participants.

WAOB improved electronic access to the monthly WASDE report. The WASDE report is now posted instantly on the WAOB home page as well as forwarded to the USDA "Economics and Statistics" web site at Cornell University. In addition, WAOB took the lead in upgrading the usefulness of the Cornell University site for USDA information by overseeing a redesign and expansion of the help section.

Interagency Initiatives.—The JAWF worked closely with the National Water and Climate Center of USDA's Natural Resources Conservation Service and with NOAA Regional Climate Centers on a Unified Climate Access Network to provide on-line access to weather and climate data from a variety of sources. At the request of the World Meteorological Organization, JAWF staff prepared and delivered a training course on agricultural data management procedures, attended by 17 participants from over 10 countries in Ljubljana, Slovenia. JAWF staff represented the United States at the WMO Commission for Agricultural Meteorology in Accra, Ghana.

Also, JAWF put updated sections of its popular handbook Major World Crop Areas and Climatic Profiles on the Internet, and is working with the U.N. Food and Agriculture Organization to develop an expanded CD–ROM version using geographic information system—GIS—technology.

WAOB increased cooperation and dialogue with the Office of the Federal Coordinator for Meteorology of the National Oceanographic and Atmospheric Administration. This interchange has renewed cooperation in support of USDA weather needs. NOAA's National Weather Service recently announced that the agency will adopt USDA National Agricultural Weather Information System, NAWIS, language and accept it as the Administration's position with respect to authorizing this activity.

Weather Data Receiver Upgraded.—WAOB established a satellite downlink for National Weather Service, NEWS data at the USDA's Kansas City computer center. This downlink gives access to more reliable and comprehensive data, helping to improve crop-weather analysis in support of USDA forecasts. It also will make it possible to share timely weather data with other agencies such as the Forest Service and with field offices in USDA's new agricultural weather observing network.

Remote Sensing Activities.—At WAOB's request, the Defense Intelligence Agency—DIA—opened its archive of more than 10,000 satellite images to USDA and has agreed to provide scenes requested by the Department at no cost. Normally, such images would cost USDA $400 to $4,400 each. DIA now provides USDA with a list of new imagery acquisitions every two weeks. In addition, WAOB successfully negotiated an agreement with a private vendor to provide radar imagery to the Foreign Agricultural Service, Farm Service Agency, Forest Service, and the Natural Re-

sources Conservation Service at no cost. In return, USDA will provide DIA with evaluations of the usefulness of radar imagery in fulfilling agency missions.

1890 Institution Partnership.—For the third consecutive year, WAOB supported an ongoing partnership with the University of Maryland Eastern Shore, an 1890 Institution. The goal of this partnership has been to introduce UMES faculty and students to agriculture-related occupations.

Technical Cooperation with China.—WAOB continued an information exchange with China that has yielded substantial analytical benefits to the Department. The Chairperson traveled to Beijing, Guangxi Province, and Sichuan Province with specialists from the National Agricultural Statistics Service and the Economic Research Service. Through participation in this project, USDA has substantially improved its information base with respect to the present and future of China's agricultural sector.

Information Exchange with South Africa.—WAOB continued an initiative with South Africa to share meteorological technologies and data, under the auspices of the United States/South Africa Bi-National Commission. WAOB arranged for a technical exchange between the developers of the "Oklahoma Mesonet" and scientists representing South Africa's Agricultural Research Council, and is now receiving real-time weather data collected by South African counterparts.

Understanding Grain Disease.—Support provided by the JAWF was instrumental in helping to dispute non-tariff barriers to wheat trade with China and Brazil. USDA used JAWF's extensive weather and climate data base to show that neither China or Brazil have climatic conditions which would support the growth of TCK smut or Karnal bunt. This evidence has weakened the justification by both countries for restricting imports of U.S. wheat.

Drought Initiative.—WAOB continued to play an active role in the Western Drought Coordination Council activities. WAOB collaboration will continue as the Farm Service Agency assumes leadership of a new National Drought Policy Committee.

Grain Transportation Outlook Initiated.—WAOB assembled an interagency committee for the purpose of reviewing and publishing the Department's first Grain Transportation Prospects report. This report addressed the need to provide the transportation industry with timely information on crop supplies in an effort to avoid railcar shortages at the expense of agriculture, and to provide farmers with information on pressures facing the rail industry.

OFFICE OF ENERGY POLICY AND NEW USES—OEPNU

The Office of Energy Policy and New Uses provides leadership, education, coordination, and evaluation for all Departmental energy and energy-related activities. The Office develops a unified presentation of the Department's energy activities to the Administration, Congress, other Federal Agencies, and the public. OEPNU provides analysis and information to support policies aimed at increasing farm income and rural economic growth. OEPNU initiated and coordinated research in electricity deregulation, climate change, biomass, and biodiesel issues.

Electricity Deregulation.—Electricity deregulation that will change power rates in rural America presents the Department with an important policy issue and potential program concerns for the Rural Utilities Service. OEPNU initiated preliminary analysis that enabled the Department to include a rural "place holder" in the Administration's legislation submitted to Congress.

Ethanol Analysis.—OEPNU developed a coordinated research plan with the Department of Energy and Argonne Labs to provide analysis on the net climate benefits of corn ethanol to environmental groups. This research was cited as part of the Administration's successful effort to extend the ethanol excise tax exemption. In addition, OEPNU initiated a research program with Department of Energy and the Environmental Protection Agency to examine opportunities to expand ethanol's market, especially with respect to a proposed low sulfur gasoline program and the reformulated gasoline program.

Biomass Initiative.—OEPNU coordinated and designed a biomass research component of the Climate Change Technology Initiative. To support the initiative, preliminary biomass economic analysis was completed. We have since expanded this work to look at agricultural residues with Iowa State University.

Biodiesel Research.—OEPNU's work on biodiesel has produced a redirection of research resources, several publications, and citations of the work in congressional hearings. Our work influenced significant resource allocation in the joint USDA, the Department of Energy, and the American Soybean Association/United Soybean Board's program toward more coproduct development and the use of biodiesel as an additive. Three publications have been produced by research we used to examine the

feasibility of biodiesel mandated under the Energy Policy Act of 1992. Results from this work were cited at Senate and House hearings to examine the feasibility of biodiesel as an alternative fuel.

OFFICE OF RISK ASSESSMENT AND COST-BENEFIT ANALYSES—ORACBA

The Office of Risk Assessment and Cost-Benefit Analysis exercises the responsibility for reviewing and approving risk analyses for all major USDA regulations. The Office serves as a focal point for Departmental activities related to risk analysis, including interdepartmental activities, risk communication, and education and training for improving risk analyses.

Regulatory and Program Review.—ORACBA reviewed and coordinated interagency review of risk assessments in support of several significant regulatory proposals, programs, and reports. For food safety these include review of the Salmonella enteritidis in eggs risk assessment, the irradiation of beef, and rules evaluating ingesta contamination during processing in chickens.

In the international animal trade arena, ORACBA has been involved in evaluating regionalization for the EU for classical swine fever; regionalization of Mexico for importation of pork and pork products from Yucatan and Sonora, of poultry and poultry products from Sonora and Sinaloa, and easing the restrictions on importation of ruminants and ruminant meat products from certain European countries.

In conservation and plant health, ORACBA reviewed the risk assessments in support of the interim rule on solid wood packing material, the final rule on Karnal bunt, the proposed rule for citrus from Argentina, and the draft final "plant pesticide" rule, so-called for plants containing a natural pesticide gene.

Risk Assessment Education and Training.—ORACBA, in cooperation with the Food and Drug Administration and the USDA Graduate School, has developed a series of courses on risk analysis. These courses are organized into a curriculum for which the USDA Graduate School is developing a certificate program. Courses range from a basic introduction of risk analysis to an advanced quantitative modeling. A course, "Ecological and Environmental Risk Assessment" was piloted and final designs for permanent status of the course in the curriculum are being developed. The courses have serviced individuals from USDA and the Food and Drug Administration, but also from several universities, the private sector and foreign countries.

ORACBA sponsors two work groups, Interagency Food Risk Assessment Group and the Eco-Risk Group, which include scientists from USDA, other government agencies, and the private sector. ORACBA brings in special speakers to provide half-day or one-day workshops to focus on special methodological issues of concern to the groups.

Program Guidance and Consultation.—ORACBA continues to provide guidance and technical support to agencies responsible for USDA conservation programs. This includes a model case-history approach for the Environmental Quality Incentives Program, or EQIP, and a series of small case-histories for the Conservation Reserve Program, or CRP. An interagency team of environmental and ecological risk assessors led by ORACBA has worked closely with the agencies in developing these studies.

ORACBA has worked with the Natural Resources Conservation Service—NRCS—and CRP to develop case-studies to supplement the risk assessment that accompanied the original proposed rules. One case-study for NRCS has matured into a full-fledged research project involving several universities and the Agricultural Research Service. The team is tracking the flow of nutrients and five microbes from dairy cattle to manure storage and into the environment. These studies will be expanded to include swine and poultry operations in the future. The case study for CRP has led to proposing to include native honeybees as wildlife; heretofore, only vertebrate species have been identified as worthy of protection through the CRP.

ORACBA provides representation to the Risk Assessment Consortium—RACof the Food Safety Initiative. The RAC has focused its work on developing a web-based clearinghouse for food safety risk assessment information as well as a risk-based strategic planning project to provide insight in the development of the fiscal year 2001 interagency food safety budget.

ORACBA has continued to provide guidance to the Forest Service regarding the land donation from the Department of Defense to USDA; this work has helped clarify both environmental and legal issues surrounding this land. ORACBA actively provides support and guidance for the Office of Pest Management Policy with respect to the pesticide risk assessments being developed by EPA for the Food Quality Protection Program.

Risk Analysis Coordination and Representation.—ORACBA, working through its auxiliary Interagency Food Risk Assessment Group, coordinated the development of

a farm-to-table model of the E. coli O157:H7 risk assessment subsequently being used by the Food Safety and Inspection Service to complete the risk assessment. ORACBA serves on the Office of Science and Technology Policy and the Council for Environment and Natural Resources Center Subcommittee on Toxics and Risk. ORACBA organized a written summary of rules dealing with animal manure which the Subcommittee issued as a CENR report. ORACBA staff facilitated a planning meeting of Animal and Plant Health Inspection Service managers to develop a strategy to review the entire program of safeguarding American plant resources from alien species.

Risk Communication.—ORACBA continues to improve communication among USDA analysts through the monthly Risk Forum and the quarterly ORACBA Newsletter. The Forum brings together scientists from USDA, other government agencies, universities, and the private sector; the Newsletter has a mailed circulation of over 800 and is available on the USDA/OCE/ORACBA website.

1890 Institutions Partnerships.—ORACBA has worked with several 1890 institutions, providing guest lectures for their students and faculty. ORACBA regularly invites 1890 faculty to attend education and training courses provided through the Graduate School. The participants do not pay any tuition. ORACBA has also facilitated a partnership between Tuskegee University and Harvard University for the BSE Risk Analysis. The results have been significant in the responsibility and funding for Tuskegee.

FISCAL YEAR 2000 BUDGET REQUEST

For fiscal year 2000, OCE is requesting $6,622,000 in direct appropriations. This request represents a net increase of $211,000 over the fiscal year 1999 adjusted base (which includes the transfer of the Office of Energy from the Economic Research Service). The proposed budget includes an increase of $45,000 for the annualization of the fiscal year 1999 pay raise and $166,000 for the anticipated fiscal year 2000 pay raise.

OCE is a small office working under a demanding schedule with little flexibility to absorb pay and other cost increases. Salary and benefits plus required obligations make up 90 percent of OCE's budget with necessary, travel, equipment and contracts making up the remainder. Pay costs are needed to prevent a decline in weather and market analyses, which have been increased and improved as a result of increased appropriations the past two years. Without pay costs, the previous deficiencies in collection and reporting of global weather and economic information would reappear.

OFFICE OF THE CHIEF FINANCIAL OFFICER

PREPARED STATEMENT OF SALLY THOMPSON, CHIEF FINANCIAL OFFICER

Mr. Chairman and members of the Committee, when I appeared before you last year, I had been on the job as the Department's Chief Financial Officer for only three days. At that time, I told you that my top three priorities were: (1) getting an integrated financial management system up and running for all USDA agencies; (2) streamlining reporting functions, improving performance measurements, and increasing accountability; and (3) fulfilling other responsibilities authorized by the CFO Act. I also pledged that all of the systems at the National Finance Center—NFC—in New Orleans would be Year 2000 compliant.

If I may start with the last item, I am pleased to report that the NFC met two self-imposed deadlines, one on June 30, 1998, to make all its systems Year 2000 compliant and another on December 31, 1998, to ensure that all systems were certified as Y2K compliant. The NFC provides payroll/personnel services to 435,000 employees from USDA and 100 other Federal agencies, accounting for one-fifth of the entire Federal workforce. NFC's systems support the Federal Government's Thrift Savings Plan—TSP, which is the $74 billion 401(k) retirement plan with 2.3 million participants. All of us in the Office of the Chief Financial Officer—OCFO—and across USDA are proud of this achievement.

Mr. Chairman, during the past year, I have consulted with OCFO's managers; its customers, both inside and outside USDA, our budget reviewers, members of the Congress, staff from the Office of the Inspector General, the Office of Management and Budget—OMB, and the General Accounting Office—GAO, and our counterparts in other Federal agencies about general and specific financial management problems facing USDA. I have taken seriously the USDA's Inspector General's statement that ". . . a stronger CFO oversight process is needed to assure . . . longstanding problems are resolved on a coordinated department-wide basis." I can assure you and

your colleagues that the Secretary and the Department's senior-level management share my commitment to improving financial management. I would like to thank Secretary Glickman for his support and leadership. I also want to thank you and your colleagues for placing such an emphasis on financial management issues. This budget request reflects Congress' quest for more efficient, effective Government.

OCFO is playing a pivotal role in enhancing the Department's fiscal reputation. We have shouldered a lot of responsibilities in the last few years. As we have managed the Departmentwide implementation of Congressional mandates and executive orders, our budget continued to shrink.

Mr. Chairman, if the Congress approves our request for an increase of $2,005,000 over our fiscal year 1999 appropriation, it will mark the first time since passage of the CFO Act of 1990 that the Department's financial management office has received a program increase in resources. We have done much to position ourselves to improve the financial health of USDA. I ask for this Committee's support for additional resources to fully implement the plans that we have developed.

This budget request will be used to lead, direct, and oversee financial management activities across USDA. This increase in our budget will fund 14 positions to work with the agencies to improve their business practices and to help us accomplish the following objectives:

—Ensure that USDA's information includes accurate, complete, and credible data that are useful and used;
—Provide the Congress and the Administration reliable information when making decisions affecting USDA programs;
—Resolve long outstanding Inspector General's recommendations included in the audit reports;
—Develop a USDA accountability report that complies with new reporting requirements and streamlines existing reports, making it easier for the public and Congress to access information about our financial activities;
—And, perhaps most important, lead USDA to a clean unqualified audit opinion for fiscal year 2000.

In a July 1998 report to the Vice President, we identified the plans of action that we are implementing to correct these deficiencies, which were outlined in the Inspector General's audit of our financial statements. This plan reflects a Departmentwide commitment to putting in place standard business processes that restore our credibility and correct the problems necessary for us to achieve an unqualified audit opinion.

An unqualified audit opinion assures everyone—policymakers, managers, the Congress, program recipients, and the American taxpayer—that USDA's financial management practices produce credible, reliable information that complies with laws, regulations, and accepted authoritative requirements.

These efforts are directly linked to the implementation over the next five years of an integrated financial management system that Congress mandated in the CFO Act. However, while we can get a clean opinion using the system, the system alone, absent changes in financial management practices, will not get USDA a clean audit opinion.

We need these budgeted resources not to do more of the same, Mr. Chairman. We need these staff resources to assist USDA's agencies to ensure that their business practices result in useful, reliable information going into this system.

I place the highest priority on an integrated financial management system for USDA, the cornerstone of which is the Foundation Financial Information System—FFIS. FFIS is funded through the Working Capital Fund—WCF, but I want to make clear that the different funding sources do not separate the interdependence of these efforts. The successful implementation of FFIS rests on good business practices, procedures and a well-trained staff at the agency level. These additional appropriated funds will ensure that this implementation becomes a reality.

In last year's testimony, I made a commitment to you to restructure the FFIS management organization. I am happy to report, Mr. Chairman, that the current FFIS project office is not the FFIS of previous years. With the Secretary's support and guidance, I obtained a waiver in June 1998 from the Office of Personnel Management—OPM to bring an experienced project management team from another Federal agency. This team successfully implemented a system identical to the package that USDA is using and led its agency to an unqualified opinion on its administrative financial statements for fiscal year 1997.

The project director reports directly to me and submits monthly updates to the Secretary's FFIS Executive Oversight Committee. The team, which started July 6, 1998, is putting in place an FFIS implementation plan that includes a schedule for full USDA implementation of FFIS by October 1, 2002.

Since the new project structure's inception, we have conducted numerous meetings with Congressional groups. On September 23, for example, we joined senior-level GAO officials on a panel that briefed staff members from four House committees and two Senate committees on the Department's efforts to implement FFIS in our largest agency, the Forest Service. Both GAO and OMB support this new management structure.

Implementing FFIS will enable USDA to provide useful, consistent, timely, reliable and accurate information to management, achieve conformance with legislative mandates, such as the Chief Financial Officers Act, and meet other Government-wide requirements for financial management systems, processes and internal controls, including the U.S. Standard General Ledger. FFIS will also provide a platform for agencies and NFC to streamline current financial processes and systems. As part of the FFIS effort, we are developing the financial systems architecture and operating models necessary for the integrated financial management information system.

As I said last year, my second priority is to fulfill responsibilities of accountability and performance measurement associated with implementing the Government Performance and Results Act. The Congress gave USDA a low score on its Strategic and Annual Performance plans because your colleagues did not consider USDA's information to be accurate, complete, and credible. We will use these additional resources to establish a staff dedicated to restoring accountability at USDA. We will assist the agencies in linking accountability with program delivery.

WORKING CAPITAL FUND

Mr. Chairman, I would like to conclude my remarks by providing you with a brief update on our Working Capital Fund—WCF, which is entirely funded by fees for services. This Fund supports 20 distinct activity centers across five Department-level organizations. It also supports a number of projects and initiatives to modernize administrative and financial systems.

In WCF, we develop our budgets in partnership with agencies. The Executive Committee comprised of agency representatives advises me on its funding level and use. This arrangement ensures that the Committee's recommendations reflect a "customer" voice in the operation and oversight of WCF activities and finances. Thus, the WCF budget reflects our partnership with our customers.

For the current and next fiscal years, WCF spending consists of three categories: basic services, TSP, and modernization efforts.

In the first category, our customers are paying in fiscal year 1999 the same inflation-adjusted dollars for basic services, such as accounting services, payroll, and computer processing. It is our intent to achieve the same outcome in fiscal year 2000.

In the second category, TSP, the costs of delivering services to TSP shareholders will increase, but the Thrift Investment Board will absorb these costs through investment earnings. Among TSP's enhancements is a new system scheduled to start in April 2000 that will provide daily valuation assessments and allow participants to modify their investments through the Internet.

In the third category, the new FFIS management team's first task was to complete a new implementation plan and timetable for FFIS. This plan calls for full implementation of FFIS for USDA and cross-serviced agencies by October 1, 2002, with a post-implementation and close-out of the current Central Accounting System occurring in fiscal year 2003. Costs through fiscal year 2003 are expected to be $136.1 million, with the bulk of the expenditures occurring during the height of the implementation in fiscal year 2000 and 2001. The fiscal year 1999 budget for FFIS is $23.7 million. The fiscal year 2000 and 2001 budgets are $32.5 million and $32.3 million, respectively. While these one-time implementation costs are straining agencies' budgets because additional funding has not been appropriated for this major project, the Department must continue to implement this new system to be compliant with Federal financial management laws.

Our fiscal year 2000 WCF budget includes $4.2 million to upgrade our payroll/personnel system at NFC for our customers at USDA and in other federal agencies. As I mentioned earlier, NFC provides payroll/personnel cross-servicing to a significant portion of the Federal sector, a practice that reduces overall user costs.

We want to improve on our successes in the payroll arena, which will require us to upgrade or modernize existing systems to meet users' needs and maintain low costs. We must adequately invest in modernization efforts, so we do not jeopardize our service to existing customers or hinder our ability to attract new clients.

This committee has recognized the cost-saving benefits associated with NFC's cross-servicing and has encouraged the expansion of this service at the center. To

expand, however, we must produce a product that can compete in both price and quality of services. We have been investing in this area over the last two to three years and will have products available to our customers this spring.

I pledge to you that, in addition to leading the effort to put USDA's financial house in order, I will give our effort to strengthen NFC's role in human resource systems and infrastructure a priority level equal to that which my office gave to achieving Y2K compliance.

Mr. Chairman, Congress has given us the challenge of improving our performance, accounting for our financial resources, and managing our operations more effectively and efficiently. The budget that I am presenting to you is our commitment to achieving these shared goals.

Thank you, Mr. Chairman. I welcome any questions the Committee might have.

OFFICE OF THE CHIEF INFORMATION OFFICER

PREPARED STATEMENT OF ANNE F. THOMSON REED, CHIEF INFORMATION OFFICER

Mr. Chairman, members of the Subcommittee, I will submit my testimony for the record and also offer a few remarks.

As I stated last year, I am honored to have the opportunity to serve as the Chief Information Officer (CIO) of the United States Department of Agriculture (USDA). I greatly appreciate the opportunity to serve with Secretary Dan Glickman, Deputy Secretary Richard Rominger, my sub cabinet colleagues, and all of the employees of the USDA as we work too more effectively and efficiently deliver USDA's programs, which are vital to the health, safety, and economic prosperity of the American people, as well as people the world over. With the support and cooperation of the Congress, USDA is now stronger, abler, leaner, and more cohesive, and better able to serve our nation. Yet, as we all know, the Department faces significant challenges as we work to achieve the strategic goals which are reflected in the President's fiscal year 2000 Budget. The Department's strategic goals are to: Expand economic and trade opportunities for agricultural producers and other rural residents; Ensure food for the hungry, and a safe, affordable, nutritious, and accessible food supply; and Promote the sensible management of our natural resources.

As you are well aware, the current farm crisis made achieving some of these strategic goals more difficult. The drop in agricultural commodity prices, the Asian economic crisis, and stiffer global competition for the American farmer have all resulted in increased demands on USDA programs. In the face of these demands and another year of tight funding, our challenge is to strategically harness new and existing technologies across USDA to vastly improve service delivery to our customers and help farmers weather the storm.

Implementing IT solutions are complex tasks which all Federal Agencies—including the USDA—have historically had problems accomplishing. However, I believe our progress this past year shows that we are on the right path and, with your support, we can successfully meet the challenges before us. At USDA, our agencies demonstrate daily the cost savings, improved customer service, and other efficiencies to be gained when information technology is effectively utilized. For example, since I met with you last year, three USDA agencies have received Leadership Awards for setting examples of how government agencies get results—for taxpayers and constituents—from technology investment.

—The Agricultural Marketing Service (AMS) now disseminates, via the Internet, information on prices, volume, quality, and other market data on domestic and international farm products within hours of collection.

—The Agricultural Research Service (ARS) allows dairy farmers to pass on $60 million in savings to consumers as a result of improvements in its genetic evaluations of the U.S. milking herd, and the creation of electronic transfer access so breeders can quickly access the data.

—The Farm Service Agency (FSA) instituted a new Electronic Bid Entry System so that bids for some $1.2 billion in food for farm aid can be opened and contracts awarded in two hours. Up to the minute market prices improve competition; the result is that more people can be fed for each dollar in aid.

—Using the Internet, the AMS conducted the first fully electronic rule-making for a major regulation in the history of the federal government. More than one quarter of a million comments for the National Organic Program proposed rule were received by fax, e-mail, and regular mail, and placed online. The ease of submitting comments encouraged more people to participate—you can call it an example of electronic democracy—making the process the most open, publicly accessible rule-making ever.

Mr. Chairman, we are proud of these accomplishments which provide a glimpse into the way our programs and services will be delivered in the future. Information technology today is radically transforming the way we live and work. In our personal lives, the Internet is rapidly changing the way we are accustomed to making transactions—everything from buying stocks, books, cars and homes, to applying for licenses and loans. At the USDA, it is changing the way we collect, analyze, and deliver information, making possible efficiencies that we could not have dreamed of just a few years ago. Yet, we have only begun to transform the way USDA does business.

USDA FISCAL YEAR 2000 INFORMATION TECHNOLOGY BUDGET SUMMARY

The Department's overall budget request for information technology in fiscal year 2000 totals $1.211 billion in budgetary authority. This compares with $1.198 billion in budgetary authority for information technology plus $37,789,000 for Year 2000 emergency supplemental funding in fiscal year 1999. Approximately 30 percent, or $379 million, of the fiscal year 2000 request is for development, modernization, and enhancement of USDA information technology resources, while almost 69 percent, or $832 million, is required for maintaining current systems, including the operation and support of existing information technology systems.

This budget reflects our priority that USDA IT solutions are aligned with program goals. For example:

—By creating a uniform and shared information technology infrastructure with the Service Center Initiative Common Computing Environment (CCE), we are laying the foundation for implementing reengineered programs. In fiscal year 2000, we are proposing a total program level of $90 million for this purpose, including about $16 million from the Commodity Credit Corporation.

—As the Forest Service continues to address changing notions of how to use and protect our public land, Project 615 is integrating the information necessary to manage our National Forests in a more accessible environment. In fiscal year 2000, $102 million is proposed for this effort.

—A significant portion of the Department's IT funding, approximately $280 million or twenty-three percent, is distributed to states to support the information technology resources necessary to run the Food and Nutrition Service Food Stamp Program. This includes $43 million to expand and maintain the use of Electronic Benefits Transfer (EBT) technology.

Over the past year we have improved the Department's ability to properly manage these significant expenditures. However, we still have much work to do before we are managing our IT resources as envisioned by the passage of the Clinger-Cohen Act of 1996.

OFFICE OF THE CHIEF INFORMATION OFFICER FISCAL YEAR 2000 BUDGET REQUEST

The USDA Office of the Chief Information Officer (OCIO) was established pursuant to the Clinger-Cohen Act. We have primary responsibility for supervision and coordination of the design, acquisition, maintenance, use, and disposal of information technology resources by USDA agencies. Our mission is to strategically acquire and use information technology resources to improve the quality, timeliness, and cost effectiveness of USDA's service delivery to its customers, and, increasingly, to ensure the security of the critical information that we manage.

To carry out this mission, we are facilitating the alignment of our information technology investments with USDA's mission goals. We have developed performance measurements to monitor our progress and, more recently, we have begun developing a tactical plan to help us better manage our major initiatives. These initiatives include:

—Overseeing implementation of a single information technology infrastructure and supporting organization for the Farm and Foreign Agricultural Services, the Rural Development agencies, and the Natural Resources Conservation Service;

—Developing policies and procedures to implement the Clinger-Cohen Act through expanding the implementation of our enterprise-wide architecture, strengthening our capital planning process, implementing a formal IT project management training program, and further developing our workforce planning strategies to recruit and retain IT professionals;

—Developing a USDA critical infrastructure assurance plan to secure Department information and IT systems; and protect them against cyber-terrorism and other threats;

—Improving the Department-wide management of telecommunications; and

—Assuring that our mission-critical information systems are Year 2000 compliant; an effort that will leave a lasting imprint on OCIO well beyond January 1, 2000.

We began our Year 2000 effort by enlisting the support of senior executive sponsors and staff in each agency to ensure we moved forward together, as a Department. Leveraging the USDA Information Systems Technology Architecture (ISTA) and the Telecommunications Enterprise Network Program, we jump-started the identification of all USDA mission critical systems—feeding this information back into the ISTA. We then refocused and strengthened our existing IT moratorium and capital planning processes to ensure all IT acquisitions were centered on Year 2000 compliance. And now, we are coordinating our Year 2000 Business Contingency Planning with similar efforts to create a USDA Critical Infrastructure Assurance Plan.

In a moment, I will discuss the initiatives mentioned above in greater detail. However, my office also manages the USDA National Information Technology Center (NITC) headquartered in Kansas City, Missouri. The NITC provides innovative, cost effective, and secure information technology solutions to support the missions of the USDA and its thirty-two agencies, the Federal Aviation Administration, the National Weather Service, and other government clients.

My office oversees implementation of the Paperwork Reduction Act of 1995 to reduce the paperwork burden for the public from the collection of information. Also, we coordinate the Department's records management functions to ensure that USDA's policies and transactions are adequately documented and archived.

Fully implementing the initiatives we have begun will radically transform the way information technology is managed at USDA. To fully implement the Clinger-Cohen Act without unnecessary and costly delay, the USDA Office of the Chief Information Officer requests $7,998,000 for fiscal year 2000, an increase of $2,447,000 and five staff years over the fiscal year 1999 appropriation of $5,551,000.

PAY COSTS

More than eighty percent of the OCIO's fiscal year 1999 obligations are for salaries and benefits. This leaves little flexibility for absorbing increased costs. For the past several years, we have received no added resources for pay cost increases. As a result, critical positions have been left vacant for extended periods. Despite our progress, which I will discuss, the inability to fill critical staff positions has adversely affected our ability to fully implement the Clinger-Cohen requirements and expeditiously achieve the goals we have identified. For these reasons, my office's budget includes a $197,000 increase for pay costs, consisting of $35,000 for annualization of fiscal year 1999 and $162,000 for the anticipated fiscal year 2000 pay raise.

USDA SERVICE CENTER IMPLEMENTATION

I am also pleased to report that, even though significant challenges remain, we are making progress in our efforts to permanently transform the way USDA provides service to farmers and rural America through our Service Center Modernization Initiative (SCMI). At the same time, the current farm crisis makes it clear that we must accelerate our efforts if we expect our reduced staff to respond to cyclical emergency workloads of this type or natural disasters, without disrupting all of our other program delivery.

The goal of reducing the number of county office locations from over 3,700 to under 2,600 is close to realization and should be complete this year. This represents the first step toward true "one stop service" for our customers.

Another critical step is our progress toward creating a shared or Common Computing Environment (CCE) to replace the archaic "stove pipe" information technology systems of the past. The CCE will allow agency computers to talk to one another, utilize the Internet to improve service delivery, and reduce the burden on our customers. In fiscal year 1998, USDA obligated funds for more than 16,500 workstations, at deeply discounted prices. This will allow us to install Y2K compliant computers while also moving forward with limited CCE investments to field already reengineered processes. These workstations will provide a set of common office automation tools; they will also be fully interchangeable: every new field office computer will be loaded with business applications from all of the partner agencies. An additional 5,500 computers will be purchased in fiscal year 1999 to complete the Y2K replacements. The remaining work stations will be addressed in fiscal year 2000 and 2001.

Business Process Reengineering (BPR) is being used to analyze, streamline, and integrate like Service Center processes. The Service Center Modernization Initiative

now has 17 active BPR projects dealing with customer management, program delivery, consolidated administrative processes, lending programs, and other critical processes. Fully 60 percent of the Service Center business processes are in some stage of review. An Interagency Business Integration Center has been established at Beltsville, Maryland, to fully test the reengineered processes in a laboratory environment before sending them to one or more of the nine field pilot sites that were established last year. Early results indicate that the reengineered processes, coupled with enabling technology, are yielding significantly higher benefits than we originally estimated on some processes; staff time savings in excess of 80 percent are being recorded.

The LAN/WAN/Voice Project, which provides integrated voice and telecommunications networks to the Service Centers, is also nearing completion. At the end of fiscal year 1998, nearly 85 percent of the Service Centers were installed with the remainder to be finished in fiscal year 1999. This infrastructure will provide a set of "electronic railroad" tracks for all future technology improvements to run on.

Other technology components will also change the way these agencies do business. The technical infrastructure that has been developed is based on open, interoperable systems that are flexible and able to respond to changing programs, staffing, office and organizational structure. The infrastructure includes network servers to fully connect agencies to the network and provide common e-mail and other support; powerful business applications; public access servers; and Geographic Information System (GIS) servers, which support the business activities of these agencies that are associated with land and water characteristics, capabilities, and ownership. The fiscal year 2000 Budget includes funds to begin acquiring these items. It is anticipated that, depending upon funding levels, the completion of the infrastructure will take place over three years. At that point, the full benefits of the Service Center Modernization Initiative can be achieved.

Administrative Convergence and the creation in the 2000 Budget of a consolidated account for funding the Service Center Modernization Initiative are also essential for success, particularly with the Information Technology (IT) aspects. A consolidated IT staff will be able to take advantage of the efficiencies that a common architecture brings and will ensure that we do not revert to three stove pipes in the future. The consolidated account will facilitate decision making and priority setting on an enterprise basis and will help to improve tracking and accountability.

In addition to the appropriations request, it is estimated that $16.2 million will be transferred from the Commodity Credit Corporation (CCC) to the Support Services Bureau to help support the new shared Common Computing Environment (CCE). These funds will be the remainder available under the current CCC cap for ADP expenses. Legislation is proposed to increase the cap by $105 million, to $293 million for the period through fiscal year 2002. This increase will enable CCC to meet the basic FSA ADP needs while supporting the investment in CCE.

My office provides oversight to ensure that the business processes are appropriately reengineered and drive the technology decisions and that the Service Center technology is consistent with the USDA technical architecture. We have a two-person oversight staff currently financed by reimbursement from the fiscal year 1996 Appropriation to the Secretary for implementation of "InfoShare," which was the predecessor to the SCMI, to carry out this function. We anticipate the reimbursement for this activity to end by fiscal year 2000. Therefore, an increase of $250,000 is requested to continue these positions with appropriated funds and to ensure that the USDA Service Center Modernization Implementation initiative achieves the Secretary's goals of better integrating services and modernizing delivery of programs administered by the Farm Service Agency, the Natural Resources Conservation Service, and the Rural Development mission area.

CLINGER-COHEN COMPLIANCE

Since the creation of OCIO, we have been working to implement both the guidelines and spirit of the Clinger-Cohen Act of 1996. Given the inherent complexity of the task, I am happy to report that we made progress this past year expanding the USDA Information Systems Technology Architecture, improving the Department-wide and Agency Capital Planning Processes, and developing our IT workforce planning initiative. Together these efforts are improving the way the Department acquires and uses IT, and reducing costs while increasing the productivity of USDA programs.

USDA INFORMATION SYSTEMS TECHNOLOGY ARCHITECTURE

USDA actually began designing its ISTA prior to passage of the Clinger-Cohen Act. Our first version of the ISTA was a multi agency collaboration, which served

as an essential guide for the LAN/WAN/Voice and CCE IT investments for the Service Center Modernization Initiative. However, to assure that the Department's overall technical infrastructure is interoperable, efficient, and provides effective support to achieve USDA's business goals, the ISTA requires further development and integration into Department-wide planning processes.

The Service Center agencies' use of the ISTA provides an example of the important role of an information technology architecture in successful project implementation. With varying perspectives on what were the best information technology solutions among the Service Center Agencies, the technical portion of the ISTA provided a framework for the agencies to build on and begin establishing a consensus on what to purchase and implement. The purchase of the 16,500 CCE workstations would have been impossible without the development of the ISTA technical standards. Similarly, the technical architecture has facilitated the CCE consolidation of software licensing, improving our users' ability to share applications and data while reducing costs.

Additionally, my office continues to expand and apply the initial version of the ISTA. Our update of the baseline architecture has focused on Agency business processes, information exchange requirements, the application portfolio, and identification of USDA functions and technology platforms. Thus the ISTA is a dynamic tool, which we are using in the selection phase of the Capital Planning and Investment Control and IT waiver processes to avoid duplication and ensure interoperability of all USDA IT investments.

The ISTA will ultimately modernize and transform the way we all think about delivering programs and services to our customers. With the fiscal year 2000 funding, a web-based repository to house the ISTA combined with inter-agency ISTA training will inform programs and IT staff about existing processes, applications, and standards at the initial stages of a project. Further integration of the ISTA into the Capital Planning and Budget Processes will help guide investment decisions, continue to reduce duplication across agencies, and eventually result in greater interoperability of USDA's IT systems. The fiscal year 2000 funding request includes $500,000 to meet Clinger-Cohen Act of 1996 requirements that Executive Agencies develop an information technology architecture.

CAPITAL PLANNING AND INVESTMENT CONTROL

We have also made progress implementing an Information Technology Capital Planning and Investment Control (CPIC) process, another Clinger-Cohen requirement. We are following OMB and GAO guidelines to ensure that IT investments are made in direct support of business objectives, while maximizing the value and assessing and managing the associated risks. This is not an easy task, as economic, environmental, and policy changes require the Department to find new and flexible solutions which often involve significant investments in information technology. My office requires additional resources to implement the CPIC process consistently across USDA agencies and, most important, to ensure that these investments are properly managed.

I am pleased to report that in 1998, USDA became the first large Federal Department to implement the Information Technology Portfolio System (I-TIPS), a scalable web-based software tool used to track IT projects as investments through the selection, control, and evaluation phases of the Capital Planning and Investment Control Process. Thirteen USDA agencies now use the I-TIPS selection module, exceeding our original performance goal of five. We developed I-TIPS in conjunction with the Department of Energy and the National Performance review. We are proud that in addition to USDA, I-TIPS is now being used in seven other Federal Departments.

The use of I-TIPS as a tool to provide USDA decision-makers with a better picture of our IT investment portfolio is already producing results—allowing the Executive Information Technology Investment Review Board (EITIRB), which is chaired by the Deputy Secretary, to make more informed decisions in its review and approval of the Department's IT investment portfolio.

In addition, my office has produced a USDA CPIC guide for senior decision-makers and agency planning staff. The guide explains the fundamentals of capital planning and how we are integrating the OMB guidelines and GAO model for CPIC into the USDA IT investment process.

Still, the design and implementation of a USDA-wide CPIC program and support system is a multi year effort which requires a permanent, ongoing program management staff. Skilled staff is needed to perform and review cost-benefit, return on investment, and other detailed analyses of IT investments in order to reduce as far as practical the risk of failure in the development, deployment, and operation of USDA information technology systems. The funding we have requested would be

used to train the agencies in the process and the I-TIPS tool to ensure that capital planning is applied consistently throughout our organization.

The benefits of a successful CPIC program are clear: IT investments by USDA agencies that meet their program objectives on time and within cost projections, and which support business objectives. I am requesting $500,000 in fiscal year 2000 to meet the capital planning requirements of the Clinger-Cohen Act of 1996 and the OMB Circular A–11 Part 3 requirement that Federal agencies intensify their review and analysis of information technology systems as capital assets.

PROJECT MANAGEMENT

We are also taking steps to address deficiencies in USDA's management of major information technology projects, an area cited by oversight agencies in recent years. In order to reduce risk in the development, deployment, and operation of information technology systems, my office is creating a formal project management certification program. This program will establish a standardized methodology for project management: projects will be managed consistently, resulting in increased success rates, and avoidance of cost overruns and delays. At the same time, managers will be provided with sound performance measurement tools. This initiative will also help meet the project management requirements of OMB Circular A–11 Part 3, Planning, Budgeting, and Acquisition of Capital Assets, by establishing and providing the means to track cost, schedule, and performance goals. In fiscal year 2000, I am requesting an increase of $300,000 and 2 staff-years to strengthen USDA's project management capacity.

INDEPENDENT VERIFICATION AND VALIDATION

Mr. Chairman, we have also made progress with respect to two other very important management tools which I would like to mention: Independent Validation and Verification (IV&V) and our Acquisition Moratorium.

Independent Validation and Verification (IV&V) is now a standard policy tool that my office uses to manage all large-scale USDA IT investments. At critical points in a project's life-cycle, independent experts review the issues surrounding project design, development, acquisition, and implementation.

For example, this past year an IV&V conducted by my office validated the Service Center Modernization Initiative's Common Computing Environment's cost/benefit analysis and technical alternative plans. This ensured that all appropriate business and technical details were included in the plans before any further steps were taken. Another IV&V on the Department's Foundation Financial Information System refocused the project in a new and sound direction, improving the value of the resources being allocated and the probability of the project's success.

In the coming year, we will continue to apply the lessons learned from previous IV&Vs in order ensure all significant IT investments cost effectively serve USDA program goals.

IT ACQUISITION MORATORIUM

In compliance with our fiscal year 1999 appropriation (Public Law 105–86), my office, together with the Executive Information Technology Investment Review Board, continues to review all USDA information technology investments to ensure new purchases are directed at bringing the Department into Year 2000 compliance. Any Departmental or Agency information technology acquisition over $25,000 requires a waiver from my office. These waivers are granted for emergencies and Year 2000 remediation efforts only.

The USDA IT investment moratorium is a success. Since Deputy Secretary Rominger originally issued the moratorium in November of 1996 to improve the Department's IT management, we have been better able to monitor agencies' use of funds while improving our IT decision-making processes. And, since Secretary Glickman modified the IT acquisition moratorium in August 1997, agencies have redirected a great deal of attention and dollars to Year 2000 compliance.

The IT acquisition moratorium, together with IV&V reviews have greatly improved our ability to ensure that USDA's IT projects meet USDA's business objectives and are effectively and efficiently managed.

INFORMATION TECHNOLOGY WORKFORCE PLANNING AND DEVELOPMENT

My office is also actively working on a professional development strategy to ensure that USDA's IT staffs possess the technology skills necessary to effectively deliver USDA's programs and services. In light of the current worldwide shortage of

IT professionals, there is a clear urgency in our efforts to attract and retain qualified technical staff to support the Department's modernization efforts.

As competition for IT professionals grows more intense, we face the growing challenge of keeping our skilled IT professionals. USDA is experiencing a loss of skilled IT professionals from increased competition with the private sector, and through buyouts and retirements. Since 1994, we have lost more than 11 percent of the IT professionals within the Department.

My office is collaborating with the Office of Human Resources Management and the USDA IT Workforce Planning and Development Working Group, a group composed of HR and IT specialists from several of the Department's agencies, to address this problem by providing USDA managers with recruitment and retention alternatives and flexibilities. IT employees within government know that they will not receive salaries comparable to the private sector; however, we can provide more flexibility in their work schedules, greater opportunities for career development, and management that is more sensitive to all of their work place concerns.

We are also working to implement a set of core competencies for USDA IT professionals which were developed by the CIO Council. In this effort, the Deputy Chief Information Officer, Ira Hobbs, as co-chair of the CIO Council's Education and Training Committee, is playing a leadership role in the adoption of these competencies across government. Together, these efforts support my office's management initiative to implement a professional development strategy to ensure that USDA's program and IT staffs possess the skills necessary to meet the challenges of effectively delivering programs and services with information technology. For fiscal year 2000, I am requesting an increase of $200,000 and 1 staff year to improve USDA's information technology workforce planning and development effort and to expedite the implementation of the component of the Clinger-Cohen Act of 1996 dealing with workforce development.

TELECOMMUNICATIONS

USDA also faces significant challenges with respect to improving the management of our telecommunications infrastructure. This past year, we have made progress analyzing and optimizing our telecommunications network while preparing for the Year 2000 date-change and the upcoming transition to the new GSA FTS2001 telecommunications contract. As the telecommunications industry moves from older voice to more advanced data technologies, it is crucial that the Department continue to put in place a USDA corporate telecommunications network that includes management processes and the infrastructure necessary to efficiently meet the needs of our programs today while planning for the services our customers will demand tomorrow.

The work we have done this past year on the Telecommunications Enterprise Network (TEN) Design and the Telecommunications Ordering, Billing, and Inventory System (TOBI) projects are vital steps to establishing a USDA enterprise-wide network. The TEN Design project captured the current network baseline physical description along with usage, cost, and performance statistics. The TOBI pilot project combines a revised administrative process with an off-the-shelf software application to improve the control and accounting of USDA telecommunications acquisition. These design initiatives together with our recent implementation successes represent the first steps toward a cost effective enterprise network plan.

As I mentioned earlier, the Service Center LAN/WAN/Voice project is providing the shared voice and data telecommunications infrastructure necessary to present one-face to our customers at reduced costs. Similarly, the Washington Metropolitan Area Optimization Project (WMAO) has successfully optimized our headquarters network, generating $1.3 million in cost avoidance since February 1998, allowing agencies to redirect these dollars toward their program activities. In the short-term, the WMAO project is reducing USDA costs in the Washington Metropolitan Area (WMA) while expending minimal expense and time. The long-term objectives are to implement a cost effective and centralized Configuration Management capability and provide enhanced Network Services for all USDA offices in the WMA.

Over the next year, we face significant challenges transitioning to the FTS2001 contract while continuing to reform our telecommunication management process and infrastructure. Through strong management processes we will integrate, optimize, and modernize current services. The FTS2001 transition also provides us a tremendous opportunity to refine and improve the Department-wide telecommunications network design, security, management, and standards development. The challenges associated with administratively managing two networks will be significant while simultaneously managing the implementation, operation, and disconnection of services.

Greater emphasis is being placed on aligning program delivery with appropriate IT solutions. More efficient use of telecommunications personnel, equipment and services will be achieved through institutionalizing structured processes in which IT activity within USDA and its agencies is directed toward building a common information infrastructure for the greater agriculture community of interest.

To meet these challenges, I am happy to report the addition of a new Associate Chief Information Officer of Telecommunications Services and Operations to my senior management team. Filling this position has already significantly enhanced our ability to provide day to day leadership while assuming long term strategic planning responsibilities for the network.

INFORMATION TECHNOLOGY SECURITY

Information technology officials across the Federal government today agree that information security will be the next priority IT issue following Year 2000. Every day, the information that USDA agencies manage affects the financial markets and lives of individuals. We must exercise due diligence in its protection. As we achieve greater ease in the dissemination of information, the Department must walk a fine line between information exchange and information protection: this is especially important in an age of instant access and global exchange. As networks expand and connect, security concerns will expand exponentially.

In May 1998, President Clinton signed Presidential Decision Directives (PDD) 62, "Combating Terrorism," and PDD 63, "Protecting America's Critical Infrastructure." These directives lay out a dramatically new approach to protecting the nation against unconventional threats and assign new responsibilities to agencies for protecting their critical infrastructures, especially their cyber-based systems.

To meet these new requirements, we established a USDA Critical Infrastructure Assurance Task Force, consisting of security and telecommunications specialists. The task force is charged with developing a plan to heighten awareness about risks to our information systems and strategies, and cost-effectively and efficiently protect USDA's critical infrastructure.

Plans, policies, and procedures must also be centrally developed and managed to afford the greatest protection to the Department as a whole. Without them, it is reasonable to assume that unauthorized intrusions will continue and probably increase in both frequency and severity. Currently, my office provides Department-wide guidance and training on information security issues. Departmental policies either issued or currently under review focus on software piracy, e-mail security and privacy, and Internet firewall and network incident responses. My office also participates with leading government security organizations to ensure the Department's security policies and practices are up-to-date.

The additional staff year and funding that I have requested are necessary to thoroughly examine our critical infrastructures, identify vulnerabilities, develop strategies to mitigate unacceptable risk, and fully meet requirements of PDD 62 and PDD 63. The staff-year will serve as the Contracting Officer Technical Representative and administer the contracts required for this initiative and related critical infrastructure protection projects which address continuity of government and disaster recovery requirements.

Current USDA spending on information technology security as a percentage of total IT spending is about ten times below the industry average. Thus, coordination by my office is essential to leverage agency and Departmental Administration resources and ensure USDA's Critical Infrastructure Assurance plan is thorough, effective, and economical. For this purpose, I am requesting an increase of $500,000 and 1 staff-year in fiscal year 2000 to support USDA information security initiatives.

YEAR 2000 STRATEGY

Along with security, our highest priority is to ensure that USDA's programs and services are not adversely affected by the Year 2000 problem. The Department continues to maintain a strong management approach to effectively respond to the challenges of Year 2000 remediation and ensure that our systems and operations are Year 2000 compliant. We have expanded our efforts in several areas since I met with you last year. During the past year USDA has:

—Expanded the responsibility and accountability for Year 2000 remediation to all agency senior executives by establishing a critical element in their performance standards.

—Provided Department-wide guidance in several areas of Year 2000 remediation, including testing, independent validation and verification, and business con-

tinuity and contingency planning. This guidance has followed the General Accounting Office approach.

—Continued to enforce a procurement moratorium requiring CIO approval of any IT acquisition over $25,000

—Requested and received $37,789,000 in supplemental emergency appropriations for Year 2000 conversion, for which I thank you and the Committee members. This money is being applied to remediation efforts in the areas of business continuity and contingency planning, testing and validation, equipment and facilities with embedded chips, hardware and software improvements, outreach and technical assistance.

—Completed the development of mission area business continuity and contingency plans. Each mission area has examined their strategic goals and objectives and identified their core business processes to ensure business continuity for all programs and services.

—Conducted independent validation and verification assessments of Year 2000 remediation in several areas, including systems remediation, buildings and facilities, and program management.

—Took a leadership role on the President's Council on Year 2000 Conversion, including membership on most of the Council's working groups which cover various sectors. These include: benefits payments, building operations, education, emergency services, energy (electric power), finance (banking, guarantee agencies & investments), health care, housing, human services, insurance, international trade, science & technology, small business, telecommunications, transportation, and water & wastewater. USDA chairs the Food Supply Working Group where we are leading assessment and outreach to the food supply sector.

—Expanded the usage of an Internet-based reporting system which allows agencies to input system information, including descriptions, milestones, and current status, and information from contingency plans. The information provides USDA with a "real time" status of Year 2000 remediation which assists managers, oversight organizations and the general public who have an interest in the progress of USDA's Year 2000 efforts.

The most recent quarterly report to the Office of Management and Budget was submitted in February 1999. As of March 1, 1999, we are tracking 353 systems, of which 285 (81 percent) are already compliant. We have designated 52 of those mission-critical systems as Departmental Priority systems, which have major impact regarding Americans' health, safety or finances, or have significant economic impact. Of the 266 mission-critical systems being repaired, 260 (98 percent) are now renovated, 245 (92 percent) are now validated and 234 (88 percent) are now compliant. There are 32 mission-critical systems scheduled for repair which have not completed the entire repair process. All are expected to be implemented by March 31, 1999. There are 30 systems remaining to be replaced. All but six mission critical systems are expected to be implemented by March 31, 1999. Once a system has completed the repair or replacement process, the Agency Executive Sponsor must certify the system as Year 2000 compliant, thereby ensuring the system fulfills its program as well as technical requirements.

Even though we have made significant progress, our work is far from done. During the remainder of this year we will continue to work on our non-mission critical systems. We are redoubling our efforts to assure that our facilities, laboratories, and telecommunications equipment are functional. And we will continue to test all of our systems to assure that the Department is fully prepared well before January 1, 2000. Recognizing that not everything is within our immediate control, we will also focus on business continuity requirements and continue to make contingency plans so that all of our programs will be delivered even if some glitches do occur. We are also continuing to work with all of our partners, state and private, to ensure that food stamps, other nutrition programs, loan and other programs will not be adversely affected.

And we will continue our work with the President's Council on Year 2000 Conversion where USDA heads the Food Supply Working Group and has representation on fourteen other working groups. We will continue to work with the food industry to access the Year 2000 state of readiness of the food supply, and provide the American public accurate information so they can make rational, as opposed to irrational, preparations for January 1, 2000.

CONCLUSION

Mr. Chairman and members of the Committee, let me conclude by saying again that I am privileged to serve as the Chief Information Officer at the USDA.

These are exciting and challenging times. As I have indicated, we are making progress toward meeting all of the challenges before us. However, our work is far from done, and in some respect USDA is still at the very beginning of what will clearly be the most far reaching transformation in its history.

USDA, like all of government and the private sector, is faced with a tremendous opportunity to harness new technologies that are forever changing the way we deliver programs and provide services to the American people, improving our efficiency and our effectiveness. As we do this, we must face the emerging cyber-terrorist threat by protecting our critical information infrastructures. To meet these challenges, we must effectively manage the substantial resources which you have entrusted to us on behalf of taxpayers. During the past year, we have moved forward in implementing some important management tools to help us get the job done. With your help, we will continue to move forward.

I look forward to working with you, and I will respond to any questions you have at this time.

OFFICE OF CIVIL RIGHTS

PREPARED STATEMENT OF ROSALIND D. GRAY, DIRECTOR

Mr. Chairman and Members of the Subcommittee, I am pleased to present the fiscal year 2000 budget request for the Office of Civil Rights. I was appointed Director, Office of Civil Rights, on July 13, 1998, and have full responsibility for civil rights at USDA. Last year the Acting Assistant Secretary for Administration presented the budget statement and reported to you on the first year's progress in implementing the Civil Rights Action Team's—CRAT—recommendations for strengthening civil rights and diversity efforts at the Department of Agriculture—USDA. Today I am reporting on additional progress we have made toward moving USDA to a stronger position and record on civil rights enforcement.

TREAT ALL FAIRLY AND EQUITABLY WITH DIGNITY AND RESPECT

The Department's overall civil rights and diversity goal is to treat every customer and every employee fairly and equitably, and with dignity and respect. We have implemented new policies and procedures to achieve that goal. More than two dozen Departmental regulations and directives have been drafted and issued. Training and assistance is being provided to help the agencies assure that all employees understand and practice the new policies, procedures and guidelines. Also, an accountability system has been put in place to help assure that all employees comply with the intent of our new civil rights effort.

ASSURE ALL HAVE FULL ACCESS TO ALL PROGRAMS AND SERVICES

Another major civil rights goal is to assure that all potential customers have access to all USDA programs and services. All USDA employees have been asked to study and comply with the February 25, 1998, "Equal Opportunity Public Notification Policy"—Departmental Regulation 4300–3, the January 14, 1998, policy on "Communicating with Under-served Customers"—DR 4360–1, and the March 16, 1998, "Civil Rights Policy for the Department of Agriculture"—DR 4300–6. These directives delineate USDA policy and assure that all customers have access to USDA programs and services. In addition, the nondiscrimination statement is displayed in all offices and on all publications, making information about programs and services available to all through concerted efforts using alternative formats for those with sight or hearing impairments or for those who need the information in alternative languages. In partnership with community-based organizations and other groups, we use nontraditional communication channels to reach the hard-to-reach, and make all offices and meeting facilities handicap-accessible.

STAFF REFLECT THE DIVERSITY OF THE COMMUNITY

Another major civil rights and diversity goal of the Department is to eliminate under-representation of minorities, women, and people with disabilities in the workforce by recruiting and employing a highly skilled, competent and diverse workforce. The Department will create a workforce that reflects the diversity of the community. Recruiting efforts are expanding to better reach under-represented candidates. Agencies are required to do workforce climate surveys of their employees each year and exit interviews when employees leave the agency in order to surface employees' issues and assess employees' satisfaction with working conditions. Moreover, agencies are required to assess the reason for complaints and to take the corrective ac-

tion necessary to improve conditions that may cause under-represented employees to prematurely leave the agency. Also, we have created a "USDA Training and Development Consortium," that is responsible for providing the leadership for competency-based training of supervisors and managers. Interactive training will enhance "people skills" and is critical for establishing and maintaining a positive work environment that encourages and supports a diverse workforce.

MOST BACKLOG COMPLAINTS RESOLVED

In 1999, the Department entered a consent decree with the Plaintiffs in the class action lawsuit, Pigford vs. Glickman. The consent decree provides for processing African American farmers' discrimination complaints filed between January 1, 1981, and December 31, 1996.

We have resolved most of the old backlog of complaints that dated back as far as the early 1980's. There were 1,088 program discrimination cases in the backlog. The backlog cases are resolved with the exception of 10 cases where complainants did not accept a resolution offer, 8 assisted cases which require further investigation, and the class member cases. The program discrimination cases in the backlog that were part of the consent decree will generally be processed outside the Department. In addition, more than 1,500 of 2,142 cases that were in the backlog of employment discrimination cases are resolved.

In October 1998, we established the Early Case Resolution Taskforce to prevent or reduce the further delay in the resolution of discrimination complaints that were filed with USDA and, subsequently backlogged, and ensured that cases previously closed were done in accordance with CR policies and regulations. Departmental regulations for processing employment and program discrimination complaints have been approved and procedures for implementation are drafted. The new complaints process is designed to resolve program discrimination complaints in a timely manner—generally within 180 days.

OTHER SPECIFIC ACCOMPLISHMENTS

A new Conflict Resolution Center and new conflict management policies and procedures will lead to early resolution of many conflicts and misunderstandings before they become formal complaints. Early intervention, mediation and alternative dispute resolution will be used throughout the Department.

State Outreach Councils in each State to provide leadership and coordinate efforts to assure that all potential customers have full access to all USDA programs and services. These councils are made up of our top USDA agency heads in the State, key State officials such as the State Commissioners of Agriculture, and elected officials of State, local, and tribal governments.

Every USDA employee is required to have training in civil rights and diversity. Training is also offered to many cooperators, committee members, and volunteers. All who interact with our customers must understand our civil rights policies and regulations.

Special management training is provided to our top and mid-level managers and supervisors because many of the discrimination complaints stem from poor management practices such as simply not communicating well enough with customers and employees so that they understand why certain decisions are made.

Some loan application forms have been simplified so that it is less burdensome and time-consuming to apply for a small loan. In addition, the time required to approve some of our loans has been reduced.

For the first time in USDA history, agency managers are being held accountable—at the Department level—for achieving annual civil rights objectives. In fiscal year 1998, the Assistant Secretary for Administration—ASA—and I, as Director of Civil Rights, rated the agency administrators and staff office directors on their civil rights performance.

In fiscal year 1998, USDA focused on the process and procedures whereby agencies would be accountable for civil rights. The agencies were required to provide monthly reports on their progress in fulfilling the CRAT recommendations. The Office of Civil Rights received the data, assessed it, and the ASA and Civil Rights Director provided feedback to the agencies about whether or not they were fulfilling the intent of the CRAT recommendations and fully implementing the new civil rights policies and procedures.

In fiscal year 1999, we are continuing to hold the agency heads and staff office directors accountable for civil rights. However, this year the focus is more on the achievement of end results.

Special attention is being given to holding agencies accountable for taking documented, positive actions resulting in: disciplining managers and employees who dis-

criminate, complying with settlement agreements, improving workforce diversity, and holding all managers and employees—at headquarters and the field level—responsible and accountable for civil rights.

Agencies are expected to produce concrete results from increased attention to civil rights. For example, we expect agencies to report increases in service to small, minority, and women-owned firms, and other under-served farmers, businesses, and organizations. We also expect agencies to show evidence that their efforts to diversify the workforce—at all grade levels and in all occupations—actually resulted in a more diverse workforce.

OFFICE OF CIVIL RIGHTS BUDGET REQUEST

Within the amount requested for Departmental Administration for fiscal year 2000 is a budget request of $14,868,000 for Civil Rights. This is $2,041,000 over the fiscal year 1999 level of funding for Civil Rights. It includes $802,000 to improve employment complaints processing, and to enhance information system management, and $837,000 to prepare for case increases due to cases that are now eligible for processing under the statute of limitations waiver for program civil rights complaints. Mandatory pay cost increases will require $402,000.

CONCLUSION

Mr. Chairman and members of the Subcommittee, we are making good progress toward our goal of treating all customers and employees fairly and equitably with dignity and respect. I appreciate the very strong support this Subcommittee has given us. I welcome any questions that you may have.

OFFICE OF COMMUNICATIONS

PREPARED STATEMENT OF TOM AMONTREE, DIRECTOR OF COMMUNICATIONS

Mr. Chairman and members of the Subcommittee, I am pleased to discuss the fiscal year 2000 request for the Department of Agriculture's Office of Communications—OC.

As Congress defined in 1862 what would become today's U.S. Department of Agriculture, a major goal of that law was to charge the Agriculture Department with the responsibility to acquire and disseminate to the people of the United States information on subjects connected with agriculture. The communication coordination that fully implements that mandate is directed today by the Office of Communications.

The public learns about USDA's programs, functions and initiatives through a centrally coordinated communications effort led by the Office of Communications. Customers and constituency groups, who depend on the Department, are served directly by communication activities that span all of USDA's seven major mission areas. At the same time, the Office of Communications provides leadership and central services that enhance communications with USDA's employees throughout the Nation.

The Office of Communications is adopting new technologies to meet the increased demands for information. Using the Internet's world wide web, radio, television and teleconference facilities, we are able to ensure that the millions of Americans whose lives are affected by USDA's programs receive the latest and most complete information. The Office of Communications' 5-year strategic goal is:

To support the Department in creating a full awareness among the American public about USDA's major initiatives and services. A complete knowledge by the general public—and specific publics, including USDA employees—about USDA initiatives, policies, and programs is essential to effective customer services and efficient program delivery and should result in more citizensespecially those in underserved communities and geographic areasavailing themselves of USDA services and information that will help them in their daily lives.

The Office of Communications will continue to take an active part in policy and program management discussions, coordinating the public communication of USDA initiatives. OC will continue to provide centralized operations for the production, review, and distribution of USDA messages to its customers and the general public, and OC will monitor and evaluate the results of these communications.

The Office of Communications will continue to acquire and instruct staff in using the most effective and efficient communications technology, methods, and standards in carrying out communications plans.

OC intends to improve communications with USDA employees, especially those away from headquarters. OC will help employees understand USDA's general goals and policy priorities, to become more familiar with USDA programs and services, and to understand initiatives, especially cross-cutting ones, and how they relate to each employee's specific job duties.

Our office is working hard to ensure compliance with Government Performance and Results Act. We will work to update USDA regulations and guidelines for communications; conducting regular training sessions for USDA communications staffs about using communication technologies and processes to enhance public service; fostering accountability for communications management performance throughout USDA; and continuing to work to create a more efficient, effective and centralized Office of Communications.

The Office of Communications will provide equal opportunity for employment and promote an atmosphere that values individual differences. OC will continue to provide equal opportunity for contracting goods and services. OC will increase availability of USDA information to underserved communities and geographic areas to ensure equal opportunity in USDA's outreach efforts, and will continue to develop universally accessible information products.

FISCAL YEAR 2000 BUDGET REQUEST

The Office of Communications is requesting a budget of $9,300,000. This is a net increase of $1,162,000 over our fiscal year 1999 appropriation. The net increase would cover additional personnel costs of $303,000 for pay costs, $588,000 for Electronic Access to Information, $70,000 for an Outreach and Education Program for Underserved Groups, and $201,000 to cover increased costs of critical Department-level communications coordination and dissemination. This effort is directly related to OC's accomplishment of its annual performance goal to improve communication efforts with the public and agricultural industry through live satellite teleconferences, radio, and television special programs.

Without the funding for the Electronic Access to Information initiative, the Office of Communications will be seriously handicapped in providing information in the format and with the timeliness required by USDA clientele and the American public. Specialized computer and digital equipment are required to record, edit and prepare messages acceptable to the media and accessible to the public through the Internet. State-of-the-art computers are needed by the streamlined Office of Communications staff to effectively perform its internal communications coordination function, as well as to promptly and fully respond to this surge of interest to acquire audio, video and print information electronically.

As fiscal year 2000 begins, we will be in the final, critical stages of information dissemination that will assure the American public that food security will not be adversely affected by year 2000 issues. The $201,000 request is essential for us to expand the communications efforts that will let an informed public respond appropriately to this potential crisis. Additionally, we require $70,000 for an expanded outreach and education program for underserved groups. The $303,000 request for pay costs comes at the end of 3 years of straight-lined funding and is needed to maintain an already significantly downsized Office of Communications.

Office of Communications' initiatives are modest, but crucial requests that will place the Office of Communications in the best and most responsive position for meeting communications needs of our customers and the American public in the 21st Century.

This concludes my statement, Mr. Chairman. I will be pleased to respond to any questions.

OFFICE OF THE GENERAL COUNSEL

PREPARED STATEMENT OF CHARLES R. RAWLS, GENERAL COUNSEL

INTRODUCTION

Mr. Chairman and members of the Subcommittee, I am pleased to have this opportunity to present our fiscal year 2000 budget request and to also provide you with an overview of our agency to include some of the current activities and issues facing the Department.

MISSION

The Office of the General Counsel (OGC) is the law office for the Department. As an independent, central agency within the Department, OGC provides all legal serv-

ices necessary to support the programs and activities of USDA. OGC provides legal advice and services to the Secretary of Agriculture and other officials of the Department of Agriculture with respect to all USDA programs and activities.

ORGANIZATION

OGC's services are provided through 12 Divisions in Washington and 18 field locations. The headquarters for OGC is located in Washington, D.C. The Office is directed by a General Counsel, a Deputy General Counsel, a Director for Administration and Resource Management, and six Associate General Counsels. The attorneys located in headquarters are generally grouped in relation to the agency or agencies served. Our field structure consists of five regional offices, each headed by a Regional Attorney, and 13 branch offices. The field offices typically provide legal services to USDA officials in regional, State, or local offices.

Currently, we have on-board, 234 attorneys and 113 support staff, including paralegals, in the Washington, D.C. headquarters and field locations. Approximately half of our personnel are located in the field.

CURRENT ACTIVITIES AND ISSUES

During the past year, OGC has supported the activities of the Foreign Agricultural Service (FAS) in the implementation of a number of major initiatives and we anticipate the need for significant continuing involvement in the coming year. Our involvement in these areas will include assisting the Office of the United States Trade Representative (USTR) and FAS officials with enforcement of the commitments received in the Uruguay Round Agreement on Agriculture and providing assistance in pursuit of additional commitments in future negotiations. We also anticipate extensive involvement in foreign assistance activities as FAS carries out implementation of extensive humanitarian aid initiatives.

OGC will continue to play an instrumental role with respect to the formulation and implementation of international trade-related agreements such as the Mutual Recognition Agreement concerning veterinary biologics and the International Plant Protection Convention, as well as having a role in preparation for the World Trade Organization (WTO) Sanitary-Phytosantiary Committee meeting. OGC has been and will continue to be involved in the preparations for the new round of WTO negotiations to strengthen international trading rules and in addressing specific issues such as credit and credit guarantees and expanded free trade in the Americas.

OGC will continue to be actively involved in the development and application of present international trading rules. The United States has recently invoked the WTO dispute settlement procedures in several agricultural matters with significant OGC involvement. For example, we anticipate continued participation in WTO proceedings challenging the European Union's (EU's) export subsidy on processed cheese, Japanese phytosanitary issues and Canadian dairy export subsidies and access for U.S. products, as well as ensuring EU compliance with the WTO decision striking the ban on imports of meat produced with growth-promoting hormones. OGC has also been active in consultations with South Korea regarding access to its market and in connection with issues involving the Israel Free Trade Agreement.

During the past year, OGC has also been involved in the implementation of major initiatives relating to foreign assistance that will continue to demand attention during the coming year. One of the major OGC accomplishments during this past year was the development of the legal framework for the removal of surplus wheat from the domestic market under the authority of the Commodity Credit Corporation (CCC) Charter Act and the subsequent disposal of these commodities by CCC in support of the "President's Food Aid Initiative." Under this initiative, CCC is exporting a large volume of wheat to meet humanitarian food needs overseas under section 416(b) of the Agricultural Act of 1949. Similarly, OGC provided extensive assistance to FAS officials as they concluded an understanding with the Russian government on key elements of a food assistance package totaling 3.1 million tons of agricultural commodities. The package includes a donation of 1.5 million tons of wheat under section 416(b) as well as concessional sale activity under Public Law 83–480 involving a variety of U.S. agricultural commodities. In addition, OGC reviewed numerous documents relating to the donation of another 100,000 tons of various commodities to private relief organizations conducting operations in Russia.

OGC continues to be actively involved in other FAS and CCC foreign program areas, including export credit, supplier credit, and facilities guarantee programs. We anticipate that there will be significant increases in requests for OGC assistance in fiscal year 2000 due to the upcoming round of negotiations on agriculture in the WTO and the continued efforts of the Department to increase exports in response to the various financial crises around the world.

Attorneys in OGC have continued to provide assistance in the Production Flexibility Contract Program authorized by the Federal Agriculture Improvement and Reform Act of 1996. The sudden decline this past summer in commodity prices for the major grains and oilseeds resulted in a substantial increase in the need for OGC assistance with respect to numerous issues related to marketing assistance loans and loan deficiency payments. Similarly, OGC attorneys have worked closely with officials of the Department, particularly with personnel of the Farm Service Agency (FSA), to implement the various disaster and marketing loss assistance provisions of the Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 1999. These new authorities involve more than $5.5 billion in expenditures. Furthermore, OGC worked with FSA and other agencies in crafting a means of providing aid to hog producers who have suffered through disastrously low prices during this past year. This included developing a program to make $50 million in payments available to hog producers using authority provided for in section 32 of the Act of August 24, 1935, which had not been utilized since 1961.

OGC continues to provide FSA with needed assistance in connection with conservation programs such as the Conservation Reserve Program, which is in the midst of another successful sign-up. Additionally, during this year, OGC helped FSA draft and finalize new Conservation Reserve Enhancement Program (CREP) agreements with the States of North Carolina, New York, Oregon, and Washington.

The tobacco program and tobacco-related issues have continued to raise difficult legal issues. After a very successful series of criminal prosecutions involving a widespread problem with tobacco marketings that took place in 1990–1992, FSA, with OGC assistance, has now begun to initiate civil actions to collect monies from warehouses where over-quota tobacco may have been marketed. Also, OGC has provided needed advice on issues arising out of the various proposed "national settlements" for tobacco which have come before the agency. OGC attorneys are assisting the Department of Justice in responding to an appeal filed in the United States Court of Appeals for the Fourth Circuit by tobacco warehouse operators challenging administrative penalties imposed upon them.

With respect to USDA's domestic food assistance programs, OGC has been heavily involved in efforts related to the implementation and enforcement of new legislation aimed at welfare reform and other program improvements, as well as the ongoing program integrity and compliance initiatives. We expect the demand for legal services in connection with these activities to remain constant in fiscal years 1999 and 2000.

More specifically, during this past year, OGC attorneys worked closely with the Food and Nutrition Service (FNS) to develop the Administration's proposals for and/or implement the provisions of: the Agricultural Research, Extension, and Education Reform Act of 1998 (AREERA), Public Law 105–185; the William F. Goodling Child Nutrition Reauthorization Act of 1998 (Goodling Act), Public Law 105–336; the Balanced Budget Act of 1997, Public Law 105–33; and the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, Division C of Public Law 104–208. In particular, OGC is providing assistance in connection with the implementation of the food stamp administrative payment reduction provisions of AREERA and the changes to the Child Nutrition programs brought about by the Goodling Act, such as new services for at-risk school children and others up to 19 years of age and revisions to eligibility and reimbursement provisions of the Child and Adult Care Food Program. Challenges have been raised by potential food stamp participants concerning the implementation by some States of certain welfare reform provisions initiated by the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA), Public Law 104–193. These issues concern State food stamp policies with respect to applicant awareness and access to the Food Stamp Program. It is expected that similar "welfare-to-work" issues may be raised as States continue to reform their welfare policies.

The implementation of the alien provisions of the PRWORA continues to generate litigation in several States. OGC is representing USDA's interests in ongoing interagency discussions aimed at providing a uniform and predictable test for determining when the receipt of benefits renders an alien deportable, inadmissable or ineligible for adjustment of alien status as a result of being likely to become a public charge.

In addition, OGC coordinated USDA's legal work in connection with the first suspension action taken against a dairy operation determined by State weights and measures inspectors to have provided under-filled (shortweighted) half pints of milk to schools participating in the National School Lunch Program. The 8 shortweighting results, in some cases, half pint cartons lacked as much as half an ounce of milk, prompted a closely orchestrated effort by State weights and measures offi-

cials, State procurement officials, USDA agency personnel and OGC attorneys to institute corrective and prospective action by the dairy operation.

OGC continued to address numerous issues arising from the nationwide rollout of electronic benefit transfer (EBT) in the Food Stamp Program and demonstrations of the use of EBT in other food assistance programs. Electronic delivery of benefits has shown significant results in terms of reduced costs and improved program integrity, as well as other improvements. For these reasons, the use of EBT systems are a top priority of the Food Stamp Program.

We have provided substantial support to the Department's food safety activities. Last year as you know, the HACCP rule was implemented in the nation's largest meat and poultry plants. In January of this year, HACCP became operational in over 2800 additional plants nationwide. We have worked very hard with the Food Safety and Inspection Service (FSIS) over the last year to ensure successful implementation of these pathogen reduction and HACCP system requirements. We provided daily support to FSIS not only for implementation of HACCP inspection procedures but also on an array of rulemaking initiatives to improve and streamline the food safety and inspection system regulations. These regulatory initiatives have included a proposal to permit the use of ionizing radiation to treat refrigerated and frozen uncooked meat food products to reduce levels of food-borne pathogens in these products; the finalization of rules that would eliminate highly prescriptive sanitation regulations and replace them with performance standards giving plants flexibility to innovate and better ensure good sanitation practices tailored to each establishment; and a proposed rule governing retained water in poultry that would eliminate unnecessary differences between meat and poultry processing requirements.

We also provided legal support for enforcement actions under the meat and poultry inspection laws. We have handled an array of criminal, civil and administrative cases involving violations of those laws and as well as actions for the withdrawal and suspension of inspection services, or termination of the custom exemption, from meat and poultry establishments where compliance was lacking. OGC assisted the Department of Justice (DOJ) in appellate litigation which challenged the Department's application of meat and poultry inspection laws to retail stores that seek to distribute meat and poultry products to kiosks located in shopping malls. We are currently working with DOJ in a lawsuit filed in the U.S. District Court for the District of Columbia by the American Federation of Government Employees, the Community Nutrition Institute and eight FSIS food inspectors, challenging the validity of the Pathogen Reduction/HACCP regulations and FSIS' decision to test new inspection models that we believe will lead to more effective inspection and better use of scarce inspection resources.

In the past year, OGC has provided extensive legal services to the Agricultural Marketing Service (AMS) in various matters and will continue to work closely with AMS on some of these matters as well as new issues that will arise in the year ahead. OGC continues to provide assistance in the reform and consolidation of federal dairy marketing orders. A proposed rule was issued on January 21, 1998, after extensive review and revision by our office. AMS is currently evaluating and considering thousands of comments submitted in response to the proposal. The Department is required by Congress to issue a final decision between February and April 1999, and to implement the final rule on October 1, 1999.

The organic standards rulemaking will continue to be an OGC priority during the coming year. On December 16, 1997, a proposed rule was published that would establish a National Organic Program under the Organic Foods Production Act of 1990. The proposal generated over 275,000 comments. These comments ranged from simple opposition to all or portions of the proposal to more complex and substantive comments, raising a variety of policy and legal issues concerning the proposal and issuance of a final rule. Currently, we are working with the organic program staff on drafting a revised proposed rule that will address concerns raised by the comments.

The Commodity Promotion, Research, and Information Act of 1996 provides general authority for the Secretary to issue orders establishing new research and promotion programs. Prior to enactment of this statute, research and promotion programs were authorized under individual statutory authorities. The 1996 Act provides authority to tailor a program according to the individual needs of an industry. On November 6, 1998, a proposed rule was published in the Federal Register that would provide for an industry funded promotion, research and information program for peanuts, and representatives of the olive oil, dry bean, seafood, asparagus, forestry products, macadamia nuts and sweet corn industries have expressed interest in establishing programs. We will continue to work with AMS as these new research and promotion programs develop.

In 1998, the Supreme Court denied the motion for reconsideration in *Glickman* v. *Wileman,* thus ending the First Amendment constitutional challenge to the tree fruit advertising program. On the basis of the decision in *Wileman,* the United States Court of Appeals for the Ninth Circuit dismissed *Cal-Almond* v. *United States Department of Agriculture* and the Supreme Court subsequently declined to review that dismissal. The challenge to the almond advertising program, and the argument that it is significantly different that the tree fruit program since it allows credit for a handler's branded advertising, also has been rejected. The Supreme Court's rulings in *Wileman* and *Cal-Almond* raised several dormant legal matters. Almost $7,000,000 of assessments held in a trust fund were turned over to the tree fruit administrative committee. An audit was conducted and it was found that approximately $11,000 was still owed by various handlers. The Department is in the process of obtaining a judgment for the remainder and seeking collection. Motions will also be heard in early 1999 to collect the remaining unpaid assessments under the almond marketing order. The handlers are resisting collection with various technical arguments and a significant amount of the funds are held by the *Saulsbury Almond* bankruptcy trustee. Finally, there are on-going challenges to several other advertising and promotion programs which claim to be distinguishable from *Wileman* because these programs were created by free-standing legislation and not by marketing orders. So far the Tenth Circuit Court of Appeals and District Courts in California, Michigan, and Tennessee have rejected these challenges. Despite a complete lack of success by the handlers, it is expected that the challenges will drag-on as appeals are pursued.

We work very closely with Animal and Plant Health Inspection Service (APHIS) in connection with its regulatory activities related to the development of regulations that will allow new commodities to enter U.S. markets while ensuring that America's agricultural resources are not impaired and that plant and animal health in the U.S. are not compromised. These regulations have included requirements for an array of commodities, ranging from fruits and vegetables, to animals and animal products. They include the importation of pork from Yucatan and Sonora, Mexico, importation of ruminants and ruminant products from South Africa, and the importation requirements for animal and animal products from the European Union.

We dedicated significant resources to defending a lawsuit brought by several environmental groups for alleged violations of the National Environmental Policy Act in connection with APHIS regulations governing the importation of logs, lumber, and unmanufactured wood products. In the early phase of the lawsuit, the plaintiffs obtained an injunction that prevented APHIS from issuing permits for the importation of certain wood products until a supplemental environmental impact statement (SEIS) was prepared. Our attorneys assisted APHIS in preparing an exceptionally comprehensive SEIS and ensuring that it was responsive to the Court's order. The SEIS was issued by APHIS in May of 1998. I am pleased to report that the district court accepted and approved the SEIS findings, dissolved the injunction, and dismissed the case.

APHIS' work on the SEIS led to the identification of additional import issues involving wood and wood products that needed to be addressed because of their significant pest risk potential. Principal among these issues was the pest risk posed by solid wood packing material. We assisted in the preparation of an interim rule, promulgated on September 18, 1998, prohibiting solid wood packing materials (SWPM) from China, and with an advance notice of proposed rulemaking published in the Federal Register in January of 1999 dealing with SWPM from all countries.

We also handled a variety of administrative and federal court cases on behalf of APHIS to enforce its regulations. These cases have included prosecutions for violations of the standards for accredited veterinarians, the illegal importation of fruits and vegetables through Canada, and violations of regulations governing the importation of Haas avocados from Mexico into the United States.

We assisted APHIS with the development of a new international agreement permitting the construction of a sterile screwworm production facility in Panama that will help ensure the continued success of the screwworm eradication program.

OGC continues to provide significant legal services to the Animal and Plant Health Inspection Service (APHIS). In 1995 and 1996 APHIS conducted a negotiated rulemaking involving the complete revision of the regulations governing the humane handling, care, treatment, and transportation of marine mammals held in captivity. OGC provided substantial legal services to APHIS throughout the negotiated rulemaking process, and recently, provided substantial drafting and review services to APHIS in preparation for the publication of the proposed rule. Because all of the stakeholders participated in the formulation of the proposed rule, we do not expect that this rulemaking will be as controversial as other animal welfare rulemakings.

We do expect, however, that this rulemaking will require the need for continued legal services in fiscal year 1999.

In 1995 APHIS also published a proposed rule to develop new regulations for marine mammals used in human-dolphin interactive programs. This program is popularly known as Swim-with-the-Dolphin or SWTD. The final rule became effective on October 5, 1998. OGC has provided substantial legal services to APHIS throughout this rulemaking. OGC continues to provide substantial legal assistance to APHIS because of subsequent concerns raised by the marine mammal public display industry regarding the scope of the final rule. APHIS will be publishing in the near future a notice seeking comment from the industry on all aspects of the rule. We anticipate that this process will be very contentious because of the number of interest groups involved, and we expect that APHIS will have to engage in further rulemaking, which will require the need for continued legal services.

In the Trade Practices area, we are continuing to give assistance and counsel to the Secretary on issues of concentration in agriculture and the continuing response of the Department to recommendations of the Advisory Committee on Agricultural Concentration. We prosecuted the nation's largest packer administratively on allegations that the packer gave an undue or unreasonable preference to certain feedlots in the procurement of cattle. The Department's Judicial Officer dismissed the majority of the case, but found one provision of the procurement agreement to be in violation of the Packers and Stockyards Act and issued a cease and desist order. That decision is now before the U.S. Court of Appeals for the 8th Circuit for decision. We are working with agency personnel on a number of investigations into procurement, pricing and competition in areas of production where there are high levels of concentration. We are continuing to prosecute cases involving financial or payment violations and we provide legal services in a number of investigations and enforcement actions involving allegations of false or misleading statements or representations or commercial bribery in the marketing of agricultural products.

OGC also provides legal services to agencies which manage some of America's largest lending portfolios. The ongoing implementation of the Centralized Processing Center (CSC) for Single Family Rural Housing loans continues to require substantial legal resources. OGC continues to be heavily involved in debt collection and foreclosure work with many cases going back to the emergency loan programs of the 1970's and 1980's. Implementation of the Debt Collection Improvement Act of 1996 and the flexibility gradually being made available under the Rural Community Advancement Program of the 1996 Act also requires substantial legal resources. OGC also is providing legal advice concerning the designation of five additional empowerment zones authorized by the Taxpayer Relief Act of 1997 and 20 additional rural enterprise communities authorized by the Agriculture, Rural Development, Food and Drug Administration and Related Agencies Appropriations Act of 1999.

The Secretary is committed to regulatory reform. We continue to work with Department officials to implement the President's regulatory reform package. This is a significant undertaking as we work with agencies throughout USDA to reduce regulatory burdens, eliminate obsolete or unnecessary regulatory requirements, and streamline regulations, particularly in the areas of rural, farm and utility lending. This year we look for a substantial push in this area from the Rural Utilities Service (RUS), Farm Service Agency (FSA), Rural Business-Cooperative Service (RBS), and Rural Housing Service (RHS).

OGC provided considerable assistance to RUS on a range of matters related to the changing electric and telecommunications industries. In particular, the introduction of competition in the electric industry has resulted in increased demand for legal services by RUS on a number of key electric program matters. For example, OGC has provided legal services in connection with the restructuring of borrowers' power supply arrangements through mergers, alliances, and other types of reorganizations and through the renegotiation of borrowers' power supply contracts. OGC has also dedicated substantial resources to the negotiation and drafting of new security arrangements for some large power supply borrowers. These arrangements, patterned after indentures used in the private sector, will provide borrowers with more flexibility in operating in the new competitive environment while facilitating access to private market financing.

As a result of the Telecommunications Act of 1996, which introduced deregulation and competition to the telecommunications industry, the RUS telecommunications program is facing a wide range of issues and concerns requiring legal services. These include issues of loan purposes, loan security and borrower structure as well as the impact of FCC orders implementing the Telecommunications Act on RUS borrowers and program interests. RUS for the first time made distance learning and telemedicine (DLT) loans in addition to its DLT grants. Legal assistance is required both in the promulgation of new regulations implementing the DLT program and

in developing the documents for these loans and grants. One should not underestimate the legal resources which will be required by the movement to deregulate in the rural electric and telecommunications area.

In the natural resources area, we have been involved in a number of extremely significant undertakings concerning national forest management and natural resources conservation programs. We also assisted our clients, the Forest Service and the Natural Resources Conservation Service, daily in legally advancing their program goals.

We have provided assistance nationally to the Natural Resources Conservation Service in implementing a number of conservation programs, including the Environmental Quality Improvement Program (EQIP), the Wildlife Habitat Incentive Program, the Wetlands Reserve Program (WRP), the Farmland Protection Program, the Conservation Farm Option and Emergency Watershed Protection Program. In addition, we have provided legal services in support of the Clean Water Action Plan, including the EPA/USDA Joint Strategy for Animal Feeding Operations and the Watershed Approach for Management of Federal Lands.

Management of our National Forests is a subject of intense debate and litigation, with a great deal of legal work generated by the impact of new scientific information on ongoing Forest Service projects and commitments. Legal questions include interpretation of the nature of forest planning in light of the recent Supreme Court ruling (*Ohio Forestry Association* v. *Sierra Club*), the relationship of the Endangered Species Act to the forest planning process, and revisions and appeals of the second generation of forest plans. OGC provided assistance to the Department of Justice regarding the scope of the government's obligations under the Endangered Species Act. The U.S. Court of Appeals for the 5th Circuit held that federal agencies are required by the Act to implement programs to conserve endangered and threatened species and to consult with the Fish and Wildlife Service as to individual species.

Further, we are defending against numerous timber sale claims arising from contract modifications and suspensions to protect the habitat of endangered species and assisting the Forest Service with new timber sale contracting authority commonly referred to as stewardship contracting. We also successfully defended challenges in several places in the West by local governments and individuals under the so called "County Supremacy" movement disputing federal ownership or jurisdiction over public lands. We are currently involved in appeal of a district court decision involving a land claim of the Pueblo of Sandia to thousands of acres of the Cibolla National Forest north of Albuquerque, New Mexico.

We have also devoted substantial resources to other legislative and regulatory initiatives, such as land exchanges, relicensing of hydro electric projects, grazing reform, reauthorization of the Endangered Species Act, the Safe Drinking Water Act and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Litigation which raises a question regarding application of a statute of limitations to CERCLA natural resource damages claims by federal trustees is pending before the Court of Appeals for the 9th Circuit. OGC also provided the Forest Service with support in the administration of the National Forest lands as they are affected by the complex statutes related to mineral exploration.

In addition, we regularly provide advice on compliance and litigation arising under the pollution control laws. Most frequently, pollution control issues involve abandoned and inactive mines and landfills on federal lands, the use and storage of agricultural chemicals, and management of hazardous waste at agricultural research facilities. We have worked with other federal resource management agencies on implementation of executive authority under CERCLA to address cleanup of hazardous substances affecting federal resources.

As the Administration and the Congress continue their efforts to re-invent the Federal government, and as the Department takes its own initiatives to make its delivery of services more efficient, streamlined, and customer friendly, we anticipate greater demands on the General Law Division. These range from providing legal services regarding personnel and labor matters; increased legal services in relation to the Freedom of Information Act and the Privacy Act; debt collection initiatives; Year 2000 compliance; and legal support for creative approaches of doing more with less through mechanisms such as partnering.

Among its many responsibilities, the General Law Division provides legal services to the National Appeals Division (NAD). Agency implementation of new administrative offset procedures pursuant to the Debt Collection Improvement Act of 1996 continue to resonate in numerous appeals to NAD, resulting in legal questions regarding the intersection of the offset process and the NAD appeal process.

As NAD determinations begin to be challenged in the district and appellate courts, novel issues have begun to arise regarding exhaustion of administrative rem-

edies, district versus claims court jurisdiction, implementation of NAD determinations, and discovery.

With regard to the procurement of property and services, the Clinger-Cohen Act of 1996 set in motion many changes still in evolution regarding the acquisition, use, and disposal of information technology by the Federal Government. In particular, the General Law Division will continue to devote substantial resources to assist the Chief Information Officer created by the Act in fulfilling her duties both under the Act, and under separate Secretarial mandates, to improve information technology management in the Department.

Also, with regard to procurement, since the 1996 revision of the General Accounting Office protest rules, which in effect requires agency legal representation, the General Law Division has provided an enhanced level of legal representation of USDA agencies in such matters.

As its name implies, the Agricultural Research, Extension, and Education Reform Act of 1998 contained numerous provisions regarding priority-setting, public input, and greater accountability in research, education, and extension programs, both within the Department and among our land-grant partners. Those reform provisions with the greatest impact become effective on October 1, 1999. Considerable resources will be expended in fiscal year 1999 and fiscal year 2000 to ensure that this deadline is met and to ensure a smooth transition to the applicable requirements to research, extension, and education grant funds awarded in fiscal year 2000.

Over the past few years the Department has taken measures to improve the operations of its agencies and improve how its agencies service their customers. In February 1999, USDA took another significant step in that direction by converging the administrative support functions of the Rural Development mission area, the Farm Service Agency, and the Natural Resources Conservation Service into a single entity, the Support Services Bureau ("SSB"). The General Law Division provided legal advice with respect to the formulation of the SSB. It is anticipated that as the SSB is implemented, significant attorney resources will be required to address numerous legal issues involving labor law, personnel law, administrative law, fiscal law, and leasing of office space.

Besides the labor law issues that will be attendant to restructuring and downsizing, changes have occurred in the OGC itself that will require the attorney resources of the General Law Division in the coming year. Last year the American Federation of Government Employees was elected as the exclusive representative under the Federal Service Labor Management Relations Statute ("FSLMR") of both professional and non-professional employees of OGC in field locations. During this process, General Law Division attorneys advised OGC managers regarding issues under the FSLMR. It is anticipated that General Law Division assistance will continue to be required in implementing management responsibilities under the FSLMR and negotiating collective bargaining agreements with the new units.

We continue to provide legislative drafting and related assistance to the Department and Congress on major legislative activities that involve the Department. Extensive assistance was provided to Department policy officials and Congressional staffs in drafting and analyzing various legislative proposals recently considered by Congress, including proposals in connection with the Goodling; AREERA; the Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 1999 (Pub. L. No. 105–277); and the Plant Protection Act (HR 3766). We are preparing legislation to improve the Department's conservation and trade assistance programs. In addition, we are participating in the preparation of legislation in a number of areas in support of the President's fiscal year 2000 budget request for the Department.

Over the past two years the Department has engaged in massive efforts to reform its civil rights performance. The Secretary wants to ensure that all of our customers and employees are treated with dignity and respect and are afforded equal employment opportunity and equal access to all USDA programs. Critical to the achievement of these goals was the creation of the Civil Rights Division (CRD) within OGC, staffed with attorneys who have specialized expertise in civil rights law, and are charged with providing legal services to the Secretary and all agencies of the Department on civil rights legal issues.

The CRD played a very critical role in the settlement of the *Pigford* and *Brewington* litigation. Both cases are class actions filed by African American farmers who have filed administrative complaints of discrimination with USDA since 1981 alleging race discrimination in Farm Service Agency programs. The consent decree received preliminary approval on January 5, 1999. A fairness hearing on the settlement was held on March 2, 1999. When the consent decree is given final approval by the court, it will provide a framework for the adjudication of claims of African American farmers who believe they suffered discrimination by the Department

in connection with USDA credit and benefit programs during the period January 1, 1981 through December 31, 1996. The settlement will help the Department open a more constructive front in its efforts to be the Federal civil rights leader in the 21st century.

Key to settlement of the *Pigford* and *Brewington* cases was the enactment last year the waiver of various statutes of limitations, that allows farmers with longstanding discrimination complaints to have their claims finally heard. Section 741 of the Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 1999, enacted in section 101(a), Division A, of the Omnibus Consolidated and Emergency Supplemental Appropriations Act, 1999, Pub. L. No. 105–277. The Associate General Counsel for Civil Rights and the Assistant General Counsel for Legislation worked with Departmental officials, members and staffs of the House and Senate, DOJ officials, and White House officials to bring about enactment of the statute of limitations waiver language in the budget bill. CRD also worked some with GLD and the Associate General Counsel for Legislation, Litigation, and General Law in drafting regulations to implement the new law. 63 Fed. Reg. 67392 et seq. (Dec. 4, 1998) (codified at 7 C.F.R. Part 15f). The success of this work shows the potential when the different divisions work in cooperation. cooperation.

Settlement of the *Pigford* and *Brewington* and any case in which a farmer alleges discrimination can only include damages if the claim alleges credit discrimination and the Department or the courts find that discrimination occurred in our credit programs. The limitation on the Department's ability to award damages in conducted discrimination cases was made clear by the 1994 Opinion of the Office of Legal Counsel (OLC), Department of Justice entitled Authority of USDA to Award Monetary Relief For Discrimination. In its opinion, OLC ruled that, in cases of alleged discrimination in a USDA conducted program, such as FSA farm loan programs, the Secretary has authority to award monetary relief, attorneys' fees, and costs if a court could award such relief in an action by the aggrieved person. However, after examining Title VI of the Civil Rights Act of 1964, the Fair Housing Act, the Rehabilitation Act, and the Equal Credit Opportunity Act (ECOA), OLC concluded that only ECOA waives sovereign immunity with respect to monetary relief, authorizing imposition of compensatory damages by the Department. In light of this opinion, OGC issued memoranda to the Office of Civil Rights that made clear that CR can settle farmer discrimination case for monetary damages only if the case involves credit discrimination and only to the extent a court could award damages given the facts of the case.

With respect to the *Pigford* and *Brewington* settlement, CRD will take the leading role to ensure that USDA meets its commitments under the consent decree, particularly with respect to the production of relevant documents and necessary legal analysis related to each claim filed pursuant to the consent decree. CRD is working with the FSA, the Office of Civil Rights (CR), and the DOJ to develop rapid responses to claims and to help ensure that the Government's responses are timely and appropriate.

With respect to farmer discrimination claims not covered by the *Pigford* and *Brewington* settlement, CRD will work with CR to ensure that all claims, including those filed pursuant to the statute of limitations waiver, receive expeditious and fair consideration, within the bounds set by applicable law.

The number of employment discrimination cases filed against the Department has increased dramatically. CRD and OGC field offices are defending the Department in administrative litigation before the Equal Employment Opportunity Commission (EEOC) and are working with DOJ to ensure the best possible defense in court.

In *Donnelly* v. *Glickman,* C–95–4389 DLJ, a class action filed in Federal district court on behalf of female employees of the Region 5 (California) of the Forest Service, a negotiated settlement is near. In a related matter, the Government is negotiating with the Forest Service Region 5 Regional Hispanic Working Group to negotiate settlement of issues similar to those raised in *Donnelly* before litigation is filed. In both negotiations, CRD attorneys are working with the OGC Regional Attorney, DOJ, and Departmental officials in Washington, chiefly in developing settlement proposals for the negotiations and participating in the negotiations. CRD is performing the Department's goals of addressing legitimate concerns of the plaintiffs and addressing systemic issues that will hopefully prevent future litigation.

Similarly, in *Herron* v. *Glickman,* EEOC No. 100–98–7120X, a class action pending before EEOC in Washington, filed on behalf of African American employees of FSA, alleging that African American employees at the GS 12, 13, and 14 levels were being prevented from obtaining promotions to the GS 13, 14, and 15 levels respectively, CRD has completed several months of discovery and is now discussing litigation and settlement options with the FSA Administrator and the Under Secretary.

To address other employment issues, CRD will intensify its efforts to provide training and technical assistance to OGC field attorneys and to Department officials, civil rights directors, and employee relations specialists. The goal is to identify and address issues before they become litigation. Where issues are identified, CRD will bring the issues to the attention of appropriate Department officials, with legal analysis and recommendations for addressing the issues.

Drafting and reviewing nondiscrimination regulations is part of CRD's mission. In 1998, CRD drafted a proposed published regulation governing nondiscrimination in programs and activities conducted by USDA which will delete 7 C.F.R. Part 15, Subpart B, which deals with programs and activities receiving Federal financial assistance from USDA—and create a new 7 C.F.R. Part 15d that will deal exclusively with conducted programs. CRD is in the process of finalizing the regulation for publication. The new 7 C.F.R. Part 15d would clarify that the regulation applies to all USDA conducted programs and activities; add familial status, marital status and sexual orientation to the protected classes contained in the regulation; add a provision concerning USDA agencies' compliance efforts; add public assistance status as a prohibited basis under authority in the Equal Credit Opportunity Act (ECOA); add a prohibition against reprisal; and reflect Secretary's Memorandum 1010–4 (May 16, 1997), which further delegated to the CR Director the authority to make final determinations on complaints and order corrective actions. The regulation has been published, the comment period has ended and the final regulation will be published soon.

In 1998, CRD worked with CR on a number of nondiscrimination Departmental Regulations (DRs) to further the effort to reform the Department's civil rights enforcement program: DR 1614, Processing EEO Complaints of Discrimination; DR 4330–2, Nondiscrimination in USDA Conducted Programs and Activities; and DR 4330–1, Nondiscrimination in Programs and Activities Receiving Federal Financial Assistance from USDA. The Departmental regulations are near completion.

CRD is assisting more and more agencies in developing proposed regulations that would require recipients of Federal financial assistance to collect certain participation data on "protected classes," such as race, color, religion, national origin, sex, age, and disability. This work is critical to ensuring compliance with Title VI of the Civil Rights Act of 1964 and other statutes that prohibit recipients of Federal financial assistance from discriminating with respect to the programs for which they are receiving Federal financial assistance.

CRD drafted a Secretary's Memoranda and Secretary's Decision Memorandum creating a uniform policy on adverse actions against individuals who have filed complaints of discrimination against USDA. These documents are near completion and will begin the clearance process shortly.

CRD will continue to write memoranda giving advice and legal opinions on a number of civil rights topics. A current project relates to the Department's authority to provide compensatory damages in discrimination cases arising in Federally conducted programs.

CRD's most important work is in assisting agencies and administrators in complying with the letter and spirit of civil rights laws, thereby avoiding unnecessary litigation, in providing training and ongoing advice and other legal service. Training, however, is just one component. The development of ongoing working and collaborative relationships between CRD and agency officials is critical and will be a great part of CRD's work this year.

FISCAL YEAR 2000 BUDGET REQUEST

For fiscal year 2000, OGC is requesting $32,675,000 in direct appropriations. This request represents a significant increase of $3,481,000 over the fiscal year 1999 appropriation. The requested increase is needed to support and maintain current staffing levels to meet the current and projected increased demand in delivering predecisional legal advice, training, appeal and litigation legal services to agencies. The majority of the increase consists of $1,159,000 for pay costs, which OGC does not have any flexibility for absorbing and $1,621,000 to maintain current staff and provide enhanced legal services in specific areas where staffing is insufficient to adequately meet demands for legal services generated by the Department. The remaining $701,000 is necessary for the office to meet processing requirements into the year 2000 and beyond. OGC anticipates migrating fully to Windows 98, replacing and or upgrading 15 file servers along with 50 percent of the personal computers. The requirement to upgrade the hardware will be a continuing process as the technology continues to change.

CLOSING

That concludes my statement, Mr. Chairman. We very much appreciate the support this Subcommittee has given us in the past. Thank you.

OFFICE OF INSPECTOR GENERAL

PREPARED STATEMENT OF ROGER C. VIADERO, INSPECTOR GENERAL

INTRODUCTION AND OVERVIEW

Good afternoon, Mr. Chairman and members of the Committee. I am pleased to have this opportunity to visit with you today to discuss the activities of the Office of Inspector General (OIG) and to provide you with information on our audits and investigations of some of the major programs and operations of the U.S. Department of Agriculture (USDA).

Before I begin, I would like to introduce the members of my staff who are here with me today: Jim Ebbitt, Assistant Inspector General for Audit; Greg Seybold, Assistant Inspector General for Investigations; and Del Thornsbury, Director of our Resources Management Division. I want to thank the Committee for its support during the nearly 4½ years since my appointment as Inspector General. We have tried to work closely with you, and I hope that we have been able to address some of your concerns.

OIG's mission is to perform audits and investigations of the Department's more than 300 programs and operations, recommend policies and actions to promote economy and efficiency, and prevent and detect fraud, waste, and mismanagement in these programs and operations. We keep you and the Secretary informed about problems and deficiencies and report criminal violations to the U.S. Attorney General. We have a diverse staff of auditors, criminal investigators, and other personnel in offices throughout the Nation to carry out these activities.

I am proud to say that in fiscal year 1998, we continued to more than pay our own way. In the audit arena, we issued 220 audit reports and obtained management's agreement on 1,122 recommendations. Our audits resulted in questioned costs of over $112 million. Also, as a result of our audit work, management agreed to recover more than $39 million and put another $128 million to better use. Most importantly, implementation of our recommendations by USDA managers will result in more effective operations of USDA programs. Additionally, our investigative staff completed 815 investigations and obtained 777 indictments, 604 convictions, and 2,780 arrests. Investigations also resulted in $81 million in fines, restitutions, other recoveries, and penalties during the year.

We continued to work closely with agency officials during fiscal year 1998 to address key issues and to expand our cooperation with other Federal, State, and local law enforcement and audit agencies to broaden the impact of our work. Working together, our staffs identified program weaknesses and program violators. Capitalizing on the staffs' respective expertise, we created solutions for positive action.

In fiscal year 1999, we are focusing our efforts primarily on food safety and smuggling of uninspected, unapproved food products carrying unwanted pests and diseases into the United States that affect the wholesomeness of the Nation's food supply. We are also focusing our audit efforts on the Department's financial accounting systems; farm credit programs; the Rural Rental Housing Program; the Food Stamp Program, including its Electronic Benefits Transfer efforts; and the Child and Adult Care Food Program. In addition to investigations and emergency responses to threats to the health and safety of food, our investigative priorities include investigations of sponsors abusing the child and adult care programs; employee integrity issues; and fraud in the Department's loan, regulatory, and benefit programs. Before I discuss some of our specific audit and investigative activities, I would like to update the Committee on the status of our forfeiture authority.

I am pleased to report to you that on the forfeiture front, with this Committee's strong support, we are now authorized to receive proceeds from forfeiture actions arising from our investigations. Our memorandum of understanding was signed with the Department of Justice in May of last year and, since that time, we have been a fully participating agency in the Justice Department's Asset Forfeiture Fund.

Special Health and Safety Initiative

Mr. Chairman, at this time, I would like to discuss our special law enforcement request for fiscal year 2000. This effort will be a major endeavor for the agency, and we ask your support to provide the resources necessary for it.

The quality or wholesomeness of the Nation's food supply, from production to the consumer, is of special concern to OIG. Investigations of any criminal activity that poses a threat to the general health and safety of the public remain our highest priority. Criminal investigations have usually involved the processing and sale of adulterated meat or poultry and egg products; criminal tampering with food products consumed by the public; and product substitution, adulteration, or other misrepresentation of food products which are regulated or purchased by USDA.

Recent and ongoing investigations involving real or alleged threats to food products intended for the public have necessitated the immediate deployment of OIG special agents and auditors to several U.S. cities. These cases have involved real or threatened adulteration or contamination of meat with everything from E. coli bacteria or Listeria to HIV-infected human blood. Some of these products were destined for or actually ended up in the National School Lunch Program or on military bases.

To address these types of emergencies, we are entering into joint activities with other Federal and State agencies to share intelligence and conduct undercover operations. Doing so will help us stem the threat to the food supply from packing plants and other facilities and target criminal enterprise in general.

The increasing threat to the wholesomeness of domestic and exported food requires not only vigilance but also advanced preparedness including preemptive operations. Profit-motivated criminal activity that threatens the food industry can cause economic disruption while victimizing innocent members of the industry. Likewise, threats of criminal adulteration and biological contamination of food products from outside the food industry for extortion or ideological motives can victimize and disrupt the Nation's food production and distribution systems. These threats must be resolved through a vigilant, established emergency law enforcement and health and safety response.

A threat in a Milwaukee, Wisconsin, meat plant is a prime example of these types of dangers. This past December, the plant received a threat of biological contamination using HIV-infected human blood. We immediately deployed 30 OIG special agents (including eight bilingual agents to converse with Spanish-speaking plant employees) and four auditors to the scene to determine the validity of the threat and to identify those responsible. Personnel from the Food Safety and Inspection Service (FSIS) assisted in this investigation, with FSIS staff taking the lead role in ensuring that potential contaminants had not been introduced into the food chain. Our investigative efforts to resolve this bioterrorism threat continue. Approximately 580 interviews have been conducted to date. I am pleased to be able to report that extensive testing of samples taken from the plant has not indicated the presence of human HIV-infected blood.

In another significant case, an OIG Emergency Response Team was dispatched to a Nebraska meat plant to investigate an outbreak of E. coli bacteria when 15 people in Colorado became ill after eating ground beef patties that came from the plant. Two plant officials have been indicted and await trial for misleading FSIS and OIG during our attempts to determine the source of the E. coli bacteria. Some 25 million pounds of ground beef were recalled due to this contamination, which, at that time, was the largest meat recall ever in the Nation.

Additionally, we are currently investigating a significant case involving another meat company alleged to have intentionally adulterated and misbranded beef and pork products, which have also tested positive for E. coli bacteria. Approximately 4.4 million pounds of this company's meat product containing ground pork or ground beef are under voluntary hold at various school districts, prisons, military institutions, and other facilities. In addition, another 1.6 million pounds of this product are being retained or detained at other facilities.

We have also investigated other cases in which the health and safety of the public were at serious risk. In Buffalo, New York, three feed company employees pled guilty to Federal charges and await sentencing for their role in selling canned meat products to the public which were unfit for human consumption. This product was being shipped from a Canadian company to the feed company to be used as animal food but was diverted by these individuals to be sold for human consumption. In a second case in New York, an FSIS inspector pled guilty in Federal court and was sentenced to 6 months in prison for accepting bribes from the owner of a slaughter facility to permit the slaughter of livestock, including 3-D (dead, diseased, or dying) cows, without the benefit of inspection. In Pennsylvania, the owner of a slaughterhouse pled guilty to conspiracy, while three employees pled guilty to violating the Federal Meat Inspection Act. These individuals were caught slaughtering 3-D cows after the FSIS inspector had left the premises and then commingling the unwholesome product with meat that had been inspected.

We have initiated audits of the new food safety procedures for inspecting meat and poultry plants, the Hazard Analysis Critical Control Point system, or HACCP.

Since an increasing number of processing plants are becoming subject to HACCP, the safety and wholesomeness of the Nation's meat and poultry supply are dependent on HACCP being successfully implemented. Meanwhile, our efforts to actively address the problems of food safety, posed by those who put it at jeopardy and who are motivated by profit or ideology, present special concerns for us. OIG needs to be prepared to immediately respond to these emergency situations. To do so, we must be equipped with the specialized equipment, protective clothing, and supplies necessary to ensure the health and safety of our personnel responding to these crises.

We also need to be mindful of the economic impact of closing a major food processing plant. To our knowledge, the Milwaukee plant I mentioned earlier had violated no laws and had been successfully implementing HACCP inspection procedures. Yet, its production line was successfully halted by outside forces, tons of its product were put on hold, and the facility was temporarily shutdown. OIG's rapid response and deployment of considerable staff resources not only helped to protect the health and safety of consumers, but it also allowed the plant to reopen—reemploying approximately 1,500 people with a minimum disruption of production, lost profit, and impact on the local economy as opposed to an indefinite and costly closure.

The costs of rapid responses by OIG such as this are great. In addition to the personnel time and the disruption to other critical OIG work, to date, we have expended approximately $40,000 in unanticipated travel costs in the Wisconsin investigation alone. This figure will continue to rise until the matter is resolved.

Another form of criminal enterprise that poses a significant threat to the Nation's food supply and its economic well-being is smuggling of uninspected, unapproved food products into the United States. A direct result, and a byproduct of smuggling, is the danger that forms of pestilence—whether insects, fungi, bacteria, or viruses—not previously present in the United States could be introduced here. As a result, entire crops of the U.S. agricultural industry—such as citrus, vegetables, trees and other plants, or beef, poultry, and pork products—could be severely damaged, devastating the economy of the local communities producing these products as well as reducing both the quantity and quality of the Nation's food supply.

The Administration has begun a new initiative to counteract the invasion of unwanted and mostly foreign species of plants and animals. By Executive Order, the President has established an Invasive Species Council, which the Secretary of Agriculture will Co-chair, to ensure a safe and wholesome food supply and prevent the spread of unwanted, invasive pests.

OIG has begun an antismuggling campaign to interdict and suppress foreign contraband that is dangerous when consumed by the American population, and potentially catastrophic to the economic stability of certain U.S. agricultural products. Ongoing criminal investigations are targeting smuggled fruits, vegetables, plants, and other commodities or animals that bring high dollars in underground "black market" commerce. This initiative requires significant agent resources dedicated to intelligence collection, undercover operations, and foreign law enforcement cooperative efforts that cross international boundaries. These activities normally require extensive surveillance utilizing high-tech investigative devices and equipment.

The smuggling of infested fruits into the United States is a serious law enforcement problem because the criminal profit is tremendous while the deterrent is grossly inadequate at present. Longans are a good example. Longans are prized Asian fruits. They cost $1 a pound from distributors in Taiwan and are sold illegally in U.S. markets at $7 to $10 per pound. Often they are contaminated with fruit flies. Although banned in the United States, sealed containerized shipments of longans are routinely, and legally, allowed into U.S. ports for transshipment to Canada. Intelligence efforts have documented that semi-trucks, which can carry 40,000 pounds or more of containerized longans, have transported shipments into Canada, where the fruit is not prohibited, only to turn around and smuggle the shipments back into the United States, thus, allowing for pest infestations in this country.

One well-known example of a devastating pest that has been introduced into this country is the Mediterranean fruit fly, commonly called Medfly. One of the world's most destructive agricultural pests, it attacks more than 250 kinds of fruits, nuts, and vegetables, causing major economic losses. Whole States can be beset with severe crop losses and economic problems caused by this and other such pests. In the past 4 years, Florida has been faced with severe outbreaks of oriental fruit fly, citrus leaf miner, brown citrus aphid, citrus canker, African beetle, leather leaf anthracnose, pine short beetle, and sweet potato fly in addition to the Medfly infestations. Animal pests and disease importation are a severe problem in Florida and, due to the favorable climate in most of the southeastern United States, the pests and diseases could easily spread throughout that area. The costs to protect the in-

dustry are staggering. Since 1980, over $256 million in California State and Federal funds has been spent to eradicate Medfly infestations in quarantined areas. In the last 10 years, Florida has spent more than $150 million to eradicate such infestations.

The risk to the agricultural industry, including exports, is clear. The State of California alone produces over $25 billion in fruits, nuts, and vegetables annually—about 55 percent of the Nation's output. About $11.8 billion of these commodities is exported to other countries each year.

In carrying out successful smuggling investigations, OIG must perform extensive travel; procure and maintain the necessary specialized equipment needed to investigate these incidents; provide essential protective supplies and/or equipment to ensure the health and safety of our agents and auditors; and provide specialized training to our staff to prepare them to cover various types of such emergencies. OIG must also provide state-of-the-art Y2K compliant ADP equipment and systems to track data; analyze intelligence-based information; and provide faster, more responsive information to better support this mission work. All of these items are essential to ensure that OIG can adequately address this critical public health and safety issue concerning the quality and wholesomeness of the Nation's food supply.

Mr. Chairman, at this time, I would like to highlight some of our other audit and investigative activities.

AUDIT AND INVESTIGATIONS ACTIVITIES

MARKETING AND REGULATORY PROGRAMS

ANIMAL AND PLANT HEALTH INSPECTION SERVICE (APHIS)

We have investigated various types of criminal acts involving APHIS programs. An investigation in San Francisco, California, provides a good example. In this case, two businessmen pled guilty to causing the delivery of misbranded food for introduction into interstate commerce in this case. A joint investigation conducted by OIG, the U.S. Customs Service, and the U.S. Food and Drug Administration disclosed that the businessmen smuggled bird nests, abalone, fish maw, scallops, and dried oysters from Hong Kong by commingling these products with their legitimate imports of frozen shark fins and other food products. The two businessmen received 3 years' probation and were each ordered to pay a $3,000 fine and restitution of $1,500. A third individual is pending trial on similar charges.

In Oregon, six individuals are awaiting sentencing after they pled guilty on Federal charges of theft for their part in a conspiracy to fraudulently acquire and sell over 100 dogs to medical research facilities. The six defendants have also agreed to testify against a former USDA-licensed dog dealer, her husband, and their son, who have all been indicted for conspiracy and mail fraud related to the scheme. Our investigation disclosed that the dealer and her associates either stole dogs or obtained them under false pretenses over a 15-month period. The dealer then falsified APHIS forms in order to conceal her activities. She also forwarded false documents to the Oregon State Department of Agriculture.

AGRICULTURAL MARKETING SERVICE (AMS)

Oversight of the Fluid Milk Promotion Program Needs Strengthening

Our review of the Fluid Milk Promotion Program indicated that AMS and the National Fluid Milk Promotion Board need to improve their oversight and controls over the program's activities to ensure that assessments on fluid milk are used in accordance with the Fluid Milk Promotion Act. Those assessments, from approximately 370 processors, totaled about $169 million from December 1993 through June 1997.

Neither AMS nor the Board provided adequate management or oversight of program activities. AMS left most oversight efforts to the Board. The Board delegated most administrative functions to two contractors and was not actively involved in the day-to-day operations of the program. One contractor, the Milk Industry Foundation, was responsible for performing various management and administrative services. The other contractor, the Board's Administrator, was responsible for collecting assessments, accounting for funds, and performing compliance reviews. These services were provided through contracts with the Administrator's public accounting firm. Altogether, the Board's Administrator, either as an individual or through his firm, had three sole-source contracts with the Board.

Although AMS was responsible for reviewing and approving all contracts, the Board paid over $127 million for contracts, representing 75 percent of the funds collected through the program, without AMS' approval. The Board entered into these

sole-source contracts without any competition to ensure the most cost-effective procurement of services.

The Act requires that the Board obtain title to all assets developed using program funds. In one case, the contract to procure photographs, taken as part of a major milk-marketing campaign, the popular "Milk Mustache" or "Got Milk" advertising campaign, did not include language to secure title to the photographs. Consequently, the program expended almost $130,000 in royalties for the continued use of the photographs. The photographer still has control and possession of the photographs, which were developed using over $2.7 million in program funds.

Overall, neither AMS nor the Board has determined, as required by the Act, whether the program has resulted in increased milk consumption. While this marketing campaign has been highly visible in the marketplace, no independent studies have been performed to determine the campaign's impact on fluid milk consumption.

We recommended that AMS: (1) suspend Board program activities until a plan is developed whereby the Board will take full control of its activities and comply with the Act, including establishing guidelines for awarding contracts to ensure that contracted goods and services are obtained in the most cost-effective manner; (2) require the Board to determine the effectiveness of its research and promotion activities to increase fluid milk consumption; (3) require the Board to obtain AMS approval on all contracts before any funds are obligated or expended and that the Board obtain title and possession of all assets acquired with program funds; and (4) require the Board to assure that audits of its books and records are conducted using generally accepted Government auditing standards. AMS did not agree to suspend the Board's activities. However, it has agreed to institute improvements and is continuing to work with the Fluid Milk Board to strengthen management controls.

FOOD, NUTRITION, AND CONSUMER SERVICES

FOOD AND NUTRITION SERVICE (FNS)

Operation Talon

In previous testimony, I informed you we had initiated "Operation Talon." This special law enforcement initiative, made possible by the passage of Welfare Reform, involves the exchange of information between law enforcement and State social services agencies. Specifically, law enforcement fugitive records are matched with social service agencies' food stamp recipient records, and the information is used by law enforcement officers to locate and apprehend dangerous and violent fugitive felons who may also be illegally receiving food stamp benefits.

Overall, Operation Talon has been the most successful investigative initiative we have yet undertaken. To date, this initiative has resulted in the arrest of over 3,650 fugitive felons. This has included 26 wanted for murder or attempted murder; 11 for rape or attempted rape; 8 for kidnapping; and 1,202 for assault, robbery, or drug offenses. This has also resulted in the arrest of 18 fugitive felons wanted for child molestation. A number of States are removing arrested fugitives from their food stamp rolls, which will result in savings to the Food Stamp Program and allow food stamp benefits to continue to go to the needy for whom they were intended. One particularly rewarding note is that 2 of the 18 fugitives wanted for child molestation have also been charged with violating State "Megan's Law" statutes. In one of these cases, OIG and the Hudson County, New Jersey, Sheriff's Department arrested a convicted child molester for failing to register as a sex offender. The fugitive had moved without notifying appropriate State officials and eluded the authorities until he provided his new address to participate in the Food Stamp Program.

One recent Operation Talon success was in Austin, Texas, where our special agents worked with Texas law enforcement officials in apprehending over 75 fugitive felons. We have additional warrants and anticipate the arrest of numerous other fugitive felons in this highly successful operation. Operation Talon is an ongoing initiative, and, working with local law enforcement agencies, we are planning future arrest operations in many parts of the country.

Food Stamp Program (FSP)—Coupon Trafficking

We are continuing to devote significant investigative resources to combat fraud in the Food Stamp Program. Ever since the program began distributing food stamps to needy Americans, unscrupulous people have been willing to devise methods to unlawfully benefit from this important program. There are basically two types of traffickers—the street traffickers who buy or barter food stamps or EBT card benefits for cash or other nonfood items, and the retailers who purchase or redeem unlawfully obtained food stamps or cards from eligible recipients.

We have conducted several significant food stamp trafficking cases in the last year. Investigations conducted of large-scale fraud operations in New York, Philadel-

phia, and Detroit are good examples of these. In these investigations, we have thus far identified 55 store owners and employees involved in the unlawful acquisition of some $99 million in food stamp benefits. This has resulted in the arrest and conviction of many of these individuals, some of whom have been sentenced to prison terms and ordered to pay millions of dollars in restitution. Our investigations into these matters continue, and we anticipate additional persons will be charged.

Child and Adult Care Food Program (CACFP)

Last year, I testified about a special law enforcement initiative we had undertaken with one of the targeted programs being CACFP. I indicated that we would continue "sweeps" of program sponsors to find those who are abusing the program to remove them from sponsorship, to prosecute them if warranted, and to recover ineligible payments. Since last year, our CACFP initiative has been designated as a Presidential Initiative which we named Operation "Kiddie Care."

Our efforts have been very successful. Currently, we have 29 open CACFP investigations. As of December 1998, 54 sponsors in 23 States were being audited or investigated. We identified 37 sponsors as being seriously deficient, a term used by FNS to designate sponsors who could be terminated from the program unless the deficiencies are addressed promptly. Fourteen sponsors, who had been receiving a total of $24.4 million annually, have been terminated from the program.

In Ohio, seven persons, including the director of the sponsoring organization operating a local child and adult care food program, pled guilty to conspiracy to submit false claims for issuing or receiving reimbursement payments for in-home day care providers who did not exist or did not have children in the home. This ongoing investigation has identified 11 people to date who conspired to set up more than 40 false providers. This conspiracy, which had been ongoing since 1988, resulted in the submission of false claims for reimbursements totaling about $1.1 million. The investigation continues with additional prosecutions anticipated.

In another California case, an executive director of a sponsor retained food reimbursements to cover the salary he claimed to earn in California while he was actually working for another enterprise and living in Wisconsin. He also had a vehicle in Wisconsin for his personal use which was being paid for by the California sponsor. We are currently investigating about $231,000 of program funds paid to this individual.

We will continue with Operation "Kiddie Care" as long as we find evidence that abuses exist. Returning integrity to this important feeding program and protecting the resources of the American taxpayer are high priorities for OIG and FNS.

Special Supplemental Food Program for Women, Infants, and Children (WIC)

One of the primary purposes of the WIC program is to provide funds to pregnant women and families with small children to allow them to purchase certain nutritious food items. In an effort to curb fraud in the WIC program, we are continuing our investigative activities in this area. One such investigation occurred in conjunction with the Columbus, Ohio, Division of Police; the Ohio Department of Taxation; and the Franklin County prosecutor where we conducted a 12-month undercover investigation into trafficking of WIC infant formula and untaxed cigarettes. Investigators determined that store owners and a wholesaler received the formula through the black market, removed its "not for retail sale" marking, and sold it commercially in area stores and to businesses in other States. In two separate "buy-bust" cases, store owners and managers were arrested for illegally purchasing hundreds of cases of WIC formula and hundreds of thousands of cartons of untaxed cigarettes. Both investigations were linked to a Columbus commodity wholesaler at whose warehouses between $500,000 and $1 million in commodities were seized. The owner and the manager of the first "buy-bust" case pled guilty to racketeering and trafficking in WIC benefits and untaxed cigarettes. The owner and manager in the second case pled guilty to trafficking in WIC benefits and untaxed cigarettes. Their corporation pled guilty to racketeering, and the wholesaler is now a fugitive.

FARM AND FOREIGN AGRICULTURAL SERVICES

FARM SERVICE AGENCY (FSA)

OIG and FSA Managers Meet

In a joint effort to further agency cooperation, OIG and FSA senior managers and other policy makers met at a roundtable conference in San Antonio, Texas, the week of December 7, 1998, to explore and embrace new ways of working together. Prior negative experiences brought many participants to the conference with an "us versus them" attitude. In the roundtable, OIG auditors, special agents, and FSA program officials were able to explain obstacles they frequently encountered in ac-

complishing their agencies' missions. Working together as part of a united team, the participants identified several opportunities to improve communications, and all participants left with a new appreciation for the other's needs. We look forward to improved working relationships with FSA's Administrator and his hardworking staff.

Noninsured Crop Disaster Assistance Program (NAP) Overpayments

We reviewed 1996 crop-year program payments in California, Florida, Georgia, and Oklahoma, where $26.9 million in benefits—out of a total of $45.9 million nationwide—were paid as of July 31, 1997. We found hidden or inaccurate reporting of production and the use of incorrect yields to compute payments for 23 of the 98 cases. We found that because the estimates and adjustments used to determine loss could not be verified, the process for determining the actual amount of loss allowed producers to obtain unwarranted program benefits. This was a major problem for seeded wheat forage in Oklahoma. For other crops—strawberries, cherries, and onions—production was based on information reported by the producer which also was not verifiable as actual production. We recommended that FSA collect $411,000 in overpayments. FSA has agreed to review the payments and collect any overpayments to which relief provisions did not apply.

Overpayment of Emergency Assistance to Producers in the Upper Great Plains

In January 1997, FSA implemented two programs to provide assistance to endangered livestock caught in the blizzards and cold weather in North and South Dakota. The Emergency Feed Grain Donation Program (EFGDP) provided 100-percent cost-share assistance to livestock producers for snow removal and to feed their livestock in immediate danger of perishing. The Foundation Livestock Relief Program (FLRP) provided 30-percent cost-share assistance for area producers to enhance the diet of foundation livestock—or breeding stock—weakened by the severe winter weather.

Because the two programs ran concurrently with different cost-share rates, some producers improperly received assistance for supplemental feed purchases under EFGDP instead of FLRP. This allowed the producers to receive 100 percent of the feed cost compared to the 30-percent cost-share. In addition, we found that producers were paid excessive snow removal costs during a 15-day extension period and for snow removal when they already had access to normal feed supplies. FSA improperly authorized $2.5 million of FLRP payments to 23 counties in Iowa, Montana, Nebraska, and Wyoming adjoining the disaster area. We recommended FSA strengthen its oversight role in certain areas to help ensure that future disaster assistance is limited to identified areas and require county offices to act on the cases where excessive EFGDP and FLRP payments were issued. FSA believes its existing controls are generally adequate; but, due to the complexity and difficulty of administering emergency and disaster programs, procedures to improve oversight will be incorporated into future programs. FSA agreed, subject to the finality rule, to recover the overpayments.

Environmental Benefits Index Scores Controls Could Be Improved

Under the Conservation Reserve Program (CRP) producers receive annual payments from FSA to take highly erodible cropland out of production and establish and maintain a vegetative cover on it. During signup, producers designate tracts of land determined to be environmentally sensitive, which are reviewed and scored according to values on the Environmental Benefits Index (EBI). One subpart of the index identifies the environmental benefits of the land, such as providing cover beneficial to wildlife. It also specifies what numerical scores may be given for the different kinds of conservation practices—planting mixed grasses, legumes, etc.—that the producer established to enhance each benefit. Tracts that have been awarded higher scores are regarded as more worthy of conserving and qualify for CRP consideration ahead of tracts with lower scores. Tracts that fall below a minimum score are excluded from the program.

We reported that the Natural Resources Conservation Service's (NRCS) implementation of CRP exhibited significant control weaknesses. These included improperly modified point scores for various environmental ranking factors and subfactors in some States. In addition, producers in some States received high scores for preserving cover beneficial to wildlife or for protecting threatened and endangered species even though the required cover or endangered species were not present on the tract of land. Such inconsistencies can result in greater CRP consideration for cropland in one State, even though its environmental benefits are no greater than those of its neighbors. We identified approximately 2,900 offers nationwide with annual rental payments totaling about $13 million that were at risk of incorrect acceptance

into CRP. NRCS management issued guidance that addressed some scoring problems noted in our review.

FARM SERVICE AGENCY (FSA) INVESTIGATIONS

Historically, one of our primary activities has been the investigation of criminal violations of the various farm loan programs administered by USDA. We continue to conduct such investigations with great success. A good example is a honey producer in Idaho. This individual was sentenced to serve 28 months in prison and ordered to pay USDA over $3 million in restitution after he pled guilty to submitting false statements to FSA in order to obtain over $6 million in loans and subsidy payments.

RURAL DEVELOPMENT

RURAL HOUSING SERVICE (RHS)

OIG and RHS Join Forces to Combat Fraud and Abuse in Rural Rental Housing (RRH) Program

OIG and RHS combined efforts to identify, investigate, and prosecute owners and management agents that had abused or defrauded the RRH program. We targeted owners and management agents who were suspected of abusing the program.

Joint OIG-RHS teams physically inspected 631 apartment complexes and then examined the financial records of apartment complexes operated by 32 owners and management agents in 13 States. The teams identified over $3.5 million in misused funds and uncovered serious physical deterioration of some apartment complexes, including conditions that posed health and safety risks to the tenants. Our work is continuing, and we will issue a summary report later this spring.

An investigation in Washington State centered on a prominent local attorney who was a general partner of multiple limited partnerships which owned federally financed and subsidized low-income housing projects. The attorney had built 65 apartment projects in 20 States under the RRH program. Our investigation disclosed that the partner submitted false and fictitious construction invoices to RHS and to the lending banks which administered RHS loans in order to divert $176,000 in funds from four RHS loans. Our investigation also showed that he received kickbacks from the bank where loan funds were deposited. In order to conceal the kickbacks, he submitted fictitious invoices to the bank for purported legal services rendered. He also failed to disclose $95,000 in income derived from the diverted funds and other sources on his 1995 individual income tax return. He pled guilty to making false statements, receiving unlawful payments, and filing a false Federal income tax return. He was sentenced to 21 months in prison and ordered to pay $300,000 in restitution.

Problems Exist With Electric Program Loan Funds, Borrowers

We evaluated the Rural Utilities Service's (RUS) electric program because of its high dollar value—approximately $32 billion, potential for large losses—writeoffs of more than $1.7 billion and about $8 billion owed by troubled borrowers, and recent changes in legislation and in the industry. We found that the eligibility criteria prescribed by law and regulation for hardship loans and prioritization of applications for municipal rate loans did not take into consideration the applicant's financial strength, loan amounts, or local user rates. Also, the Rural Electrification Act of 1936, as amended, and regulations did not allow RUS to ensure that guaranteed loans benefited only truly rural areas. This could delay funding for improvement of electrical services to the most needy borrowers and in truly rural areas.

We recommended that RUS seek legislative change and amend regulations so that hardship loan funds can be targeted to areas of greatest need by taking into consideration financial condition and local area user rates and by ensuring municipal rate loan funds benefit only truly rural areas. Although agency officials generally agreed with our findings, they did not agree with our recommendations to seek a legislative or regulatory change.

INSURANCE

RISK MANAGEMENT AGENCY (RMA)

Reinsurance Companies' Quality Control Systems Lacking

RMA delivers multiple-peril crop insurance programs through standard reinsurance agreements with private insurance companies. Under the agreements, the companies are required to develop quality control plans consistent with the agency's policies and procedures that safeguard against waste, loss, unauthorized use, and

misappropriation. This past year, we reviewed the quality control processes of reinsured companies operating under agreements made with RMA in 1995. We found that, although the quality control systems generally complied with the terms of the agreement, they did not effectively improve program delivery, ensure program integrity, and adequately measure or report on program performance. The consequences of poorly specified requirements in the reinsurance agreements were insufficient data collection, maintenance, and reporting requirements; ineffective oversight of quality control operations; and insufficient controls against conflicts of interest. As a result, program officials cannot rely on reinsured companies' quality control reviews.

We recommended that RMA, in consultation with crop insurance organizations and experts, adopt appropriate professional standards for quality control and, in particular, controls to deal with conflicting sales and claims adjustment operations that affect the integrity of crop insurance programs. The agency concurred with our recommendations for improved quality control processes but not with our findings and recommendations for improved controls against potential conflicts of interest. We are working with RMA on the disputed recommendations.

Nonirrigated Crop Insurance Yields Set Too High and Practices Not Viable

Prompted by an OIG hotline complaint, we audited RMA's first year, crop-year 1998, extra long staple (ELS) cotton insurance program in the Texas counties of Glasscock, Midland, Reagan, and Upton. We determined that the transitional-yields, or T-yields, and established yields based on historical averages for nonirrigated ELS cotton were set exceptionally high. Also, we questioned whether the growing season and rainfall were sufficient to produce ELS cotton in these four counties. We reported that, as a result of these issues, RMA could incur excessive losses of about $12 million for the 1998 crop-year alone. Similarly, we disclosed that high T-yields for nonirrigated popcorn in the Rio Grande Valley resulted in indemnities totaling about $5.5 million for 1997, and nonirrigated dent corn T-yields for 1998 were sufficiently elevated to result in losses of between $2.2 million and $2.8 million in Tom Green County, Texas.

Officials in the four counties stated that these were not locally accepted practices because more water is required than the counties receive in rainfall and the growing season is too short for ELS cotton to properly mature. Therefore, we concluded that nonirrigated practices were not viable in the cited counties and recommended that, effective for crop-year 1999, RMA discontinue coverage for ELS cotton in the four counties named in the complaint, popcorn in the Rio Grande Valley, and dent corn in Tom Green County. RMA agreed.

RESEARCH, EDUCATION, AND ECONOMICS

COOPERATIVE STATE RESEARCH, EDUCATION, AND EXTENSION SERVICE (CSREES)

Schedule A Extension Appointees' Rights Need Clarification

There are approximately 8,000 Schedule A appointees working nationwide in the State Cooperative Extension System (CES). The appointees receive Federal benefits including participation in the Federal Health Benefits Program and civil service retirement plan. In 1990, the Civil Service Due Process Amendments extended coverage to these appointees. Our review of adverse actions taken against two appointees by one State university CES director disclosed that the universities are not always aware that protections such as counseling and appeals procedures apply. In this case, the university had offered no protections and stated that its own policy allowed the CES to dismiss the appointees without recourse. The Office of General Counsel provided CSREES with an opinion that these positions fall within the due process requirements of the Merit Protection System. USDA's Office of Human Resources Management confirmed that Schedule A appointees are Federal employees for purposes of civil service protections.

On December 9, 1998, the Merit System Protection Board ruled that the individual taking actions against the two employees was within Federal jurisdiction. The case was remanded to an Administrative Judge for further adjudication. OIG has encouraged CSREES to work with the National Association of State Universities and Land Grant Colleges to inform all CES offices of the appointees' current status and assist them in developing suitable personnel procedures for these positions.

ACCOUNTING, FINANCIAL, AND INFORMATION MANAGEMENT

Financial Statement Audits

As required by the Chief Financial Officers Act of 1990 and the Government Management Reform Act, we completed seven financial statement audits of the Department's programs. We issued unqualified, or "clean," opinions on the fiscal year 1997 financial statements of the Federal Crop Insurance Corporation, the Commodity Credit Corporation, and the Rural Telephone Bank. Audits of the Rural Development mission area and the Food and Nutrition Service resulted in qualified opinions. Rural Development received a qualified opinion because we were unable to assess the reasonableness of its estimated loan subsidy costs for loans obligated after fiscal year 1991.

In fiscal year 1997, FNS received a qualified opinion because we were unable to assess the reasonableness of its gross, non-Federal accounts receivable for the Food Stamp Program and the related account balances and notes to the financial statements. I am happy to report that on February 1, 1999, we issued an unqualified opinion for the fiscal year 1998 financial statements for FNS.

For fiscal year 1997, we issued a disclaimer of opinion on the Forest Service (FS) and the USDA consolidated statements. FS received a disclaimer due to significant financial system weaknesses which include the lack of an integrated general ledger and supporting subsidiary records. The USDA consolidated statements received a disclaimer of opinion for fiscal year 1997 because the Department could not provide assurance that its financial systems provide information that is relevant, timely, consistently reported, and in conformance with applicable accounting principles. In addition to financial system problems, numerous internal control weaknesses exist that materially impact the Department's ability to report accurate and reliable financial information.

A disclaimer of opinion has been issued to the Department for each of the last 4 years. This means that the Department, as a whole, does not know whether it correctly reported the amount of revenue it received, the cost of its operations, or other meaningful measures of financial performance. The Department and its agencies have recognized the weaknesses and have put considerable effort into improving their financial systems and reporting processes. While plans have been made to fix these problems and actions have been taken to address some of the weaknesses, more must be done. The Department is carrying out its Financial Information System Vision and Strategy project aimed at developing a single integrated financial management system that meets all Treasury and Office of Management and Budget requirements and fulfills the needs of USDA. We continue to assist departmental and agency officials in these efforts.

Information Resources Management

Department Progressing With "Year 2000" Conversion

The Year 2000 issue has the potential to limit the Department's ability to deliver its programs. In April 1997, we began a continuing review and assessment of the Department's Year 2000 conversion efforts. Most recently, we completed a review of the renovation and validation efforts of seven agencies. This review determined whether the agencies had devised a strategy to convert, replace, or eliminate impacted hardware and software; fully tested and certified systems identified as compliant; and adequately assessed data exchanges and communicated with the exchange partners. Overall, we determined that the agencies are progressing in their Year 2000 conversion efforts; however, improvement is needed in some areas.

Our review disclosed that FSA had reported four mission critical systems—the Highly Erodible Land and Wetland Conservation system, the Cotton Rate Offer system, the Daily Terminal Prices System, and the Marketing Assessment System—as Y2K compliant without performing any validation testing. Also, FSA reported that its Warehouse Rates Management System and the Processed Commodities Inventory System would not be implemented until June 1999. The Foreign Agricultural Service reported that its Financial Accounting and Reporting system will be implemented in April 1999. The Animal and Plant Health Inspection Service reported its Information System Upgrade Project would not be implemented until September 1999. In addition, FS reported its data exchange agreements generally consisted of informal verbal agreements which did not fully establish the data conversion responsibilities of each exchange partner.

Due to the time sensitivity of the Year 2000 issue, these findings and others have been provided to the affected agencies in interim reports. The agencies have responded to our recommendations, and an audit report consolidating our findings will be issued later this year. Currently, we are reviewing personal property, facilities, and equipment because of their reliance on embedded microprocessor chips.

EMPLOYEE INTEGRITY

The investigation of serious misconduct by USDA employees remains a high priority of OIG. During fiscal year 1998, OIG issued 55 reports of investigation concerning serious allegations of misconduct by USDA employees. Our investigations resulted in 23 convictions of current and former employees and 80 personnel actions, including reprimands, suspensions, resignations, removals, and alternative discipline.

In July 1994, a tropical storm struck southern Georgia, causing serious flooding and millions of dollars in damage. As a result, NRCS negotiated and funded numerous watershed repair contracts under the Emergency Watershed Protection Program (EWPP). After we received confidential information from a private sector contractor, our 18-month investigation developed evidence showing that two NRCS employees, who were responsible for managing EWPP contracts, accepted cash bribes from a contractor in exchange for special considerations in obtaining EWPP contracts. A third employee arranged for a contractor doing business with NRCS to perform construction work on personally owned land. The cost of this work was then improperly billed to USDA. During July through September 1998, the three employees entered guilty pleas in U.S. District Court to violations resulting from their acceptance of bribes and gratuities. One employee was fined and placed on probation while the other two employees are awaiting sentencing. All three employees resigned from NRCS.

A Louisiana Rural Development county office employee pled guilty in Federal court to embezzling and misapplying over $82,000 in rural housing loan payments she had received in her office. She was sentenced to serve 6 months' imprisonment, to be followed by 4 months' home confinement. She was also fined $10,000 and ordered to pay nearly $24,350 in restitution. The employee resigned soon after we initiated our investigation.

CONCLUSION

This concludes my statement, Mr. Chairman. As you can see, the work of OIG is far-reaching and expansive. I appreciate the opportunity to appear today and present this information, and I hope that my comments have been helpful to you and the Committee. I will be pleased to respond to any questions you may have at this time.

OFFICE OF THE UNDER SECRETARY FOR RESEARCH, EDUCATION, AND ECONOMICS

PREPARED STATEMENT OF DR. I. MILEY GONZALEZ, UNDER SECRETARY

Mr. Chairman, Members of the Committee, I am pleased to appear before you to discuss the fiscal year 2000 budgets for the Research, Education, and Economics (REE) mission area agencies. I am accompanied by Deputy Under Secretary, Dr. Eileen Kennedy, and the Administrators of the four mission area agencies: Dr. Floyd Horn, Administrator of the Agricultural Research Service (ARS); Dr. Colien Hefferan, Acting Administrator of the Cooperative State Research, Education, and Extension Service (CSREES); Dr. Susan Offutt, Administrator of the Economic Research Service (ERS); and Mr. Donald Bay, Administrator of the National Agricultural Statistics Service (NASS). Each Administrator has submitted written testimony for the record.

The REE budget, the first budget submitted since the passage of the Agricultural Research, Extension and Education Reform Act of 1998 (Reform Act), reflects very strong support for the REE programs and a recognition of contributions that research, education, economics and statistics programs of REE can make in solving the pressing challenges facing agriculture and the nation. REE and its agencies have a proud history of finding solutions to the challenges facing agriculture over many decades. Building on the extraordinary possibilities of cutting edge research and biotechnology, REE is more capable than ever of delivering on new challenges in production agriculture, food safety and nutrition, mindful of the need to find environmentally sound solutions. The budget we are discussing today, begins to meet the spirit of the message delivered by the House Committee on Science last fall in its report Unlocking Our Future. To quote the report, "Science . . . must be given the opportunity to thrive, as it is the precursor to new and better understanding, products and processes." I believe this budget affords the Nation's agriculture and food system and all who have an interest in its future, the opportunity to benefit from such a thriving research and education system. As good as our REE programs are today, the size and shape of the increased investment found in this budget is

one in which all would benefit, producers from Maine to Guam and consumers from Alaska to Puerto Rico.

Overall, the President's budget provides $2.1 billion for the four REE agencies, an increase in program level of 7 percent above fiscal year 1999 for the conduct of research, education, and statistical programs. This is the most significant increase in the REE budgets since the early 1990's and moves REE in the direction of the funding increases in the budgets of other major research agencies across the government over the last few years. Meaningful increases are requested for all four agencies to support high priority initiatives and programs addressing critical issues, such as food safety, human nutrition, emerging diseases, pest management, and environmental quality.

The 7 percent increase in the overall program level of funding depends significantly on the inclusion of the Initiative for Future Agriculture and Food Systems under Section 401 of the Reform Act. The program provides an infusion of $120 million in the CSREES budget to competitively award research, education, and extension grants focused on high priority issues outlined in the Reform Act, such as farm efficiency and profitability and natural resource management. In addition, $20 to $40 million will be available for research, extension, and education through the Fund for Rural America when allocation decisions are made after the 2000 Appropriations Act is enacted.

The overall increase in the REE budget reflects the strong support that REE is receiving from the Secretary and the Administration. We have worked diligently with the Secretary to explain the benefits of the research investment and make the results and benefits more broadly known to our stakeholders and the general public. However, I am still concerned that we find ways to balance the research portfolio in helping colleges and universities enhance their future capacity with base funding, so they may strengthen their ability to compete in the new Initiative for Future Agriculture and Food Systems that encourages this competitiveness. We want to work with you in this arena. Minority serving institutions find themselves even more disadvantaged in this growing competitive environment.

As we take some satisfaction in the increase in this budget and the implied recognition of its value and productiveness, I believe we must acknowledge that new times demand new ways of doing business. I have talked with our university partners, and they share this recognition of this need for change as we move into the 21st century. Multi-disciplinary, regional, multi-state, and multi-institutional strategies facilitate both efficient and effective returns on our research, education, and extension dollars. We must continue to listen to our stakeholders and customers and hear their needs. We must shape and describe our programs so, with a good dose of our judgment, the programs are responsive to those same stakeholders and customers. We must tell them in plain English just what we plan to do and what difference it will make for farmers, ranchers, food processors, and others in the food industry, as well as consumers. In other words, we must hold ourselves accountable for the investment made in our programs and understand that agricultural research and education issues transcend national borders and global competitiveness requires international scientific partnerships. We believe we are meeting the outreach, accountability, and coordination requirements of recent legislation efficiently and effectively. We are confident our efforts along these lines will contribute to program effectiveness, and better equip us, and you, to defend budget requests in increasingly competitive arenas.

Often agriculture research and extension hold the keys to effectively addressing acute problems. Our recent response to the wheat and barley scab crisis in the northern Plains is an example of how quick action can make a difference. Similarly, our rapid and effective response to the Avian influenza scare proved to be very valuable in protecting the lives and health of all people.

I believe it is equally important to call on and support the research and education system in government, at universities and at other research institutions in mounting a proactive, long term approach to solving or even avoiding acute problems, such as the ones being experienced by the farm community today. In this regard, I believe the REE education, extension and information technology programs can play a critical role. In our knowledge-based society, getting the right information in an accessible form to the user is the key to empowering farmers, individuals, families, and communities to improve their futures and guard against bad times. If I may quote again from the report Unlocking Our Future, "Not only must we ensure that we continue to produce world-class scientists and engineers, we must also provide every citizen with an adequate grounding in science and math, if we are to give them an opportunity to succeed in the technology-based world of tomorrow." The results of our research and analyses yield information farmers need to effectively manage the many types of risk inherent in operating a farm, including crop selec-

tion, disease, weather, market volatility, and pest control. We have an obligation to ensure that this information gets to the farmers and other producers so they can make informed decisions. They need this to have a complete safety net. I urge you, in your deliberations on the REE budgets, to take full advantage of the potential value of such a long term approach for the new roles and responsibilities of scientific investigation and education in agriculture. We must make substantial funding for these areas the highest priority if we are to prepare for the future.

REE FISCAL YEAR 2000 INITIATIVES

Before turning to the budgets of the four REE agencies, I would like to focus on six high priority initiatives found in the budget: Integrated Pest Management, including implementation of the Food Quality Protection Act (FQPA); Food Safety; Agricultural Genomics; Small Farms; Global Change; and Community Food Security. They all represent critical investments to meet major challenges facing agriculture and the nation.

Effective pest management is a continuing challenge for agricultural producers. The public's increasing concern about the quality of the environment and the safety of our food, reflected in such laws as the FQPA, heighten the challenge. While generally sharing the overall goals, producers find themselves needing new pest control technology that is effective and economically viable, and at the same time responsive to public environmental and food safety concerns.

Under the umbrella of FQPA Implementation and Integrated Pest Management, the REE agency budgets include $29 million in increases focused on providing EPA information and data essential for science-based implementation of FQPA and on advancing efforts to develop and transfer to producers environmentally sound and effective pest management technology. In fiscal year 1998, the Department established the Office of Pest Management Policy, to coordinate the FQPA/IPM activities. That office is effectively serving in that capacity. In particular, it is working closely with EPA to ensure that that agency has the data it needs, when it needs it to make decisions critical to producers on the availability of different pesticides under FQPA.

Under the broader integrated pest management component of this ongoing initiative, significant progress has been made in developing sound pest management technologies and their adoption by producers. However, there is considerable distance to go in the pursuit of promising technologies and in the adoption of practices and technologies that take advantage of the newest discoveries coming out of IPM research. The initiative includes increases to support enhanced research on biocontrol alternatives to pesticides and new control technologies, as well as to support more effective transfer of the new technologies to producers. Both the ARS and the CSREES budgets include funding requests to expand work with producers to test new technologies and practices and facilitate their adoption. These increases to promote adoption of technologies are critical if the Nation is to benefit from the discoveries coming out of laboratories.

Promoting food safety is a second issue in which the Administration and Department have a keen interest, an interest that fiscal year 1999 Appropriations and the Reform Act indicate is shared by Congress. While the U. S. food supply is one of the safest, if not the safest, in the world, millions of Americans become ill each year due to food-borne pathogens. Consumers increasingly express concern about the safety of all food. Episodes of food contamination and the consumer response at the grocery store demonstrate the influence of consumer confidence on the demand for foods.

Over the past few years, the Administration has taken major strides to improve our current food safety system. A "farm to table" approach to food safety has been adopted in which the potential for the introduction, transmission, prevention and/or elimination of contaminants is systematically examined at each step along the path to the consumer's table. Ongoing implementation of Hazard Analysis and Critical Control Point (HACCP), relying heavily on USDA research, is radically changing our meat and poultry inspection system and already showing signs of significantly reducing food contamination levels. Last year, the Administration placed new emphasis on food safety in fruits and vegetables, now an integral part of the Administration's Food Safety Initiative begun in fiscal year 1997. Producers are increasingly being called on to modify their production practices to reduce the potential for pathogen contaminations. In recognition of these new challenges, the food safety program is also placing new emphasis on research to help producers respond to preharvest food safety issues, such as animal waste management.

The REE component of the Food Safety Initiative in the fiscal year 2000 budget provides increases to ARS, CSREES, and ERS, totaling $26 million, including increased funding through the National Research Initiative (NRI). Additional funds

will be provided under the increase for the Initiative for Future Agriculture and Food Systems. The majority of the funds will focus on developing improved pathogen prevention and detection methods and other bioscience research in ARS and CSREES. ERS requests funds to determine the economic burden from unsafe food and to assess the benefits and costs of alternative pathogen control policies. CSREES would also receive funding to expand education efforts for those involved in the food production system from farm to table.

To enhance the effectiveness of the national food safety research effort and the larger Food Safety Initiative, USDA, in collaboration with the Department of Health and Human Services, is providing leadership in establishing a new Joint Institute for Food Safety Research. Created in response to a Presidential directive, the new virtual Institute will promote coordinated planning and priority setting of food safety research across the government and with the private sector, using existing funds. The Institute will also facilitate transfer of research results into new food safety practices.

A third initiative I would like to highlight is agricultural genomics. The promise of biotechnology for producers is well established. Higher yields, improved quality, greater resistance to disease and pests, and reduced stress due to adverse weather conditions are outcomes we can anticipate will help producers individually, and as an industry, to be more competitive in the global market. These same outcomes will help the Nation achieve a safe, abundant, and nutritious food supply and meet the needs of a growing population worldwide. However, such success depends on having an understanding of the genetic make-up of plants and animals on which biotechnology depends.

As a leader in the President's Food Genome Initiative, a government-wide initiative, USDA is making a major contribution to the larger effort, expanding our knowledge of genomes of species of importance to the food and agricultural sector. The REE mission area has chaired the Interagency Working Group on Plant Genomics involving the Office of Science and Technology Policy, the Department of Health and Human Services, the Department of Energy and the National Science Foundation. In this role, REE continues to engage commodity group representatives and leading scientists in discussions about the plant genome research program.

Joint ARS and CSREES programming under the USDA Agriculture Genome Initiative includes research on animals and microbes, as well as plants. This research program is built on the blueprint for future research outlined in a USDA concept paper and follows the Interagency Working Groups's Plant Genome recommendations.

This research, focused on gene structure and function, is expected to have considerable payoff for crop species ranging from rice to corn and animal species ranging from cattle to swine to poultry. Efforts in the USDA food genomics program will initially concentrate on identification of economically important traits that increase yield, quality and disease resistance in plants, minimize the need for pesticides, and protect the environment.

The budget provides ARS and CSREES increased support for genomics research. The CSREES funds would be provided under the NRI and the new Initiative. The Reform Act indicates both agricultural genome and agricultural biotechnology are high priority areas for the purposes of making grants.

The small farms initiative is the fourth initiative I would like to highlight. Small farmers and ranchers make a valuable contribution to agriculture and rural America, often filling market niches and bringing life to rural communities. But many have fallen on hard times with the industrialization of agriculture and are struggling to find a place in an increasingly competitive sector. In 1997 Secretary Glickman established the National Commission on Small Farms to determine the status of small farms in the United States and recommend USDA actions to promote their economic viability and, therefore, their contribution to the agriculture sector and rural America in these new times. This initiative is responsive to the Commission's report, A Time to Act, in providing ERS and CSREES funds to better understand the market information needs of small farmers and the degree to which these needs are being met and to develop programs that help small farmers acquire the critical business skills and develop effective marketing strategies that promote economically viable farms. Increased funding in the NRI will support examination of the economics of small farms and their contribution to local economies, as well as increased funding of research appropriate to this segment of the sector. Data on small and medium-sized farms coming from the Census of Agriculture recently completed by NASS will be valuable in helping ARS and other agencies identify and conduct research responsive to the needs and priorities of such farms.

Climate change is a fifth initiative I would like to highlight. Climate change has extraordinary implications for production agriculture in terms of the impact of cli-

mate change on plants and animals, as well as the potential for new production practices to mitigate these effects on agriculture and on the Nation. In support of the President's Initiative on Global Climate Change, the fiscal year 2000 budget includes funds in the ARS, CSREES, and ERS budgets to support research to gain a better understanding of climate change, its causes and associated consequences for agriculture. The funds will also support complementary research on possible coping or adjustment mechanisms to minimize the adverse effect of climate change on agricultural production. Looking to the potential for agriculture to play a positive role in mitigating the greenhouse effect and associated global warming, other increases would provide new understanding of the greenhouse gas emissions and the potential for carbon sequestration carried out under production agriculture to mitigate such emissions. It is a promising possibility for agriculture that warrants serious investigation.

The final initiative to be highlighted is Community Food Security. Communities across the Nation have been confronting an increasing number of food-related problems including unprecedented demand on the charitable food sector, the decline of local agriculture systems, and poor nutrition. To address these and related problems, the CSREES budget includes $15 million for a Food Recovery and Gleaning grant program as the principal component of the USDA Community Food Security Initiative. The purpose of the grant program is to improve methods of collection, transport and storage of recovered and gleaned food, to enhance the technical assistance and education network to empower communities to establish and administer food recovery programs and to extend understanding of the technical issues in food recovery.

These are the highlights of six initiatives that span the agencies within REE. Fuller discussion of agency components of these initiatives can be found in the agencies' Explanatory Notes.

REE AGENCY FISCAL YEAR 2000 BUDGETS

I would like to turn briefly to the budgets of the four REE agencies. The Agricultural Research Service (ARS) fiscal year 2000 budget requests $837 million in ongoing research and information programs or a net increase of $51 million over fiscal year 1999. The proposed increases will be dedicated to a broad range of the high priority programs, such as food safety, human nutrition, invasive species and integrated pest management. To partially offset these increases the budget also includes redirection of approximately $35 million in current programs to fund higher priority program initiatives of nationwide interest. As the principal intramural biological and physical science research agency in the Department, ARS continues to play a critical role for the Department and the larger agricultural community in conducting mission-driven research. Results from ARS's fundamental research provide the foundation of applied and developmental research carried out in many public and private institutions. Building on its own and other fundamental research, ARS also conducts applied research and technology development to solve specific problems of national and regional importance and to meet the research needs of other USDA agencies.

The ARS fiscal year 2000 budget includes an increase of $20 million in the third year of the Human Nutrition Research Initiative. Research results continue to confirm the critical role of nutritious diets in promoting good health and mitigating diet-related disease. It is hard to overestimate the potential payoff for individuals and society as a whole from the adoption of healthy diets. At the scientific level and the personal level, increasing our understanding of the relationship between diet and health and of the sources of important nutrients will enhance our well-being and reduce our national health care bill.

The fiscal year 2000 increases will emphasize the role of nutrition in bone growth and nutrient requirements for healthy mental function. Also included in the budget are funds to complete the Western Human Nutrition Research Center and the first of two phases of the new Beltsville Human Nutrition Research Center.

In addition to the ARS increases in the highlighted initiatives and nutrition, the ARSbudget includes increases for emerging infectious diseases and invasive species, global change and sustainable ecosystems.

The fiscal year 2000 budget proposes $45 million for the ARS building and facilities program, a decrease of $12 million from fiscal year 1999. As the Subcommittee knows, over the last 18 months the Strategic Planning Task Force on Research Facilities, mandated in the 1996 Farm Bill, has been addressing the multifaceted and complex issues related to agricultural research facilities and their adequacy to support cutting edge research in the 21st Century. We are awaiting the Task Force's recommendations and guidelines in their report to be completed later this year. In

the meantime, we believe we must provide support for several ARS projects in which there are critical and immediate needs.

The $45 million also includes $22 million in funding for five locations, in addition to the two Nutrition Research Centers. This includes $14 million for the Regional Research Centers located in Albany, Peoria, Philadelphia, and New Orleans, which all need major infrastructure replacement and modernization. Another $8.2 million is requested for the Plum Island Animal Disease Center. Current biosafety and biocontainment standards and regulatory issues relating to environmental quality and energy conservation are among many concerns that indicate the facility is in serious need of modernization. The increases for renovations are the product of careful planning over several years and are vital for ARS to continue its high quality and productive research for which it is world renowned.

The President's fiscal year 2000 budget provides $1.1 billion for the Cooperative State Research, Education, and Extension Service. This includes $948 million in the discretionary budget, an increase of $24 million over fiscal year 1999. Within the discretionary budget, an increase of $81 million is provided for the National Research Initiative (NRI). The NRI increases will focus on several high priority areas, including development of integrated production systems, agricultural genomics, global change and food safety.

As indicated above, the budget also includes $120 million in mandatory spending under the Reform Act for fiscal year 2000, and a total of $600 million over 5 years for the Initiative for Future Agriculture and Food Systems under the Reform Act. This competitive research, education and extension program will emphasize a multidisciplinary and multi-institutional approach to addressing high priority issues outlined in the law. The Administration strongly believes that the most appropriate and effective use of taxpayer dollars is through peer-reviewed competitively awarded research grants that focus on national issues and concerns. Programs such as the NRI and the Initiative for the Future Agriculture and Food Systems provide a very effective mechanism for attracting and focusing the highest quality research conducted across the country on high priority issues faced by the agriculture and food system. There is also evidence that a significant portion of competitive grants are awarded to land grant colleges, universities and State extension agencies. The Administration's budget should result in a major infusion of funds to these institutions.

In addition to the NRI increases and the broader Initiative for Future Agriculture and Food Systems, the CSREES budget includes increases to empower less advantaged people and communities so they may improve their own lives and that of their families.

The CSREES budget also includes increases in the Children, Youth and Families At Risk (CYFAR) program and Expanded Food and Nutrition Education Program. The goal of both programs is to help individuals and families gain the skills and create the environment that encourage individuals, families and community leaders to take responsibility for their own lives and that of their communities.

In addition to the increases, the CSREES budget provides for a redirection of fiscal year 1999 funding for the new Integrated Research, Education, and Extension grant authority provided in the Reform Act. Bringing the research and education component together with extension affords the opportunity to integrate programs which draws on the strengths of both activities. The research agenda is more likely to be informed by extension's connection to the customer and extension is more likely to understand research findings coming from the research.

In providing critical funding to the research, education, and extension programs of the Land Grant system and other universities and organizations across the country, CSREES continues to play a central role in helping generate new knowledge and technology and in facilitating the transfer of that knowledge and technology to those who will use it.

The Economic Research Service's budget decreases from $63 million in fiscal year 1999 to $56 million in fiscal year 2000. As the Department's principal intramural economics and social science research agency, ERS conducts research and analysis on the efficiency, efficacy, and equity aspects of issues related to agriculture, food safety and nutrition, the environment, and rural development. The decreased funding level is due to the return of the food program studies to the Food and Nutrition Service. The fiscal year 2000 ERS budget supports new or enhanced research of approximately $2.9 million. In addition to the increases in the initiatives highlighted above, the ERS budget includes $0.9 million to enhance the Agency's program in commodity market analysis. The increase will allow ERS to further strengthen its commodity program to assure the maintenance of sufficient capacity to analyze the structure and peformance of commodity markets, contribute its analytical expertise to related Department activities and enhance the dissemination of analytical market information to customers who rely on its availability. Additional funds of $0.2 mil-

lion will support an examination of the impact of electric utility deregulation on rural areas.

The National Agricultural Statistics Service (NASS) budget declines by $3 million to $101 million due to the cyclical nature of Census of Agriculture funding. The market-oriented policy and the competitive global market in which agriculture exists make NASS's comprehensive, reliable, and timely data on U.S. agricultural commodities more critical than ever to farmers, ranchers, and other agribusinesses needing to make informed production and marketing decisions. The results of the 1997 Census, the first NASS has conducted, were released last month, 10 months ahead of schedule. The survey results show that with careful counting the number of farms was relatively stable over the last 5 years. While the overall NASS budget decreases, the agency's budget includes several increases to enhance and broaden its statistical program. They include $2.5 million to conduct a new fruits and vegetables survey as part of the Food Safety Initiative, $1.6 million to collect pesticide use data for horticulture and greenhouse industries to support a science-based response to the Food Quality Protection Act and $1.8 million to conduct the decennial Agricultural Economics and Land Ownership Survey. An additional increase will allow for establishing a permanent NASS office in Puerto Rico. NASS is the only USDA agency with field offices that do not include Puerto Rico. The increase will facilitate both better statistics and better access to statistics for producers in Puerto Rico.

SUMMARY

In summary, I want to reiterate that I believe that, given a tight budget environment, the REE agencies' budgets reflect a strong commitment to investment in agricultural research, statistics, education, and extension, one stronger than in the recent past. It also reflects an understanding that research and education are the key to solving not only the problems agriculture and its producers are facing today, but those of tomorrow. With continued strong investment we will be ready to meet those future problems. And if we are even smarter and more farsighted, we will employ research and education to mitigate agriculture problems before they overtake us. Thank you. We welcome your questions.

RURAL BUSINESS-COOPERATIVE SERVICE

PREPARED STATEMENT OF DAYTON J. WATKINS, ADMINISTRATOR

Mr. Chairman and members of the Subcommittee, I am pleased to appear before you today to present the Administration's fiscal year 2000 Budget for the Rural Business-Cooperative Service (RBS).

Mr. Chairman, the key to improving the economic conditions of rural areas, and particularly those areas experiencing decades of poverty and stagnant economies, is the creation of more business opportunities and more jobs. But, particularly jobs that pay wages that are sufficient to lift families out of poverty. Presently, service sector jobs are the leading employer in many rural areas, and as important as those jobs are to the local economy, they still do not pay a wage sufficient to support a family of four. Creation of these jobs is best accomplished by the private sector, but as we all know there are a number of rural areas in which private sector capital is not readily available, and it is these areas in which we target the programs of the Rural Business-Cooperative Service. The $1.2 billion requested for the programs in this budget will assist in creating or saving about 100,000 jobs.

BUSINESS AND INDUSTRY GUARANTEED AND DIRECT LOAN PROGRAMS

For the Business and Industry (B&I) Program, the fiscal year 2000 budget includes $31.1 million in budget authority to support $1.0 billion in Guaranteed Loans and $50 million in Direct Loans, Since the streamlined Business and Industry Guaranteed Loan Program regulations were published in December 1996, demand for the program has increased 300 percent. With this level of funding we estimate that these two programs will create or save over 40,000 jobs. But equally as important, under the guaranteed loan program we are able to help the local lender provide financing and this helps build community stability.

Of the $1 billion requested for the guaranteed program we are again proposing to make available $200 million for financing for new cooperative businesses with a particular emphasis on new value-added cooperatives. Priority will be given to projects involving farmer-owned value-added cooperatives. In addition, this financing is available for guarantees of individual farmer's purchase of cooperative stock in a start-up cooperative established for value-added processing of an agricultural

commodity raised by the individual farmer stockholders. We expect this program to be a key tool in capital investment in rural areas and as a means of helping farmers keep more of the income generated by their product.

INTERMEDIARY RELENDING PROGRAM

The fiscal year 2000 budget also includes $22.8 million in budget authority to support $52.5 million in loans under the Intermediary Relending Program. The initial investment of this level of funding will create or save an estimated 13,000 jobs, but because these funds are re-loaned 3 or 4 times by the intermediary, we estimate that over 40,000 jobs will result eventually. In an effort to be of more assistance through this program we revised the regulations in 1998 to expand the $2 million cap on loans to intermediaries to a $15 million cap to any one intermediary in annual increments of $1 million. The regulation is more user-friendly and authorizes the Rural Development State Offices to process applications at the State level, rather than submitting applications to the National Office for processing. This change has speeded up the application process and allows State Offices to work closer with borrowers to provide immediate feedback concerning their applications. Pursuant to Rural Development's mission of prioritizing the most under served communities we are prioritizing the neediest communities, such as those in low-income or under served areas, those with declining populations, or communities faced with economic restructuring or economic disasters. In addition, the eligible purposes for loans to businesses have been expanded. The demand for this program continues to be strong.

RURAL BUSINESS ENTERPRISE GRANTS

For the Rural Business Enterprise Grants Program, the fiscal year 2000 budget includes almost $36 million. We anticipate that this level of funding will provide over 14,000 new jobs. The purpose of this program is to assist small and emerging businesses and the small amount of funds we typically invest in a project, on a dollar-for-dollar basis generates another $2.40 in private capital.

RURAL ECONOMIC DEVELOPMENT LOANS AND GRANTS

The fiscal year 2000 budget requests $15 million in Economic Development Loans and $4 million in grants. These programs represent a unique partnership since they directly involve the Rural Electric and Telecommunication borrowers in community and economic development projects. They are the intermediaries through which these funds are invested locally and each dollar invested through these programs attracts an additional $3 dollars in other capital. The loan program is a zero interest loan to the cooperative which guarantees repayment of the loan to the government. Loans are used primarily for economic development activities while the grant funds can be used for establishing revolving loan funds and for community development projects.

RURAL BUSINESS OPPORTUNITY GRANTS

The fiscal year 2000 budget includes $5 million for Rural Business Opportunity Grants to provide much needed technical assistance and capacity building in rural areas. We have determined through the Empowerment Zone/Enterprise Community process that the most significant non-capital need in most rural areas is the capacity to develop the economic and community development strategies that are necessary to attract private investment capital and Federal and state assistance. The vast majority of rural communities are served by part-time officials who do not have the time or the necessary training to compete with larger communities for funding that may be available to them. The funds requested under this program will aid in providing that invaluable assistance that allow communities to take the first step in assisting themselves.

RURAL COOPERATIVE DEVELOPMENT GRANTS

For Rural Cooperative Development Grants, the fiscal year 2000 budget requests $5 million to provide continued support in the creation of new cooperative forms of business and to fund the existing and new Cooperative Development Centers who directly assist farmers and others in the development of new rural cooperatives, value-added processing, and other rural businesses. We are firmly committed to the philosophy that the development of new opportunities to enhance farmer income and simultaneously create new business and job opportunities for others is critical to the family farmer and to the renewal of many rural areas. While the farm economy does

not produce as many jobs as it once did, it is still the key component of most local economies and must be the base for revitalizing these economies.

COOPERATIVE RESEARCH AGREEMENTS

We are requesting $2 million for needed research on cooperatives. Cooperative Research Agreements are used by RBS to participate with universities and other entities in providing research that relates directly to the needs of rural cooperatives. This includes a diversity of needs, reflecting the many changes that are taking place for cooperatives, such as major expansions into value-added processing. There is a greater interest on the part of small farmers and others in applying the cooperative form of organization to non-agriculturally based enterprises. In the past, funding has been included with RBS' administrative expenses account.

APPROPRIATE TECHNOLOGY TRANSFER FOR RURAL AREAS

The fiscal year 2000 budget also includes $2 million for the Appropriate Technology Transfer for Rural Areas (ATTRA) program that provides producers and agribusiness advisors information on use of the best sustainable production practices. Encouragement of such practices lessens dependence on agricultural chemicals and is more environmentally friendly.

The ATTRA program handled over 18,000 requests this past year and continues to be a major source of information on sustainable agriculture throughout the country through its 800 number and the use of Internet. We are asking for $2 million, an increase of $700,000, for the ATTRA program to accommodate expanding requests for information.

CONCLUSION

Over the past several years, RBS has been provided with increased program resources to use in meeting rural business and economic development needs. We have streamlined our programs, improved consumer focus and developed strategic relationships all to benefit the entire rural America. Each year we have used all of our resources in this new business environment, but still, the need exits for more resources to accommodate the needs of those communities not yet experiencing positive economic impact of America's economic prosperity. Mr. Chairman, this concludes my statement on the fiscal year 2000 Budget. I would be happy to respond to any questions the Subcommittee may have regarding the Business-Cooperative Development programs of the Rural Development Mission Area.

OFFICE OF THE SECRETARY FOR RURAL ECONOMICS AND COMMUNITY DEVELOPMENT

PREPARED STATEMENT OF JILL LONG THOMPSON, UNDER SECRETARY

Mr. Chairman, Members of the Subcommittee, it is a pleasure to present to you the fiscal year 2000 budget request for the Rural Development Mission Area. It is even more pleasurable when I can submit a program budget that is $800 million higher than the level enacted last year, but at a lower cost than last year. The increase reflects the President's strong commitment to rural America. It is also due to the President's strong commitment to balancing the budget, growing the economy and maintaining low interest rates, that we are able to keep our subsidy costs low.

Mr. Chairman, the economic growth that we are enjoying has reached some parts of rural America, but it is not at all widespread geographically or demographically. For the most part rural America is still characterized by sluggish or declining economies, and many parts of the country are still plagued by high rates of poverty and unemployment rates. In fact, many rural areas have poverty rates as high as 20 percent. Among those most vulnerable to the effects of poverty are elderly women and children. Over 3 million children in rural areas live in poverty while almost one quarter of older Americans in rural areas also live in poverty and primarily in areas lacking adequate health care and social services. Many of the rural areas such as the Mississippi Delta, Native American reservations, and the Southwest border region, have endured decades of poverty, and it is these areas to which this Administration has devoted a significant portion of our staff and financial resources. We do so because these areas are also characterized by the lack of capacity to seek out the Federal and other financial assistance that could aid in improving their lives.

Our efforts to improve the capacity of these areas to help themselves has coincided with the need to more effectively utilize administrative resources which we have accomplished through staff reductions and the closure of many of our local offices. We have attempted to compensate for the resulting lack of presence in some

communities by building partnerships with other governmental entities, non-profit organizations, and the private sector. While we are making some progress there remains a large void of such assistance in many areas.

Mr. Chairman, the President's commitment to rural America is deep, he knows the private sector is the key to resolving the many and differing economic problems affecting these areas, but he also knows that the private sector cannot accomplish the task alone. The private sector cannot finance housing for low and very low income families; the private sector cannot finance the thousands of water and waste water systems needed; the private sector cannot extend higher educational opportunities to remote rural areas; and the private sector cannot finance the thousands of fire and rescue projects, relying sometimes on the proceeds from bake sales and fish fries to repay loans, as we do on frequent occasion. Likewise, the Federal government cannot create the thousands of private jobs that are needed to raise the economic hopes of rural areas. But, we are demonstrating that the Federal government in partnership with the private sector and others can do much more than each of us can do alone. The private sector is now participating with us in more and more projects, and the private sector is beginning to realize, as the President recently stated, that these many pockets of poverty and high unemployment represent this country's largest untapped market. I am reminded of Henry Ford's answer to the negative reaction of fellow industrialists when he decided to give each employee a significant weekly raise, "I am doing this so they can buy my cars." We cannot be content with the current, historically low unemployment rate; we must continue our efforts to work with the private sector to create more jobs, so the millions of individuals still mired in poverty can eventually buy the products produced by this economy.

Mr. Chairman, poverty is insidious, and it destroys people's confidence, their desire and their drive. One can see the effects in too many rural areas of this country. Should anyone doubt the benefits of these programs, I challenge him or her to visit some of the areas I have, and see the optimism and joy of families when they move into a home they have built with their own hands; when they enjoy the benefits of clean running water in their homes for the first time, or when they see their children connected to the Internet where they can explore the world. These are just some of the reasons I am proud to present this budget request for your consideration.

RURAL DEVELOPMENT BUDGET REQUEST

The budget request for Rural Development is just under $11 billion for direct loan, loan guarantees, grants and technical assistance. It is an increase of $800 million over the fiscal year 1999 level, but it requires less budget authority than the current fiscal year. The request includes over $4 billion to support the President's National Home-ownership Initiative with an additional 50,000 more opportunities for home-ownership; a 12 percent increase in funding for the water and waste disposal loan and grant programs in support of the Water 2000 Initiative; and $1.2 billion in funding for the business programs which will assist in creating or saving almost 70,000 jobs in rural America.

RURAL HOUSING SERVICE

Mr. Chairman, as I have said on numerous occasions, no single factor contributes more to the vitality and stability of a community than does home-ownership. And no sector of the economy contributes more to the growth of the economy than does home-ownership. Every month the Department of Commerce releases statistics on housing starts and this information is eagerly awaited by all of the financial institutions in our country. The effects on the economy are also evidenced by the policy decisions for annual reductions in Federal income tax revenues of about $94 billion for the deduction of mortgage interest, and other deductions attributable to the housing industry.

Despite the positive economic effects of the housing industry, the budget process of the Federal government and the budget constraints we all must labor under, force our attention and our energy to the discussion of the comparatively meager $728 million in budget authority required to support the $5.9 billion in loans, loan guarantees, and grants needed by the less well off individuals in rural America. The economic value of the investments made by the Rural Housing Service are the same as those made by the private sector lenders, Mr. Chairman, but the societal and familial values can be much greater.

The programs administered by the Rural Housing Service reach the families and individuals that cannot otherwise afford decent, safe, and sanitary housing. They reach families and individuals that the private sector cannot serve. And in many

ways they reach two of the population groups most vulnerable to the effects of poverty elderly women and children.

SINGLE FAMILY HOUSING

The request for single family housing loans totals $4.3 billion, over $300 million more than available for fiscal year 1999 and requiring only $114 million in budget authority. Each new home constructed under this program provides 1.75 years of employment, over $50,000 in wages and generates over $20,000 in taxes for the local economy. In short, each new home generates much more economic value than it costs in budget authority. The average income of a borrower in the direct loan program is $17,000 and the average interest rate paid initially by these borrowers is about 4 percent, even though the interest rate can be subsidized to as low as 1 percent. The Rural Housing Service has been successful in stretching limited funding by generating private sector participation in this program. This effort began in 1996 with 20 partners and has now grown to 78 partners in 36 states. However, as important as stretching limited resources, is the acquaintance of private lenders with rural areas which can generate even more business for the lender. The guaranteed loan program provides loans at the market rate and serves borrowers with more moderate incomes.

MULTI-FAMILY HOUSING

The multi-family housing direct loan program serves those individuals and families least able to afford suitable housing. The average annual income of our tenants is $7,300 and for the most part the tenants are elderly female heads of household living on minimum social security benefits. Yet, it is this program and its related rental assistance that presents the largest dilemma in terms of policy and budget decisions. Because of the tenants it serves, these loans are typically subsidized to 1 percent this contributes to a high subsidy cost. However these tenants have no housing alternatives. There is a tremendous need for this type of housing and while we need to remain cognizant of budget constraints we should not be blind to the most needy in this country. The guaranteed program that was begun just two years ago serves renters with higher incomes. The demand for the program is significant and the program is particularly well received as an effective way to ensure that rural businesses have a well housed work force. It promotes rural economic stability. We are requesting the program be increased from $75 million to $200 million and we are recommending legislation which will eliminate the subsidy cost. Presently, we are required to provide interest subsidies for at least 20 percent of the loan funds and we have determined that this requirement is not necessary to ensure affordable housing is available. The subsidy cost can be redirected to programs serving the more needy.

RENTAL ASSISTANCE

Rental assistance is a subsidy provided to the developers of the direct loan multi-family housing projects in the form of renewable five-year contracts. The contracts make up the difference between the required tenant payment (30 percent of income) and the market rental rate, or the rate required to amortize the loan. Rental Assistance is the single largest component of the cost of administering the rural housing programs. We are requesting $640 million for this program, an increase of $57 million from the fiscal year 1999 level. The largest portion of the funding is needed to renew existing contracts that will expire in 2000. The balance is needed for rehabilitation loans, loan servicing options and for new construction. The request for rental assistance is submitted as a "forward funding" request which calls for $440 million to be available in fiscal year 2000 and $200 million available on the first day of fiscal year 2001. While this represents a change in the budgeting method for this program, it will not delay the provision of rental assistance to our tenants.

MUTUAL AND SELF-HELP HOUSING

Mr. Chairman, this program is one of the most rewarding programs we administer and I encourage every member of this subcommittee to visit one of our sites to see the positive effects provided when families, who would not otherwise have an opportunity to be homeowners, join forces and build their own houses. The house becomes secondary to the benefits of self confidence and self assurance provided throughout the family and community. This pride is evidenced in the fact that the delinquency rate in these homes is less than others we finance and the borrowers move to conventional credit much faster than do other borrowers. We are requesting a slight increase of $4 million for this program bringing the level to $30 million.

These grant funds provide the technical support needed by the families as they construct their homes which are then financed through the single family direct loan program.

FARM LABOR HOUSING

We are requesting a combined increase of $9 million for the Farm Labor Housing loan and grant programs which will allow us to finance the construction and repair of 960 units for migrant and seasonal farm laborers, who with Native Americans are the worst housed populations in America. These programs are the only programs within the Federal government specifically designed to serve this population and the program is one of the few areas over which USDA has the jurisdiction to improve the lives of farm workers who are, in large part, responsible for the low cost other Americans have to pay for food. This program also helps to ensure that the children of farm workers are well cared for while their parents are at work. A substantial number of the projects constructed through this program provide child care facilites which are often administered through Head Start or Migrant Head Start.

COMMUNITY FACILITIES

We are requesting a significant increase in funding for community facilities. This is one of our most popular, but often overlooked programs from which we finance a wide variety of essential community projects, ranging from hospitals, nursing homes, and child care facilities to drainage improvements. For years most of the funds have financed health facilities and fire and safety projects, but a recent priority has been child care facilities which are desperately needed in rural areas and the need is growing as families move from welfare to work and single mothers are filling many of the new jobs created in rural areas. Since the inception of this initiative RHS has provided more than $42 million for 141 new or improved child care centers. In several of the projects RHS has partnered with Rural LISC, a non-profit organization and the Head Start program of the Department of Health and Human Services; we expect the partnership to grow even more in fiscal year 1999 and fiscal year 2000.

For community facilities we are requesting $473 million for loans, loan guarantees and grants, an increase of $86 million. Included in the request for community facilities is $5 million to reinvigorate the effort to install severe weather early warning systems through out rural areas. Although the funding is requested under the community facilities program, the program will be administered by the Rural Utilities Service. This effort began initially in 1994 following widespread destruction and 30 deaths from tornados spawned by one storm in Alabama, Georgia and South Carolina. The Vice President called for 95 percent coverage for rural America with early warning systems triggered by the National Weather Service. And while we had some initial success through voluntary efforts of our Electric and Telecommunication borrowers liability issues soon slowed the effort. The Vice President has renewed the effort and we estimate the total cost will be $50 million. The $5 million requested in this budget will finance the installation of the necessary equipment at 15 to 20 of the highest priority sites. In all cases we will make every effort to use existing towers which will reduce the cost per site by $200,000. This is a very small investment that could save a significant number of lives and help reduce the billions in property loss each year due to these storms.

RURAL UTILITIES SERVICE

Mr. Chairman, the Rural Utilities Service administers programs that have a long and proud history of contributing to the economic growth and stability of rural areas. These programs led to the economic prosperity of rural America and they continue to provide the infrastructure necessary to ensure economic growth in those areas that are still experiencing economic difficulty. While many have argued in prior years that these programs are no longer needed, the reality is that the need has only shifted from initial connectivity to electric and telephone service to maintenance of an aging infrastructure. The current argument from some quarters is that deregulation of the electric and telecommunications industries will drive down the cost of these services and that the service can be provided by the private sector. Mr. Chairman, there is a reason that the Federal government led the way in providing electric and telephone service to rural areas; the profit was not there to induce the private sector to make the initial investment and most rural areas are still not profit centers. And while competitive pricing will reduce prices on a macro level, the situation could be quite different on a micro level, particularly in rural areas. We must maintain our vigilance and ensure that rural areas are fairly treated in this

era of deregulation. Many rural areas are currently having a very difficult time maintaining or attempting to rebuild viable economies. Rural economies are very sensitive to even minor changes and we should be very cautious as we proceed with deregulation.

The budget request for Rural Utilities is $3.4 billion, a slight increase over fiscal year 1999 and the necessary budget authority required to support the request is almost $100 million less than that needed in fiscal year 1999. Due to the growing demand for electric loans we are proposing a new direct loan program. The loans from this new $400 million program would be made at the Treasury rate requiring minimal budget authority. In total, we are requesting $1 billion for electric loans. For telecommunications loans, including the Rural Telephone Bank, we are requesting $645 million. We are again proposing the Rural Telephone Bank begin operating as a performance based organization with the goal of achieving privatization within ten years. We are in the process of finalizing legislation which will be submitted to Congress shortly to effect this transition.

DISTANCE LEARNING/TELEMEDICINE

For Distance Learning/Telemedicine loans and grants, the budget requests a total of $220 million, an increase of $58 million. The demand for this program continues to grow because it makes a real and immediate difference in people's lives, and the potential of the program increases with every improvement in technology. Rural Americans must be connected to the information superhighway, not because of the educational and medical purposes, but also because such access opens limitless opportunities for new business opportunities.

WATER AND WASTE DISPOSAL

We are requesting an increase of $156 million for the water and waste disposal and solid waste loan and grant programs at a cost of almost 50 percent less than required for fiscal year 1999. The total request is just less than $1.5 billion. This level of effort will provide new water service to approximately 650,000 rural residents, improved water service to 1.3 million rural residents and improved waste disposal services to another 600,000. Under the Water 2000 Initiative, RUS will devote a portion of its resources to those families lacking running water in their homes or experiencing serious problems with drinking water. A side benefit of this investment is the creation of over 40,000 jobs, primarily in the construction trades, in rural areas.

Mr. Chairman, the economic problems affecting many rural areas are most easily explained by the fact that 50 percent of all of the jobs in non-metropolitan areas are in the service industry. While these jobs are vital to local economies, they often do not provide enough income to support a family at anything but a subsistence level. More than 60 percent of the rural families with incomes below the poverty level have family members with some type of employment, and 23 percent of the rural poor were either full time workers or were in families with one or more full time workers. Over half of the jobs in rural areas pay less than $17,000 annually and another one quarter pay less than $12,000. In most of these same areas we also find deficiencies in transportation, infrastructure, health care and social services. Increasing the incomes through the creation of employment is the best and most permanent solution to these problems and that is what we do through the efforts of the Rural Business-Cooperative Service.

RURAL BUSINESS-COOPERATIVE SERVICES

The budget request for these programs is $1.2 billion, a slight increase over the level provided for in fiscal year 1999. The request for the business and industry loan guarantee program is $1.0 billion, the same level as last year. Mr. Chairman, a recent report issued by the General Accounting Office demonstrates the commitment of this Administration to improve the stewardship over taxpayer dollars. While the program level has increased from $100 million in fiscal year 1993 to $1 billion, the amount of outstanding principle delinquent has decreased from 22.5 percent to 6.1 percent and the percentage of borrowers delinquent has dropped from just under 14 percent to 5 percent. This is a significant accomplishment and I am very proud of this staff.

The budget also requests $52 million for the Intermediary Relending Program, an increase of $19 million over fiscal year 1999. This level of funding will leverage an additional $197 million in investment capital and create more than 12,000 jobs. These funds are relent 3 or 4 times, which in turn creates more employment opportunities over the life of the original loan. For Rural Business Enterprise grants, we are requesting $36 million, $1 million less than available for fiscal year 1999. We

are also requesting $5 million for Rural Business Opportunity Grants to provide partnership technical assistance planning grants to help rural communities develop comprehensive economic revitalization strategies.

For rural cooperative development grants, we are requesting $7 million, an increase of $3 million. Rural cooperatives are growing both in numbers and in terms of non traditional types of cooperative-businesses. Cooperatives are forming business alliances with private corporations, engaging in value added processing and beginning to enter the retail and export markets. Expanded use of the cooperative form of business is helping retain income in rural areas. The additional funding will aid in providing technical assistance to small farmers and small farm related operations in developing marketing and management skills. We are also requesting $2 million to continue cooperative related research through universities. In the past, this effort has been funded at the same level through the salaries and expense account. To further aid the formation of new cooperative businesses, we are again proposing to utilize up to $200 million in business and industry loan guarantees specifically for new cooperative businesses, including the guarantee of loans to individual members to purchase stock in a new cooperative. The level of funding requested for the Rural Business-Cooperative Services will help create or save about 100,000 jobs throughout rural areas.

ALTERNATIVE AGRICULTURAL RESEARCH AND COMMERCIALIZATION CORPORATION

The budget request for the Alternative Agricultural Research and Commercialization Corporation is $10 million, a significant increase over the level provided for fiscal year 1999. This level of funding will aid in bringing six new agriculturally based products to market and create about 1,500 jobs.

Empowerment Zones/Enterprise Communities The budget request also includes $15 million for the second year funding for the five new rural Empowerment Zones and 20 new Enterprise Communities. As you know, the designations were announced in January of this year. The Administration is also proposing legislation which would provide mandatory funding in fiscal year 2000 and the out years for these communities. Our experience with the rural Empowerment Zones/Enterprise Communities is demonstrating that this approach to community revitalization is very successful because it involves the entire community, it empowers local residents to develop their own solutions and time-frames, and it addresses structural problems comprehensively rather than from the perspective of narrowly focused categorical assistance programs.

SALARIES AND EXPENSES

Mr. Chairman, the Rural Development Mission Area is blessed with very capable, dedicated employees and it is only because of them that we have been successful in restructuring our field offices, downsizing the work force, re-engineering some of our business processes and still effectively delivering the programs. The vast majority of our employees are in the field offices and know first hand the value of the programs we administer because they live in rural areas. The number of full time employees has been reduced from over 9,500 to 7,100 since fiscal year 1993, a reduction of 26 percent in a very short time frame. During the same time frame the Rural Development program level has increased from about $7 billion to $10.9 billion, an increase of 56 percent. Also during this same time frame we have asked our employees to take on additional responsibilities. We have reached our streamlining targets, and our employment will not decrease any further, unless we do not receive sufficient funding for salaries and expenses.

The Secretary has recently decided to proceed with the implementation of administrative convergence, which will consolidate many of the headquarters and field administrative functions of the Natural Resource Conservation Service, the Farm Services Agency and Rural Development, as a means to achieve savings through improvements in administrative support. I am a strong supporter of this effort.

The budget request for Salaries and Expenses is $542 million, an increase of $25 million over the level available in fiscal year 1999. There is no fat in this request. We have for too long deferred needed investments in a number of areas, particularly in information technology and accounting systems. Some of these systems are seriously outdated and incompatible with much of the current software that would allow us to work more efficiently. One firm visiting some of our field offices referred to them as museums for computer equipment.

Mr. Chairman, both the Congress and the Administration can take pride in the accomplishments in reinventing and restructuring the federal government. However, we should ensure that we leave as our legacy a more effective and efficient system, not one that cannot function due to the lack of sufficient support. Our employees

take great pride in what they do and they deserve our strong support. I ask for your serious consideration of this request.

This concludes my comments. The Administrators and I are available for any questions the Members of the Subcommittee might have.

RURAL HOUSING SERVICE

PREPARED STATEMENT OF JAN E. SHADBURN, ADMINISTRATOR

Mr. Chairman and members of the Committee, thank you for this opportunity to testify on the President's fiscal year 2000 budget proposal.

As you and the members of the Committee well know, the Asian economic crisis of the past year as well as drought, disease, and numerous other problems have had devastating effects on America's farmers, ranchers, and agricultural communities. Rural manufacturers have felt the effects as well, as they find that foreign markets can no longer absorb their products. The more than $5 billion for farmers and ranchers which you appropriated last year is helping to shore up the economies of rural communities across America. More will need to be done, though, as production agriculture and manufacturing continue to lose jobs to increases in productivity and other factors.[1] Rural communities need help retaining their members, attracting new residents, and providing basic services. Rural Housing Service (RHS) programs meet these needs. Through partnerships that span the private, nonprofit, and public sectors, RHS provides rural American communities with affordable rental housing, homeownership opportunities, child care facilities, schools, and a multitude of services for the elderly. Together, these programs enhance community livability, create jobs, and add to local tax bases, giving rural communities the resources they need to grow and prosper.

RURAL HOUSING SERVICE PROGRAMS HELP LEVEL THE PLAYING FIELD FOR RURAL CHILDREN

Today, rural children are at an economic disadvantage compared with urban children. Twenty-four percent of America's 14 million rural children live in poverty. To show you how insubstantial the resources for these children are, the poverty threshold in 1996 for a family with two adults and two children was $15,911; for a family with one adult and one child, it was $8,163. Children of color bear a tremendous share of this burden: 50 percent of rural African American children live in poverty, as do 46 percent of rural Latino children and 41 percent of rural Native American children. Urban children, by contrast, are better off: they are less likely to live in poverty and more likely to live in middle- and upper-class homes. In 1997, 39 percent of urban children lived in households with incomes higher than 300 percent of poverty, compared to only 25 percent of rural children. Rural children deserve the same opportunities as urban children. By providing affordable and safe rental housing, homeownership opportunities, and essential community facilities such as child care centers and schools, RHS can help rural communities level the playing field.

Rural communities often have difficulty housing their poor citizens for the following reason: poor rural people cannot afford their housing because they lack the necessary income, not because rural housing is very expensive. In fact, almost 60 percent of poor rural households who pay more than 30 percent of their income towards housing and utilities pay less than $500 each month for housing costs. As you know, many families find it difficult these days to make ends meet, even when they work full time. Wages in rural areas are often insufficient to lift families out of poverty.

The RHS Section 521 Rental Assistance program, the Section 515 Rural Rental Housing program, and the Section 514/516 Farm Labor Housing program directly address the problem of housing affordability by filling the income gap. In fact, the average income for tenants in Section 515 and Farm Labor Housing is $7,300. The Rental Assistance program ensures that families living in Section 515 and Farm Labor Housing pay no more than 30 percent of their incomes toward rent and utilities by providing landlords with a grant to make up the difference. Even with Rental Assistance, some families have so little income that they must make choices be-

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[1] Throughout this testimony, I describe current socioeconomic conditions in rural America. All of the statistics and trends I cite come from the USDA Economic Research Service's (ERS's) 1997 and 1998 Rural Conditions and Trends Socioeconomic Conditions Issues, as well as from 1998 Agricultural Outlook reports. ERS typically reports these data in terms of "non-metropolitan" and "metropolitan". For convenience, I use the term "rural" to refer to non-metropolitan and "urban" to metropolitan.

tween necessities such as medicine and food. The Section 515 and Farm Labor Housing programs decrease the income gap by providing very low interest loans and grants to developers, who in turn are able to provide tenants with below-market rents for safe and comfortable housing. Currently, 225,750 households receive Rental Assistance. About half are young single people and families, and the remainder are elderly. More than 452,000 families are living in the decent, safe, and comfortable housing that the Section 515 and Farm Labor Housing programs provide. Illustrative of the tremendous need for this housing is the fact that 86,000 Section 515 and Farm Labor Housing tenants pay more than 30 percent of their income towards rent, and 29,000 pay more than 50 percent, yet these families remain in RHS housing. Even though they are heavily rent overburdened, these tenants still see RHS housing as their best alternative.

The President's proposed $640 million Rental Assistance budget will enable 41,800 households to remain in either Section 515 or Farm Labor Housing, helping young families to provide a stable environment for their children and affording elderly households the income security they would not otherwise have. The proposed budget will also provide Rental Assistance to new Farm Labor Housing apartments as well as to rehabilitated Section 515 and Farm Labor Housing apartments. In addition, it will provide a limited amount of new construction and emergency servicing Rental Assistance. Emergency servicing Rental Assistance is crucial in disasters such as the recent California citrus freeze, which by destroying citrus crops also devastated the economies of numerous small towns and took away the seasonal jobs of hundreds of agricultural workers. Without the emergency Rental Assistance RHS is providing, those agricultural workers who live in RHS's Section 515 Rural Rental Housing would have not have been able to make their monthly rent payments, jeopardizing not only their own housing security but also the financial viability of their entire Section 515 complex.

The President's budget of $100 million for the Section 515 Rural Rental Housing program will ensure that RHS is able to maintain its 17,000 complexes in good repair and to provide approximately 1,900 new apartments. Funding for the Section 515 program directly benefits the very poorest children, their parents, and elderly people. These are people whom communities struggle to provide with good housing.

The President's $40 million budget for the Farm Labor Housing program will allow RHS to provide farmworkers and their families with approximately 600 new apartments and 350 rehabilitated apartments. Farmworkers are one of the most poorly-housed populations in the country, and, as I have already pointed out, 46 percent of rural Latino children live in poverty. The 113 additional units that the proposed budget increase provides will ensure that at least a few of these children are able to live in the safe, pleasant housing that is so often out of reach for farmworkers.

RHS is working to improve tenants' quality of life and self-sufficiency by promoting on-site services such as computer training, reading programs for children, resume preparation for job seekers, tutoring services for children and adults, health services, Meals on Wheels, and fitness classes. By working together with the Office of the Inspector General (OIG) to find and correct any fraud or abuse, we are also making sure that the most vulnerable in our society are protected. This partnership with the OIG complements our implementation of the reforms you mandated, as well as the over 100 administrative measures we have taken to improve the program.

For those families with low and moderate incomes who wish to rent apartments, RHS has begun providing the Section 538 Rural Rental Housing guaranteed loan program. The average rent for a Section 538 apartment is $455 per month. The President's proposed budget of $200 million for this program will allow RHS to provide almost 5,400 new apartments to rural families. Included in the President's budget is a legislative proposal which would remove the requirement that 20 percent of loans be subsidized, thereby removing the main source of subsidy cost. This legislative change would allow RHS to receive twice as much money and provide twice as many apartments as it would be able to were the subsidy requirement to remain.

I have discussed the rental housing options RHS provides rural American families and their communities. Now I would like to spend a few minutes telling you about how we serve rural families who have demonstrated their ability to repay a loan and wish to own their home. The Section 502 direct loan program, and its companion program, the Mutual Self-Help Housing program, are targeted at people who earn 80 percent or less than the median income in their area. These programs give borrowers and their children the boost they need to move out of poverty. We recently commissioned the USDA Economic Research Service (ERS) to conduct a national survey of borrowers who have received Section 502 direct loans since 1995,

whether for Self-Help or for contractor-built homes. The results were impressive. First, 25 percent of borrowers had at some time received government rental assistance. As a matter of fact, we know that many of the families who participate in the Self-Help program are farmworkers who once lived in RHS-funded farm labor housing. Now these families are paying a mortgage, and by the time they leave the program they are likely to have moved off interest credit and to be paying the note rate on their loans. The ERS survey shows that 83 percent of borrowers were first-time homebuyers. Ninety percent said that they were living in a better home than they were before, and 61 percent said they were living in a better neighborhood than before. To show you what a good investment we have been making over the past four years, Section 502 homes seem to have appreciated in value, with a median purchase price of $64,800 and an estimated current value of $72,000. RHS borrowers are sinking roots into their communities, providing their children with so many benefits: a comfortable and safe home they can be proud of, a better neighborhood, and, eventually, equity against which to borrow for a college education, a business expansion, or even another home.

Let me share with you what a difference the Section 502 direct loan program has made in the life of one Mississippi family. Ms. Ruby Jean Lee is a 48-year-old single parent of three children, ages eleven, thirteen, and seventeen. She is currently employed at Northwest Community College in Senatobia and earns an annual income of $9,300. Until a few days ago, she and her children were living in an overcrowded old wood-frame house with a leaky roof, weak floors, inadequate heat, and nonfunctional plumbing. In July 1998, Ms. Lee applied for a Section 502 direct loan. She was certified eligible, and in October she closed her loan of $65,000. She and her children moved into their new three-bedroom, two-bathroom home in February 1999. Ms. Lee and her children finally have a water-tight roof, good heating system, solid floors, and indoor plumbing that works. The Section 502 direct loan program that is included in the President's budget will allow for 1,730 more such opportunities, for a total of 16,630 families.

The President's budget provides a $4 million increase for the Self-Help Housing Technical Assistance Grant program, bringing the program level to $30 million. This increase will allow RHS to provide approximately 16 new technical assistance grants to Self-Help organizations in underserved communities such as Empowerment Zones and Enterprise Communities, as well as in areas which currently do not have a Self-Help program. It will also allow 1,900 families to build their own homes, an increase of 370.

For low- and moderate-income families, RHS offers the Section 502 Single Family guaranteed loan program. This program eliminates the downpayment barrier that prevents many young families from becoming homeowners by providing financing for the full value of the home. The President's budget of $3.2 billion for the Section 502 guaranteed loan program will finance more than 34,000 homes.

RHS multi- and single-family housing programs provide high quality, affordable housing to rural American families. Communities benefit from these programs not only because they increase their housing stock but also because they realize the jobs, local taxes, and fees generated by construction. Using the National Association of Home Builders' estimates of the economic benefits generated by housing construction, the President's budget for RHS multi-family housing will create and preserve more than 8,000 jobs in construction and construction-related industries, $268 million in wages, and $142 million in combined federal, state, and local revenues and fees. The President's single family housing budget will create and preserve more than 35,000 jobs, $1.1 billion in wages, and $601 million in revenues and fees.

In order to retain and attract young working families, rural communities must offer not only safe and affordable homes but also good day care and schools. Today, rural children under the age of six face higher poverty rates than older children, with children of color bearing a disproportionate burden: young African American children are three times as likely to be poor as white children, and young Latino and Native American children are twice as likely. Research by ERS suggests that the reason young children suffer higher poverty rates than older children is that rural areas lack the child care facilities which enable parents to go to work. Many rural parents face a tough choice: go to work to increase their family's income but worry constantly about whether their children are safe and well cared for, or live in poverty in order to stay at home to take good care of their children. RHS's Farm Labor Housing and Community Facilities programs offer a way out of this dilemma by providing much-needed safe, high quality child care facilities.

Although housing complexes financed through the Farm Labor Housing program are not required to provide child care facilities, these facilities are an eligible loan purpose of the program, and many borrowers have taken advantage of the opportunity to provide them to their tenants. These facilities are critical to farmworker

families, whose economic circumstances are sometimes so dire that they must bring their young children with them into the fields. RHS is continuing to encourage its Farm Labor Housing borrowers to build child care facilities. RHS has also greatly augmented the number of child care facilities it funds through the Community Facilities program, financing 13 centers in 1995, 19 in 1996, 33 in 1997, and 46 in 1998. The facilities financed in 1997 and 1998 alone will serve more than 10,000 children, and we plan to continue this high level of commitment to providing child care facilities.

One of the biggest determinants of success in life is education, and mobile young families often relocate to be near good schools. Because small rural communities have difficulty obtaining funds to build and repair educational facilities, RHS provides these communities with Community Facilities direct loans, guarantees, and grants. RHS has funded schools, including schools for people with mental or physical disabilities, teacher housing, dormitories, and all-purpose college campus buildings. We have also joined a partnership with the American Indian Higher Education Consortium to assist this organization with funding tribal colleges. Since 1993, we have provided $3 million in direct loans and grants to build college facilities in Montana, North Dakota, and Arizona. In addition, Rural Development State Directors with large Native American populations have been expanding their outreach and communication with tribal leaders. As a result of this interaction, we expect in the future to be funding more community facilities and housing for Native Americans.

The President's proposed $473 million budget for the Community Facilities direct loan, guaranteed loan, and grant programs will ensure that we are able to continue these expanded child care and educational services, as well as to continue our commitment to providing high quality health care and emergency services facilities. The increases in the direct loan and grant programs will allow RHS to expand services in the most distressed communities, including Empowerment Zones and Enterprise Communities.

RHS PROGRAMS PROVIDE RURAL AMERICA'S ELDERLY POOR WITH SAFE AND AFFORDABLE HOUSING

In 1996, 9 million of rural America's 54 million people were 60 years old or older. Twenty-nine percent of rural seniors between the ages of 60–74 were poor or near-poor (100–149 percent of the poverty level), as were a staggering 42 percent of people over the age of 74. Poverty among seniors increases with the degree to which their surroundings are rural, with elderly poverty rates being highest in the most remote areas and the lowest in urban centers. Ironically, because the likelihood of poverty among seniors increases with age, those who typically have the greatest need for assistance with the tasks of every day life are the least able to pay for it.

The children of the Great Depression worked all their lives to build the rural economy. Many of them did not work in jobs with retirement plans, and they survive on their monthly social security check, food stamps, and Supplemental Security Income (SSI). Many of them are living in housing worse than what they had during the Depression and to varying degrees are struggling to take care of themselves. Often, their children lack the resources to help them, as do their communities. Every day, through its home repair, rental housing, and community facilities programs, RHS provides modern housing for the first time to elderly people who have been chopping wood for heating or walking to a well for water because their homes are so decrepit.

The Section 504 grant and loan programs directly address the housing rehabilitation needs of very low-income seniors who own their own homes.[2] The median income of beneficiaries of both programs is less than $9,000. Often, our customers have no choice but to remain in the substandard homes in which they have lived for decades, and the programs makes a tremendous difference in their quality of life. The President proposes a budget of $30 million for the grant program and $32.4 million for the loan program. Combined, this funding will allow both of these heavily oversubscribed programs to improve the homes of 11,200 households with basics most Americans take for granted: a roof that does not leak, indoor plumbing, an air conditioner, an electric or gas heating system, a solid floor, or an electrical system that meets the fire code. They will also allow seniors to retrofit their homes to accommodate disabilities, for example by installing low counters, handrails, and ramps for wheel chairs.

[2] The Section 504 grant program is limited to rural seniors while the Section 504 loan program is available to any rural person with a very low income. However, 60 percent of loan program beneficiaries are seniors.

The Section 515 program provides a highly valued residential alternative to relatively independent rural seniors who find that they can no longer keep up with the yard work and structural maintenance that homeownership requires. In addition to being virtually maintenance-free, Section 515 apartments for elderly and disabled people are equipped with special amenities such as strategically placed handrails and emergency call buttons or lights with which to signal for help. They are also wheelchair accessible. Managers of these complexes often arrange for services such as transportation, grocery and pharmaceutical delivery, Meals on Wheels, health screenings, and entertainment, and they make sure that the community rooms stay in constant use. In addition, a small percentage of Section 515 complexes offer congregate facilities in which seniors receive at least one meal per day. Many seniors in Section 515 housing receive Rental Assistance, as well, enabling their small incomes to go further to cover costs of prescription drugs, food, and other necessities.

Margaret Bakken is one of the more than 180,000 seniors who is currently benefiting from Section 515 housing. She also receives Rental Assistance. In October 1989, she and her husband Norbert Bakken, who then were 77 and 85 years old respectively, completed an application to live in the Section 515-funded Pine Ridge Apartments in Ridgeland, Wisconsin. Their rural Chetek home was heated only by wood and lacked plumbing and an indoor toilet. Mr. Bakken was physically unable to chop wood and haul water, so Mrs. Bakken had to perform these demanding tasks every day. At the time she and her husband applied to live at Pine Ridge, she could no longer keep up with these chores and with the maintenance of her old house. She was worried about how she and her husband would survive the coming winter. Mr. and Mrs. Bakken were overjoyed and extremely grateful that their application was accepted and that they could move into a warm, comfortable, and secure apartment. Without the aid of the Section 515 program and a monthly Rental Assistance payment of $261, the Bakkens could not have afforded such a nice home on their annual income of $6,960. In December 1995, Mr. Bakken passed away. Mrs. Bakken, now 87 years old, remains a tenant at Pine Ridge Apartments. She tells us she loves her home and enjoys the quiet, safe environment. The assistance she receives through RHS allows her to live a comfortable life, unlike many of her peers.

In addition to providing housing repair loans and grants and subsidized rental housing, RHS also provides elderly rural Americans with numerous community facilities, including assisted living facilities, boarding homes, adult day care centers, intergenerational care centers, retirement homes, and nursing homes. The program also invests heavily in rural health care facilities, from which seniors typically benefit in great measure. In 1997, RHS invested $51 million—23 percent of its total Community Facilities funds for the year—to either build or make improvements to 33 senior facilities. In 1998, we invested $43 million in 40 facilities. We plan to continue our commitment to serving the ever-increasing rural elderly population.

RHS AND ITS PARTNERS LEVERAGE THEIR RESOURCES TO BUILD COMMUNITIES

None of the programs I have described would be successful without the help of our many partners. Without the strong interest and support of our network of 2,000 private lenders, the Section 502 guaranteed loan program would not have been able to help 39,400 families become homeowners last year. These same lenders are also working hard to make our Section 538 guaranteed loan program a success. Our nonprofit technical assistance grantees are at the heart of the Section 523 Mutual Self-Help Housing program, which has made homeownership a reality for thousands of people for whom it seemed impossible. Nonprofit organizations also help package our loans, performing valuable outreach to underserved communities in the process and helping to stretch our limited staff resources. And our nonprofit and government partners in the Rural Home Loan Partnership have played pivotal roles in expanding the reach of the Section 502 direct loan program. Thanks to the combined efforts of the Rural Local Initiatives Support Corporation (Rural LISC), the Federal Home Loan Bank System, the Office of Thrift Supervision, the Federal Deposit Insurance Corporation, and RHS, in 1998 the Partnership made home loans worth $19.8 million ($13 million in Section 502 direct loans, $6.8 million from private and nonprofit lenders) to help 284 families become homeowners. Nonprofit community development corporations provided them with homebuyer education to ensure that they will be successful borrowers.

Finally, let me discuss the contributions of our most important partners, the citizens of rural America. So often we hear of how a town's citizens rally to improve the housing conditions of one of our customers. In an Appalachian community in eastern Ohio, for example, students at the high school build one new home each year for a local family. In a community with an unemployment rate of 10 percent,

their contribution makes a real difference. Recently, one young couple with a four-year-old child received one of these homes, which they financed through a $70,000 Section 502 direct loan. Through this arrangement, the family was able to save $20,000 in labor costs, and the students learned marketable construction skills.

Another fine example of RHS and a community working together to improve the life of a local resident took place in southern New Mexico. An eighty-six-year-old woman, who has been deaf since childhood, has lived her whole life in the home her parents built. When the woman's friends approached the local public works office and the local Rural Development office for assistance, her home lacked a septic system and indoor plumbing, had no kitchen facilities other than a wood stove, and had a leaking roof and a dirt floor. Rural Development was able to provide a Section 504 grant for $7,500. The public works employees began soliciting help from the community to augment this grant. They were able to secure $10,000 in materials and donated labor. Many citizens from the town, as well as Rural Development and public works employees, provided their labor to the renovations. When the renovations were completed, the home had a new roof, floor, kitchen, septic system, and remodeled interior. Because so many people from the city, various businesses, and private individuals donated their time, money, and materials to remodel this home, this Section 504 grant truly turned into a community development project.

Mr. Chairman and members of the Committee, with your continued support, RHS and our thousands of partners around the country will continue to lay the foundations for a strong rural America.

RURAL UTILITIES SERVICE

PREPARED STATEMENT OF WALLY BEYER, ADMINISTRATOR

Mr. Chairman, members of the subcommittee, thank you for the opportunity to submit the President's fiscal year 2000 budget and program proposals for the Rural Utilities Service (RUS). I want to begin by thanking you and the members of the subcommittee for your continued support for the infrastructure programs and policies of rural America. Together, we are helping rural America invest in its communities and its future.

A safe, affordable, modern utility infrastructure is a key component of economic competitiveness. It is also a fundamental building block of economic development. Dramatic regulatory and market changes are occurring in the telecommunications, electric and water utility sectors. Without the help of the RUS, rural communities will have a very difficult time financing their utility investments.

At RUS, we are continuously working to enhance rural utility efficiency by encouraging system mergers, leveraging private capital and forging new partnerships for economic development. We are reforming our program regulations to be more customer friendly, focusing our resources on rural development and loan security.

The nearly $42 billion RUS loan portfolio includes investments in approximately 7,500 small community and rural water and wastewater systems, and 2,000 telecommunications and electric systems, servicing approximately 84 percent of America's 3,096 counties. This 64-year old local/federal partnership is an American success story. It is a partnership providing critical infrastructure to 80 percent of the nation's landmass while enhancing the lives of 25 percent of the nation's population. That infrastructure spurs economic growth, creates jobs, and improves the quality of life in rural America. The vitality of rural communities truly depends on access to modern, reliable, and affordable utilities.

REFORM, REINVENTION AND RESPONSIBILITIES

RUS is not your mother and father's REA! We are working to make RUS pro-active in a rapidly changing utilities market. The success of the public-private partnership between RUS and its borrowers depends on the ability of borrowers to respond quickly to changing conditions. Consistent with the spirit of reinvention, the RUS continues to streamline its policies, offering borrowers more flexibility in financing, while ensuring safe, reliable modern utility service to rural Americans.

Specifically, RUS has reinvented its focus and activities by:

—Targeting scarce Federal grant funds and limited budget authority to those areas of our country that do not have basic utility infrastructure; to those areas with the highest poverty levels and out-migration of human, financial, and economic resources; and to our Native Americans;

—Developing varied and flexible financing programs that result in substantial interest savings to RUS electric borrowers. Since 1993, RUS has refinanced or re-

priced $9 billion of high interest Federal Financing Bank loans, saving rural consumers $227 million;
—Reducing regulatory burdens enabling eligible borrowers and rural communities to more effectively and efficiently participate in RUS programs;
—Eliminating and simplifying RUS loan approval processes, allowing borrowers to respond more quickly to the ever-changing financial and economic markets;
—Automating loan processing functions to provide borrowers faster access to loan and grant funds while reducing the administrative costs incurred by the Federal government. Processing time for RUS loans has been slashed from 9 months to less than 1 month;
—Networking with Federal, State, and local government agencies in an advocacy role for rural citizens;
—Servicing an electric industry in revolution both technically and financially;
—Promoting a paperless society that makes the Federal government more responsive to its customers while decreasing the national paperwork burden; and
—Leading the way to Y2K compliance. Since 1996 RUS has been a leader in the effort to promote Y2K compliance among rural utilities.

THE FEDERAL PARTNERSHIP WITH RURAL AMERICA

A diversified rural economy requires investment in infrastructure, and quality education and health care to foster economic growth. Affordable power creates on farm and off-farm employment. Modern wastewater treatment systems along with clean drinking water improve the rural environment and health. We must provide rural children with educational opportunities that will enable them to compete with the best and brightest from around the world. Our rapidly aging rural population must have affordable access to quality health care. Rural businesses need state-of-the-art communication technologies and affordable power to create new jobs and enhance the quality of life. All Americans should have a healthy environment and safe, clean drinking water and have their commercial and recreational water resources protected from contamination. RUS is helping rural communities in each of these areas.

Our goal is to help provide rural America with the tools and resources necessary to realize the full extent of its potential. We are applying creative thinking, personal commitment, and customer service to program delivery.

TELECOMMUNICATIONS—50 YEARS OF PROGRESS

1999 marks the 50th Anniversary of the RUS Telecommunications Program. In 1949, when the Telecommunications program started, only about 39 percent of U.S. farms were receiving telephone service of any kind. During Congressional hearings, many witnesses testified to both the need and demand for rural telephones, for area coverage, and for a source of long-term financing to change from magneto to dial. A new era for rural telephony began with enactment of the REA telephone loan legislation. Congress ensured that adequate telephone service be made generally available in rural areas and to the widest practicable number of rural users of such service.

Today, 50 years later, the RUS Telecommunications Program and the Rural Telephone Bank (RTB) have developed into successful, forward-focused programs with a continuing, strong demand for investment capital. We are making certain that Rural America succeeds in the digital age.

Advanced telecommunications services are crucial to rural America's economic development. Rural businesses must be able to compete and rural residents need better access to the global economy, quality health care, and quality educational opportunities. The concept of "basic" voice telephone service no longer exists. "Core" services, defined in terms of speed and bandwidth, that evolve with new technologies must be established and delivered to rural America.

Loans made by the RUS Telecommunications Program and RTB affect the lives of many rural residents. Rural telecommunications are providing advanced communications technologies for rural businesses, increased educational opportunities for rural students, and improved health care for rural residents. RUS and the RTB are working hard to assist borrowers in enhancing the standard of living, ensure the quality of life, and bring about economic development to rural America. As we approach the 50th anniversary, RUS has seen an increased demand for its financing.

This year's telecommunications budget proposes $560 thousand in budget authority to support $50 million in direct hardship telecommunications loans and $2.4 million in budget authority to support $300 million in Treasury-rate loans, as well as $3.3 million in budget authority to support $175 million in Rural Telephone Bank (RTB) loans.

The successful implementation of the Telecommunications Act of 1996 is critical for rural consumers. In addition to being a lending agency, RUS continues to be an advocate for rural citizens before federal and state regulators. We firmly believe that the benefits of the digital revolution must be shared by all Americans. Continued capital investments and operational and technical support are critical to maintaining a high level of quality in areas served by RUS borrowers.

The budget also reflects our commitment to privatize the RTB within the next 10 years. By establishing the RTB as a performance based organization (PBO), the RTB can demonstrate that its financial and managerial independence is consistent with privatization goals. The cost of the subsidy budget authority and administrative expenses would be paid from the unobligated RTB liquidating account balance in fiscal year 2000.

DISTANCE LEARNING AND TELEMEDICINE

In the Distance Learning and Telemedicine (DLT) Program, the budget request of $20.7 million in budget authority will support $200 million DLT loans and $20 million in DLT grants.

The Distance Learning and Telemedicine Program provides financial assistance for rural education and health care providers seeking to utilize advanced telecommunications technologies. DLT loans and grants provide needed infrastructure and high technology end-use equipment for rural areas. This program is a powerful complement to the e-rate which provides discounts for monthly services and connections to schools, libraries, and rural health care facilities. The Federal Communications Commission administers the e-rate as part of the Universal Service Support System. The DLT program and the e-rate provide an unparalleled opportunity to use telecommunications to enhance rural education and health care providers.

Vice President Gore said it best when he announced the 1997 DLT awards. He stated: "This country cannot afford a digital divide between those who have access to the benefits of the Information Superhighway and those who do not."

Since 1993, the DLT program has funded 252 projects totaling $68 million in 43 states and two U.S. territories. These projects serve 850 schools and learning centers and 600 hospitals and rural health clinics. The DLT programs provide seed money to leverage almost two times its investment from other private and public sources.

Simply put, rural Americans must be connected to America's Information Superhighway. USDA/RUS is the catalyst for this rural connection.

ELECTRIC PROGRAM

The Electric Program budget proposes $10 million in budget authority to support a program level of $1 billion dollars. The President's Budget requests $450,000 budget authority for a hardship program level of $50 million; $9 million budget authority for a municipal rate program level of $250 million. The budget proposal provides a $300 million funding level for guaranteed loans. The loan guarantees do not require any budget authority.

The RUS Electric Program continues to serve one of the most effective local/public partnerships of the federal government. Today's program ensures that all areas of our nation have access to reliable, reasonably affordable, electric energy. We are also forging new and strengthened relationships with private lenders to offer RUS guarantee loans.

Over the last several years, changes have been made in the electric lending program to reduce the overall federal cost of the program. In an effort to reduce the cost of the electric program and provide yet another financing tool to meet increasing demand, the Administration again proposes a new Treasury Rate Loan Program to complement its existing loan programs. This $400 million loan program can be generated with only $320,000 of budget authority.

Each RUS electric loan dollar leverages an additional three dollars from private sources.

In the coming years, rural distribution and power supply systems will require continued assistance in upgrading and replacing an aging electric infrastructure to support growing electricity demand, new technologies, and a more competitive industry structure. For example, RUS financing will enable rural electric systems to replace aging, inefficient and undersized electric transformers and conductors to enhance the reliability of distribution and transmission systems to meet load growth while cutting line losses, improving energy efficiency, and reducing carbon and other air pollution emissions.

Demand for the RUS Electric Program exceeds available resources; there is currently a $1.3 billion waiting list for RUS electric financing assistance.

FINANCIALLY STRESSED BORROWERS

RUS is also working very closely with electric borrowers facing financial stresses from past nuclear and large base-load generating plant investments and from increasing pressures from wholesale and retail competition. In each instance, RUS is diligent in ensuring that work-out agreements maximize the recovery to the Federal taxpayers. Today, RUS is actively working with six financially stressed borrowers as compared with some 15 borrowers four years ago.

Since its inception, RUS has worked closely with its borrowers to ensure the integrity of its loan portfolio. The financial health of each RUS borrower is of the utmost concern to the Agency and when that health is threatened, RUS immediately undertakes the steps necessary to minimize delinquencies. RUS' loan security goals and debt collection activities maximize the collection of delinquent debts owed to the Federal government by ensuring that collection and correctional activities are promptly pursued.

WATER AND ENVIRONMENTAL PROGRAMS

This budget seeks $503 million in budget authority for Water and Waste Disposal (WWD) grants; $2.746 million in budget authority for solid waste management grants; and $63.9 million in budget authority to support $900 million in WWD direct loans and $75 million in guaranteed loans.

The budget request includes $20 million for Colonias along the U.S. Mexico border, $16.2 million for technical assistance and training grants, $5.3 million for the circuit rider program, $20 million for rural Alaskan villages, and $34.7 million in budget authority for loans and grants in empowerment zones and enterprise communities. Our budget request will also allow third-party grantees (such as rural water circuit riders) to make over 28,000 water systems and 29,000 wastewater system contacts to assist communities with intensive assistance, and through a clearinghouse effort taking 28,000 telephone calls and 11,000 electronic bulletin board and web site contacts.

As a result of the strong technical assistance efforts, both from staff and third-party grantees/contractors, loan delinquency and loan losses will remain low. Currently, 1 percent of borrowers are delinquent and since the inception of the water and waste disposal program less than 0.1 percent of the amount loaned has been written off.

The RUS program improves the quality of life and health of about 1.3 million Americans each year by bringing safe drinking water and environmentally sound wastewater facilities to those rural communities in the greatest need. The program is delivered by a field network of Rural Development employees who provide "hands-on" technical and financial assistance through the Rural Community Advancement Program (RCAP).

In the Water and Environmental Program area, RUS has shown great leadership in using information age technologies to add value and efficiency. A RUS Intranet allows program delivery professionals up to the minute information, the ability to seek advice, share best practices and to store forms, bulletins, regulations and staff instructions online.

WATER 2000 PRESIDENTIAL INITIATIVE

The Water 2000 Initiative has been very successful at investing in the people and places where safe drinking water is needed most. The program has been so successful that demand for funds exceeds supply. Based on the Administration's belief and policy that low income, high unemployment and high poverty areas with water-related public health problems have the greatest needs, we increasingly target drinking water and environmental investments to those areas.

In a state-by-state safe drinking water assessment performed in 1995, RUS found that at least 2.5 million rural Americans had very critical needs for safe, dependable drinking water, including almost one million people who had no water piped into their homes. Approximately 5.6 million more were found to have serious needs under the Safe Drinking Water Act standards. At that time, the costs of meeting rural drinking water needs were estimated at $10 billion.

Under Water 2000 targeting guidelines, over four fiscal years, RUS has committed almost $1.8 billion in loans and grants to over 1,000 of the nation's highest priority safe drinking water projects. Water 2000 projects serve communities with the most limited financial resources and highest poverty rates. Once completed, Water 2000 projects funded as of October 1998 will provide 380,000 Americans water for the first time for the first time from properly constructed, maintained and tested public sources.

Few tell the Water 2000 story as clearly or dramatically as Carole Buckland of Binghamton, New York. "The families of Park Terrace in the town of Binghamton, New York are out of water! Water, the very thing that humans need for survival!" Carole wrote in a letter to President Clinton, asking for help for her community. That letter triggered a series of events that brought Carole Buckland to Washington, D.C. on July 13th 1998 to meet Vice President Gore, who announced that Binghamton would have a Water 2000 project and that the Park Terrace families would have "water, . . . clean, safe water that would bring a quality of life that most of us take for granted."

We are proud of our record of helping rural communities help themselves bring drinking water and wastewater facilities to thousands of Americans—with strong emphasis on those who truly need our services most. As the application backlog illustrates, this is a huge job that directly affects the health and safety and economic well-being of rural America.

THE NEW TELECOMMUNICATIONS & ELECTRIC COMPETITIVE ENVIRONMENTS

To ensure that newly formulated policies address the role of rural utility systems in a deregulated marketplace, RUS has assumed a pro-active role in discussions with the Federal Communications Commission, Federal Energy Regulatory Commission and our partners in the Executive Branch to protect and enhance RUS loan security and improve the lives of rural residents. As this nation grapples with telecommunications and electric industry market reforms, RUS will remain in the forefront of these discussions and will lead the policy debate as it impacts rural Americans. In an ever-changing legislative and regulatory environment, ensuring the security of a $36 billion portfolio of telecommunications and electric loans while providing modern, high quality, reliable, and affordable infrastructure in rural America will present a formidable challenge into the 21st Century.

ELECTRIC RESTRUCTURING LEGISLATION

In 1998, President Clinton submitted legislation on electric retail market restructuring. Similar legislation is being prepared for reintroduction in 1999. I am pleased to report that the RUS made significant contributions to this landmark legislative proposal. No restructuring plan currently before the Congress is as complete or as sensitive to rural issues as the President's bill. The legislation recognized that restructuring will present challenges to rural areas and provide for a rural safety net of about $500 million a year to help mitigate any adverse effects on rural consumers. The USDA has looked very carefully at the effects of retail electric competition on rural communities. The proposal includes a flexible mandate, allowing states to opt out of retail competition. The bill also requires the Federal Energy Regulatory Commission to consider the multi-tiered nature of rural electric cooperatives; the tax exempt status of those cooperatives and the program interests and loan security of USDA in its rate-making authority. The RUS looks forward to working with the Congress to implement restructuring legislation which appropriately considers rural needs.

Y2K OUTREACH AND READINESS

In addition to working within the Rural Development Mission Area to ensure USDA's Y2K compliance, RUS has been a national leader on Y2K industry outreach. RUS featured its first Y2K presentation at its 1996 Telecommunications Engineering Symposium. In 1998, we aggressively brought the issue to the attention of our industry and community partners.

In our telecommunications and electric programs, we have surveyed our borrowers and issued regulations requiring borrowers to provide Y2K compliance statements for new loans and loan advances. We have offered our assistance and will expedite processing of Y2K related loan requests. For our Water and Environmental Programs, which are administered at the state level, RUS has utilized state program managers and circuit riders as well as our national conference to conduct effective Y2K outreach.

The RUS has also been very active in the President's Y2K council serving on the telephone, electric and environmental committees. Deputy Administrator Christopher McLean also serves on the Y2K Task Force of the National Association of Regulatory Commissioners.

RUS takes the Y2K situation very seriously. It is a matter of public health, safety and national security. Even if utility outages are limited and isolated, the consequences of Y2K failures for the communities affected will be no less grave. This problem can not be underestimated.

WEATHER RADIO

Already in 1999, savage winter tornadoes have ripped through the states of Arkansas, Tennessee and Mississippi. When disastrous weather strikes, the difference between survival and the loss of human life can be a matter of minutes. With early warning, families, especially children and the elderly can be afforded sufficient time to protect themselves in the face of oncoming tornadoes, flash floods and hurricanes. The National Oceanic and Atmospheric Administration (NOAA) Early Warning Weather Radio network can help provide that margin of safety. NOAA weather radio provides warnings of dangerous weather conditions to nearly 70 percent of all Americans. The 30 percent of Americans without NOAA weather radio broadcasts are, however, almost entirely in rural areas.

For several years, RUS has participated in this interagency effort to expand the coverage of NOAA Weather Radio and to upgrade the current system to an all hazards network that will also warn against potential terrorist, economic, and environmental dangers. We have already identified unserved areas and tower resources among RUS borrowers where NOAA weather radio transmitters could be installed. While there is much still to do in rural America, there are already several success stories to report from these efforts. The State of Alabama, for example, has achieved near total state-wide coverage.

I am very pleased to report that the President's budget includes a new $5 million grant initiative in the Rural Development Community Facilities program to be administered by RUS that will add approximately 18 new transmitters to the NOAA Radio Network.

RUS estimates that, at current costs, it will take about $50 million to increase NOAA radio coverage from its current 70 percent to 95 percent. The $5 million in the President's Budget is an important commitment and tremendous initial step towards protecting the lives of rural Americans.

NATIVE AMERICAN OUTREACH

The Federal government has a special responsibility to and relationship with America's Native peoples. Since the earliest days of rural electrification, this agency has focused special attention on tribal communities. One of our earliest electric borrowers was the Navajo Nation. In telecommunications, five out of the seven tribally owned telephones companies are RUS borrowers. The significant RUS investments in utilities service in Alaska, provide service to some of the most remote native Alaskan villages. Just this year, the RUS Telecommunications Program made its second loan to Sandwich Isles Communications to provide state of the art telecommunications service to native Hawaiians living on homeland territory. The DLT program has also funded 21 projects serving tribal areas.

RUS investments in drinking water and wastewater projects serving tribal and rural Alaskan communities have increased by nearly 400 percent since fiscal year 1993, and continue to grow. RUS is uniquely dedicated to helping unserved and under-served communities. We expect that in fiscal year 1999, the annual investment in tribes from our Water and Environmental Programs will exceed $25 million. Additionally, we are intensifying coordination of funds with the Indian Health Service and the U.S. Environmental Protection Agency (EPA) at higher levels than ever before.

CONCLUSION

USDA/RUS continues to help rural America build its future. Our ability to succeed in the next century depends, to a large extent, on the investments in productivity enhancing modern infrastructure. No where is that need greater than in rural America. With your continued support, RUS will play a significant role in advancing rural America's quality of life and enhancing its competitiveness in the global marketplace.

Thank you Mr. Chairman and the members of the committee.

SUBMITTED QUESTIONS

DEPARTMENTAL ADMINISTRATION

QUESTIONS SUBMITTED BY SENATOR COCHRAN

BRAVO INITIATIVE

Question. What is the BRAVO initiative and when was this initiative first funded?

Answer. Bringing Rural America Venture Opportunities, BRAVO, is a Secretarial business development program designed to assist Tribal entities—Indian Nations—in establishing small start-up information technology companies. BRAVO will create technology-based jobs on Indian Lands and in surrounding economically disadvantaged rural areas. Software development will be the initial services provided to USDA. Employees will be recruited/trained from Indian Reservations and economically disadvantaged individuals from surrounding areas.

BRAVO was officially initiated during fiscal year 1999 with the addition of one GS–15 project manager position to the Office of Small and Disadvantaged Business Utilization's, OSDBU, FTE ceiling. OSDBU absorbed the costs of the position and has requested resources to support the BRAVO project in the fiscal year 2000 budget.

BRAVO OBLIGATIONS

Question. The fiscal year 2000 budget indicates that $65,000 was obligated under other USDA appropriations for the BRAVO initiative in fiscal year 1999; no such obligations are projected for fiscal year 2000. Please explain.

Answer. As no funds were in Departmental Administration's fiscal year 1999 appropriation for BRAVO, OSDBU absorbed the cost. As OSDBU is a very small staff, one USDA program agency participating in BRAVO provided $65,000 toward the cost of this position. No such obligations are projected in fiscal year 2000 because OSDBU has requested funding for BRAVO as part of USDA's fiscal year 2000 budget.

TARGET CENTER

Question. What is the TARGET Center?

Answer. The United States Department of Agriculture, USDA Headquarters Technology Accessible Resources Gives Employment Today—TARGET—Center established in 1992, in Washington, DC, and the Midwest TARGET Center established in 1995 in St. Louis, Missouri, support all USDA employees Nationwide. The Centers' mission is to provide policy, guidance, and support for applying accessible technology solutions within USDA for employees with disabilities. The TARGET Centers ensure compliance with Section 508 of the Rehabilitation Act of 1973, as amended. Furthermore, the TARGET Centers support the Department's workforce diversity and Federal workforce policies.

The TARGET Centers provide a wide range of services to USDA and other Federal agency employees with disabilities, and their supervisors. Employees nationwide are able to request services from the TARGET Centers in order to address computer and telecommunication accessibility issues for employees with disabilities. These services include: evaluations, demonstrations, and assessments of assistive technologies and accommodations; review and analysis of accessible technologies; disability awareness presentations; coordination of training; resource information on accommodations, vendors, and technologies; contracting of accommodations services; technical support; consultations with managers and employees; and information provided in alternative, accessible formats.

The TARGET Centers track Federal, State, local, and private initiatives regarding accessible workplace technologies and accommodations. As a liaison between the Department, the computer industry, schools, public organizations and associations, the TARGET Centers provide crucial information to USDA to ensure that accessibility requirements of employees with disabilities are included in decision making processes.

Having established quality operational infrastructure, the TARGET Centers also support other Federal agencies through cross service agreements. These agencies include the Department of Housing and Urban Development, Department of Defense, Department of Energy, National Institutes of Health, and Food and Drug Administration.

An intricate component of the USDA Accessible Technology Program, the USDA Headquarters TARGET Center was highlighted in December 1998 as one of three Federal government best practices in Re-charting the Course, the first report of the Presidential Task Force on Employment of Adults with Disabilities. This report was presented to Vice President Al Gore on December 14, 1998. In recognizing the success of the Center, USDA seeks to strengthen the impact the TARGET Centers have in creating a fully accessible USDA computer and telecommunication environment.

FUNDING AND STAFFING LEVELS FOR DEPARTMENTAL ADMINISTRATION

Question. Provide a table showing the fiscal year 1997, 1998, 1999, and proposed 2000 funding and full-time equivalent staffing levels for the following Departmental

Administration activities: (1) Office of Civil Rights; (2) Office of Outreach; (3) Office of Procurement and Property Management; (4) BRAVO initiative; (5) Office of Small and Disadvantaged Business Utilization; (6) Office of Human Resources Management; (7) Office of Ethics; (8) Office of Operations; (9) Management Support Staff; and (10) Office of Administrative Law Judges/Judicial Officer.

Answer. The information follows.

FUNDING AND STAFFING LEVELS—FISCAL YEARS 1997, 1998, 1999 AND PROPOSED 2000

[Dollars in thousands]

Activities	1997 Act.		1998 Act.		1999 Est.		2000 Est.	
	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE
Civil Rights	[1] $8,517	86	[1] $12,242	129	$13,227	137	$14,868	154
Outreach			750	8	1,433	16	2,825	27
Procurement and Property Management	2,961	33	2,741	32	3,261	35	3,507	35
BRAVO Initiative							[2] 194	1
Small and Disadvantaged Business Utilization	780	10	788	9	1,196	11	1,235	11
Human Resources Management	5,772	78	5,596	81	6,969	84	7,219	84
Ethics					600	5	618	5
Office of Operations	762	11	673	13	987	14	1,014	14
Management Support Staff	2,409	28	2,507	28	2,842	27	2,929	27
Administrative Law Judges/Judicial Officer	1,490	19	1,449	18	1,653	16	1,708	16
Total	22,691	265	26,746	318	32,168	345	36,117	374

[1] Fiscal years 1997 and 1998 reflect a transfer of $2,475,000 for the EEO Counselors.
[2] The Bravo initiative is part of OSDBU's fiscal year 2000 President's Budget of $1,429,000.

HAZARDOUS WASTE MANAGEMENT

Question. How much of the $7 million increase proposed in fiscal year 2000 budget is for investigation and cleanup of Forest Service sites; how much is to continue and accelerate investigative and cleanup activities at ARS sites; how much for cleanup of CCC grain storage bins; and how much for cleanup actions at the sites of other USDA agencies? Please provide a status report of these activities and provide the fiscal year 1999 funding level.

Answer. The proposed increase in fiscal year 2000 for Forest Service is $4,365,000; ARS work $479,000; CCC grain storage bins $1,500,000; and other agencies' work $646,000. The following tables summarize the funding allocation for fiscal year 1999 and the budget for fiscal year 2000 for the use of agency funds and the central hazardous waste management account.

TOTAL USDA HAZARDOUS WASTE MANAGEMENT FUNDS

[Dollars in thousands]

Agency	Fiscal year 1999 HWM central account	Fiscal year 1999 agency funding	Total funding
Commodity Credit Corporation	$3,000	$5,000	$8,000
Forest Service	6,900	9,000	15,900
Agricultural Research Service	3,666		3,666
Farm Service Agency, Farm Credit Programs		[1] 1,000	1,000
Food Safety and Inspection Service	230		230
Rural Housing Service	75	95	170
Office of the General Counsel	1,379		1,379
Program Administration	450		450
Total, USDA HWM Funds	15,700	15,095	30,795

[1] Estimates are roughly between $1 to $2 million.

TOTAL USDA HAZARDOUS WASTE MANAGEMENT FUNDS [1]

[Dollars in thousands]

Agency	Fiscal year 2000 HWM central account	Fiscal year 2000 agency funding	Total funding
Commodity Credit Corporation	$4,500	$5,000	$9,500
Forest Service	11,265	10,272	21,537
Agricultural Research Service	4,145		4,145
Animal & Plant Health Insp. Service	210	160	370
Farm Service Agency, Farm Credit Programs	150	[2] 1,000	1,150
Food Safety and Inspection Service	230		230
Rural Housing Service	60	60	120
Office of the General Counsel	1,569		1,569
Program Administration	571		571
Total, USDA HWM Funds	22,700	16,492	39,192

[1] Central account figures are the amounts planned in the budget request and agency funding figures are amounts agencies have planned in their budget requests for agency funding of the program. These figures are subject to reevaluation and adjustment during the year as new developments occur.

[2] Estimates are roughly between $1 to $2 million.

Question. How much is requested for fiscal year 2000 to support an increased workload in the Office of General Counsel—OGCto continue to provide legal assistance and advice for hazardous waste management? What is the fiscal year 1999 level of funding?

Answer. The fiscal year 1999 funding level for OGC is $1,379,000 and the budget for fiscal year 2000 is $1,569,000 which is an increase of $190,000 in support of the increased workload.

Question. Why isn't legal assistance and advice for hazardous waste management a cost borne by the Office of General Counsel—OGCrather than Hazardous Waste Management?

Answer. The hazardous waste management account has been available for use on CERCLA/RCRA environmental compliance issues USDA-wide, including necessary legal services, since its inception in the fiscal year 1988 Agriculture Appropriations Act. Funding from this account is critical to ensuring that USDA agencies meet the complex requirements contained in hazardous materials laws, including State and local laws made applicable by broad waivers of sovereign immunity.

The assistance provided by legal staff on identifying applicable regulatory requirements is an essential part of achieving environmental compliance at USDA and avoiding civil and criminal liability. The central hazardous waste management account is allocated to all affected USDA agencies by the Secretary based on critical needs in this area. The funds allocated for legal services from this account are based on a determination by the Secretary and USDA agencies that those services are necessary for USDA to support priority environmental projects. Although USDA agencies receive funding that may be used for environmental matters in addition to the central hazardous waste management account funds, this account was created so that priority environmental compliance issues would be funded, including legal services.

It is worth noting that one of the important services provided by the OGC in this area is negotiation of cleanup agreements with parties responsible for contaminating lands and damaging resources under the jurisdiction of USDA. Last year alone, over $100 million in cleanup work on Federal lands was performed by the parties responsible for the harm, through agreements negotiated by the OGC. These cleanups would otherwise have been funded with scarce appropriated dollars or the damage would have continued unabated. Hazardous waste management appropriation funds expended by the OGC may also be recovered from responsible parties and returned to the account. It is based on an evaluation USDA-wide of the needs in this area that a portion of the central hazardous waste management account is allocated to the OGC.

OFFICE OF CHIEF INFORMATION OFFICER

QUESTIONS SUBMITTED BY SENATOR COCHRAN

OVERALL USDA INFORMATION TECHNOLOGY (IT) BUDGET

Question. I understand that USDA's IT budgets will exceed $1 billion in fiscal year 2000. What are USDA's overall planned IT expenditures for fiscal year 2000 broken out by agency and staff offices?

Answer. As reflected in the OMB Exhibit 42 report submitted in January, 1999, USDA has requested budget authority for IT of just over $1.2 billion. A copy of OMB Exhibit 42 is provided for the record, along with a summary of the major USDA IT Systems, specified by Agency.

[The information follows:]

USDA FORMATION TECHNOLOGY PORTFOLIO—HIGHLIGHTS [1]

[In millions]

Agency/System	*Fiscal year 1999 estimate*
Part 1:	
Mission Area—Financial Management System (and the financial component of other systems):	
FNS/Agency Financial Management System	4
FNS/Food Stamp Integrated Information System	2
FS/Central Accounting System	39
FS/Integrated Personnel System	6
FSA/CORE	3
NRCS/Financial Management System	6
All Other USDA Financial Systems	44
Total USDA Financial Systems	104
Mission Area—Other USDA Program and Administrative Systems:	
FNS/Food Stamp Integrated Information System	4
FNS/FSA/AMS/Processed Commodities Inventory Management System	9

Agency/System	*Fiscal year 1999 estimate*
FNS/Electronic Benefits Transfer	43
FSIS/Field Automation Information Management System	12
APHIS/Integrated Systems Acquisition	6
FS/Integrated Personnel System	6
FSA/RD/FAS/RMA/Service Center	50
RD/Dedicated Loan Origination System	5
NRCS/Administrative Support and Records Management	1
All Other USDA Program and Administrative Systems	508
Total Part 1	748
Part 2:	
Data on Infrastructure and Office Automation:	
FS/Project 615	100
FS A /SCOAP	11
All Other USDA Infrastructure and Office Automation Systems	339
Total Part 2	450
Part 3:	
Data on IT Architecture and Planning: All Other USDA IT Architecture and Planning Systems	
Total Part 3	.....
Total—All USDA IT Systems	1,198

[1] Source—OMB Exhibit 42 Report.

[In millions of dollars]

		PY—BA	CY—BA/FTE	BY—BA/FTE
	Resources for Financial Management (6)			
	Report on Resources for Financial Managment Activities:			
	Asset Management:			
1001	No. of FTE	.....	6,563	6,561
1002	Budget Authority	.....	409	425
	Accounting and Reporting:			
2001	No. of FTE	.....	2,157	2,159
2002	Budget Authority	.....	127	131
	Audits of Financial Statements:			
3001	No. of FTE	.....	.....	.....
3002	Budget Authority	.....	1	1
	Financial Management Systems:			
4001	No. of FTE	.....	739	738
4002	Budget Authority	.....	129	125
	Subtotal:			
5001	No. of FTE	.....	9,459	9,458
5002	Budget Authority	.....	666	682
	Adjustments:			
6001	No. of FTE	.....	.....	.....
6002	Budget Authority	.....	.....	.....
	Total, net:			
7001	No. of FTE	.....	9,459	9,458
7002	Budget Authority	.....	666	682
	Audits of Financial Statements Contract:			
8102	Budget Authority	.....	1	1
	In-house costs:			
8201	No. of FTE	.....	.....	.....

[In millions of dollars]

		PY—BA	CY—BA/FTE	BY—BA/FTE
8202	Budget Authority	.....	.....	.....
	Org-wide Financial Statements Contract:			
9102	Budget Authority	.....	.....	.....
	In-house costs:			
9201	No. of FTE	.....	.....	.....
9202	Budget Authority	.....	.....	.....
	Total, all reporting entities:			
9401	No. of FTE	.....	.....	.....
9402	Budget Authority	.....	1	1
9998	Robert M. Darragh III	.....	.....	.....
9999	(202) 720–0994	.....	.....	.....
	Part 1. Data on IT Systems By Mission Area (7)			
	Mission Area 1: Financial Management Major IT:			
0110–10	FNS Agency Financial Management System	.....	.....	.....
0110–11	Development/modernization/enhancement	.....	.....	.....
0110–12	Steady State	4	4	4
0110–13	Subtotal, IT costs	4	4	4
	Appropriation/Funding Sources:			
0110–14 01	FNS appropriations	4	4	4
0110–17	Subtotal, funding sources	4	4	4
0110–20	FS Central Accounting System	.....	.....	.....
0110–21	Development/modernization/enhancement	.....	.....	.....
0110–22	Steady State	2	2	2
0110–23	Subtotal, IT costs	.....	.....	.....
	Appropriation/Funding Sources:			
0110–24 01	FNS appropriations	2	2	3
0110–27	Subtotal, funding sources	2	2	3
0110–30	FS Central Accounting System	.....	.....	.....
0110–31	Development/modernization/enhancement	30	36	34
0110–32	Steady State	3	3	4
0110–33	Subtotal, IT costs	33	39	38
	Appropriation/Funding Sources:			
0110–34 01	FS Appropriations	33	39	38
0110–37	Subtotal, funding sources	33	39	38
0110–40	FS Integrated Personnel System	.....	.....	.....
0110–41	Development/modernization/ehancement	5	6	6
0110–42	Steady State	.....	.....	.....
0110–43	Subtotal, IT costs	5	6	6
	Appropriation/Funding Sources:			
0110–01	FS Appropriations	5	6	6
0110–47	Subtotal, funding sources	5	6	6
0110–50	FSA CORE	.....	.....	.....
0110–51	Development/modernization/enhancement	3	2	.....
0110–52	Steady State	1	1	1
0110–53	Subtotal, IT costs	4	3	2

[In millions of dollars]

		PY—BA	CY—BA/FTE	BY—BA/FTE
	Appropriation/Funding Sources:			
0110–54 01	CCC	1	1	1
0110–54 02	FSA Appropriation	3	2	.....
0110–57	Subtotal, funding sources	4	3	.....
0110–60	NRCS Financial Management Information System-Legacy:			
0110–61	Development/modernization/enhancement	.....	.....	.....
0110–62	Steady State	6	6	6
0110–63	Subtotal, IT costs	6	6	6
	Appropriation/Funding Sources:			
0110–64 01	NRCS Appropriation	6	6	6
0110–67	Subtotal, funding sources	6	6	6
	All Other Financial Management:			
0120–01	Development/modernization/enhancement.	11	14	12
0120–02	Steady State	29	30	31
0120–03	Subtotal, IT costs	40	44	43
	Appropriation/Funding Sources:			
0120–04 01	FS Appropriation	5	5	5
0120–04 02	USDA Agencies Approprations	32	34	38
0120–04 03	CCC	3	5	.....
0120–07	Subtotal, funding sources	40	44	43
	Total: Mission Area:			
0130–01	Development/modernization/enhancement	49	58	52
0130–02	Steacy State	45	46	49
0130–03	Subtotal, IT costs	94	104	101
	Other Mission Areas:			
	Mission Area 2: USDA Program and Administrative Support Systems	.....	.....	.....
	Major IT:			
1110–10	FNS Food Stamp Integrated Information System	.....	.....	.....
1110–11	Development/modernization/enhancement	.....	.....	.....
1110–12	Steady State	3	4	4
1110–13	Subtotal, IT costs	3	4	4
	Appropriation/Funding Sources:			
1110–14 01	FNS appropriations	3	4	4
1110–17	Subtotal, funding	3	4	4
1110–20	Processed Commodities Inventory Management System	.....	.....	.....
1110–21	Development/modernization/enhancement	1	1	4
1110–22	Steady State	8	8	8
1110–23	Subtotal, IT costs	9	9	12
	Appropration/Funding Sources:			
1110–24 01	AMS Appropriation	1	1	3
1110–24 02	FSA Appropriation	2	2	2
1110–24 03	CCC	2	2	2
1110–24 04	FNS appropriations	4	4	5
1110–27	Subtotal, funding sources	9	9	12

[In millions of dollars]

		PY—BA	CY—BA/FTE	BY—BA/FTE
1110–30	FMS Electronic Benefit Transfer	.....	.....	.....
1110–31	Development/modernization/enhancement	.....	.....	.....
1110–32	Steady State	43	43	43
1110–33	Subtotal, IT costs	43	43	43
	Appropriation/Funding Sources:			
1110–23 01	FNS appropriations	43	43	43
1110–37	Subtotal, funding sources	43	43	43
1110–40	FSIS Field Automation & Information Management	.....	.....	.....
1110–41	Development/modernization/enhancement	8	12	12
1110–42	Steady State	.....	.....	.....
1110–43	Subtotal, IT costs	8	12	12
	Appropriation/Funding Sources:			
1110–44 01	FSIS Appropriation	8	12	12
1110–47	Subtotal, funding sources	8	12	12
1110–50	APHIS Integrated Systems Acquisition Project	.....	.....	.....
1110–51	Development/modernization/enhancement	.....	.....	.....
1110–52	Steady State	10	6	9
1110–53	Subtotal, IT costs	10	6	9
	Appropriation/Funding Sources:			
1110–54 01	APHIS Appropriation	10	6	9
1110–57	Subtotal, funding sources	10	6	9
1110–60	FS Integrated Personnel System	.....	.....	.....
1110–61	Development/modernization/enhancement	5	6	6
1110–62	Steady State	.....	.....	.....
1110–63	Subtotal, IT costs	5	6	6
	Appropriation/Funding Sources:			
1110–64 01	FS Appropriations	5	6	6
1110–67	Subtotal, funding sources	5	6	6
1110–70	Service Center	.....	.....	.....
1110–71	Development/modernization/enhancement	90	50	90
1110–72	Steady State	.....	.....	.....
1110–73	Subtotal, IT costs	90	50	90
	Appropriation/Funding Sources:			
1110–74 01	RD Appropriation	6	8	.....
1110–74 02	CCC	49	10	16
1110–74 03	FSA Appropriation	4	1	.....
1110–74 04	Service Bureau Appropriation	.....	.....	74
1110–75 05	NRCS Appropriation	31	31	.....
1110–77	Subtotal, funding sources	90	50	90
1110–80	RD Dedicated Loan Origination System	1	1	1
1110–81	Development/modernization/enhancement	1	1	1
1110–82	Steady State	4	4	4
1110–83	Subtotal, IT costs	5	5	5

[In millions of dollars]

		PY—BA	CY—BA/FTE	BY—BA/FTE
	Appropriation/Funding Sources:			
1110–84 01	RD Appropriations	5	5	5
1110–87	Subtotal, funding sources	5	5	5
1110–90	NRCS Administrative Support and Records Management/MSIS	.....	.....	.....
1110–91	Development/modernization/enhancement	.....	.....	.....
1110–92	Steady State	1	1	1
1110–93	Subtotal, IT costs	1	1	1
	Appropriation/Funding Sources:			
1110–94 01	NRCS Appropriations	1	1	1
1110–97	Subtotal, funding sources	1	1	1
	All other for Mission Area			
1120–01	Development/modernization/enhancement.	75	95	94
1120–02	Steady State	406	413	413
1120–03	Subtotal, IT costs	481	508	507
	Appropriation/Funding Sources:			
1120–04 01	FCIC Revolving Fund	.....	2	2
1120–04 02	Other USDA Agency Appropriations	420	429	442
1120–03	GIPSA Trust	2	2	1
1120–04 04	CCC	18	21	18
1120–04 05	FS Appropriation	41	54	44
1120–07	Subtotal, funding sources	481	508	507
	Total: Mission Area			
1130–01	Development/modernization/enhancement.	180	165	207
1130–02	Steady State	475	479	482
1130–03	Subtotal, IT costs	655	644	689
	All Mission Areas:			
9930–01	Development/modernization/enhancement	229	223	259
9930–02	Steady State	520	525	531
9930–03	Subtotal, IT costs	749	748	790
	Part 2. Data on Infrastructure and Office Automation (8)			
	Major IT Infrastructure System:			
01–1010	FS Project 615	.....	.....	.....
01–1011	Development/modernization/enhancement	85	68	31
01–1012	Steady State	28	32	71
01–1013	Subtotal, IT costs	113	100	102
	Appropriation/Funding Sources:			
0–1–1014 01	FS Appropriations	113	100	102
-01–1017	Subtotal, funding sources	113	100	102
01–1020	FSA SCOAP	.....	.....	.....
01–1021	Development/modernization/enhancement	.....	1	.....
01–1022	Steady State	9	10	8
01–1023	Subtotal, IT costs	9	11	8

[In millions of dollars]

		PY—BA	CY—BA/FTE	BY—BA/FTE
	Appropriation/Funding Sources:			
01–1024 01	CCC	9	11	8
01–1024 02	FSA Appropriation	.....	.....	.....
01–1027	Subtotal, funding sources	9	11	8
	Other Infrastructure System:			
01–2001	Development/modernization/enhancement	89	105	88
01–2002	Steady State	216	234	222
01–2003	Subtotal, IT costs	305	339	310
	Appropriation/Funding Sources:			
01–2004 01	CCC	11	20	1
01–2004 02	FS Appropriation	106	108	99
01–2004 03	USDA Agencies Appropriation	188	211	210
01–2007	Subtotal, funding sources	305	339	310
	All Infrastructure System:			
99–3001	Total Development/modernization/enhancement	174	174	119
99–3002	Total Steady State	253	276	301
99–3303	Total, All Infrastructure Systems	427	450	420
	Part 3. Data on IT Architecture and Planning (9)			
	Other IT Architecture and Planning:			
01–2001	Development/modernization/enhancement	.....	.....	1
01–2002	Steady State	.....	.....	.....
01–2003	Subtotal, IT costs	.....	.....	1
	Appropriation/Funding Sources:			
01–2004 01	USDA Agency Appropriations	.....	.....	1
01–2007	Subtotal, funding sources	.....	.....	1
	All IT Architecture and Planning:			
99–3001	Total Development/modernization/enhancement	.....	.....	1
99–3002	Total Steady State	.....	.....	.....
99–3003	Total, All IT Architecture	.....	.....	1
	Part 4. IT Resources Summary (0)			
	Mission Area, Infrastructure, and Architecture Totals:			
99–3001	Development/modernization/enhancement	.....	.....	.....
99–3002	Steady State	773	801	832
99–3003	Total, All IT costs	1,176	1,198	1,211

Question. Of the total planned expenditures, how much does the Department expect to spend for (1) new hardware and software purchases by agency and by computer system, and (2) IT personnel by component agency and by staff office?

Answer. As reflected in the OMB Exhibit 42 report submitted in January, 1999, USDA has requested budget authority for IT of just over $1.2 billion. Specific information on the expenditures for hardware and software are no longer reported. According to the last Exhibit 43 report, prepared in the fall of 1998 for budget year

2000, the estimated expenditures for equipment in fiscal year 2000 are $224 million, and the estimated expenditures for software in fiscal year 2000 are $66 million.

According to the estimate prepared in August of 1998, 4,816 FTEs from all of USDA's agencies and staff offices were to be devoted to information technology activities for fiscal year 2000. The composition, by agency or office, follows:

USDA IT PERSONNEL BY COMPONENT AGENCY AND OFFICE

[Dollars in thousands]

Agency	Personnel	FTE
AMS	$2,951	72.00
ARS	16,127	225.50
APHIS	13,332	202.00
CSREES	2,053	24.50
DA	1,931	25.75
ERS	4,355	50.00
FSA	45,671	683.00
FNS	10,517	158.56
FSIS	4,501	72.00
FS	84,689	1443.19
GIPSA	2,016	27.50
NASS	7,058	142.00
NRCS	25,308	414.00
OBPA	315	4.40
OC	264	5.00
OCE	567	4.50
OCFO	26,452	604.00
OCIO	24,287	314.33
OIG	1,179	23.00
OGC	229	3.00
RMA	3,935	58.80
RD	14,763	259.00
TOTAL	292,500	4,816.03

INFORMATION TECHNOLOGY CONTRACTOR ASSISTANCE

Question. To what extent does USDA rely on contractor assistance to carry out its IT responsibilities? Please list all ongoing IT contracts, the amount of the contract award, and the contractor's scope of work.

Answer. During fiscal year 1998, there were 1,191 active contracts for ADP-related support services, as defined by the Office of Federal Procurement Policy. These contracts totaled approximately $259 million. In fiscal year 1999, there are 548 active contracts for ADP-related support services, totaling approximately $117 million.

For a full list of active IT service contracts, please see the attached document "IT support Service Contracts Active in Fiscal Year 1999".

[The information follows:]

IT SUPPORT SERVICE CONTRACTS ACTIVE IN FISCAL YEAR 1999

Reporting agency/description	Service Code "D"	Obligated amount	Action date	Completion date	Number of actions
APHIS:					
DADP ACQUISITION SUP SVCS	314	$156,207	1993/09	2004/08	1
ADP FACILITY MANAGEMENT	301	78,780	1997/06	1998/12	1
ADP PROGRAMMING SVCS	308	369,154	1998/08	1999/03	1
AUTOMATED INFORMATION SYSTEM SVCS	307	975,000	1998/09	1999/03	1
TELECOMMUNICATION NETWORK MGMT SVCS	316	2,208	1998/09	1999/01	1
TELECOMMUNICATION NETWORK MGMT SVCS	316	2,018	1999/11	1999/09	1
TELECOMMUNICATION NETWORK MGMT SVCS	316	2,345	1998/09	1999/09	1
TELECOMMUNICATION NETWORK MGMT SVCS	316	18,674	1998/11	1999/09	2

IT SUPPORT SERVICE CONTRACTS ACTIVE IN FISCAL YEAR 1999—Continued

Reporting agency/description	Service Code "D"	Obligated amount	Action date	Completion date	Number of actions
TELECOMMUNICATION NETWORK MGMT SVCS	316	77,583	1998/12	1999/09	5
TELECOMMUNICATION NETWORK MGMT SVCS	316	26,381	1998/10	1999/09	15
SUBTOTAL		1,708,348			29
ARS:					
ADP ACQUISITION SUP SVCS	314	13,000	1998/09	1999/09	1
ADP SVCS/TELECOMM & TRANSMISSION	304	48,000	1999/01	1999/09	1
ADP SYSTEM ANALYSIS	306	105,000	1998/09	1999/08	1
AUTOMATED INFORMATION SYSTEM SVCS	307	27,000	1998/09	1998/10	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	200,000	1996/09	200109	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	2,000	1997/10	2001/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	15,000	1997/11	1999/09	1
TELECOMMUNICATION NETWORK MGMT SVCS	316	14,345	1999/01	1999/09	1
TELECOMMUNICATION NETWORK MGMT SVCS	316	1,189	1998/09	1999/09	1
TELECOMMUNICATION NETWORK MGMT SVCS	316	23,966	1998/08	1999/02	1
TELECOMMUNICATION NETWORK MGMT SVCS	316	339,340	1998/04	1999/03	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	10,656	1999/02	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	22,599	1999/02	1999/02	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	171,092	1998/12	1999/03	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	30,055	1998/10	200109	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	−172,000	1998/10	1998/12	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	16,252	1998/10	1998/10	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	198,000	1998/06	1998/12	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	197,000	1998/04	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	13,000	1996/10	1999/09	1
AUTOMATED INFORMATION SYSTEM SVCS	307	650,000	1998/09	1999/09	1
AUTO NEWS, DATA & OTHER SVCS	317	424,410	1998/11	2003/12	1
AUTO NEWS, DATA & OTHER SVCS	317	25,000	1998/03	1998/12	1
AUTO NEWS, DATA & OTHER SVCS	317	550,000	1998/10	1999/09	2
OTHER ADP & TELECOMMUNICATIONS SVCS	399	141,063	1998/10	1999/09	2
OTHER ADP & TELECOMMUNICATIONS SVCS	399	28,000	1997/11	2001/09	2
TELECOMMUNICATION NETWORK MGMT SVCS	316	72,000	1998/09	1999/02	3
AUTO NEWS, DATA & OTHER SVCS	317	235,000	1998/09	1999/09	4
TELECOMMUNICATION NETWORK MGMT SVCS	316	164,998	1998/10	l999/09	14
SUBTOTAL		3,565,965			50
FAS: OTHER ADP & TELECOMMUNICATIONS SVCS	399	40,280	1994/09	1999/09	1
SUBTOTAL		40,280			1
FCS:					
ADP FACILITY MANAGEMENT	301	20,160	1999/02	1999/04	1
ADP INF, BROADCAST & DIST SVCS	309	150,000	1996/11	1999/09	1
ADP SVCS/DATA ENTRY	303	134,306	1998/07	1999/09	1
ADP SYSTEM ANALYSIS	306	301,619	1998/10	1999/09	1
ADP SYSTEMS DEVELOP	302	1,412,582	1998/07	1999/08	1
ADP SYSTEMS DEVELOP	302	73,105	1998/09	1999/04	1
ADP SYSTEMS DEVELOP	302	427,996	1998/09	1999/02	1
OTHER ADP & TELECOMMUICATIONS SVCS	399	125,070	1998/09	1999/06	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	139,878	1998/09	1999/03	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	31,812	1998/09	1999/02	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	89,417	1998/06	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	209,914	1998/04	1999/05	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	37,088	1998/02	1998/10	1
ADP SYSTEMS DEVELOP	302	−6,520	1998/11	1998/11	1
ADP SYSTEMS DEVELOP	302	317,120	1998/09	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	606	1998/12	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	93,182	1998/09	1999/08	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	1,086,767	1998/09	1999/07	1
ADP SYSTEMS DEVELOP	302	892,921	1998/07	1999/07	1

IT SUPPORT SERVICE CONTRACTS ACTIVE IN FISCAL YEAR 1999—Continued

Reporting agency/description	Service Code ''D''	Obligated amount	Action date	Completion date	Number of actions
ADP INF, BROADCAST & DIST SVCS	309	99,994	1998/05	1999/09	1
ADP INF, BROADCAST & DIST SVCS	309	200,000	1996/05	1999/09	1
ADP INF, BROADCAST & DIST SVCS	309	200,000	1995/09	1999/09	1
ADP FACILITY MANAGEMENT	301	53,925	1998/10	1999/09	2
OTHER ADP & TELECOMMUNICATIONS SVCS	399	765,558	1998/08	1999/09	2
OTHER ADP & TELECOMMUNICATIONS SVCS	399	490,692	1998/09	1999/09	2
ADP SYSTEM ANALYSIS	306	190,288	1998/09	1999/09	3
OTHER ADP & TELECOMMUNICATIONS SVCS	399	1,753,350	I998/10	1999/09	4
SUBTOTAL	.....	9,290,830	.....	.....	4
FS:					
ADP FACILITY MANAGEMENT	301	7,000	1998/02	1998/10	1
ADP PROGRAMMING SVCS	308	32,000	1998/06	1998/11	1
ADP PROGRAMMING SVCS	308	100,000	1999/02	2000/04	1
ADP SYSTEMS DEVELOP	302	57,428	1997/08	1998/12	1
ADP PROGRAMMING SVCS	308	40,471	1998/01	1998/31	1
AUTOMATED INFORMATION SYSTEM SVCS	307	425,000	1998/05	1998/12	1
ADP SYSTEMS DEVELOP	302	46,840	1999/02	1999/10	1
ADP SYSTEMS DEVELOP	302	25,185	1999/02	1999/09	1
ADP SYSTEMS DEVELOP	302	9,945	1999/02	1999/04	1
ADP SYSTEMS DEVELOP	302	72,000	1998/09	2001/09	1
ADP SYSTEMS DEVELOP	302	43,000	1998/09	1999/12	1
ADP SYSTEMS DEVELOP	302	359,000	1998/09	1999/09	1
ADP SYSTEMS DEVELOP	302	11,000	1998/09	1999/08	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	2,054	1998/09	1998/11	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	2,176	1998/07	1999/07	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	54,168	1998/07	1999/06	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	27,432	1998/02	1999/01	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	−2,171	1997/12	1998/12	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	11,997	1997/04	1998/12	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	430,870	1993/12	1998/12	1
DIGITIZING SVCS	315	8,122	1998/09	1999/07	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	62,975	1998/12	1999/06	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	44,653	1998/12	1999/03	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	21,200	1998/11	1998/12	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	758	1998/11	1998/11	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	5,040	1998/10	1998/11	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	63,175	1998/09	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	36,080	1998/09	1999/08	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	30,373	1998/09	1998/12	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	96,002	1999/01	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	9,277	1999/01	1999/02	1
DIGITIZING SVCS	315	10,600	1998/09	1999/01	1
DIGITIZING SVCS	315	20,000	1998/08	1999/07	1
DIGITIZING SVCS	315	10,900	1998/07	1999/02	1
DIGITIZING SVCS	315	100,000	1998/05	1999/07	1
AUTOMATED INFORMATION SYSTEM SVCS	307	56,126	1998/10	1998/12	1
AUTOMATED INFORMATION SYSTEM SVCS	307	−36,S57	1998/10	1998/10	1
AUTOMATED INFORMATIOK SYSTEM SVCS	307	−168,000	1998/09	1998/10	1
AUTOMATED INFORMATION SYSTEM SVCS	307	56,126	1998/08	1998/12	1
ADP SYSTEMS DEVELOP	302	10,000	1998/09	1999/02	1
ADP SYSTEMS DEVELOP	302	20,000	1998/08	1999/04	1
ADP SYSTEMS DEVELOP	302	5,000	1998/08	1999/02	1
ADP SYSTEMS DEVELOP	302	6,000	1998/08	1998/11	1
ADP SYSTEMS DEVELOP	302	1,271	1998/08	1998/10	1
ADP SYSTEMS DEVELOP	302	30,000	I998/04	1999/09	1
ADP FACILITY MANAGEMENT	301	67,253	1998/09	1999/09	1
ADP FACILITY MANAGEMENT	301	2,781	1998/10	1999/06	1
ADP INF, BROADCAST & DIST SVCS	309	40,000	1998/10	1999/09	2
ADP SYSTEMS DEVELOP	302	2,284,000	1995/09	1999/04	2
ADP PROGRAMMING SVCS	308	2,000	1998/10	2000/10	2
ADP SYSTEMS DEVELOP	302	13,000	1998/08	1998/12	2

IT SUPPORT SERVICE CONTRACTS ACTIVE IN FISCAL YEAR 1999—Continued

Reporting agency/description	Service Code "D"	Obligated amount	Action date	Completion date	Number of actions
AUTOMATED INFORMATION SYSTEM SVCS	307	154,521	1997/09	1998/10	2
OTHER ADP & TELECOMMUNICATIONS SVCS	399	35,429	1996/12	1998/12	.....
ADP SYSTEMS DEVELOP	302	28,000	1998/08	1999/05	2
TELECOMMUNICATION NETWORK MGMT SVCS	316	12,000	1997/11	1998/11	2
AUTOMATED INFORMATION SYSTEM SVCS	307	97,839	1998/10	1999/03	3
ADP SYSTEIIS DEVELOP	302	35,000	1998/08	1999/03	4
AUTOMATED INFORMATION SYSTEM SVCS	307	2,000	1998/08	2000/08	4
ADP FACILITY MANAGEMENT	301	73,000	1998/01	1998/10	6
OTHER ADP & TELECOMMUNICATIONS SVCS	399	51,481	1997/09	1998/12	6
OTHER ADP & TELECOMMUNICATIONS SVCS	399	16,641	1998/09	1998/10	6
SUBTOTAL	.....	5,169,365	.....	.....	92
FSA:					
ADP DATA CONVERSION SVCS	311	962,000	1997/12	1998/12	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	70,000	1999/10	1999/10	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	7,137,988	1999/09	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	7,900,000	1998/10	2002C9	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	118,446	1998/10	1999/10	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	1,995,000	1998/10	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	216,000	1998/09	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	664,160	1998/04	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	23,120	1998/02	1999/09	1
AUTOMATED INFORMATION SYSTEM SVCS	307	349,558	1999/09	1999/09	1
AUTOMATED INFORMATION SYSTEM SVCS	307	304,983	1998/05	1999/09	1
ADP FACILITY MANAGEMENT	301	2,931,911	1999/02	2000/01	1
ADP FACILITY MANAGEMENT	301	20,000	1999/02	1999/09	1
ADP FACILITY MANAGEMENT	301	50,170	1999/02	1999/03	1
ADP FACILITY MANAGEMENT	301	50,170	1999/01	1999/05	1
ADP FACILITY MANAGEMENT	301	475,074	1998/11	1999/10	1
ADP FACILITY MANAGEMENT	301	189,808	1993/11	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	10,000	1996/02	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	2,624,810	1996/01	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	60,000	1995/12	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	4,416,608	1995/10	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	260,000	1995/09	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	47,000	1995/04	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	198,000	1995/02	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	2,690,510	1995/01	1999/12	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	2,745,324	1998/02	1999/01	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	8,026,000	1997/10	2002/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	130,000	1997/09	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	11,000	1997/07	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	58,000	1997/05	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	−26,000	1997/03	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	31,000	1996/07	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	103,000	1996/05	1999/09	1
ADP FACILITY MANAGEMENT	301	406,657	1998/10	1999/10	1
ADP FACILITY MANAGEMENT	301	5,000	1998/09	1999/10	1
ADP FACILITY MANAGEMENT	301	156,509	1998/06	1999/09	1
ADP FACILITY MANAGEMENT	301	312,759	1998/06	1999/03	1
ADP FACILITY MANAGEMENT	301	583,760	1997/10	1998/10	1
ADP DATA CONVERSION SVCS	311	168,000	1998/10	1999/09	1
ADP DATA CONVERSION SVCS	311	100,000	1998/10	1998/12	1
ADP DATA CONVERSION SVCS	311	150,000	1998/09	1999/12	1
ADP DATA CONVERSION SVCS	311	30,000	1998/09	1998/10	1
ADP DATA CONVERSION SVCS	311	550,000	1998/12	1999/03	2
AUTOMATED INFORMATION SYSTEM SVCS	307	258,000	1998/10	1999/09	2
OTHER ADP & TELECOMMUNICATIONS SVCS	399	341,000	1997/01	1999/09	2
ADP DATA CONVERSION SVCS	311	365,000	1999/01	1999/03	2
AUTOMATED INFORMATION SYSTEM SVCS	307	207,366	1999/10	1999/10	2
OTHER ADP & TELECOMMUNICATIONS SVCS	399	5,494,091	1997/10	1999/09	2
ADP DATA CONVERSION SVCS	311	650,000	1998/09	1998/12	3

IT SUPPORT SERVICE CONTRACTS ACTIVE IN FISCAL YEAR 1999—Continued

Reporting agency/description	Service Code "D"	Obligated amount	Action date	Completion date	Number of actions
ADP FACILITY MANAGEMENT	301	646,934	1998/09	1999/03	3
OTHER ADP & TELECOMMUNICATIONS SVCS	399	−739,000	1996/09	1999/09	4
OTHER ADP & TELECOMMUNICATIONS SVCS	399	4,852,700	1996/10	1999/09	4
ADP FACILITY MANAGEMENT	301	2,330,178	1998/09	1999/09	8
ADP FACILITY MANAGEMENT	301	5,139,866	1998/10	1999/09	11
SUBTOTAL	.....	66,852,458	.....	.....	87
FSIS:					
ADP SYSTEMS DEVELOP	302	95,641	1997/06	2009/10	1
ADP SYSTEMS DEVELOP	302	199,744	1998/07	1999/01	1
ADP SYSTEMS DEVELOP	302	50,760	1998/10	1999/09	1
AUTOMATED INFORMATION SYSTEM SVCS	307	139,097	1999/03	1999/04	1
ADP FACILITY MANAGEMENT	301	165,050	1998/10	1999/09	2
AUTOMATED INFORMATION SYSTEM SVCS	307	15,446	1999/01	1999/03	2
AUTOMATED INFORMATION SYSTEM SVCS	307	22,739	1998/10	1998/11	2
AUTOMATED INFORMATION SYSTEM SVCS	307	4,484	1998/12	1998/12	3
AUTOMATED INFORMATION SYSTEM SVCS	307	126,377	1998/10	1998/10	4
AUTOMATED INFORMATION' SYSTEM SVCS	307	28,253	1998/11	1998/12	4
AUTOMATED INFORMATION SYSTRM SVCS	307	279,434	1998/12	1999/01	8
AUTOMATED INFORMATION SYSTEM SVCS	307	652,359	1999/01	1999/02	11
AUTOMATED INFORMATION SYSTEM SVCS	307	548,182	1999/02	1999/03	11
SUBTOTAL	.....	2,327,567	.....	.....	51
NRCS:					
ADP SYSTEMS DEVELOP	302	135,240	1997/09	1999/09	1
ADP SYSTEMS DEVELOP	302	99,612	1998/05	2001/09	1
ADP SYSTEMS DEVELOP	302	215,632	1998/08	2001/09	1
ADP SYSTEMS DEVELOP	302	499,955	1999/02	1999/09	1
ADP SYSTEMS DEVELOP	302	−5,000	1998/08	1999/09	1
ADP SYSTEMS DEVELOP	302	544,920	1997/12	1999/09	1
ADP SYSTEIS DEVELOP	302	255,000	1997/09	2001/09	1
ADP SYSTEIS DEVELOP	302	167,049	1998/06	1999/09	2
ADP SYSTEMS DEVELOP	302	367,431	1998/10	1999/09	2
ADP SYSTEMS DEVELOP	302	289,554	1998/04	1999/09	3
ADP SYSTEMS DEVELOP	302	24,814	1998/05	1999/09	3
ADP SYSTEMS DEVELOP	302	418,904	1997/07	2001/09	4
ADP SYSTEMS DEVELOP	302	643,988	1997/12	2001/09	4
ADP SYSTEMS DEVELOP	302	1,679,840	1998/12	1999/09	4
ADP SYSTEMS DEVELOP	302	1,316,498	1998/11	1999/09	5
ADP SYSTEMS DEVELOP	302	383,953	1999/01	1999/09	5
ADP SYSTEMS DEVELOP	302	2,635,896	1998/01	1999/09	6
ADP SYSTEMS DEVELOP	302	540,571	1998/03	1999/09	7
ADP SYSTEMS DEVELOP	302	239,221	1998/07	1999/09	7
ADP SYSTEMS DEVELOP	302	1,316,270	1998/09	1999/09	11
SUBTOTAL	.....	11,769,346	.....	.....	70
OFM:					
ADP SYSTEM ANALYSIS	306	122,067	1998/10	1999/03	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	45,363	1998/10	1999/09	1
ADP SYSTEM ANALYSIS	306	184,982	1998/10	1999/09	2
SUBTOTAL	.....	352,412	.....	.....	4
OIG:					
OTHER ADP & TELECOMFUNICAIIONS SVCS	399	1,000	1987/10	1998/10	1
OTHER ADP & TELECOMPUNICATIONS SVCS	399	4,000	1998/12	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	5,000	1998/11	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	14,000	1998/10	1999/09	3

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Reporting agency/description	Service Code "D"	Obligated amount	Action date	Completion date	Number of actions
SUBTOTAL	.....	24,000	.....	.....	6
00:					
ADP FACILITY MANAGEMENT	301	160,930	1995/09	1999/09	1
ADP FACILITY MANAGEMENT	301	20,000	1999/02	1999/09	1
ADP INF, BROADCAST & DIST SVCS	309	147,596	1997/12	1999/03	1
ADP INF, BROADCAST & DIST SVCS	309	19,000	1393/01	1999/01	1
ADP PROGRAMMING SVCS	308	832,796	1095/10	1999/09	1
ADP PROGRAMMING SVCS	308	191,785	1995/04	1999/09	1
TELECOMMUJICATION NETWORK MGMT SVCS	316	159,162	1998/02	1999/09	1
TELECOMMUNICATION NETWORK MGMT SVCS	316	−26,869	1997/10	1999/09	1
TELECOMMUNICATION NETWORK MGMT SVCS	316	118,825	1997/09	1998/10	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	26,596	1999/02	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	187,500	1999/01	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	127,461	1998/12	2003/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	3,493,000	1998/12	1999/10	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	−39,235	1998/12	1998/12	1
TELECOMMUNICATION NETWORK MGMT SVCS	316	480,338	1999/01	1999/09	1
TELECOMMUNICATION NETWORK MGMT SVCS	316	11,587	1999/01	1999/02	1
TEkECOMMUNICATION NETWORK MGMT SVCS	316	5,762	1999/01	1999/01	1
TELECOMMUNICATION NETWORK MGMT SVCS	316	414,590	1998/12	1999/09	1
ADP TELEPROCESSING & TIMESHARE	305	16,000	1998/10	1998/10	1
ADP SYSTEMS DEVELOP	302	360,535	1998/05	1998/12	1
ADP SVCS/TELECOMM & TRANSMISSION	304	25,000	1999/02	1999/03	1
ADP SVCS/TELECOMM & TRANSMISSION	304	25,000	1998/11	1999/02	1
ADP SVCS/TELECOMM & TRANSMISSION	304	192,780	1998/09	1999/09	1
ADP SVCS/TELECOMM & TRANSMISSION	304	62,802	1997/10	2008/09	1
ADP PROGRAMMING SVCS	308	70,120	1998/02	1999/12	1
ADP INF, BROADCAST & DIST SVCS	309	27,500	1998/11	1998/12	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	35,977	1998/11	1998/12	1
ADP TELEPROCESSING & TIMESHARE	305	175,000	1999/01	1999/03	1
ADP TELEPROCESSING & TIMESHARE	305	25,000	1993/11	1999/03	1
ADP INF, BROADCAST & DIST SVCS	309	172,380	I997/10	1999/03	1
ADP FACILITY MANAGEMENT	301	959,839	1998/12	1999/09	1
ADP FACILITY MANAGEMENT	301	13,824	1996/01	1999/09	1
ADP FACILITY MANAGEMENT	301	29,724	1998/09	1999/10	1
ADP FACILITY MANAGEMENT	301	929,479	1995/11	1999/09	2
OTHER ADP & TELECOMMUNICATIONS SVCS	399	52,999	1999/02	2003/09	2
ADP SVCS/DATA ENTRY	303	2,067,672	1998/09	1999/09	2
OTHER ADP & TELECOMMUNICATIONS SVCS	399	1,059,450	1998/09	1998/12	2
OTHER ADP & TELECOMMUNICATIONS SVCS	399	286,770	1998/09	1999/09	2
OTHER ADP & TELECOMMUNICATIONS SVCS	399	236,000	1998/11	1999/09	2
OTHER ADP & TELECOMMUNICATIONS SVCS	399	63,982	1998/09	1998/10	2
ADP SVCS/TELECOMM & TRANSMISSION	304	51/000	1998/12	1999/02	2
OTHER ADP & TELECOMMUNICATIONS SVCS	399	5,947,608	1998/10	1999/09	4
TELECOMMUNICATION NETWORK MGMT SVCS	316	1,887,176	1999/02	1999/09	4
SUBTOTAL	.....	21,104,442	.....	.....	57
RD:					
ADP DATA CONVERSION SVCS	311	33,333	1999/02	1999/09	1
ADP FACILITY MANAGEMENT	301	78/000	1998/06	1999/05	1
ADP FACILITY MANAGEMENT	301	30,276	1998/12	1999/09	1
ADP PROGRAMMING SVCS	308	212,382	1998/09	1999/05	1
ADP SYSTEM ANALYSIS	306	83,336	1998/08	1999/08	1
ADP SYSTEMS DEVELOP	302	599,965	1998/08	1999/08	1
OTHER ADP & TELECOMMIICATIONS SVCS	399	5,001	1994/09	1999/09	1
ADP SYSTEMS DEVELOP	302	192,750	1999/02	1999/08	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	47,808	1998/12	2000/01	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	159,664	1998/11	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	6,675,000	1998/09	1999/09	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	423,131	1998/08	1999/09	1

IT SUPPORT SERVICE CONTRACTS ACTIVE IN FISCAL YEAR 1999—Continued

Reporting agency/description	Service Code "D"	Obligated amount	Action date	Completion date	Number of actions
OTHER ADP & TELECOMMUNICATIONS SVCS	399	347,748	1998/08	1999/08	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	82,815	1998/07	1999/12	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	39,224	1998/03	1999/12	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	110,288	1998/01	1999/12	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	40,000	1999/02	2000/02	1
ER ADP & TELECOMMUNICATICNS SVCS	399	167,072	1999/02	1999/04	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	43,434	1999/01	1999/03	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	36,000	1997/11	1999/02	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	5,939,000	1997/04	1999/05	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	593,000	1996/11	1999/05	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	89,000	1996/02	1999/05	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	5,252,000	1995/10	1999/05	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	7,274,730	1995/09	1999/12	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	7,182,000	1995/05	1999/12	1
OTHER ADP & TELECOMMUNICATIONS SVCS	399	50,960	1995/02	1999/09	1
ADP SVCS/TELECOMM & TRANSMISSION	304	34,409	1998/12	1999/09	1
ADP OPTICAL SCANNING SVCS	312	210,000	1998/09	1999/09	1
ADP FACILITY MANAGEMFNT	301	11,500	1998/11	1999/09	1
ADP FACILITY MANAGEMENT	301	34,655	1998/09	1999/08	1
ADP SYSTEMS DEVELOP	302	519,206	1998/09	1999/09	2
OTHER ADP & TELECOMMUNICATIONS SVCS	399	1,121,880	1996/10	1999/12	2
ADP FACILITY MANAGEMENT	301	704,914	1998/10	1999/09	3
OTHER ADP & TELECOMMUNICATIONS SVCS	399	2,612,604	1998/10	1999/09	4
SUBTOTAL		41,037,086			42
TOTAL		163,242,099			524

Question. Did USDA's Executive Information Technology Investment Review Board approve the Department's fiscal year 2000 IT budget/IT systems proposals? If so, when and what were the results? (Identify any IT systems proposals that were not approved for funding and their dollar amount).

Answer. The Executive Information Technology Investment Review Board—EITIRB—considered and approved the USDA information technology portfolio of investments for fiscal year 2000 as part of the investment review process in the fiscal year 2000 budget process. The Board focused on the major information technology—IT initiatives within the Department, the totality of the investment, and the strategic issues that derive from this level of investment. USDA major technology initiatives include the Foundation Financial Information System, the Service Center Modernization Initiative, Rural Development's Dedicated Loan Origination System, the Forest Service's Project 615, and the Food and Nutrition Service's Electronic Benefits Transfer program.

In addition to approving the USDA IT portfolio, the EITIRB discussed key IT issues and challenges which affect all agencies including: the Department's Year 2000 compliance efforts, management of the Department's telecommunications network, USDA Continuity of Operations Plans, the increased use of independent verification and validation, and the USDA moratorium on all new IT purchases that do not directly support the Department's Year 2000 compliance work.

Prior to the formulation of the Department's IT portfolio, USDA's Agency IRM Review Boards review IT initiatives and decide whether to continue, modify, or stop a project or system sponsored by the agency. These surviving IT projects or systems then become part of the draft Department IT portfolio where it is reviewed by OCIO staff and approved by the EITIRB.

CLINGER-COHEN ACT

Under the Clinger-Cohen Act of 1996, departments and agencies were to establish a Capital Planning and Investment Control (CPIC) process and an information systems technology architecture to guide IT investment decisions.

USDA CAPITAL PLANNING AND INFORMATION SYSTEMS TECHNOLOGY ARCHITECTURE

Question. Where does the Department of Agriculture stand with respect to fully instituting a CPIC process and implementing an overall information systems tech-

nology architecture? What work remains and what are the time frames and milestones for completing it?

Answer. During fiscal year 1999, the OCIO capital planning performance plan goal was to have 10 agencies using the Capital Planning and Investment Control Process. For fiscal year 2000, the goal stated was 20 agencies using capital planning. We now have 15 agencies using capital planning, and hope that by the fiscal year 2001 budget cycle, which begins in July, all of our agencies and staff offices will be using capital planning to manage their IT investments. Further, USDA plans to use I-TIPS, an information technology capital planning support system, to produce reports for OMB, including Circular A–11 Exhibit 42 and xhibit 300. Additional resources requested in the President's budget would be used to hire and train skilled staff to perform and review benefit-cost, return on investment, and other detailed analyses in order to reduce as far as practical the risk of failure in the development, deployment, and operation of USDA information technology systems.

During fiscal year 2000, integration of the USDA Information Systems Technology Architecture—ISTA—into the capital planning process will continue to ensure the interoperability of future information technology investments across program areas and further breakdown existing "stovepipes" within the Department. We will use the principles and standards of the architecture process to evaluate investments and ensure the best use of our scarce resources.

USDA is revising Version 1 of the Information Systems Technology Architecture. The next version will be published in the summer of 1999. This effort is refocusing the architecture to align with the Federal Architecture Model, which prescribes a segment approach for addressing diverse organizations such as the Federal government and USDA. Major segments represent business areas such as grants, finance, ecosystems management, etc. Organizing by segments allows critical parts of the architecture to be developed individually, while also providing a mechanism for integrating the architecture segments into the larger enterprise architecture. Examples of USDA segments include: the Foundation Financial Information System—with initial implementation of the Department-wide financial system beginning in fiscal year 1999 and ending in fiscal year 2002, the Service Center Initiative's Lan/Wan/Voice and Common Computing Environment—CCE—which are bringing common telecommunications, and network and desktop hardware and software infrastructures, to over 2500 county-based farm service centers. Lan/Wan/Voice deployment is over 85 percent complete, with the remainder to be completed in fiscal year 1999. CCE deployment was initiated in fiscal year 1998 for Year 2000 machine replacements and will continue through fiscal year 2002 to fully complete the system. And, the Procurement Modernization Team is working to provide modern, integrated procurement automation tools and streamlined business processes to the USDA acquisition community—breaking down "stovepipes", reducing the time and cost of processing procurement actions, and better supporting the Department's mission.

Question. To what extent did the Department follow a CPIC process and its current IT architecture to direct and approve the IT investments planned for fiscal year 2000?

Answer. Version One of the USDA Information Systems Technology Architecture, issued in February of 1997, was the foundation for OCIO architectural review during the fiscal year 2000 budget cycle. The Department has also developed a Guide to its Capital Planning and Investment Control process, which was recently approved and it is being printed for distribution to USDA agencies and staff offices. The Guide is a reference manual that provides information about Capital Planning and Investment Control and was developed with significant input of USDA agencies. While the Guide was not published officially at that time, it was available to all agencies as guidance for the fiscal year 2000 budget cycle. The principles within the Guide include criteria for investment selection such as mission, cost, and technical issues including architecture. They formed the basis for OCIO's budget review for fiscal year 2000.

USDA FISCAL YEAR 2000 BUDGET INCREASE

Question. USDA's fiscal year 2000 budget summary shows a budget increase of $2.4 million for the Chief Information Officer (CIO) to continue implementing a plan to strengthen the department's management of information technology across several areas. Based on the various areas cited:

What are the CIO's plans for improving Department-wide management and security of information systems and telecommunications networks?

Answer. In January 1999, the USDA CIO appointed a new Associate CIO for Telecommunications Services and Operations—TSO to provide day-to-day management leadership while also assuming long term strategic planning responsibilities for the

Department's telecommunications network. In this role, the Associate CIO for TSO will ensure the necessary safeguards to protect USDA's telecommunications infrastructure are implemented.

In fiscal year 2000, OCIO will be leading Departmental initiatives to improve and strengthen information security and telecommunications management across the Department. Presidential Decision Directive—PDD—63, which mandates USDA take appropriate steps to protect its critical infrastructure, will form the basis for these activities. The Department will begin by assessing the risk to its information and telecommunication networks. Potential risks include: intrusion by unauthorized individuals, disruption of services due to natural disasters, malicious actions by USDA employees, data corruption, critical system failure propagated from a failure in a connected non-critical system, computer viruses and worms, etc.

The fiscal year 2000 budget request includes funding for the USDA risk assessment and for subsequent actions to address and mitigate identified vulnerabilities to the maximum extent possible. The budget request also includes funding to leverage agency resources in creating a USDA incident response capability, and to ensure the readiness of USDA telecommunications services required to support the Department's Continuity of Government plan.

Training will also be an integral part of USDA's security plans. OCIO is beginning this effort by coordinating a security course for USDA agency IT staff interested in this rapidly expanding and crucial area. By building security expertise inside the Department, USDA respond more quickly and effectively to future security threats.

USDA has also implemented a comprehensive Information Security Policy review and update project to keep up with the rapid pace of change in the information security field. In fiscal year 2000, OCIO will continue focusing on Internet security policies to guide the Department's use of identification and authorization tools, Internet firewalls, encryption and digital signatures and certificate technology, Virtual Private Networks, and other Internet security issues. The policy review will also include the development of new policies and revision of existing policies in such areas as electronic mail privacy and security, incident reporting, software piracy, and security awareness and training.

Further, OCIO is working with USDA Agencies to: 1—respond to existing regulatory requirements as well as PDD 63 requirements; 2—link the IT security planning and budgeting processes; and 3—establish performance indicators for measuring the effectiveness of agency IT security programs. As part of this process, Agency IT security submissions are due to OCIO by June 1, 1999. After an initial request for IT security budgets during late 1998, agencies will be required to submit IT security budget information as a part of the annual A–11 IT budgeting process.

Question. How does the CIO plan to strengthen IT capital planning, review and evaluation processes and refine the Department-wide architecture?

Answer. The Chief Information Officer—CIO plans to strengthen the USDA's IT capital planning process in several ways, as resources allow. OCIO will play a more active role in phases of the life cycle of capital planning by expanding our developed process beyond the selection phase to the control and evaluate phases as well, including improved project management for information technology. OCIO will also make increased use of independent verification and validation, an approach that has proven valuable, to review IT decisions, both from managerial and technical perspectives. The CIO will also expand efforts to bring the understanding and adoption of capital planning, the discipline, to the remainder of USDA agencies and staff offices. Thereby educating and evolving the existing IT investment processes in all USDA agencies to embody the capital planning model, and employ its methods and tools to assist in the management of information technology investments.

In fiscal year 2000, OCIO will focus its architecture efforts on implementation. In working with USDA agency personnel who are building the Department's future financial system, OCIO's will be working to ensure that integral pieces of the project such as common datawarehousing standards—essential to agency financial reporting and a unified loan module—applicable across multiple USDA loan programs—are designed to share information and re-use technology to the maximum extent possible. Similarly, OCIO will help coordinate the Department's use of geospatial information systems and data—a technology heavily used in the Forest Service and an integral piece of the Service Center Modernization Initiative. Further, OCIO architecture coordination will focus on a structured approach to providing secure electronic access options to USDA program participants.

Question. What is the CIO doing to develop a workforce planning capacity to improve the management of the USDA IT infrastructure?

Answer. OCIO is actively involved in strengthening the knowledge, skills and capabilities of USDA's IT staff. During fiscal year 1998 a new member was added to the OCIO staff to work specifically on issues relating to the current national IT

workforce crisis, as well as requirements cited in the Clinger-Cohen Act of 1996. Both the USDA and OCIO Strategic Plans include strategies to implement a professional development program to ensure that program and IT staffs possess the skills necessary to effectively manage and deliver IT programs and services.

During fiscal years 1998 and 1999, OCIO has been collaborating closely with USDA's Office of Human Resources Management—OHRM—in IT workforce planning and development. Early in fiscal year 1999, USDA's Deputy CIO was named co-chair of the Federal CIO Council's Education and Training Committee, and is now working with federal agencies to ensure adoption and implementation of the core competencies for IT professionals approved by the Council.

During fiscal years 1999 and 2000, the OCIO will continue to address IT staffing issues including training, certification, classification consistency, and private/public sector challenges in the area of IT workforce planning and development.

Question. How will the Department/CIO provide oversight for the single IT infrastructure and supporting organization of FSA, RD, and NRCS?

Answer. Departmental oversight of the Service Center Initiative single IT infrastructure and the Support Services Bureau is assigned to the USDA Chief Information Officer—CIO, because of the major technology component. The CIO carries out this responsibility with a Senior Policy Advisor and support position. Activities include providing advice and council to senior USDA policy officials and the NFAC, conducting reviews, studies and analyses of implementation activities, providing Oversight Reports and Issue Papers, working with OMB and Congressional staffs on implementation issues and managing contracts to utilize independent verification and validation contractors to assess technical and management issues. The Oversight Staff will also continue to review all IT waiver requests from Service Center agencies to ensure that to the extent possible, any investments needed to meet emergency needs are made in a way to progress towards the long term objective of single IT structure.

The OCIO Oversight activities have led to improvements in the management of the Service Center initiative, better coordination, improved technical solutions and a better understanding of the initiative both within and outside USDA. It is vital to continue this function as the Service Center initiative moves into the next stage of major acquisitions and deployment of reengineered business processes.

Question. How is the CIO's performance in strengthening departmental IT management being assessed?

Answer. The OCIO Annual Performance Plan serves as a tool to assess the CIO's performance in strengthening the departmental management of information technology. The plan lays out performance measures for OCIO's six critical issue areas, which include: 1) assuring mission critical information systems are Year 2000 compliant, 2) overseeing implementation of a single information technology infrastructure to support the Service Center Agencies, 3) improving department-wide management of telecommunications infrastructure, 4) developing policies and procedures for implementing the Clinger-Cohen Act of 1996.

USDA INFORMATION TECHNOLOGY MORATORIUM

In 1996, USDA established a moratorium on all new IT purchases and required agencies to obtain a waiver.

Question. Does USDA still have this IT moratorium in place, and if so, what are the Department's plans for future use of the moratorium?

Answer. In compliance with our fiscal year 1999 appropriation—Public Law 105–86, the Executive Information Technology Investment Review Board has approved all information technology investments and the Chief Information Officer continues to review all USDA information technology investments to ensure new purchases are consistent with the current architecture and are directed at bringing the Department into Year 2000 compliance. Since August 1997, any Departmental or Agency information technology acquisition over $25,000 requires a waiver from the Chief Information Officer. These waivers are granted for emergencies and Year 2000 remediation efforts only.

There are only two types of information technology acquisitions which do not require a waiver—existing contracts for mission-critical maintenance and leases, and information technology acquisitions by organizations other than USDA agencies that are funded by USDA grants.

Once USDA has achieved its Year 2000 compliance objectives and more fully integrated the USDA Information Systems Technology Architecture into the capital planning process, OCIO will reassess the moratorium on information technology purchases.

Question. How many waivers did agencies request for each fiscal year period since the moratorium was established and what was the dollar amount of the waivers?

Answer. During fiscal year 1997 there were 127 waiver requests submitted for approximately $283.7 million. During fiscal year 1998 there were 246 waiver requests submitted for approximately $379.7 million. Through April 6, 1999, there have been 80 waiver requests processed for approximately $178.2 million.

Question. How many of these waivers were approved for each fiscal year period since the moratorium was established and what was the dollar amount of the approved waivers?

Answer. During fiscal year 1997, 113 waivers requesting expenditures of approximately $210.5 million were approved and 5 were approved for telecommunications items involving no expenditures. During fiscal year 1998, 224 waivers were fully approved and 12 were partially approved. Fiscal year 1998 waiver amounts approved totaled $356.8 million. Through April 6, 1999, 79 waivers were fully approved and one was partially approved. Amounts approved totaled $170.6 million.

Question. How many waivers were denied for each fiscal year period since the moratorium was established and what was that dollar amount?

Answer. During fiscal year 1997, 7 waivers were denied totaling $29.5 million, 2 waivers were exempt from the moratorium totaling $43.7 million. During fiscal year 1998, 7 waivers were denied and 3 waivers were canceled by the requesting agency or OCIO for lack of documentation. Denied amounts totaled $22.9 million. Through April 6, 1999, three waivers were canceled by the requesting agency or OCIO for lack of documentation. Denied amounts from the partially approved waiver total $7.6 million.

SUPPORT SERVICES BUREAU

Question. USDA's budget for fiscal year 2000 proposes a new account, called the Support Services Bureau, to provide consolidated administrative support functions, including information technology with an identified funding level of about $90 million. This includes an appropriation request of $74 million to support this modernization initiative, and another $16 million for this purpose will be made available from CCC.

What specifically will this total funding of $90 million dollars support by service center agency in fiscal year 2000 (in terms of software and hardware acquisitions, FTEs, and contractor support, etc.)?

Answer. Through the end of fiscal year 1999, funding for the activities performed within the Service Center Initiative (SCI) is provided by the participating agencies. The collective agencies determined the budget for each activity and the total amount of their contributions. For fiscal year 2000, a direct appropriation is requested to fund the continuation of the currently agency-funded SCI activities. Since this appropriation is in support of Service Centers and not individual agencies, a breakdown by Service Center agency is not available. The requested direct appropriation will be supplemented by a CCC transfer of $16,231,000.

The following table provides a breakdown by ongoing activities and overall funding source for fiscal year 2000:

[In thousands of dollars]

Activity	*Fiscal Year 2000*
Program/Change Management	2,500
Business Process Reengineering	14,000
Common Computing Environment	48,231
Base Data Acquisition	25,550
TOTAL	90,281

Program/Change Management activities include customer service initiatives, change management training programs in the field and at headquarters, communications, outreach activities and SCI initiative-wide program management functions.

The BPR investment will be employed to complete development and pilot testing of the initial Service Center BPR projects included in the BPR Business Case and several critical agency projects, and complete deployment of the first reengineered applications. In fiscal year 2000, an integrated deployment is planned for the Service Center Organizer (SCO) software, the Integrated Office Information Systems Project, the Common Land Unit Project, the Customer Information Management Project and the initial Geographical Information System (GIS) Project. The Combined Administrative Management System will also be deployed to support administrative convergence of the county-based agencies.

The fiscal year 2000 investment for CCE will build on initial CCE workstation acquisitions that include 16,000 systems in fiscal year 1998, and approximately 6,000 additional systems in fiscal year 1999. In fiscal year 2000, deployment of another 8,000 CCE workstations is planned. In addition, network servers will be provided to USDA offices to allow centralized configuration management of software, real-time help from IT support elements and file sharing by service center employees. If funding permits, the SCI also plans to deploy an initial GIS capability to offices where GIS data is available.

A total of $25.5 million will be invested to continue acquisition of GIS data (orthoimagery and soils data) during fiscal year 2000, in accordance with the GIS Strategy published in August 1998.

Question. Since the new Support Services Bureau is being implemented to consolidate administrative costs, should one expect corresponding reductions in the agencies' budgets of at least the $90 million?

Answer. The fiscal year 2000 budget includes a $74,050,000 direct appropriation and transfer of $16,231,000 in CCC funds for the SCI. A corresponding reduction of $31,050,000 from the Natural Resources Conservation Service has been included by USDA to partially offset this request. The fiscal year 2000 budget also requests additional transfer authority in support of the consolidated administrative functions that will be executed under the Support Services Bureau (SSB). Authority has been requested to transfer fiscal year 2000 funds embedded in the agency budget requests to the SSB in order to support consolidated administrative functions previously performed by the agencies.

Question. How much in administrative support savings will be achieved in fiscal year 2000 and beyond by establishing the Support Services Bureau, and how many FTE positions will be eliminated?

Answer. Secretary Glickman approved the Organizational Structure of the Support Services Bureau (SSB) on February 3, 1999, and directed that the SSB be operational on October 1, 1999. The Secretary asked that the SSB Implementation Team finalize the administrative staffing level relative to the SSB formation. This estimate is scheduled for completion in May 1999, and will outline the level of administrative support needed.

Question. How much is estimated to be transferred from FSA, NRCS, and RD for administrative services for the Support Services Bureau? How will this affect salaries and expense accounts of FSA, NRCS, and RD?

Answer. The Secretary asked that the Implementation Team finalize the administrative budget levels relative to the SSB formation. A team has been formed to make this estimate for fiscal year 2000 expenditures and FTE levels for the SSB. They should complete their work by the end of May 1999 and we will provide these estimates to you. Staffing and resources for direct program delivery will not be converged, but remain specific to each agency.

USDA SERVICE CENTERS

In August 1998, GAO reported on weaknesses in USDA's service center IT modernization effort and provided several recommendations. (USDA SERVICE CENTERS: Multibillion Dollar Effort to Modernize Processes and Technology Faces Significant Risks (GAO/AIMD–98–168, August 31, 1998.).

Question. Why does USDA continue to spend millions of dollars buying new technology for its service centers before it completes business process reengineering and before it finalizes how the Department will provide one-stop-shopping in all of its field offices?

Answer. In the period 1995–1997, USDA did make some moderate investments, primarily to upgrade the FSA system 36 machines, to upgrade the Natural Resources Conservation Service (NRCS) Field Office Computing System (FOCS) platforms, and to provide computers required to implement the Dedicated Loan Origination Servicing System (DLOS) of Rural Development. USDA acquired 16,000 CCE workstations in fiscal year 1998, and plans to acquire 6,000 additional workstations in fiscal year 1999. In fiscal year 1999, USDA is deploying these CCE workstations to satisfy Y2K compliance requirements and meet critical agency business needs. These interim investments have been coordinated and justified separately based on costs and benefits as well as critical program needs. They were recognized as steps needed to support the business of the agencies as we go through the process of reengineering business processes and acquire an interoperable, shared information system for all of the agencies. It should be noted that the Rural Development investment, in fact, was to implement a reengineered process, the DLOS, that will save hundreds of millions of dollars in support and other costs. In 1997, USDA instituted a moratorium on IT investment that was further strengthened in fiscal year 1998.

Exceptions are considered and granted only to meet Year 2000 needs or emerging needs associated with equipment failures, new program or legislative requirements, or major initiatives such as civil rights and Service Center implementation. In the case of the Service Center agencies, exceptions granted generally include conditions such as buying computers that meet the minimum standards set for the Common Computing Environment (CCE) pilot sites.

Planned Service Center investments are directly tied to the business process reengineering (BPR) work that is being done. The planned phasing of future CCE investments is consistent with the BPR process, including the piloting and testing of the reengineered processes and enabling technologies. Phases of technology investments will move forward as they are justified and needed to field new business processes, meet Year 2000 needs, etc. Because the BPR process for current programs and administrative activities will take several years to complete, all investments cannot wait until the full process is completed. We must enable the Service Center staff to take advantage of efficiencies and service improvements as they are ready to be fielded. By using an interoperable and scalable architecture that has flexibility for modifications as required, USDA will be able to transition from the existing to new IT systems in a manageable fashion. The business of the collective agencies is too comprehensive and complex and changes too frequently to suggest that all business should be reengineered before any investments are made. If USDA were to take that approach, some of the agency equipment would be nearly twenty years old, and we would have foregone the chance to reap benefits and efficiencies before replacements were provided, not to mention the issue of Year 2000 failures.

Question. What is the Department's status of addressing the GAO recommendation to ensure that all identified weaknesses are addressed?

Answer. The Department is taking every step necessary to ensure that all material weaknesses are addressed prior to approving IT investments. Service Center IT projects are subjected to the evolving USDA capital investment and control process just as any other investment. The Service Center Business Case for technical solutions that included benefit, cost, and risk information has been completed. The USDA Chief Information Officer (CIO) conducted an independent verification and validation (IV&V) contractor review of this documentation that, while pointing out some shortcomings that need to be addressed, essentially verified that the documentation was properly done. The Executive Information Technology Investment Review Board has devoted considerable effort to examining these activities and monitoring progress. The CIO has established a Senior Executive Position to focus oversight activities for this initiative. IV&V by outside contractors have been used extensively by OCIO to evaluate service center projects and plans. The USDA moratorium and approval authority of the CIO for IT procurements are used as control points to ensure that proper planning and execution is taking place. The CIO has used her authority to suspend projects and stop work when conditions have warranted until problems are resolved. Regular reviews of milestones and performance are conducted.

USDA has established processes for the approval, monitoring, and control processes for this project. In addition, except for the telecommunications initiative that was started in fiscal year 1996 and initial Year 2000 computer replacements, only pre-acquisition activities have approval from the CIO to proceed. These include support for BPR, pilot projects, and technical studies and evaluations. Other than Year 2000 compliant investments, the USDA has not approved the CCE for procurement and deployment, and the CIO has conditioned any such approval on meeting capital investment planning and control requirements and other factors. These activities are still in the development stage and, as GAO recognized, involve issues that must be resolved before USDA will move ahead. These issues have been identified earlier by the internal USDA oversight process and are in the process of being corrected. USDA has no intention of moving forward with CCE acquisition until all of the requisite plans, management and controls are in place to ensure success. The CIO is currently engaged in a review of how the Service Center Initiative has responded to management's concerns raised in the past to ensure that all appropriate corrective actions have taken place.

Question. What is the status of the Department's effort to implement one-stop service, what will this entail, in terms of a concept of operations, and when will this be implemented? (Provide the latest time frames and milestones for all major activities related to this effort).

Answer. We are in the process of updating our implementation plan to reflect recent funding levels that were lower than those requested in fiscal year 1998 and 1999, and the impact that such levels have had on the original plan. USDA developed a Service Center Concept of Operations in 1996 and 1997. The Concept of Operations served as the springboard for the 1997 BPR study, consisting of the four

BPR teams. The USDA October 1997 Business Case documented the results of the BPR Study. USDA is in the process of updating the Concept of Operations and overall plan by the end of July 1999 to reflect the current Service Center Initiative. We will provide a copy of these documents when they are available.

Question. What has the Department identified as its funding needs in fiscal year 1999 and 2000 for making USDA service center agencies' information systems and other technology Year 2000 compliant and for supporting ongoing operations and maintenance of its systems?

Answer: To be provided to the subcommittee.

Question. Has the Department assigned a senior-level official with overall responsibility, authority, and accountability for managing and coordinating the separate service center IT modernization projects, when was this assignment made, and who was assigned?

Answer. The Secretary has approved an organization of the SSB which has a National Board of Directors made up of the Administrator of the Farm Service Agency, The Deputy Under Secretary of Operations and Management of Rural Development, and the Chief of the Natural Resources Conservation Services. An Executive Director who reports to the National Board will lead the SSB. In support of the national structure, each state will have a Board of Directors and a single Administrative Support Unit. In addition to the State units, four unique program units have been identified. These entities will also have a Board of Directors and a single Administrative Support Unit. To ensure a single point of accountability for the SSB, the National Board of Directors will allocate administrative funds and delegate administrative authorities to the SSB Executive Director, which, in turn, will be reallocated to the State Board of Directors. The Executive Director and other senior leaders of the SSB will be fully responsible to the National Board for ensuring that the needs and requirements of the serviced agencies are met. The SSB Deputy Director will also be the Chief Information officer for this group of Agencies, and will manage the IT support for the Service Center Initiative.

The Secretary signed a memorandum on March 3, 1999, approving the organizational structure of the Support Services Bureau and appointing Joseph Leo as the Acting Executive Director for implementing the new organization.

Until the SSB is operational, the ongoing SCI will continue to operate as a joint project for FSA, Rural Development, and NRCS. The Deputy Secretary assigned the responsibility for strategic coordination and management of the SCI to the National Food and Agriculture Council (FAC), with oversight by the USDA OCIO. The National FAC manages the efforts of inter-agency project teams working towards completing the SCI. All Service Center Agency staff working on the SCI is contributed by the agencies without reimbursement.

Question. Why hasn't the Department implemented GAO recommendations calling for the CIO to be held accountable and responsible for managing and implementing the service center IT modernization effort?

Answer. The Department did not agree with the GAO recommendation. Our position is that we will continue to place accountability with the program leaders of the agencies to ensure that the modernization, business process reengineering, change management, and other components of the Service Center initiative are carried out successfully. The USDA CIO will continue to provide a strong oversight role to ensure that the IT modernization is done correctly and is in accordance with the overall IT architecture envisioned for the Department.

Question. GAO also recommended in its report that, until critical weaknesses in the Department's service center IT modernization effort are resolved, USDA should limit IT funding to its service centers to only that necessary to (1) bring mission-critical systems into Year 2000 compliance; (2) implement cost-effective efforts that support ongoing operations and maintenance; and (3) develop and document a concept of operations and the new mission-critical business processes necessary to provide one-stop service at all sites and integrate the service center business process reengineering project with its county-based study.

Why has the Department disregarded this recommendation?

Answer. Not all past and planned USDA IT procurements during reengineering are tied directly to business processes. There are technologies that are universally needed and are available to accomplish basic business activities. These include office automation applications, electronic mail, Internet access, and other similar applications. Also, there is recognition that these common applications can be supported on computer systems sold as basic desktop or laptop business platforms.

Many of USDA's simple business processes can be reengineered to make immediate use of these common tools to deliver services. Most organizations are approaching technology implementation with the recognition that both the business processes and the technology components are not static. If either component is held

constant while the other is refined, the result is an unbalanced solution. Either the business or the technology has changed to the extent that the solution no longer serves the organization. IT experts are advising that there are basic technology components that can be implemented and that business process reengineering can proceed in parallel with these acquisitions. The Common Computing Environment Project implementation plan is structured to acquire these types of technologies within the first phases, with the more business sensitive components delayed until the reengineering is more complete. This approach allows the Service Center implementation to proceed and, at the same time provides the opportunity to better match technology with the business requirements. It also enables the agencies to field current or soon to be available reengineered processes as they are ready to be implemented.

Question. The President's budget shows in its Information Technology Performance Table (Table 22–1) that $90 million was spent in fiscal year 1998 for the Common Computing Environment (for the service centers), and that about $50 million would be spent during fiscal year 1999 and another $90 million spent in fiscal year 2000.

Define what the Common Computing Environment entails (i.e., technology being acquired, number of sites, number of staff, etc.), and describe how the Department is measuring its performance in achieving its Common Computing Environment goals?

Answer. As discussed earlier, $48 of the $90 million will be used for the Common Computing Environment (CCE) Project, with the remaining funds to be used in support of the Program/Change Management, Business Process Reengineering, and Base Data Acquisition projects. CCE is providing the hardware and software for the integrated business systems necessary to make one-stop service a reality and to deploy the reengineered business processes. At the core of this vision is a shared information system that provides service center staff access to customer, program, technical, and administrative information, regardless of the agency they represent. The preliminary CCE technical architecture is complete, and is being tested in service centers sites with BPR pilot projects. More than 16,000 CCE workstations have been acquired to replace agency systems that do not comply with Y2K requirements and provide critical business functionality required for current program delivery. These machines and accompanying software will be delivered in the third quarter of fiscal year 1999. In fiscal year 2000, we plan to acquire 8,000 workstations, initial network and GIS servers, and necessary software to run the reengineered processes. We currently have 17 employees assigned to the CCE project. Full CCE deployment is scheduled for completion by the end of 2002, depending on the availability of funding.

When fully implemented, the Common Computing Environment (CCE) will:

—Provide the enabling technologies to support the successful introduction of reengineered business processes across the core service center agencies (FSA, NRCS and Rural Development).
—Optimize the data, equipment, and people sharing opportunities for service center agencies.
—Overcome the extreme limitations of the current legacy systems.
—Allow the service centers to use commonly available information technology, such as the Internet, to deliver services and conduct business with customers and partners.
—Achieve efficiencies across the agencies and enhance customer service today and into the 21st Century.

The vision is of open systems operating within a common technical architecture sustaining both the program delivery and administrative support needs of the agencies. The business requirements for defining the CCE will come, in large part, from the BPR and Business Process Improvement (BPI) efforts within the Service Center Initiative.

The performance measures for the CCE initiative are based on acquisitions and deployment. However, all these acquisitions and deployment are driven by the BPR, customer service, base data acquisition, and sharing of information in a common technical architecture. All of these activities are dependent upon each other and, accordingly, their performance is measured as a whole, not individually. Performance measures for the entire project are included in our 2000 Annual Performance Plan that was submitted to Congress this year.

Question. What are the current estimated life-cycle costs for the Common Computing Environment, what time period does this cover, and when does the USDA expect to have it completely implemented? (Include all important time frames and milestones).

Answer. The Department is in the process of updating the Common Computing Environment Deployment plan. This plan includes estimated procurement and delivery dates, necessary levels of funding, and the life-cycle costs. The plan should be completed in July 1999. We will provide a copy of this plan when it is completed. Acquisition cost for the CCE as currently estimated at about $360 million.

Question. What was acquired for the USDA Service Center, in terms of the number and cost of computers, software, etc., with the fiscal year 1998 expenditure of $90 million and the estimated $50 million in fiscal year 1999 expenditures for the Common Computing Environment?

Answer. The fiscal year 1998 $90 million expenditure and fiscal year 1999 estimated $50 million expenditure will cover all of the Service Center activities and not only CCE. In fiscal year 1998, more than 16,000 CCE workstations were acquired at a cost of approximately $29.5 million under CCE. A total of about $3.0 million in fiscal year 1998 and $2.4 million in fiscal year 1999 is allocated to technical studies required for defining the CCE Technical Architecture. In fiscal year 1999, nearly $7.0 million will be spent to acquire 6,000 additional CCE workstations and software, and conduct deployment activities.

Program/Change Management activities include customer service initiatives, change management training programs in the field and at headquarters, communications, outreach activities and program management expenses. BPR expenditures include costs of project developments, equipment and preparations for 9 service center pilot sites and 5 State Office pilot sites, training of test personnel, and the conduct of pilot testing activities. LAN/WAN/Voice expenditures include costs to complete installations at approximately 2,200 USDA offices and operate and maintain the infrastructure that has been put in place. Base data funds are used to acquire orthoimagery and soils data required to develop and test our Geographical Information System (GIS).

A table showing the budgets by activity for fiscal years 1998 and 1999 follows:

Activity	Fiscal year—	
	1998	1999
Program/Change Management	2,050	2,500
BPR	9,516	11,388
Common Computing Environment	33,536	9,332
LAN/WAN/Voice	25,275	11,400
Base Data Acquisition	19,750	15,050
TOTAL	90,127	49,670

Question. The explanatory notes indicate that of the $7.5 million for fiscal year 1996 to the Secretary of Agriculture for Service Center Implementation Team, $224,951 were obligated in fiscal year 1998 and $4,465,344 remains. What are your plans for obligation of the remaining amount?

Answer. The unobligated funds remain in the Office of the Secretary account for the use of the Service Center Initiative (SCI). We plan to spend most of the $7,500,000 by the end of fiscal year 1999. The carryover funds will be used to coordinate the SCI activities and to supplement shortcomings of funding from the participating agencies. activities as mandated by Congress.

DELIVERY OF USDA PROGRAMS, SERVICES, AND BENEFITS VIA THE INTERNET

The Internet is being used more and more by companies to conduct business and deliver services and benefits via what is called e-business.

Question. To what extent is USDA presently delivering programs,benefits, or services via e-business and how does the department plan to expand the use of Internet in the future?

Answer. A sample of current and future USDA e-business applications to serve the public via the Internet is provided below:

Farm Service Agency—FSA—consistent with the Federal Acquisition Streamlining Act, the Electronic Bid Entry System (EBES) was developed and implemented January 1998 to automate the bid entry portion of the commodity procurement process. The EBES application received a runner-up award in the "1998 Windows World Open" competition held in Chicago April 20–23, 1998. EBES also received a "Government Technology Leadership Award" December 1, 1998. The Financial Internet Site was developed in February 1999. FSA/CCC began officially using the FSA/Fi-

nancial Internet site to announce the monthly interest rate changes related to price support and marketing assistance loans. This process replaced paper notifications that were mailed to the cotton, peanut and tobacco associations each month.

Participation in FSA programs through Electronic Funds Transfer (EFT) increased from about 14 percent in the 1st Quarter of fiscal year 1998 to 56 percent during the 4th quarter. A total of about 2.5 million payments were disbursed during the 4th quarter of fiscal year 1998, 1.4 million of which were disbursed via EFT. This participation level increased to 71 percent during the 1st quarter of fiscal year 1999. Major payment activity during this time frame included—$2.8 billion in Market Loss Assistance Payments and $4.5 billion in Production Flexibility Contract Payments. FSA is now planning an EFT disbursement process through Treasury for the Farm Loan Programs.

Agriculture Marketing Service (AMS) in a joint project with FSA, will implement an electronic bid entry system to automate the bid entry portion of the Domestic, Dairy, and AMS commodity procurement processes. Vendors will submit bids electronically via an Internet web-based application. Bids will then be forwarded to a database which will be used to analyze the bids and generate contracts. Programming, testing, training and implementation will be completed this fiscal year 1999.

Rural Development (RD) provides prospective sellers electronic access to its business opportunities through the OSDBU page of the USDA Departmental Administration home page. This site provides forecasted opportunities for the current fiscal year for USDA agencies.

Research, Education, and Economics Agency (REE) established a procurement Web-page to provide electronic access to facilitate government and private industry access to REE procurement opportunities, including on-line solicitation documents.

Food and Nutrition Service (FNS) Electronic Benefits Transfer (EBT) is an extension of electronic credit and debit procedures that have been developed as part of the commercial payment systems. EBT systems issue and redeem benefits through the use of an electronic funds transfer network and point-of-sale—POS—technology. FNS is engaged in EBT initiatives to support the Food Stamp Program—FSP and the Women, Infants, and Children (WIC) Program. The use of this technology eliminates the need for paper coupons and cash change in the issuance of benefits. These initiatives feature automated links between FNS, the Federal Reserve, the Department of Treasury's ASAP system and state partners. Currently 33 states and the District of Columbia have operational Food Stamp EBT systems. Two milestones were passed during 1998 when the monthly volume and value of EBT transactions exceeded those for the traditional coupon-based technology. During September of 1998, there were over 1.7 million Food Stamp transactions via EBT, totaling nearly $681 million in benefits. The corresponding statistics for coupon-based benefits were slightly over 1 million coupon transactions, with a value of approximately $613 million.

The Food Stamp EBT initiative expects to achieve implementation in 42 states by the end of fiscal year 2000. The WIC EBT initiative plans to increase the number of state operational pilot systems from one to seven by the end of fiscal year 2000.

Forest Service—National Recreation Reservation Service (NRCS)—In October, 1997, the Forest Service in conjunction with the US Army Corps of Engineers, entered into a service contract with Park.Net, Inc. to allow the general public to make reservations for recreation activities in the national forests and waterways. The system began accepting reservations in October 1998. The Forest Service, through a contractor, sells reservations to the public via a call center, electronically through computers at field location sites, and through an interactive Internet web site.

Office of Procurement and Property Management (OPM) has defined requirements for a USDA-wide procurement system that includes the ability to identify buyers and sellers in a secure environment. OPPM has begun evaluating a commercial procurement system that provides electronic access to buyers and sellers in a secure environment.

Question. What level of expenditures, either IT-related or otherwise, are planned to support or develop e-business for USDA program delivery?

Answer. The Department has not separated future e-business expenditures from Agency IT budgets. However, the Service Center Agencies have begun to study the future infrastructure costs necessary to provide electronic access to America's farmers. And, OCIO will be devoting more time and resources to this issue in the coming year.

COMMODITY CREDIT CORPORATION (CCC) FUNDING CAP

Question. In 1996, the Congress limited CCC's funding for ADP equipment and services during fiscal years 1997 through 2002. What has USDA spent each fiscal

year (from fiscal year 1997 to the present) under the caps and for what purpose were these funds expended?

Answer. CCC funding for investments in automation and servicing of existing automation was limited to $275 million during fiscal years 1997 through 2002 by the Federal Agriculture Improvement and Reform Act of 1996. Within this cap, ongoing maintenance as well as system improvements have to be accommodated. However, since this Act was passed, additional legislation has reduced the originial cap by $87 million to $188 million, a cut of over 30 percent from the originial $275 million. Given the need to meet basic maintenance requirements for current systems, only a portion is available for technology investments.

In fiscal year 1997, total obligations for CCC ADP were $36.1 million. All but $3.5 million was for ongoing system maintenance needs. In fiscal year 1998, total CCC ADP obligations were $80.6 million of which $35.5 million was used for ongoing systems maintenance and the balance of $45.1 million was used for technology investment in service centers. The fiscal year 1999 appropriations act limits spending for CCC ADP to $65 million. It is anticipated that the bulk of this spending will also be for system maintenance. System maintenance spending is critical to ensure the continued operation of existing systems, some of which will eventually be replaced with tecnology being deployed to the Service Centers. Maintenance funding includes support for networks, CCC accounting systems and commodity management systems needed to support CCC programs.

Adequate investment in information technology is critical to the success of the plan to consolidate farm, conservation and rural development program delivery into Servie Centers. The plan called for a reduction in the number of field offices from over 3,700 to about 2,560 Service Centers, and staffing reductions accompanied by major technology investments. To date, the number of field offices has been reduced to about 2,700 and staffing reduction have occurred; however, the corresponding IT investment has not taken place.

Recognizing the need to increase the level of support for IT to begin to fulfill the objectives of the consolidation plan, the fiscal year 2000 President's Budget proposes a new, direct appropriation of $74 million for these investments in a central account, the Support Services Bureau account. In addition, approximately $16 million of the estimated remaining balance under the CCC ADP cap will be transferred to this new account which will then provide a total of $90 million for technology investment in the Service Centers in fiscal year 2000. Only through the necessary technology investment can the goal of providing efficient and effective service to agricultural producers and rural people through "one stop" Service Centers be met.

INTERAGENCY FOOD SAFETY INITIATIVE

Question. How are information systems and other new technologies being used to achieve objectives under the President's interagency Food Safety Initiative and what are the costs? What information systems are involved?

Answer: The President's fiscal year 2000 interagency Food Safety Initiative includes one time funding to implement the Field Automation Information Management (FAIM) project to provide States off-the-shelf inspection automation infrastructure to accommodate HACCP. The State FAIM initiative is not a single application but a collection of systems. FAIM provides inspectors with electronic forms, technical references, office automation tools, electronic mail, and computer based training. The number of applications has and will continue to expand over time, with HACCP inspection scheduling and reporting to be the next significant application added. Taken as a whole, the State FAIM initiative provides the infrastructure to support new inspection technologies such as HACCP, and brings the States and FSIS closer to having a uniform nationwide inspection system.

Question. What performance measures have been established to evaluate success of the Food Safety Initiative and to what extent have these measures been achieved?

Answer: FSIS established performance measures in the Fiscal Years 1999 and 2000 FSIS Annual Performance Plans to evaluate the success of the Food Safety Initiative. These measures, which can be found under "Performance Goal Two" of the plans, include:

[The information follows:]

	Fiscal years—			
	1997	1998	1999	2000
Number of foodborne illness causing pathogens monitored in collaboration with the CDC, FDA and State Public Health Departments through the Foodborne Disease Active Surveillance Network (FoodNet). Fiscal year 2000 estimates include two parasites: Staphylococcus enterotoxin, and Listeria monocytogenes and Listeria species	7	7	7	9
Number of FoodNet Case Studies	2	3	3	3
Number of new formal risk assessments initiated annually to identify and quantify food safety risks	1	1	1	1
Number of cooperative agreements with	N/A	N/A	N/A	5
States for risk assessment	.....	.....	.....	.....
Standard operating procedures established for coordination of foodborne illness outbreaks and other food safety emergencies	(1)	(1)	(1)	(1)
Strategy with HHS and USDA, and private sector groups developed and implemented to expand communications on food safety information to the general public	N/A	(1)	(1)	(1)
Number of people reached with food safety information through media stories, circulation reports, Home Page visits, Hotline calls (in millions)	110	132	158	170
Number of Federal-State joint undertakings in:				
Technical conferences	12	12	12	12
Advisory Committees	3	3	3	3
Other Committees	3	3	3	3

[1] Yes.

The Agency is confident that these activities are on target. However it should be noted that these are long term projects. For example, FoodNet, which is a collaborative effort with HHS, will be the main source of information used to monitor projects in achieving the FSIS stated outcome of a 25 percent reduction in the number of foodborne illnesses associated with meat, poultry, and egg products by the year 2000. Many factors can influence disease incidences on a year-to-year basis, and it will be necessary to collect several years of data to be confident of the stability of trends. These performance measurements will be reassessed once the President's Council on Food Safety finalizes a strategic plan.

USDA RESPONSE TO GAO TELECOMMUNICATIONS MANAGEMENT RECOMMENDATIONS

In 1995, GAO reported that USDA was not effectively managing its telecommunications systems and services USDA Telecommunications: Strong Leadership Needed to Resolve Management Weaknesses, Achieve Savings (GAO.AIMD–98–131, June 30, 1998). Because of this, the GAO indicated that the Department was wasting millions of dollars each year paying for unused, unnecessary, and uneconomical telecommunications services. To its credit, USDA took some steps to begin addressing GAO's recommendations for resolving the telecommunications management problems at the Department—improvements that USDA says could reduce its $200 million-plus reported annual investment in telecommunications by as much as $70 million each year. However, GAO again reported in 1998 that the Department had failed to achieve any significant cost savings and management improvements because its corrective actions were incomplete or inadequate.

Question. What progress has the Department made since GAO's 1998 report to implement GAO's recommendations to:

—ensure that all telecommunications resources are inventoried, properly accounted for, and cost-effectively managed;

—consolidate and optimize telecommunications services to achieve savings where opportunities exist to do so;

—adequately plan integrated networks in support of USDA's information-sharing needs;

—determine the extent to which the Department is at risk nationwide for telephone abuse and fraud and acted to mitigate those risks?

Answer. The USDA Telecommunications Network Stabilization and Migration Program—TNSMP—established in May 1997, clearly defines agency and Depart-

mental telecommunications management roles and responsibilities. As part of the TNSMP, twenty-one major hub cities have been identified for consolidation/optimization. Further, as part of the Department's transition to the new FTS2001 contract, the Department will connect these cities into shared USDA network. Thereby implementing the phase one of the Department's future Enterprise Network.

A Departmental moratorium on the acquisition of all telecommunications resources was established in the fall of 1996 and remains in effect today. The moratorium requires USDA agencies to document the need for each telecommunications acquisition prior to initiating the acquisition process. Waivers have been granted only when clearly demonstrated cases for need could be established. In addition, opportunities for sharing telecommunications services when applicable, were required as a part of moratorium waivers.

As part of the Department's Year 2000 readiness program, USDA has implemented a Department-wide inventory of all telecommunications hardware, software, and services, e.g., data and voice communications circuits. This inventory will be maintained in a centralized database and will be fully operational by the end of April 1999.

Under Departmental Regulation—DR 3300–1, dated March 23, 1999, all USDA agencies and staff offices are required to "seek and actively pursue opportunities for sharing, optimizing, and consolidating of telecommunications resources." Reorganizing USDA's telecommunications network around the twenty-one hub cities identified in the TNSMP, will also facilitate improved telecommunication's management throughout the Department.

DR 3300–1 also provides specific policies regarding telephone abuse and fraud risks, and mitigation of those risks. This policy requires agency personnel to enforce the appropriate business practices and educate USDA personnel in the proper use of office telephones, thereby mitigating the risk of abuse and fraud. Specifically, "Agencies and staff offices shall establish internal procedures to determine the risk of and vulnerability to telephone fraud, waste and abuse of their networks. Agencies shall implement cost-effective actions to minimize their exposure to telephone abuse. Examples to minimize exposure would be to review and verify telephone billing information, block collect and third party calls through the Local Exchange Carrier—LEC and educate employees on acceptable use policies."

In order to better integrate USDA network services, the Department is in the process of developing Part III of USDA's Information Systems Technology Architecture—ISTA—on telecommunications. The Telecommunications Architecture establishes a departmental framework to guide agencies in the delivery and management of new and existing telecommunications services in order to meet the needs of their mission area.

USDA TELECOMMUNICATIONS SAVINGS IN FISCAL YEAR 1999 AND FISCAL YEAR 2000

Question. What total telecommunications savings have been achieved in fiscal year 1999 and how much in telecommunications savings does the Department expect to achieve in fiscal year 2000?

Answer. Total annual savings and cost avoidance across all telecommunications sharing, cost reduction, and consolidation initiatives for fiscal year 1999 will exceed $3 million. USDA currently estimates transitioning to the FTS2001 telecommunications contract and optimizing access arrangements will save the Department an estimated $6 million in fiscal year 2000.

Question. What has the Department done or planned to do with the savings achieved?

Answer. Telecommunications cost savings achieved in fiscal year 2000 will be realized by USDA agencies.

USDA YEAR 2000 PREPARATION

Y2K is just around the corner, and there have been numerous accounts of what could go wrong in the technology arena, from failed information systems to embedded chips.

Question. How many mission critical systems has the Department identified and what is the status of making them Y2K compliant?

Answer. The following table outlines the Y2K status of USDA's mission-critical systems as of April 6, 1999.

[The information follows:]

Total Number of Mission-Critical Systems:	
April 9, 1999	350
Number Compliant	335
Percent	96

Number To Be Replaced	6
Percent	1.7
Number To Be Repaired	4
Percent	1.9
Number To Be Retired	5
Percent	1.4
Total Number of Mission-Critical Systems Originally being Repaired:	
Current Number Complete	266
Assessment Phase	266
Percent	100
Renovation Phase	264
Percent	99.2
Validation Phase	264
Percent	99.2
Implementation Phase	262
Percent	98.5

USDA FISCAL YEAR 2000 EXPENDITURES FOR Y2K REMEDIATION, TESTING, AND IMPLEMENTATION

Question. What is the Department's planned expenditure, broken out by each agency and the department itself, for completing work on Y2K remediation, testing, and implementation of mission critical systems during fiscal year 2000?

Answer. The Department's planned Year 2000 expenditure is provided in the following table.

[The information follows:]

[In thousands of dollars]

Agency	*Fiscal year 2000 expenditures*
Foreign Agricultural Service	70
Farm Service Agency	2,130
Food Safety & Inspection Service	85
Agricultural Marketing Service	30
Animal and Plant Health Inspection Service	2,196
Forest Service	200
Natural Resources Conservation Service	110
Agricultural Research Service	205
Cooperative State Research, Education and Extension Service	280
Economic Research Service	60
National Agricultural Statistics Service	100
Departmental Administration	500
Office of the Chief Financial Officer	1,000
Office of the Chief Information Officer	2,920
Office of Communications	300
Total	10,186

USDA FISCAL YEAR 2000 EXPENDITURES FOR Y2K WORK ON VULNERABLE PROCESSES AND SYSTEMS

Question. For other vulnerable processes and systems, such as telecommunications, facilities, alarm systems, etc., what is the Department's planned expenditure, broken out by each agency and the Department itself, for completing work on Y2K remediation during fiscal year 2000?

Answer. The Department of Agriculture will continue to remediate vulnerable processes and systems throughout fiscal year 2000. Funding for these efforts will come from the agencies' fiscal year 2000 budget, which does not breakout remediation funding for telecommunications, facilities, alarm systems, etc. USDA has requested $6.198 million in supplemental funding for Y2K remediation of Vulnerable Systems (embedded chips in buildings, facilities, scientific and laboratory equipment). Supplemental one and two have been appropriated. These are three year funds (Fiscal year 1999, 2000, 2001).

USDA requested Y2K funding for remediation of vulnerable systems, by Agency, is provided below:

[The information follows:]

[In thousands of dollars]

Agency	Supp 1 12/8/98	Supp 2. 2/3/99	Supp 3 4/2/99	Total
FSIS	400		628	1,028
Forest Service	2,000			2,000
ARS	303	1,840	418	2,561
DA	150			150
OCIO	300			300
APHIS			159	159
TOTAL	3,153	1,840	1,205	6,198

USDA requested funding for Y2K remediation of telecommunications systems, by Agency, is provided below:

[The information follows:]

[In thousands of dollars]

Agency	Supp 1	Total
DA	323	323
OCIO	4,000	4,000
Forest Service	1,750	1,750
ARS	1,143	1,143
FSIS	200	200
Total	7,416	7,416

USDA AGENCY BUSINESS CONTINUITY AND CONTINGENCY PLANS

Question. To what extent has each of the component agencies, staff, and field offices completed and tested business continuity and contingency plans? For those that have not yet completed and fully tested their plans, what are the time frames and milestones for doing so?

Answer. Business Continuity and Contingency Plans—BCCPs—have been received from all mission area, agencies, Departmental Administration, and several staff offices. The majority of these plans have been approved. Final approval from the Under Secretary for one agency plan is pending, and we are working with three staff offices regarding their plans. The target date for completing these plans is May 21, 1999, with USDA's overall plan due to the Office of Management and Budget by June 15, 1999. However, USDA Agency BCCPs will continue to be reviewed, tested, and revised as necessary through September 1999—the date the General Accounting Office has recommended for BCCP completion.

For BCCPs relating to the field/regional offices and service centers, OCIO is providing guidance for developing and implementing Local Contingency Plans. Several agencies have started this process and information is being shared across USDA.

BCCPs are scheduled to be tested from January through October 1999. Several agencies have started testing their BCCP in accordance with the GAO Guidelines. The Y2K Program Office is developing additional guidance for this testing activity which will be provided to agencies by the first week in May 1999. This guidance will give examples of the various tests (desktop, rehearsals and simulations), how to plan and evaluate the process, and steps for process improvement. As part of the review process with agencies, the Y2K Program Office will be working with the Office of Inspector General to develop evaluation criteria for conducting site visits during agency BCCP tests. The testing schedule for the Department and for five agencies or offices who have already submitted schedules is provided below.

[The information follows:]

	Start	Complete
Department-wide Test Schedule—for all mission areas and staff offices.	January 1999	September 1999
Foreign Agricultural Service		September 1999
Forest Service	April 1999	October 1999

	Start	Complete
Food Safety and Inspection Service	February 1999	September 1999
Agricultural Research Service	March 31, 1999	April 30, 1999
National Appeals Division—end-to-end testing through March 1999		May 1999

USDA Y2K EMERGENCY FUNDING—APPROVED AND EXPECTED IN FISCAL YEAR 2000

Question. How much in Y2K emergency funding has OMB approved for the Department, for what specific purpose were these funds requested, and how much additional funding does USDA anticipate having to request from OMB in fiscal year 2000?

Answer. As of April 6, 1999, OMB has approved $46,168,420 in emergency Y2K funding for Year 2000 work planned for fiscal year 1999. These funds are to support remediation activities in our aggressive program to address Year 2000 computer and embedded chip problems and ensure the uninterrupted delivery of USDA programs and services. Supplemental funding requirements include:

—meeting the remediation needs of additional systems;
—conducting end-to-end testing;
—independent verification and validation;
—business continuity—contingency—planning and testing;
—hardware and software system upgrades or replacements;
—embedded and scientific equipment upgrades or replacements; and
—technical assistance.

Current base appropriation estimates for fiscal year 2000 are $10.2 million. USDA does not anticipate requesting additional money from OMB in fiscal year 2000, however in the event of unforseen requirements, USDA will be able to request additional allocation from the fiscal year 1999 Supplemental, which is a three-year appropriation.

PRESIDENTIAL DECISION DIRECTIVE 63—PDD–63

Under Presidential Decision Directive 63 (PDD–63), federal agencies are to ensure the protection of critical infrastructures, which include critical information systems, telecommunications, and other essential services. To carry out this responsibility, agencies were to have developed a critical infrastructure protection plan by February 1, 1999. According to PDD–63, these plans are to be fully implemented by May 22, 2000.

Question. Has the Department completed its critical infrastructure protection plan? If so, what actions must USDA take to implement the plan?

Answer. The USDA Critical Infrastructure Assurance Plan CIAP—has been completed and is now in the final steps of Departmental review.

USDA's CIAP will follow the Vulnerability Framework prepared under contract for the national CIAO. It calls for a four staged analysis and corrective action strategy to identify and mitigate vulnerabilities to USDA's essential cyber infrastructure. In addition, it defines responsibilities for continued security assurance, it addresses the need for an on-going risk management program, and it identifies the basic requirements of a comprehensive Emergency Management Program to ensure the continuity of cyber support for the Department's vital program activities.

USDA is well positioned to implement this plan. The analysis and planning we have done to correct Y2K problems, optimize our telecommunications systems, and develop an information architecture will collectively serve as a solid baseline from which we will assess the broader array of security concerns. The procedures and policies we have in place to support our ongoing information system security program will provide additional detail necessary to assess our cyber infrastructure and determine what corrective actions are necessary to ensure its safety and integrity.

TIME FRAMES FOR IMPLEMENTING USDA'S CRITICAL INFRASTRUCTURE PROTECTION PLAN

Question. What are the time frames and overall costs for implementing USDA's critical infrastructure protection plan?

Answer. USDA's Critical Infrastructure Assurance PlanCIAP follows the Vulnerability Framework prepared under contract for the national Critical Infrastructure Assurance Office—CIAO. Our estimation of the time it will take to fully define all of USDA's essential cyber infrastructure, identify vulnerabilities of the systems, facilities and other assets of that infrastructure, and develop a mitigation strategy that will assure continuous operation is 16 months.

Much of the work called for in the early stages of our infrastructure assurance strategy will have already been accomplished through our efforts to correct Y2K problems, optimize our telecommunications networks, and develop an information architecture. Costs for these efforts will not be attributed to our infrastructure assurance initiative. Other costs will be borne, in large part, by our network of security and telecommunications specialist who work directly for our program agencies. Overall coordination will be provided by existing staff assigned to the Office of the Chief Information Officer.

USDA recognizes that critical infrastructure assurance requires specialized skills not readily available or resident within our technical community. For this reason, the Office of the Chief Information Offices has requested $500,000 in its fiscal year 2000 budget for security measures. These funds will be used to engage contract expertise in the areas of vulnerability assessment, intrusion detection, risk mitigation, and other critical infrastructure assurance plan tasks.

USDA INFORMATION TECHNOLOGY AND TELECOMMUNICATIONS EXPENDITURES FOR PDD–63

Question. How much is being spent to purchase new or upgrade existing information technology and telecommunications systems to comply with PDD–63?

Answer. At this time, it is too early to estimate the cost of the specific measures necessary to assure the security of USDA's critical cyber infrastructure, as required by PDD–63. USDA has developed a very methodical approach to defining its critical cyber assets, identifying existing and expected vulnerabilities and developing a corrective action plan. Much information must be assembled and much analysis must be performed prior to establishing a firm cost for complete USDA infrastructure assurance.

USDA INFORMATION TECHNOLOGY BUDGET

Financial Management Systems

Question. What is the status of USDA's effort to implement its single integrated financial management information system?

Answer. The Foundation Financial Information System—FFIS—is the cornerstone of the effort to implement a single integrated financial system. FFIS will replace the Central Accounting System—CAS—at NFC and will provide a Standard General Ledger for the financial management operations there. FFIS is being implemented in phases. Two agencies and two regions and one research station of the Forest Service are currently up on FFIS. The remainder of the Forest Service and the Food Safety and Inspection Service will be implemented on October 1, 1999. Other USDA agencies will be implemented in phases with the remaining agencies being implemented on October 1, 2002.

In addition, analysis of the use of a data warehouse is in process now. The warehouse will be implemented in phases and will first address FFIS reporting followed by the USDA consolidated financial statements. A full implementation schedule has not been developed for the warehouse pending outcome of the initial analysis task.

The Office of the Chief Financial Officer has reassessed the original Financial Information System Vision and Strategy—FISVIS—and believes that a "single integrated financial system" will be achieved through the sound integration of all financial management systems in the Department. The integrated system will be comprised of a data warehouse fed by multiple general ledger systems. The information contained in those systems used to feed the data warehouse will be used for reporting the more detailed information that is not available in the summarized information contained in the data warehouse. All of the systems involved must meet all applicable authoritative requirements, including the capture of information using standard data definitions and posting rules, and transactions that are traceable to the point of entry.

Question. How many agencies are currently using the single integrated financial management information system, and what are the time frames and milestones for having all USDA agencies use it?

Answer. The Office of the Chief Financial Officer—appropriated funds, Risk Management Agency—RMA—and two regions and one research center of the Forest Service have been implemented on FFIS. The remainder of the Forest Service and the Food Safety and Inspection Service will be implemented on October 1, 1999. Other USDA agencies will be implemented in phases with the remaining agencies being implemented on October 1, 2002.

Question. What does USDA plan to spend on developing and operating its integrated financial management information system in fiscal years 1999 and 2000?

Answer. The fiscal year 1999 estimate included in the President's budget is $26.9 million; the estimate for fiscal year 2000 is $32.9 million. As we proceed with the execution this year, we are finding that the fiscal year 1999 estimate can be reduced somewhat to $23.8 million. Further, we have adjusted the fiscal year 2000 estimate downward to $32.5 million. These new fiscal year 1999 and fiscal year 2000 costs are reflected in the project plan developed by the new project management team. The estimates do no include any costs the agencies will bare internally.

Question. What are USDA's latest life-cycle costs and time frames and milestones for fully implementing its single integrated financial management information system?

Answer. The new 5-year project plan covering fiscal year 1999 to fiscal year 2003 includes estimated project costs for that time period of $136.1 million. This covers full implementation of all USDA agencies by October 1, 2002, post-implementation requirements, as well as shutdown activities associated with the Central Accounting System—CAS.

NATIONAL AGRICULTURAL STATISTICS SERVICE

QUESTIONS SUBMITTED BY SENATOR COCHRAN

PUERTO RICO

Question. The budget proposes the addition of a NASS office in Puerto Rico and describes this establishment as a cooperative agreement. Please provide the amount of funds that the Puerto Rico Department of Agriculture will contribute to this cooperative agreement.

Answer. The Puerto Rico contribution to the cooperative program would exceed 50 percent of the total cost of the joint agricultural statistics program. The Puerto Rico Department of Agriculture would supply the office facilities and the majority of professional, clerical, and field staff. However, the Puerto Rico Department of Agriculture would not transfer direct funding to USDA.

The Government of Puerto Rico has requested that NASS establish a cooperative program with the Puerto Rico Department of Agriculture which would allow NASS to establish a joint Puerto Rico/USDA agricultural statistics office in San Juan. This partnership, which would operate similar to others that NASS maintains with State cooperators throughout the United States, would enhance Puerto Rico's current agricultural statistics program by combining the present Puerto Rico Department of Agriculture's Office of Statistics staff with staff assigned from NASS.

A partnership between the Puerto Rico Department of Agriculture and NASS would help to bring consistency and comparability between Puerto Rico agricultural data and the agricultural statistics collected and published for the 50 States. In addition, this office would plan and conduct the 2003 and future Censuses of Agriculture in Puerto Rico.

Question. Will this cooperative agreement obligate USDA for additional expenses associated with the census of agriculture?

Answer. Under this cooperative agreement, NASS would provide some data processing equipment as well as Federal personnel, including two agricultural statisticians and a data processor, but would not contribute direct funding.

FOOD SAFETY AND PESTICIDE USE SURVEYS

Question. The budget proposes an increase of $2,500,000 for a fruit and vegetable food safety survey and an increase of $1,600,000 for pesticide use data for the horticulture and greenhouse industries. Are other federal agencies contributing funds to fund these surveys? How do these programs differ from the Pesticide Data Program, which is not funded by NASS?

Answer. NASS does not anticipate receiving funding from other federal agencies in support of these survey efforts.

NASS currently collects survey data in support of the Pesticide Data Program. Pesticide use data are collected for field crops, fruit and vegetable crops (in alternate years), livestock, and general farm use, along with information on postharvest chemical applications on selected commodities. Related information is also gathered on Integrated Pest Management practices. The importance of these data collection efforts have been elevated due to the requirements of the Food Quality Protection Act (FQPA).

The $1.6 million requested for fiscal year 2000 would be used both to fill data gaps for additional commodities not covered under NASS's current program and to provide data important to scientists and researchers addressing issues related to

FQPA implementation. This initiative would enable NASS to conduct a pesticide use survey of the nursery and greenhouse industries, which are rapidly growing segments of agriculture, and would also allow for a significant expansion of current field crop, fruit, and vegetable programs to fulfill data needs of FQPA. This would be accomplished through a yearly survey rotation program. The increasing importance of pesticide use data has been reinforced through the refinement of risk assessments with the availability of "real world" data, as opposed to the use of assumptions of maximum usage of pesticides on all acres of commodities.

In alternating years, NASS would collect and publish comprehensive nursery and greenhouse pesticide use statistics at the State level for major States where nurseries and greenhouses are located. Pesticide use data are needed for these industries in order to fill the void in information about what pesticide products and quantities are used for producing various nursery and greenhouse plants. In addition, NASS would expand pesticide use data collection coverage for field crops such as dry beans and peas, canola, flaxseed, hops, lentils, mint, rice, rye, safflower, sorghum, sweet potatoes, artichokes, beets, brussel sprouts, garlic, kale, collards, mustard greens, okra, pumpkins, radishes, squash, and turnip greens. Included in the commodity expansion would be collection of additional data relative to target pests and preharvest intervals for pesticide applications. Through partnering with Michigan State University, the Environmental Protection Agency, and other end users, NASS has strived to address these emerging data needs as the chemical risk assessment process has matured.

The $2.5 million would be used to fund a survey of fresh fruit and vegetable growers and packers to establish a baseline of agricultural practices as they relate to food safety. These data would be used to address issues related to the President's Food Safety Initiative. The survey will be conducted in 14 States representing nearly 85 percent of the Nation's fresh fruit and vegetable acreage and will consist of core questions covering water, manure management, facility sanitation and hygiene, and transportation practices.

QUESTION SUBMITTED BY SENATOR BURNS

DATA FOR CROP INSURANCE PROGRAMS

Question. The estimated budget for fiscal year 2000 is cut by $8.4 million for the National Agricultural Statistics Service. This is an important service for ensuring accurate data is available for crop insurance purposes. In the past, not enough time or resources has been spent on the gathering or distribution of this data. How will USDA restore and increase this funding to provide assurance that a reliable data base is available?

Answer. The $8.4 million decline for fiscal year 2000 reflects the decrease in activity due to the cyclical nature of the census of agriculture program and does not reflect reductions to NASS base programs.

NASS supports the USDA crop insurance program through a cooperative agreement with the Risk Management Agency (RMA). Through this cooperative agreement, NASS provides county estimates for 21 crops which RMA requests annually in support of USDA's crop insurance programs. RMA utilizes NASS data in the administration of the Group Risk Plan. In addition, NASS data are used to formulate premium rates and transitional yields for determining insurance guarantees when little or no actual production history data are available from the producer. To the extent available, RMA also uses NASS data in the development of new crop programs and/or plans of insurance.

ECONOMIC RESEARCH SERVICE

QUESTIONS SUBMITTED BY SENATOR COCHRAN

FOOD ASSISTANCE PROGRAM STUDIES AND EVALUATIONS

Question. The Economic Research Service was given responsibility in fiscal year 1998 and again in fiscal year 1999 to manage the research program for the nation's food assistance programs. What was the underlying rational you used to guide setting up the program?

Answer. The first item on our agenda was to develop a set of guiding principles for program development and implementation. First, we wanted a program that addresses the research and information needs of clients—program managers, program participants, Congress, USDA, and the public. We believe integrated research in the

broader context of the current and future economic and social environment is critical. We also believe that a broad array of public and private entities should be directly involved in the research, evaluation, and review efforts and that integration of ERS staff expertise in the development, implementation, and accomplishment of research projects will add a new dimension to the program. As scientists, our approach is that all studies and evaluations should be rigorous and have verifiable and unbiased results. ERS standards demand rigorous internal and external review of results. It is an ERS policy that all data collected, to the extent possible, are publicly assessable and widely distributed—putting high quality information in the hands of everyone can only result in better decisions. Finally, the program would move toward the development and maintenance of continuous data sets. The latter will allow us to address issues in a more timely, accurate, and cost effective manner than relying on very tailored surveys designed to address a particular topic.

Question. Could you explain the process you used to identify research priority areas?

Answer. ERS has sought input from a broad constituency of policy officials, researchers, practitioners, advocates, industry groups, and service providers to identify and develop our research priorities. In January 1999, ERS convened a roundtable discussion with over 60 distinguished experts representing these various groups to obtain their individual opinions and perspectives. Participants included Julie Paradis, Deputy Under Secretary for Food and Consumer Services; Dr. Rebecca Blank from the President's Council of Economic Advisors; Dr. Pat Ruggles, Deputy Assistant Secretary for Human Policy Research at DHHS; Melinda Newport, the President of the National Association of WIC Directors; Barry Sackin, of the National Association of School Food Service Providers; Larry Goolsby, the American Public Human Services Association; and others.

Question. How has the Economic Research Service involved the Food and Nutrition Service, both this year and last year, in the determination of research priorities?

Answer. To ensure that the ERS program meets the policy information and research needs of the Department, ERS is working closely with Food and Nutrition Service (FNS) program and research leaders to identify needs and priorities. FNS has also been extensively involved in the development of contract requirements and the evaluation of deliverables. They have a capable and knowledgeable staff that has been helpful in our program implementation. Representatives from FNS have helped us refine our research agenda, served on technical review panels, and assisted with ongoing projects. Their assistance, advice, and knowledge of the programs certainly have helped us develop what we believe is a program for which everyone can be proud and take credit.

Question. What are the research priorities for fiscal year 1999?

Answer. We have identified 6 research themes for fiscal year 1999 as follows:

(1) WIC Program Research
(2) The Food Stamp Program as a Safety Net
(3) Better Serving the Working Poor
(4) Child Nutrition Programs
(5) Outcome-Based Performance Measures
(6) Research Innovation, Infrastructure, and Outreach

Highlights of the proposed program include research to stem the rising obesity in poor children served by the food programs, and research to understand why Food Stamp Program caseloads have declined more than expected. Other highlights include research on the role of the food assistance programs in establishing dietary patterns, analysis and measurement of food security, and research on nutrition and health outcomes associated with food programs.

Question. What staffing adjustments has the Economic Research Service made to run the research and evaluation program?

Answer. The food assistance research program has been given priority in ERS. Some of the most senior and capable staff have been assigned to manage and direct the program, many of whom have extensive experience in the food assistance research area. Staffing has been accomplished largely through reallocation of existing personnel. A small research office has been established in an ERS division to direct and coordinate the activities of more than 30 research scientists involved to various degrees in this research program. Two capable and knowledgeable senior researchers have been assigned to help direct the food stamp and child nutrition research agenda.

Question. Has ERS used any of the funds to support farm or other nonfood assistance research?

Answer. No. All funds appropriated for food assistance research and evaluation have been used to support food assistance and nutrition research. In fiscal year

1998, less than $100,000 was used to support program administration. The balance was used to support extramural research and data collections.

Question. What is your response to those who believe the ERS program is too academic?

Answer. The ERS research program is driven by policy issues and concerns of a critical nature to the nation. Our research outputs are designed to inform decisions by members of both the private and public-sectors. If decisionmakers are to be well-informed, then the information base must be credible. Credibility stems from a strong science base, which means meeting disciplinary standards for analytical rigor and reaching out to the best economists wherever they might be found. When appropriate, ERS and ERS-supported research is published in academic journals, a process that both helps ensure analytical rigor and that builds the Agency's reputation with the scholars and universities that produce the next generation of ERS researchers.

Question. Why did you start a small grants program?

Answer. A small grants program was created to stimulate new and innovative research on food assistance programs and to broaden the participation of social science scholars in food assistance research. Five academic institutions and affiliated research institutes administer the program. Each institute focuses on a particular facet of food assistance, such as, diet and health outcomes, relationships to poverty and well-being, rural issues, and special at-risk population groups. The expected completion date for fiscal 1998 projects is September, 1999. Research projects include:

The Institute for Research on Poverty at the University of Wisconsin is looking for proposals that address the effects of food assistance on individual and family well-being and food security. They were awarded $234,843.

The Joint Center for Poverty Research, University of Chicago and Northwestern University invites proposals on interactions between food assistance and other welfare programs, and linkages between the macroeconomy and food assistance. They were awarded $262,740.

The Southern Rural Development Center at Mississippi State University will focus food assistance research on rural people, families and communities in the South. The Center also proposes to initiate a dialogue among scholars through the establishment of a Rural South Food Assistance Research Task Force, with the purpose of further articulating research priorities on food assistance-related issues. They were awarded $220,000.

The University of Arizona American Indian Studies Program will work with scholars at tribal colleges and elsewhere to support research addressing the unique position and problems of Native Americans with respect to food assistance. Their small grants program will focus on the relationship between food assistance programs on reservations and family poverty. They were awarded $246,224.

The University of California-Davis Department of Nutrition will award small grants for research on the impact of food assistance programs on nutritional risk indicators (anthropometric, biochemical, clinical and dietary), food purchasing practices and food insecurity. This program will seek to encourage examinations of multiple indicators of nutrition impact, and interdisciplinary approaches integrating epidemiology, economics or anthropology with nutrition. They were awarded $225,024.

Question. What research is ERS conducting on Able Bodied Adults Without Dependents (ABAWDS) and Immigrants, two groups whose Food Stamp Program eligibility status were heavily impacted by welfare reform?

Answer. ERS has two studies underway that are focused on these groups. First, we have partnered with several agencies within the Department of Health and Human Services to fund a study of how the immigrant population is fairing under welfare reform. The project is being conducted by the Urban Institute. They are conducting a very thoughtful and thorough investigation of the immigrant populations in Los Angeles and New York City. The study is well underway.

Second, we have extensive studies underway on the status of people leaving the Food Stamp Program in Arizona, Illinois, Iowa, and South Carolina. These studies are looking not only at the ABAWDS, but also at the larger number of other people who are leaving the Food Stamp Program. We believe this approach will provide a more complete analysis and an improved understanding of the issues for decision makers.

Question. Why has the Economic Research Service placed more emphasis on the collection of continuous data sets?

Answer. ERS is committed to investing in broad-based, program and policy relevant data that addresses not only today's needs but also future unforeseen needs. These data tend to have less detail on any particular program but cover more programs and also tend to follow people for a number of years. In this way, we can

examine such issues as gaps in program coverage, performance measures of outcomes, multiple program participation, impacts on diets over one or more days, and how households utilize programs over an extended period of time.

We believe that one of the most cost-effective ways to achieve these research objectives is to partner with other federal data collection efforts and add important food assistance components. This includes support for expanding the low-income samples in the USDA Continuing Survey of Food Intake by Individuals, the DHHS Nutrition and Health Examination Survey (NHANES), and special supplements targeted to food assistance issues in the Panel Study of Income Dynamics and the Survey of Program Dynamics.

We also have a strong research interest in understanding the role of child nutrition programs in cognitive development. Consequently, we have added a food assistance module in the Department of Education's Early Childhood Longitudinal Survey-Kindergarten Cohort (ECLS-K) which follows children from kindergarten through fifth grade. These data will allow us to examine the relationship between program participation, cognitive development, school performance, and children's physical activities.

Question. The fiscal year 1999 Appropriations Act requires the Economic Research Service to transfer $2 million of the funds provided to it for studies of the food stamp, WIC, and child nutrition programs to the Food and Nutrition Service to enable it to conduct programmatic evaluations and analyses. Have those funds been transferred?

Answer. Yes. The Department sent an SF–1151, Nonexpenditure Transfer Authorization, to the U.S. Treasury in December 1998 to transfer the appropriated funds from ERS to the Food and Nutrition Service. The document was processed by the Treasury Department on January 18, 1999.

Question. For fiscal year 1999, the Economic Research Service was given responsibility for several Congressionally-mandated studies in the food assistance area. What is the status of each of those studies? Please indicate who is doing the study, the framework established for the study, when the study will be completed, costs, etc.

Answer. ERS was given responsibility this year for two legislatively mandated studies on the WIC program. One study is on the appropriate amounts of sugar and fiber in the diets of the WIC population and the impact on diets of the sugar limit in dried cereals. The other study is to assess the cost containment practices used by states (other than for infant formula) on access to the food items by participants, WIC voucher redemption, program participation, health outcomes, and program costs. As with all congressionally mandated studies, we have given these projects top priority.

ERS was directed to enlist the National Academy of Sciences to conduct the first study. We have been in contact with NAS, but they will not undertake this particular study. They said it is neither an issue of national significance nor does it require their unique capabilities. We are currently in discussions with the Under Secretary's office to develop a mutually acceptable alternative.

In reference to the cost containment study, we have met with representatives from the Private Label Manufacturers Association, General Mills, the National Association of WIC directors, and FNS. We are in the process of developing a competitive procurement to conduct the study. We expect the project to cost no more than $1.1 million in fiscal year 1999 funds for data collection and $400,000 in fiscal year 2000 for analysis and reporting. We expect the project to be completed within three years of contract award.

In early versions of the agriculture appropriation, ERS was directed to do a plate waste study for the National School Lunch Program. After it was learned that GAO had just completed such a study, the conference report language was changed to have the Secretary prepare a report on recommendations to reduce plate waste. FNS will prepare this report since it deals with program implementation.

FOOD SAFETY

Question. Funding of $453,000 was provided to ERS for fiscal year 1999 to provide economic analysis in food safety risk assessment. Has ERS begun this work with the funds available? What work is underway and what additional work will be undertaken with the additional $453,000 requested for fiscal year 2000?

Answer. ERS is continuing research on the costs associated with illnesses associated with seven pathogens in food. Starting with the estimated numbers of illnesses, and examining the nature and severity of the illness, ERS analysts have calculated the medical costs, based on the typical treatment needed for each type of illness. When the illness implied long-term disability or long-term care, the cost of that

long-term care, lost wages, and reduced productivity were also included. Estimates also take the age and gender distributions of each illness into account and for each pathogen both the short-term and long-term medical costs. The total annual costs for the seven pathogens is between $6.7 and $36 billion annually.

ERS is participating with other Federal agencies in both the National Food Safety Initiative and the President's Food Safety Initiative for Fresh Fruits and Vegetables. Under the National Food Safety Initiative, ERS is collaborating with the Agricultural Research Service, the Food Safety and Inspection Service (FSIS), Office of Risk Assessment and Cost/Benefit Analysis, and the Centers for Disease Control and Prevention (CDC). ERS is a member of the Risk Assessment Consortium established under the Initiative and this collaboration supports risk assessment activities relating to food safety policies. In collaborating with CDC and FSIS, ERS is using the "FoodNet" site surveillance data developed under the Initiative to develop better and more comprehensive estimates of the costs of foodborne disease and the benefits of pathogen reduction.

ERS is planning a three-year research program to improve our estimates of the benefits of food safety using the appropriation of $453,000 for fiscal year 1999. This research will be funded under a competitive grants process, where one or more research programs will be funded over three years to apply state-of-the-art economic analysis to estimate the benefits of making the U.S. food supply safer. We anticipate a final report will be completed in fiscal year 2002. ERS will also be updating and revising our existing estimates of the benefits of food safety in collaboration with the Food and Drug Administration and the Centers for Disease Control and Prevention through our collaborative research program established under the National Food Safety Initiative.

ERS is collaborating with several USDA and other Federal agencies on food safety economics research. We are collaborating with the Centers for Disease Control and Prevention on a study they are conducting on measuring food safety benefits. Our two agencies are working together to ensure that the joint research programs are complementary and do not result in duplicated effort. ERS is also collaborating with staff of USDA's Office of Risk Assessment and Cost/Benefit Analysis, the Food and Drug Administration, and the Environmental Protection Agency on joint research on measuring the benefits of safer food. We will be inviting scientists from collaborating agencies to provide scientific peer-review of the project proposals during the selection process, and will also seek input from them during the implementation of the research project.

In fiscal year 2000, we will continue our research program to estimate the benefits and costs of food safety policies and programs. The additional funding of $453,000 for fiscal year 2000 will support economic analysis in risk assessment activities. We will work with the Risk Assessment Consortium established under the National Food Safety Initiative to develop priorities for food safety risk reduction based on economic criteria. We will expand our knowledge of food safety benefits by studying the costs of foodborne disease linked to additional microbial pathogens using the FoodNet surveillance data. We will also be collaborating with FDA to evaluate the benefits and costs of production practices recommended by FDA under the Produce and Imported Food Safety Initiative.

OFFICE OF ENERGY POLICY AND NEW USES

Question. What work will not be performed by the ERS now that the Office of Energy has been transferred to the USDA Office of the Chief Economist?

Answer. With respect to electric utility deregulation research, ERS will not duplicate work underway or planned by the Office of Energy Policy and New Uses. As a result, if further work in this area is funded, we will rely heavily on the Office of Energy for policy analysis and expertise on electric utilities. ERS will continue to provide modeling and research expertise, and will increase its capacity to analyze the financing and delivery of electricity in rural America, but will not be the primary source of policy analysis on electric utility deregulation issues, those will fall to the Office of the Chief Economist.

ELECTRIC UTILITY DEREGULATION

Question. I understand that the Office of Energy, under the auspices of the Office of the Chief Economist, has done an internal study on electric utility deregulation at the request of USDA's Rural Utilities Service (RUS). Increased funding of $200,000 is requested for ERS for fiscal year 2000 for an interagency activity to expand the Department's capacity to assess the potential impacts of electric utility deregulation.

How much is ERS currently spending on assessments of the potential impacts of electric utility deregulation?

What research/economic analysis has ERS produced?

Why is additional research necessary if the Office of Energy has already done an internal study on the impacts of electric utility deregulation at the request of RUS?

Who will do this work at ERS? What involvement will the Office of Energy have? What involvement will RUS have?

What role will the Department of Energy have? Is the Department of Energy contributing financially to this effort?

Answer. At the request of USDA Rural Utility Service (RUS), and with their financial assistance, ERS undertook a preliminary assessment of the rural impacts of electric utility deregulation in fiscal year 1997. This work was led by the Office of Energy, which at the time was part of ERS. The research did involve other ERS researchers as well as data supplied by RUS and the Department of Energy. This initial effort has resulted in research that is currently being conducted for use by the Department to examine some of the potential impacts of deregulation at the national level. Recognizing that the electric utility deregulation process at the State, and possibly Federal, level will unfold over a number of years, ERS requested additional funds to help support a long-term research effort on the full range of issues surrounding deregulation. We view this as a collaborative effort, drawing on the modeling and analytic strengths of ERS, the policy expertise of the Office of Energy Policy and New Uses, now housed in the Office of the Chief Economist (OCE), and the program expertise of RUS. As a result, the work could also be funded through the OCE account, but we believe that long-term research on this issue is very important as policy makers at the State and Federal level contend with the complex issues involved. Answers to your specific questions follow:

With the creation and relocation of the Office of Energy Policy and New Uses, ERS reduced the number of staff working on energy-related issues. In fiscal year 1999, we expect to spend between $100 and $200 thousand on energy-related issues largely focusing on electric utility deregulation and biomass fuel.

Much of our work on electric utility deregulation has been in support of the research underway under the auspices of the OCE. In particular, the regional economic impacts of anticipated changes in electric rates were estimated using a model developed by ERS staff. In addition, a forthcoming issue of Rural Conditions and Trends, published by the agency, includes a short article on what electric utility deregulation could mean for rural America.

Work underway appears to raise legitimate concerns about the distributional impacts of electric utility deregulation, but it is only a first step. As State deregulation efforts have demonstrated, there are many ways of structuring the deregulation process, each with its own set of pricing and competitive impacts. The Department's preliminary research, which is not yet complete, only examines some of the potential impacts of one scenario for deregulating electric utilities. If the Department is to craft programs and policies which ensure that rural Americans have access to affordable, reliable, and safe electric power as the electric utility sector restructures in coming years, it will need a continuing flow of information and analysis. Given the sizeable loan programs the Department operates in support of rural electric cooperatives, it has an obligation to minimize potential loan losses as these key rural electric service providers are affected by, and react to, State and Federal deregulation efforts.

This research effort will continue to require the full cooperation of ERS, OCE, and RUS. None of these agencies, by itself, has the resources and expertise needed to study the full range of issues deregulation involves for rural households, businesses, and governments; investor-owned, municipal, and cooperative electric service providers; and USDA. Within ERS, staff with expertise on regional economic modeling, business finance, and industrial location will help assess the distributional impacts of electric rate changes on the rural economy. RUS will provide expertise and data on rural electric cooperatives and the USDA programs serving them. The Office of Energy Policy and New Uses within OCE will continue to provide policy analysis and spearhead the Department's electric utility deregulation work.

To date, USDA's research on electric utilities has relied upon the Department of Energy's (DOE) aggregate models. We will continue to rely on DOE's data and models as the starting point for our research on rural distributional impacts. DOE has not provided any financial support for USDA's electric utility deregulation research thus far, and none is anticipated in the future.

NATIONAL ASSESSMENT OF CLIMATE CHANGE AND VARIABILITY

Question. The fiscal year 2000 budget requests an increase of $300,000 for U.S. Global Change Research Program National Assessment Activities. Does $300,000 represent the total cost of these assessment activities?

Answer. The $300,000 requested by ERS for National Assessment activities is part of an $800,000 total budget request by USDA for fiscal year 2000, with the difference split between ARS and NRCS. The funding will be used to conduct economic analyses pertaining to the potential impacts of climate change and variability on agricultural production. These analyses were not undertaken in the first National Assessment due to time and financial constraints.

Assessments play an integrative role across the U.S. Global Change Research Program (USGCRP) program by assembling and synthesizing scientific results, increasing interaction among scientists and the public, and identifying gaps in knowledge. Assessments are also an important vehicle for disseminating information to public policy and decision making communities. The current National Assessment of the Consequences of Climate Variability and Change satisfies the mandate of the Global Change Research Act of 1990 to prepare and submit to the President and the Congress "an assessment which integrates, evaluates, and interprets the findings of the Program . . ." This Assessment is demonstrating a new public-private partnership that links research to the needs of stakeholders by providing managers, policy-makers, and the public with information needed to increase resilience to climate variability and cope with climate change. The current National Assessment is providing valuable information on the ability of agricultural and forestry systems to adapt to climate change. Fiscal year 2000 assessment activities will focus on continued efforts to involve USDA stakeholders in helping to identify risks, opportunities, research and information needs associated with increased climate variability, and climate change.

Question. Will Global Change Research Program National Assessment Activities related to USDA programs be carried out by ERS or is ERS requesting funding for government-wide assessment activities?

Answer. The funding requested by ERS will be used to sponsor USDA research activities pertaining to the impact of climate change and variability on agricultural production. ERS will coordinate its efforts with the USDA Global Change Program Office and other USDA agencies. While the research sponsored by ERS will be related to the goals of the National Assessment program, the funding request is intended to support the mission of ERS as it relates to global change activities.

OUTLOOK REPORTS

Question. How has ERS responded to the language in the reports accompanying the fiscal year 1999 Appropriations Act regarding the frequency of situation and outlook reports?

Answer. Beginning in January, 1999, ERS resumed publication of field crop and livestock reports on a monthly schedule. This is the same frequency as in 1996. There are 3 published reports in each of the specialty crop series—Fruit and Tree Nuts, Sugar, Tobacco, and Vegetables—compared to 4 in 1996. However, ERS is preparing electronic briefing rooms for these commodities that will provide a vehicle for more frequent release of data and analysis.

QUESTIONS SUBMITTED BY SENATOR COCHRAN

RURAL HOUSING

Question. A total of $500 million has been cut from rural housing direct loan subsidies over the last five years. The President's fiscal year 2000 budget cuts an additional $240 million in budget authority for the cost of these loans as well as rental assistance. The fiscal year 2000 budget request proposes an additional 10 percent increase, $2.5 billion, in HUD funding. If this amount is appropriated, HUD will have received a 2 year increase totaling approximately $6 billion. While some HUD resources make their way to rural areas, they are not adequate to meet the need for improved housing in rural America. Where is the $240 million in budget authority being spent in the fiscal year 2000 proposed budget?

Answer. I think it is important to put the reductions in budget authority for rural housing programs in the proper context. A large portion of the reduction in budget authority over the time period you referenced is due to the need for less budget authority as a result of lower interest rates. Another significant factor was the Congressional reduction of the funding for the rural rental housing program. The fiscal

year 2000 Budget requests $640 million for rental assistance with $200 million being available and, therefore, reflected as budget authority in fiscal year 2001. This was necessary to remain within the budget caps agreed to by the Administration and the Congress. In developing the President's fiscal year 2000 Budget, rural housing programs were not reduced in order to fund other specific programs.

Question. At a time when the HUD budget is increasing by 10 percent a year and there is an increased need for rural housing assistance, why isn't the Administration investing more in rural housing programs?

Answer. I think of the increases in HUD funding as an effort to recover from the disastrous cuts in these programs made during the Reagan Administration. The Administration would very much like to invest more in rural housing programs, but as I have said previously the primary objective is to continue efforts to ensure the budget is balanced and continue to meet the highest priority needs. This is a delicate balancing act, but one that is necessary because of the need to put our fiscal house in order. The Administration has, however, been able to provide substantially more guaranteed loan assistance for rural housing, which contributes to the amount of housing being built in rural America at very little government cost.

Question. There is a tremendous need of additional housing for migrant and seasonal farmworkers. What is the backlog for farmworker housing loans and grants?

Answer. We presently have on hand applications for loans and grants totaling $25.1 million. These applications are from the states of Pennsylvania, Texas, California, Washington, North Carolina, Florida and Oregon. However, we believe that this does not reflect the true demand because when we changed from allocating the funds to States and began nationwide competition borrowers ceased filing applications with States. When we announce the availability of funds in April, I think we will have a better idea of the true demand.

EARLY WARNING SYSTEMS

Question. Ms. Thompson's testimony indicates that $5 million of the funding for community facilities is earmarked to install severe weather early warning systems throughout rural areas. The total estimated cost is $50 million for all sites. The $5 million will finance the installation of the necessary equipment at 15 to 20 of the highest priority sites. Where are the "highest priority sites" located? How many sites have existing towers that can be used? Who will maintain these sites once the towers are in working order and what is their life span? What is the total number of sites that need service? What is the agencies goal for these sites in order to fulfill the Vice President's wish for 95 percent coverage of rural areas?

Answer. The highest priority sites tend to be located in the Southeast, Southwest, Great Plains, and Mid-Western states. The priority systems is designated by the National Weather Service (NWS), based on a number of variables such as population density, and severe weather occurrences. The Rural Utilities Service is in the process of helping identify existing towers owned by RUS borrowers or others in areas targeted by NWS for a transmitter. The number of tower sites is not yet known, and constantly increases due to the construction of new telecommunications, cellular, paging and other telecommunications services. RUS will target its borrowers with towers in the needed areas in order to maximize program monies and the number of sites funded. However, there will be some targeted areas in which towers do not exist.

Maintenance and liability of these transmitters and constructed towers will be assumed by the NWS, and supported through that appropriation. Customarily, an existing tower owner retains ownership of the tower space, but allows the NWS use for its transmitter. We envision a grant recipient (tower owner) purchasing and installing the transmitter, and donating the transmitter to NWS. This releases the tower owner from maintenance and liability.

Approximately 170 sites are needed to reach 95 percent coverage. RUS believes by utilizing its relationship with its borrowers and using grant monies to leverage donation of tower space, we can achieve this goal.

RURAL ELECTRIFICATION AND TELEPHONE PROGRAMS

Question. Ms. Thompson's testimony states that in the rural utilities area, a shift has occurred resulting in a move from initial connectivity to electric and telephone service to maintenance of an aging infrastructure. How many loans lent in RUS are for maintenance vs. initial connectivity?

Answer. Mr. Chairman, the point I was attempting to make in my statement is that even though the vast majority of rural residents today have access to electrical and telecommunications services, the programs we administer are just as needed now as they were in the 1930s and 1940s. The primary purposes of the loans today

are to maintain an infrastructure, upgrade the systems, and connect new customers. About 45 percent of the electric loans made to distribution borrowers are for maintenance and upgrades and the remainder are for connecting new customers. For the telecommunications programs the percentage of the funds used for new subscribers is about 27 percent.

Question. The fiscal year 2000 budget request proposes a new Treasury Rate Electric loan program. Has this legislation been sent to the authorizing Committees? If this new loan program is not authorized, how will this affect the budget authority request for other electric loans programs? Are the agency's customers demanding a new program such as the proposed Treasury rate program? Does the agency have any indication that its customers will use this new program?

Answer. The legislation is in clearance at the Office of Management and Budget and will be submitted to Congress in the near future. There will be no effect on the budget authority for other electric programs if this proposal is not enacted. Agency customers have expressed desire to move from the municipal rate program to avoid the long queue for loan approval to the guaranteed program, but have also expressed anxiety about dealing with the Federal Financing Bank because of the bad experiences of the generation and transmission borrowers with the FFB during the 1980's. They have also expressed anxiety about having to deal with two Federal bureaucracies, RUS and the FFB. We have absolutely no doubts the borrowers would use the new program.

RURAL TELEPHONE BANK

Question. The fiscal year 2000 budget request proposes privatization of the Rural Telephone Bank (RTB) over a ten year period. This authorization must be acted on by the Agriculture Committee, not the Appropriations Committee. Should this legislation not be enacted into law, how will this affect the budget authority for the RTB for fiscal year 2000?

Answer. This should have no effect on the budget authority for the fiscal year 2000 budget since the language appropriates the funds from the unobligated balances of the RTB liquidating account.

BUSINESS AND INDUSTRY LOANS

Question. The agency should be commended for its efforts in reducing the amount of outstanding principal delinquent and the percentage of borrowers delinquent within the business and industry loan guarantee program. What has contributed to this successful reduction?

Answer. The staff in the field offices realize that this program is important to rural America only if we make successful loans and because of that the staff works very closely with the borrowers and lenders to ensure the loans are successful. This attitude in turn leads to better loan underwriting which has been improved through more intensive training. I am very proud of the staff, and I agree, they are to be commended.

COOPERATIVE DEVELOPMENT GRANTS

Question. For rural cooperative development grants, the fiscal year 2000 budget request is $7 million, an increase of $3 million. How much of this additional funding will enhance technical assistance of small farmers and small farm operations in developing marketing and management skills? Is this assistance not available from the Extension Service?

Answer. I cannot give a precise answer as to how much of the funds will be made available for developing marketing assistance and management skills. This is going to be one of my highest priorities and applicants for the grants will be so notified of that priority through the Federal Register. This is a very important area because the most glaring weakness in small business start-ups is in marketing their products and I am convinced it will be the same for cooperatives. The Cooperative Research Educational Extension Service (CREES) does offer some assistance to producers and we will continue to use the capacity of CREES where appropriate as we develop new research products.

PARTNERSHIP TECHNICAL ASSISTANCE GRANTS

Question. Please discuss the need for a new earmark of up to $5 million from the rural business and cooperative development programs for partnership technical assistance grants to rural communities.

Answer. The majority of rural communities are dependent on part time public officials and voluntary help and they do not have the technical capacity to compete for

Federal and State assistance that might be available to them. They consistently lose in the competition for such assistance even though their need may be greater. Our staff provides as much assistance as possible, but the need is far greater than we can meet. In order to get these communities to the front of the queue for such assistance we need to have available a source of funds through which we can help these communities develop the capacity to compete more successfully. I think we have demonstrated through the Empowerment Zone/Enterprise Community that once this capacity is available, the traditionally under served communities compete very well.

COOPERATIVE RESEARCH AGREEMENTS

Question. How much funding is being used from the Salaries and Expense account in fiscal year 1998 and 1999 for cooperative related research through universities and other entities? Which universities and other entities are receiving this funding and how much is provided to each? When does the agency expect the research to be completed? How are the universities and other entities selected to conduct the research?

Answer. I will submit a list of the research agreements awarded in fiscal year 1998 for the record. The amount used for cooperative agreements in 1998 was $1.9 million and approximately $1.3 million will be used in 1999. Most of this research at universities will be completed within 3 years from initiation of the project. The normal procedure used for executing these projects is that an announcement is posted in the Federal Register and applicants submit projects based on the areas suggested. Proposals are rated by the agency according to established criteria in the announcement and are awarded competitively according to ratings received. Universities and other entities receiving funding under the Research on Rural Cooperative Opportunities and Problems program in fiscal year 1998 were as follows:

State	Institution	Title	Amount
NJ	Rutgers University	A Cooperative Approach to the Development, Production, and Marketing of a Value Added Blueberry Product.	$94,445
IA	Iowa State University	Agricultural Development in the 21st Century: The Changing Role of Cooperatives.	57,342
NY	Cornell University (with NE Small Farm Institute).	The Role of Small-Scale Growers' Cooperatives in Sustaining Northeast Agriculture.	69,854
MA	NE Small Farm Institute (with Cornell University).	The Role of Small-Scale Growers' Cooperatives in Sustaining Northeast Agriculture.	29,992
AR	University of Arkansas School of Law	A new Generation of Farmer Co-Ops: Defining & Redefining What It Means to be a Cooperative.	35,625
OR	Oregon State University	Cooperatives' Export/Import Arrangements for High-Valued Products.	50,779
MS	Mississippi State Univ	Role of Livestock Marketing Co-Ops in Southeast Cattle Production.	53,222
IN	Purdue University	Opportunities for Locally Owned Multiplant Grain Cooperatives with Identity Preserved Grains.	44,526
MO	University of Missouri	Redefining Ag Bargaining Co-Ops for the 21st Century: Solving the Free Rider problem.	44,526
IN	Purdue University	Structural Change in Cooperatives and Agribusiness: What are the Opportunities and Implications for Producers?.	53,819
CA	San Joaquin College of Law	''New Wave of Rural Agricultural Cooperatives.'' A Symposium Law Reviewed Issue.	48,750
WI	University of Wisconsin (with Iowa State University).	Cooperative Dairy Production Models: A Means for Rural Development.	76,930
KY	Center for Sustainable Systems (with Univ. of KY, Commodity Growers Co-op, & Natl. Farmers Union).	Six Decades of Cooperation: A Living Legacy Nurturing New Cooperatives or A Culture ''Up in Smoke?''.	95,000
KS	Kansas State University	Valuing Marketing Rights in New Generation Cooperatives.	86,330
WA	Washington State Univ	Financing Co-Ops Through Patron Demand Deposit Accounts: Future Prospects and Pitfalls.	35,799
MS	Alcorn State University	Economic Development in Rural Mississippi: What Is the Appropriate Role of Cooperatives?.	94,297
SC	South Carolina State Univ	Barriers to Small & New Farmer Membership in Agricultural Marketing Cooperatives in the Southeastern Region.	68,890

State	Institution	Title	Amount
ND	North Dakota State Univ. (with Univ of Wis. & Mont. State Univ.).	Assessment of Cooperative Board Training Programs and Needs and Development of Training Material.	40,185
WI	Univ. of Wis. Co-op Center (with ND State Univ. & Mont. State Univ.).	Assessment of Cooperative Board Training Programs and Needs and Development of Training Material.	31,680
MT	Mont. State Univ. (with Univ. of Wis. & ND State Univ.).	Assessment of Cooperative Board Training Programs and Needs and Development of Training Material.	24,975
FL	University of Florida	Optimal Scheduling of Farm-to-Plant Milk	66,600
IA	Iowa State University	Group Action Lessons from the History of a National Farm Organization.	25,000
IA	Iowa State University	Conferences on Rural Data Needs	10,000
WA	Washington State Univ.	Capacity Utilization Issues for Washington State Co-operatives.	15,000
	TOTAL		1,920,021

SUPPORT SERVICES BUREAU

Question. With the implementation of administrative convergence how much will Rural Development be expected to contribute to the Support Services Bureau? How will this affect each agency's salaries and expense budget?

Answer. Mr. Chairman, preliminary estimates are that the Rural Development Mission Area would transfer about 1,070 staff in headquarters, St. Louis, and the States and the cost would be in the neighborhood of $73 million. Following reorganization of the Department and the creation of the Rural Development Mission Area, we consolidated the administrative functions and placed those functions under the umbrella of the Rural Housing Service with sources being provide to all three agencies. Hence the effect on the salaries and expense budget of the other two agencies should be minimal since the monies for administrative personnel and functions are currently transferred to the Rural Housing Service under the policy oversight of the Deputy Under Secretary for Operations and Management and day to day operational oversight of the Deputy Administrator for Operations and Management.

SALARIES AND EXPENSES

Question. The fiscal year 2000 budget request proposes an increase of $25 million for the salaries and expenses account. How will this increase be used?

Answer. The requested increase is for three items: one totaling $14 million is pay cost increases composed of the annualization of the fiscal year 1999 pay increase and the increase anticipated for fiscal year 2000; another totaling $8 million is for improvements to our financial systems; and the third item is $2 million for a Housing Data Warehousing Initiative, the purpose of which is to improve loan origination, loan servicing, and loss mitigation by sharing information on loan portfolio management among the Federal Housing Administration, the Veterans Administration,, and the Government National Mortgage Association.

Regarding the first item, I would like to note that since my tenure as Under Secretary, we have tightened our belt continually on items such as travel, training, and information technology to ensure we had sufficient funds to maintain our staffing level and not be forced into adverse actions such as reductions-in-force and furloughs. In doing so we reduced training to a very low level, and disrupted several financial management improvement projects. The increases requested must be provided to avoid reductions in force.

WATER AND WASTE

Question. What is the backlog of applications for the Water 2000 initiative?

Answer. We do not maintain a separate backlog of applications for the Water 2000 initiative, those applications are part of the total backlog for water and waste disposal loans and grants which total about $4 billion combined.

RCAP UNOBLIGATED BALANCES

Question. Please list the amount of obligated and unobligated balances from prior year appropriations for the rural utilities assistance program. Why will the unobligated balances not be available for future obligation for the Rural Community Advancement Program (RCAP)?

Answer. Appropriations made to this account are made available until expended and any unobligated balance or future cancellation of obligated balances, other than those made appropriated for disaster recovery, are available for obligation for water

and waste disposal loans or grants. Appropriations to the Rural Utilities Assistance program began in fiscal year 1996 and as of the end of fiscal year 1998 the unobligated balances totaled $543,841 and the obligated balance totaled over $528 million. The totals for fiscal year 1997 for unobligated and obligated are $1,062,359 and $593,313,440, respectively. The totals for fiscal year 1997 include a small amount of funds made available for disaster assistance.

ELECTRIC AND TELECOMMUNICATION PROGRAMS

Question. Why is the Department requesting greater flexibility to manage electric and telecommunication loan programs by allowing the budget authority to be interchangeable for those programs?

Answer. Mr. Chairman, the demand for the loan programs, particularly the electric loan programs is increasing significantly, but it is not consistent from year to year for each of the programs. Having one source of budget authority for the electric programs, as opposed to three would enable the Administrator to adjust to demand annually and ensure the funds are used more effectively.

Question. The budget justification notes that the fiscal year 2000 requested lending levels for electric and telecommunication loans are justified to meet the Administration's goal to stimulate economic development and fulfill the variety of Administrative initiatives. What is the variety of Administration initiatives?

Answer. Mr. Chairman, the infrastructure provided through these programs is a vital key to economic stability and economic development in rural areas. Infrastructure investment provides the foundation for new economic activity and economic stimulation is the basis for the enactment of the programs we administer.

RURAL ECONOMIC DEVELOPMENT GRANTS

Question. The fiscal year 2000 budget proposes a decrease of $7 million for rural economic development grants. At the proposed level, how many grants will be available? What will be the average grant amount?

Answer. Mr. Chairman, the decrease results from the lack of funds in the "Cushion of Credit" account from which these grants are made. At the $7 million level requested, there would be as few as 20 grants made at an estimated average of $350,000 each.

QUESTIONS SUBMITTED BY SENATOR BURNS

RURAL ELECTRIC AND TELEPHONE PROGRAMS

Question. The funding for the Rural Utilities Service was cut by over $247 million, and within that agency, funding for telecommunications was cut by over $25 million. I have been a huge proponent of telecommunications in my home state of Montana. The Burns Telco center serves a large sector of the population of Montana. A cut like this can hurt telecommunications efforts immensely. How does USDA plan to restore funding to Rural Utilities?

Answer. Senator Burns, I think there must be some confusion in the budget numbers that I hope I can clarify. You are correct that the funding requested for telecommunications loans is $25 million less than fiscal year 1999, but there is an increase in Rural Telephone Bank loans of $18 million so the net effect is about $7 million less for telecommunication loans. Such reductions are necessary if we are to remain within the budget caps agreed to in 1997 by the Congress and the Administration. The reduction in electric and telecommunication loans totals only $67 million, and for the Rural Utilities Service the budget request is $142 million higher than fiscal year 1999.

EZ/EC GRANTS

Question. EZ/EC grants to states were cut by $15 million. These Rural Enterprise Zones and Rural Empowerment Communities are part of Vice-President Gore's empowerment zones. They are represented largely by Native Americans and enhance community development. How can the USDA justify this budget cut?

Answer. Senator, again I think there may be some confusion caused by the manner in which the budget material is presented. In fiscal year 1999, the $15 million for the rural Empowerment Zones and Enterprise Communities was part of the Agricultural Appropriations Act. However, for fiscal year 2000 the Administration is requesting $15 million in funding through the Social Security Block grant program, just as the first round of EZ/EC communities was funded. Our presentation of the

budget reflects only that the funding will not be available through the Agriculture Appropriations Committees.

RURAL BUSINESS-COOPERATIVE SERVICE

Question. Rural Business-Cooperative Service was cut by $4.6 million. How can the USDA justify this type of cut when Americans living in rural areas are currently in such a huge economic crisis?

Answer. Senator, the budget request for the Rural Business-Cooperative Service is an increase of $20 million in program level.

RURAL HOUSING SERVICE

Question. Rural Housing Service also suffered a huge budget cut. A decrease of $1.2 billion is proposed for fiscal year 2000. Again, people in rural areas cannot afford to have this important funding decreased. Montana is already at a disadvantage as the money is allocated to states based on a factor, which is based on population. Thus, those states with a low population, such as Montana, are not allocated nearly enough funding for the needs of their rural population. How will USDA replace funding for Rural Housing?

Answer. Senator, again I do not know what is causing the confusion with the budget material, but the budget requested for rural housing is over $600 million higher than the amount appropriated for fiscal year 1999. Regarding the allocation issue, the percent of rural population of a State is one of the factors used in allocating funds, and that factor is provided by the latest census information. We will be happy to look at the allocation formula to see if there is some adjustment that would be appropriate.

ALTERNATIVE AGRICULTURAL RESEARCH AND COMMERCIALIZATION CORPORATION

Question. In last year's testimony it was projected that the Alternative Agricultural Research and Commercialization Corporation (AARCC) would recover $300,000 in repayments but in actuality received over $450,000, well ahead of the projected return on investment. For fiscal year 1999 it is projected that payments will total $1.7 million. How much money has been recovered to date? Do you expect the payments to surpass the projections again this year?

Answer. The figures you state are correct, but are cumulative figures through the end of the fiscal year; i.e., the accumulated amount across all fiscal years since AARCC started operation in 1992. To date, repayments to the revolving fund total $840,120. Half way through this fiscal year, AARCC has received $389,204 in repayments and is on target to exceed its 1999 repayment plan of $800,000.

Question. With a lower appropriation level than anticipated in the past and a higher return last year, how does this affect the business plan that has been laid out over the next five or six years?

Answer. Long-term return on investment (ROI) has been affected. The ROI AARCC realizes today is generated by investments made five or six years ago. Future ROI will be affected by the deals done today. ROI in the outyears is expected to be less than anticipated in AARCC's business plan because reduced appropriations provided us with fewer funds to invest.

Question. In your 10-year business plan and your 10-year strategic plan you do not anticipate appropriations after fiscal year 2002. Have the plans changed?

Answer. No, AARCC anticipates no longer requiring appropriations beyond fiscal year 2002, provided we have sufficient ROI and appropriated income to continue to operate until then.

Question. In the fiscal year 2000 budget request of $10 million, Secretary Thompson indicated that six new agriculturally based products will be created. Can you tell me what new products are to be brought to market, the location of the new industries, and the number of jobs associated with each industry?

Answer. The job creation targets in AARCC's strategic and annual performance plans are projections based on past experience. AARCC data show that in the six years since inception, an average of one new job has been created for each $5,000 invested by AARCC. These new jobs are only possible because of the leveraging effect of AARCC investment capital, which has generated roughly $3.00 of private investment capital for every dollar invested by AARCC. Thus, it really takes a total investment of between $15,000–$20,000 to create one new job. With an appropriation of $10 million in fiscal year 2000, AARCC could anticipate helping to create 486 new jobs. The nature and location of the industries in which these jobs might appear depends on which proposals are approved for funding by AARCC's Board of Directors. If past trends continue, the demand for AARCC assistance will far out-

strip the corporation's investment resources. In fiscal year 1998, AARCC project funding totaled $5.2 million; requests exceeded $27 million.

Question. If the fiscal year 2000 budget request of $10 million is not appropriated, how would this affect the marketing of these new products?

Answer. Existing portfolio companies would receive no additional assistance from AARCC in bringing new products to market, or in expanding their presence in the marketplace. In most cases, help from AARCC is the only outside assistance these companies can count on since traditional sources of credit are unavailable to them as start-up or development-stage companies seeking to commercialize new and unfamiliar products.

Question. It has come to my attention that there tends to be three or four core companies that seem to be the most profitable. Please provide more about the companies that have the greatest return on investment.

Answer. It is usually the case in venture capital funds that three or four key investments generate most of a portfolio's ROI. But this is judging ROI in strictly financial terms. Because AARCC has a broader mandate than private sector venture capital firms, the AARC Corporation's strategy considers much more than profit. In pursuing AARCC's investment strategy, no one variable—ROI, job creation, or agricultural material used—has priority. Investment decisions are made after weighing these three factors in order to maintain a balance in the portfolio. In judging AARCC's portfolio investments against these three factors, six companies appear to have made the greatest strides toward commercial levels of production. An overview of these six companies follows:

Automotive Lubricants from Vegetable Oil

This company, in partnership with a Michigan oil seed growers cooperative and Michigan State University, recently formed a limited liability company (LLC) to begin the licensed production and sale of soy-based engine oil. A processing plant is tentatively scheduled to begin operation in 2–4 months.

The engine oil is currently undergoing a battery of tests as part of certification program. Testing is being conducted according to American Petroleum Institute (API) standards and should be completed by the end of the year. Concurrently, the product is being tested as part of a motor pool fleet trial sponsored by the State of Michigan.

The U.S. Navy has just completed the initial round of two-phased evaluation of the engine oil. The Phase I evaluation involved a year-long cost comparison of the company's product, petroleum oil, and synthetic lubricants. Preliminary results from life cycle cost analyses show an annual cost savings of 10–15 percent versus petroleum-based motor oil. Cost savings compared to synthetic lubricants was considerably smaller, however. The Phase II evaluation will test product performance for environmental, safety, and health benefits as compared to petroleum based and synthetic products. Once both phases of the evaluation are complete, and provided satisfactory results are obtained, an implementation plan will be developed for service-wide adoption of the product in military motor pools.

Nutraceuticals from Corn Syrup

Late last year this Minnesota-based company arranged with a contract fermentation company to toll-manufacture a dietary supplement product made from corn syrup. Two fermentations have been successfully completed following the company's patented purification process. Final product is ready for packaging and distribution.

The company has signed and exclusive U.S. sales and distribution agreement with a major branded food products company and in January fulfilled its first substantial purchase order under the contract. A second purchase order has been received and is being filled.

A marketing and public relations program is being developed to promote the benefits of the company's product to the neutraceutical industry. Additionally, a market research and consulting firm has been retained to consult on product positioning within the marketplace.

By mid-summer, the company expects to officially introduce its dietary supplement product to the European market. For several months, the company has been in negotiations with a large food and nutraceutical ingredient manufacturer in The Netherlands over an exclusive sales and distribution agreement for Europe. Concurrently, the company has retained a Dutch regulatory consulting firm to manage its regulatory affairs in Europe. Documentation for European regulatory approval has been submitted and approval is expected by early summer.

Ethanol from Wood Waste and Energy Crops

AARCC's first two rounds of investment helped this Arkansas company prove its biomass-to-ethanol conversion technology and helped fund the construction and ini-

tial operation of its Phase I pilot plant. The pilot plant demonstration was completed in September, using wood waste as the biomass feedstock. Processing costs have proven to be competitive with gasoline on a per gallon basis.

Having demonstrated quantifiable production volume and costs, the company is now ready to pursue Phase II of its strategic plan—the construction of a semi-commercial production facility. AARCC's most recent round of investment provided the funds to complete a financing package (through USDA's Business & Industry Loan Guaranty program) and engineering feasibility study for the new facility, and to secure ethanol purchase agreements.

Commercial Applications for Milkweed (Syriaca) Floss

For the first time in its eleven year history, this Nebraska company reported a positive net income in 1998. The company has built its business in two areas—Syriaca (Milkweed) processing, and milkweed floss comforters and pillows.

1998 was a year of continued sales growth (12 percent) for the company. Comforters and pillows are sold primarily through catalog companies, however distribution has expanded recently to include mainstream retailers. The hypoallergenic properties of ground syriaca clusters have captured the interest of a cosmetics manufacturer, whose director of research & development recently visited the company to assess its capability to produce ground syriaca is sufficient quantities to meet its needs. Applications for syriaca oil are also being explored.

Citrus-based Household Cleaners and Solvents

This Connecticut company manufactures cleaners and solvents derived from citrus peal and other natural materials. The company experienced a 10 percent increase in sales in 1998 and is the only AARCC-funded company to receive a GSA contract following the USDA sponsored National Marketplace for the Environment trade show held in Washington in November 1997. The company is in the process of obtaining a Federal stock number.

Last year, the company retained a New York City advertising agency to develop a new branded image and advertising campaign for its products. Focus groups were organized to obtain consumer feedback about product effectiveness and packaging. Changes are now being incorporated into the product line as a result. A series of infomercials are being developed for the Home Shopping Network and similar cable-access, and internet-based retailing operations.

Fiberboard furniture and flooring panels from soy straw

Construction of this company's new, commercial scale fiberboard manufacturing facility in Mankato, Minnesota, is nearly complete. The company is scheduled to begin manufacturing operations on May 3 of this year. Upon start-up, the Mankato facility will be the lowest capital cost fiberboard plant operating in North America, with a cost per square foot of output that is almost half the industry average. The facility will be the only one of its kind capable of using multiple fiber sources with multiple resins to create a variety of panelized products. Of the plant's annual capacity of 45 million board feet, the company has received letters of intent from customers expressing an interest in purchasing an initial 48 million board feet.

The company is being considered for a multi-million dollar investment by a group of investors interested in building an identical facility in California's rice-producing Sacramento Valley.

Question. Are procedures in place to determine that investees use AARCC funds as they are intended and, if so, what are they? Have these procedures been delayed?

Answer. AARCC is in the process of refining its internal control procedures with the help of an outside CPA firm. An updated set of internal control procedures is expected to be available by mid-summer.

Question. It is required by the AARCC agreements and the investees that audited financial statements are to be submitted. Are there any policies or procedures for performing credit checks, background investigations, or gathering references concerning the investees?

Answer. In its March 27–28, 1996, meeting, the AARCC Board of Directors made changes in the reporting requirements of companies receiving AARCC funds. The Board voted to require project update reports and financial reports to be submitted on an annual, instead of semi-annual basis. Also, the Board voted to require projects to have, as directed by the Board, a CPA audit to be conducted annually or an unaudited, signed financial statement prepared in accordance with Generally Accepted Accounting Principles (GAAP) and supplemented by corporate tax returns. AARCC has initiated a process of credit and background investigations on new and renewal applicants. This process relies on on-line credit information obtained through Dunn & Bradstreet business information reports and Experian credit reports.

Question. Do you require disclosures by AARCC investees that may also do business with other companies that are affiliated with AARCC?

Answer. AARCC's Board of Directors has approved a procedure as part of a recent investment approval, to assign responsibility back to the Board of Directors of AARCC-funded companies to annually review and certify that any non-arms-length transactions occurring among or between parent and/or subsidiary company(ies) are made at prices that do not disadvantage the company AARCC is invested in. These certifications must identify any non-arms-length transactions by type and amount, and the services rendered through the transaction. They must also identify the cost of those same services in an actual arms-length transaction so as to demonstrate that such costs would have been equal or greater and that, consequently, the AARCC-funded company was not disadvantaged by the transaction.

Question. Does AARCC have adequate control to assure that the Government receives the royalties and repayments that it is due? Please explain.

Answer. In its March 27–28, 1996, meeting, the AARCC Board of Directors made changes in the reporting requirements of companies receiving AARCC funds. The Board voted to require projects to have, as directed by the Board, a CPA audit to be conducted annually or an unaudited, signed financial statement prepared in accordance with Generally Accepted Accounting Principles (GAAP) and supplemented by corporate tax returns. These documents are used to verify sales reports that are the basis for calculating royalties due to AARCC.

During monitoring visits or phone calls, AARCC personnel try to obtain as much information as possible about the accounting and technical aspects of an investment. Information is gathered on how much AARCC money has been spent to date and what tasks from the company's own business plan have been accomplished with that money. Regarding the technical aspects of an investment, information is gathered about what is needed to make the project successful, what obstacles to success have arisen, what alternative approaches might be pursued, and what help AARCC might provide to move the project forward.

Question. Is a security interest required on assets that are purchased with AARCC loan funds? Please explain.

Answer. AARCC funds are typically used to make equity investments. AARCC purchases shares of stock in the companies it invests in. These companies in turn use the proceeds of the AARCC investment to purchase equipment that is then collateralized for working capital loans. This is exactly what AARCC intends for these companies to do. The value of AARCC's shares in the company is increased when AARCC funds are used to leverage additional working capital for the company.

Question. Are there any instances that a project received more funds than requested? If so, why?

Answer. Yes, there have been cases in which a project was funded at a level higher than that which was requested. This happens if AARCC's Board of Directors feels that an entrepreneur has underestimated that amount of capital required to commercialize his or her technology or product line. Given the broader experience of the Board members, they are often able to identify potential shortfalls in projected capital requirements. Most entrepreneurs are conservative in preparing their business plans, and it is our experience that they underestimate future expenses.

Question. Do all grants that are submitted have to go through a competitive bidding process?

Answer. Yes, as a rule grants must be competitively bid, but there are a few exceptions. Some grants have been awarded under AARCC's authority to support educational activities which promote the biobased economy. Occasionally, AARCC has provided grants to companies to enable their participation in trade shows or similar activities that enhance the profile of the company's products. In other instances, after an investment proposal has been reviewed and approved, a grant has been made to finance feasibility testing for a given product or technology on the condition that if the product or technology proves viable and can be successfully commercialized, the grant funds convert to a recoverable investment later on. In all cases, grant proposals are reviewed by the Due Diligence Committee of the AARCC Board of Directors.

ANIMAL AND PLANT HEALTH INSPECTION SERVICE

QUESTIONS SUBMITTED BY SENATOR COCHRAN

STERILE FRUIT FLY RELEASE PROGRAM

The fiscal year 2000 budget request proposes a $2.2 million increase for the fruit fly exclusion and detection program. Dr. Reed's statement indicates this money will be used to strengthened detection and control trapping activities in Florida and California.

Question. How much funding has each state, Florida and California, received for the sterile medfly release program in fiscal year 1999?

Answer. APHIS and the California Department of Food Agriculture (CDFA) operate a sterile Medfly Preventive Release Program (PRP) over a 2,155-square mile area of Los Angeles, Orange, Riverside, and San Bernadino Counties. The PRP is designed to prevent the development of Medfly infestations and to limit the geographic size of any infestations that may manage to start. The PRP releases a minimum of 125,000 sterile Medflies per square mile per week over the PRP zone. An additional 125,000 sterile Medflies per square mile per week is released over a high-risk area in central Los Angeles. Total program costs for fiscal year 1999 are estimated at $14.6 million which is shared equally between APHIS and the CDFA. APHIS' contribution of $7.3 million is funded from annual appropriations in the fruit fly exclusion and detection line item.

APHIS and the State of Florida are currently conducting an area-wide sterile release program as part of the emergency eradication effort in Florida. The Florida sterile release program covers a 700-square mile area that includes portions of Manatee, Sarasota, Hillsborough, and Dade Counties. APHIS' program costs are estimated to be $7 million in fiscal year 1999. The Agency has $5.1 million available from CCC emergency funds for fiscal year 1999 program costs.

Question. How much do they get in the proposed fiscal year 2000 budget for sterile medfly release programs?

Answer. The proposed fiscal year 2000 budget includes $7.3 million to continue the ongoing PRP in California.

Question. How successful has the release of sterile medflies been in addressing the outbreaks in California?

Answer. Prior to the 1994 implementation of an area-wide sterile release program as part of a Medfly eradication program, the Los Angeles area experienced annual Medfly outbreaks. Since 1994, however, only 1 Medfly outbreak has occurred within the PRP boundaries which encompass 2,155-square miles in the Los Angeles basin area of California. Despite this outbreak, APHIS considers the PRP a very effective program for several reasons. First, the constant layer of sterile flies provided through the PRP helps limit the size and spread of any potential outbreak. Second, smaller scale outbreaks that do occur can be addressed using less intrusive control methods such as limited Malathion bait applications and increased sterile fly releases. The current California medfly outbreaks are located outside the PRP boundaries in Orange, San Diego, and Riverside Counties.

Question. How much money is earmarked for trapping of the fruit fly in Florida and in California in the fiscal year 2000 budget request?

Answer. The majority of the proposed $2.2 million increase—approximately $1.9 million—is earmarked for the cooperative trapping program in Florida while approximately $334,000 of the increase would be used to enhance the cooperative trapping program in California.

MALATHION AERIAL SPRAYING

The Environmental Protection Agency (EPA) has told APHIS that the use of Malathion must be minimized.

Question. Does EPA indicate how much Malathion the agency can use, if any? Should the agency not receive this additional funding, how will the agency reduce the use of Malathion?

Answer. EPA has indicated that they would like the Agency to use Malathion only as a "last resort" especially aerial applications over urban areas. In October 1998, APHIS submitted to EPA an application for a quarantine exemption for the use of Malathion in certain fruit fly emergency situations. The application is pending.

The additional funding would be used primarily to increase survey activities to national fruit fly trapping protocol levels. Early detection of outbreaks allows APHIS and cooperators more options in the selection of control actions, often eliminating the need for aerial applications of pesticides. Without an effective early detection

system, APHIS and cooperators will not likely be able to reduce use of aerially-applied pesticides like Malathion.

Question. What progress has been made to eliminate Malathion aerial sprays to control Medflies and other exotic fruit flies?

Answer. APHIS in cooperation with Agricultural Research Service (ARS) and State scientists are developing alternatives to Malathion aerial sprays including more environmentally-acceptable chemicals. In April 1999, APHIS applied for a quarantine exemption for Spinosad, a "natural" pesticide, which research indicates may achieve eradication when used in conjunction with sterile releases. Suredye, another more environmentally-acceptable pesticide, also shows promise and is being field tested in Guatemala and Hawaii.

The public, however, will likely have concerns about aerial applications of any pesticide in urban areas. To address this concern, APHIS and cooperators continue to enhance the sterile insect release technology. New, more efficient male-only genetic strains were used in eradication programs for the first time in 1997 in Florida and in 1998 in California. There have been positive preliminary results of tests of biocontrol agents in combination with sterile Medflies for Medfly control in Guatemala. However, additional development is needed before this technology is ready for program use. Also, APHIS is planning to modify and enhance our Waimanalo rearing facility to produce new genetic strains of Medfly and incorporate current and future advances in genetic transformations to control Medfly.

FRUIT FLY EXCLUSION AND DETECTION—SUREDYE

Question. It is my understanding that USDA has evaluated a product called "SureDye" for use in Medfly Control. What is the status of these evaluations? Has the product been approved?

Answer. USDA has evaluated several photoactive dyes for control of Medfly and other fruit flies. Various formulations of two of these dyes, phloxine B and uranine, have been sold under the trade name SureDye by PhotoDye International. These dyes are a promising potential alternative to Malathion for fruit fly control, but they have not yet been approved by the EPA which is responsible for pesticide registration.

Question. Has the ARS evaluated this product?

Answer. Yes. The Agricultural Research Service is very active in the development and evaluation of photoactive dyes for fruit fly control.

Question. How would you describe APHIS' relationship with the manufacturer of "SureDye," PhotoDye International?

Answer. APHIS has been a client of PhotoDye International since 1995 and has purchased SureDye for use in field trials.

Question. Please compare the safety of "SureDye" versus other control methods. Is "SureDye" essentially the same product used as a food additive?

Answer. Phloxine B and uranine, sold by PhotoDye International under the trade name SureDye, are available as dyes approved by the Food and Drug Administration (FDA) for cosmetics and pharmaceuticals. However, FDA approval does not imply that these products are safe for use as pesticides. The EPA is responsible for evaluating the risks of pesticides. EPA has not yet registered SureDye.

Question. It is my understanding that APHIS conducted a very small test of the "SureDye" bait last fall. Please provide a brief summary of the test size, protocols used, and test results.

Answer. In November 1998, APHIS conducted two tests in Guatemala using field cages. ARS developed the procedures for these tests to evaluate the efficacy of photoactive dyes under field conditions.

The first test compared SureDye against Malathion and a nontoxic control. Each test consisted of 100 insects in a field cage with 30 ml of SureDye on a coffee bush. No additional food or water was provided for the test insects. Exposure to the SureDye began at 9 a.m. and mortality was measured every 2 hours until 4 p.m. and then again the next morning at 9 a.m. The test ran six replicates. The SureDye showed low percent kill when compared to Malathion and was only marginally better than the nontoxic control.

A second test, using the same protocol, was conducted to compare the SureDye with previous formulations of photoactive dyes tested in Guatemala. This test confirmed the relative efficacy of the previous photoactive dye formulations and the lack of efficacy of the SureDye provided by PhotoDye International.

Question. Describe the difference between an "8-hour test protocol" used by APHIS and a "72-hour test protocol" preferred by the makers of "SureDye." Given the toxicity of Malathion, why is one test protocol preferred over the other?

Answer. APHIS does not use an "8-hour test protocol." In laboratory tests of photoactive dyes, the test insects are placed in small Plexiglas cages, provided food and water, exposed to measured amounts of photoactive dyes or other test pesticides, and observed for up to 72 hours. Photoactive dyes, unlike normal pesticides, can take much longer to kill the test insects. In the November 1998 tests, APHIS used a 24-hour field cage test developed by ARS to evaluate the efficacy of photoactive dyes in field conditions. Although observations in these cages were limited to the daytime periods between 8 a.m. and 4 p.m., when light conditions are optimal, observations were made over a 24 hour period. Observations did not extend beyond 24 hours due to the lack of alternative food or water for the test insects.

KARNAL BUNT

Question. Dr. Reed's statement indicates that over $33 million has been provided to mitigate producer and handler losses from Karnal bunt since the program began in March 1996. How much of this money has been distributed to Arizona wheat producers for their economic loss for the 1997–1998 crop due to Karnal bunt? Have rules been published regarding the economic compensation of these farmers? If not, when do you expect them to be published? Why has the agency not submitted a plan for deregulation of Karnal bunt in Arizona as the Conference Report accompanying the fiscal year 1999 Appropriation Act directs?

Answer. The $33 million figure does not include any payments for losses for the 1997–98 crop due to Karnal Bunt. The final rule will make compensation available to these farmers for the 1997–98 crop season and we expect this final rule to be published soon. Concerning deregulation, we submitted our initial plan on November 15, 1998, and continue to meet regularly with representatives of the Arizona wheat industry and Arizona regulatory agencies. For the 1999 harvest season, we have published a proposal in the Federal Register in which we would greatly reduce the size of the existing regulated areas and allow the planting of wheat in plowdown, traceback, and bunted kernel fields. We intend for a final rule based on that proposal to be published in time to provide relief for the crop that will be harvested in May, June, and July.

ACCELERATED PSEUDORABIES ERADICATION PLAN

Question. It has been reported that by mid-January, USDA's accelerated pseudorabies eradication plan has had only 65 hog producers enroll totaling nearly 104,000 hogs. In mid-January, USDA reported that 1.9 million head of hogs are infected with pseudorabies. Why has there been little enrollment in this eradication program? When do you expect that the sign-up for this program will be finished?

Answer. As of April 9, 1999, 344 herds have been depopulated, involving 412,803 hogs. APHIS expects approximately 50 more producers to participate. Some producers chose not to enroll in the accelerated program because they are under contract with slaughtering plants to provide a certain number of hogs in a certain time period. Legislation in some States requires that their facilities be kept inactive for a period of 30 days following cleanup and disinfection. This requirement could interfere with their ability to fulfill their contract. These producers feel that breaking their current contracts may jeopardize their ability to secure such contracts in the future. Other producers' herds are close to pseudorabies-free because of the mandatory testing and removal standards developed by the cooperative APHIS/State/industry pseudorabies program. If only finishing hogs (which go to slaughter) and not breeding hogs are infected, they are reluctant to lose their investment in the genetics of their herds by participating in the accelerated eradication. They feel that their herds will soon be pseudorabies free without participation. Also, hog prices have risen since the original crisis, reducing the economic incentive for producers to participate in the voluntary program. Despite these obstacles, the accelerated program continues to reduce the number of known pseudorabies infected herds.

Producers will be able to sign up for the accelerated eradication program until July 15, 1999. APHIS expects that the vast majority of producers who decide to participate will sign up by the end of April 1999.

U.S.-PANAMA SCREWWORM COMMISSION

Question. How is the Joint U.S.-Panama Commission for the Eradication of Screwworm funded?

Answer. Eighty-five percent of the Joint Commission's funding comes from contributions made by the United States Government. The remaining 15 percent is supported by contributions made by the government of Panama. In 1994, USDA signed an agreement with the Panama's Ministry of Agriculture and Livestock Develop-

ment to create the Commission, to initiate operations in Panama, and to construct and operate a sterile fly facility to maintain a permanent biological barrier.

Question. Will the U.S. cooperative share be funded through the APHIS budget?

Answer. Yes. The U.S. share is funded through the APHIS screwworm line item.

NATIONAL FARM ANIMAL IDENTIFICATION AND RECORDS PROJECT

Question. What is the cost of each fiscal years 1999 and 2000 of the National Farm Animal Identification and Records (FAIR) pilot project? Which industry groups are working with APHIS on this pilot program? How were the States participating in this program chosen?

Answer. APHIS is contributing $500,000 in fiscal year 1999 for the F.A.I.R. pilot project. A similar amount is projected for fiscal year 2000. APHIS is working with the Holstein Association, the Dairy Herd Improvement Association, and the National Association of Animal Breeders on this pilot project. The project also has the support of the United States Animal Health Association and the Livestock Conservation Institute. The States of California, New York, Pennsylvania, and Wisconsin were chosen because of the significant dairy industries in these states and the ability of the states to control animal movements (through the use of limited slaughter markets and establishments).

BRUCELLOSIS

Question. How much additional funding is USDA and the Department of Interior (DOI) using to develop a safe and effective brucellosis vaccine for wildlife?

Answer. For fiscal year 1999, APHIS expects to fund one brucella vaccine research study for $20,000. The study involves RB51 field trials in feral swine in South Carolina. APHIS is also aware of several ongoing ARS brucella vaccine research studies. The USDA and DOI are scheduled to meet in the last half of fiscal year 1999 to establish a consolidated approach to prioritizing and funding brucella vaccine research needs. In addition, ARS has included an increase of $1,000,000 in the fiscal year 2000 President's budget to develop a vaccine for brucellosis in wildlife.

Question. Please update the Committee regarding the construction and operation of the bison quarantine facility.

Answer. Discussions are currently taking place between the State of Montana and APHIS regarding the location of the bison quarantine facility in Yellowstone. A final decision on the location is pending the outcome of the Environmental Impact Statement (EIS). The EIS includes seven separate alternatives for managing bison in the park. The National Park Service (NPS) is expected to make a final decision on the EIS in June 2000.

WILDLIFE SERVICES

Question. Dr. Reed's statement indicates that the gray wolf recovery program has succeeded beyond expectations. Is there a possibility of overpopulation? If yes, how is the agency addressing this problem?

Answer. Gray wolf populations in the United States continue to expand. In August 1974, the Eastern Gray Wolf was classified as an endangered species. At the time, the Minnesota wolf population was estimated at 500–1,000 animals and occupied a range of approximately 19,000 square miles. The Minnesota wolf population is increasing at an annual rate of 3 to 5 percent and expanding its range considerably. By 1996, the population reached an estimated 2,200–2,300 wolves which had expanded their range to more than 39,000 square miles. APHIS' Wildlife Services (WS) verified 145 incidents of wolf predation on domestic animals in Minnesota in fiscal year 1998 and captured 166 wolves. Presently, the wolf population in Minnesota has reached such proportions that the U.S. Fish and Wildlife Service (FWS) is considering removing the wolf from the endangered species list.

In Wisconsin, FWS may also remove the gray wolf from the endangered species list because the population is increasing to the point where the State Wildlife Agency is preparing management plans. WS investigated 32 complaints of wolf depredations in fiscal year 1998, an increase of almost 100 percent from fiscal year 1997, and captured 3 animals.

Gray wolves began moving back into northwestern Montana from Canada in the mid-1980s. This naturally occurring population of wolves is well established and its size has approached 100 animals at various times. Some wolves have been removed from the population after they repeatedly killed livestock. The population currently consists of about 45 animals. In addition to this naturally occurring population, the FWS captured 29 wolves in Canada in 1995, 37 wolves in 1996, and released them into Yellowstone National Park and central Idaho. These wolves are considered nonessential experimental populations, and both are increasing. There are now well

over 100 wolves in each area. In the next few years, the wolf population in the Northern Rockies area may also reach population levels that will warrant FWS consideration for removal from the endangered species list.

Formal rules and plans direct that WS will deal with wolves that damage livestock. WS verifies wolf damage to livestock, captures depredating wolves as directed by the FWS, mediates conflicts between agencies and resource owners, disseminates information to the livestock community and the general public, and provides training to people who work with wolves that damage livestock.

Wolf recovery in Montana and reintroduction into Idaho and Wyoming have impacted WS' ability to conduct routine livestock protection activities. Restrictions on the use of traditional methods of control where wolves may exist have hampered APHIS' ability to manage coyote damage to livestock. There has been a significant increase in work to verify potential cases of wolf predation and to deal with instances of confirmed wolf damage. The fiscal year 1999 Congressional directive of $175,000 did not include new money.

In addition to this $175,000, another $72,000 is expected to be needed in fiscal year 1999 due to the increasing wolf populations in Montana, Idaho, and Wyoming, and related dispersal activities. A wolf from Idaho recently dispersed into Oregon, and its presence impacted WS ability to conduct routine wildlife damage management activities in that State. WS biologists expect more wolves to disperse from both the Idaho and Yellowstone recovery areas later this spring. Oregon livestock producers are concerned about their ability to protect their livestock. WS expects a significant increase in work load in Wyoming, Montana, Idaho, and Oregon associated with these dispersals.

The presence of naturally occurring populations and introduced experimental populations in the same general area with the potential for intermixing also creates difficulty for livestock owners and WS field personnel. The damage management control for each of these populations is governed by different regulatory requirements; the inability for WS personnel to distinguish between these two populations may make it difficult to provide services to ranchers and farmers in the area.

In Minnesota, where wolf control work is conducted solely with APHIS funding of about $250,000 per year, APHIS spent an additional $30,000 in fiscal year 1998, and total costs in this State are expected to be $380,000 in fiscal year 1999. In addition, wolf expansion into Wisconsin is projected to cost approximately $15,000 in fiscal year 1999 due to increasing populations.

ANIMAL WELFARE

Question. Please breakdown all costs associated with the implementation of the Animal Welfare Act. Please indicate shortfalls in this area?

[The information follows:]

AWA Implementation Costs

[Fiscal year 1999 estimated]

Inspection Activities (Includes Travel Expenses)	
Dealer Inspections	$3,394,291
Research Inspections	1,523,968
Exhibitor Inspections	1,731,781
Carrier/Handler Inspections	277,085
Subtotal	6,927,125
Licensing/Record Keeping	619,313
Other Activities:	
Enforcement Action	203,570
Search Unlicensed/Unregistered	77,357
Educational Services	1,347,635
Subtotal	1,628,562
Total	9,175,000

Since 1992, the Animal Welfare Act (AWA) appropriation has remained constant. Inspections to ensure minimal standards of care has declined from 17,764 in 1992 to 10,709 in 1998, without any reduction in the number of animals or number of animal sites (approximately 10,400) requiring inspection oversight.

Every facility needs at least one annual inspection to ensure minimal standards are met and to remind the licensee/registrants of their responsibilities under the AWA. Past history suggests that over 45 percent of the facilities will have some degree of noncompliance observed during an inspection, with some of these needing reinspection to ensure correction of problems that have, or are likely to have, a detrimental effect on the well-being of the animals. Several of the problem facilities may require up to 4 inspections per year just to ensure correction of life threatening situations. With 10,400 sites (7,773 facilities) to inspect, it is estimated that AC needs to conduct at least 17,120 inspections per year to ensure minimal standards of care.

Sites requiring one inspection	10,400
45 percent of the 10,400 sites will have violations and require at least 1 more inspection. 10 percent of the 10,400 sites will require 2 or more inspections	6,720
Total number of inspections that should be conducted	17,120

With a current short fall of 6,411 inspections at an approximate cost of $551 per inspection, Animal Care needs an additional $3.5 million to ensure minimal levels of animal well-being at the facilities currently regulated under the AWA.

Question. How many inspectors are currently conducting inspections in fiscal year 1999?

Answer. There are 69 inspectors in fiscal year 1999.

Question. How many facilities are they inspecting per year?

Answer. In fiscal year 1998, there were approximately 10,709 compliance inspections and 1,579 pre-license inspections conducted at 7,773 facilities.

Question. How many facilities should be inspected at least annually?

Answer. There are 7,773 facilities that APHIS should be conducting 16,000 compliance inspections and 1,600 to 2,000 pre-license inspections per year. For maximum compliance, each facility should average two inspections per year. Facilities with greater number of violations need up to four inspections per year while those with no violations can be inspected every other year.

Question. How many field inspectors are supported by the fiscal year 2000 proposed budget?

Answer. The proposed fiscal year 2000 budget supports 69 field inspectors.

Question. Should the agency rule that rats and mice bred for use in research and birds be treated like other animals, will more inspectors be needed to enforce the ruling?

Answer. Yes, it is estimated that APHIS will need to hire an additional 34 veterinarians and 16 animal health technicians, to conduct inspections of facilities that deal with rats, mice, and birds.

SWIM WITH THE DOLPHINS

Question. When does the agency expect to fully implement the provisions of the final rule regarding the swim-with-the-dolphin regulations?

Answer. As a result of the continuing concerns expressed by several regulated parties over multiple components of the final rule to regulate human dolphin interactive programs, including wading programs, the Agency has initiated the process to suspend enforcement of the rule and solicit additional public comment prior to moving ahead with any new rulemaking for these programs.

HORSE PROTECTION

Question. Please explain the modifications made to the current Horse Protection Strategic Plan after working with the six Horse Industry Officials.

Answer. The Horse Protection Act (HPA) Operating Plan for the 1999 Horse Show Season (Operating Plan) was issued on February 12, 1999, to expand on the procedures outlined in the Horse Protection Strategic Plan. The Operating Plan is organized into nine components and covers items such as APHIS and HIO responsibilities; certification of HIO designated qualified person (DQP) programs; inspections; compliance with 9 CFR 11.3 (the scar rule); HIO sanctions for HPA violations; conflict resolution; and regulatory changes.

APHIS through the Strategic Plan transferred the initial enforcement responsibility to the various DQP programs. However in doing so, APHIS has not relinquished its authority for enforcing the HPA. APHIS will conduct inspections at HIO sanctioned events to determine whether or not the DQP's are successfully detecting sore horses and other violations of the Horse Protection Regulations. The HIO's will be responsible for demonstrating that the DQP programs are properly identifying

these violations and applying appropriate penalties. APHIS will review, evaluate, and certify the DQP programs. Because confusion has arisen between the DQP programs and APHIS regarding the proper detection of violations of HPA based on 9 CFR 11.3 (the scar rule), APHIS has also included procedures in the operating plan for the detection of noncompliance with the scar rule.

Violations of the HPA and the regulations are under the jurisdiction of the Hearing Committee of each HIO. The Hearing Committee will enforce the schedule of penalties in the operation plan for violations. APHIS will encourage employees to resolve conflicts with DQPs at the local level. Disagreements that cannot be resolved at the local or regional level will be elevated to the HIO Chair or President and the APHIS Deputy Administrator for Animal Care. APHIS will provide a final decision to the HIO within 60 days.

APHIS has asked each HIO to develop reasonable plans for eliminating scarring. If this cannot be accomplished, APHIS may consider proposing an amendment to 9 CFR 11.3 that would provide that any horse exhibiting active, visible bilateral evidence of abuse on any foot area above the hoof shall be deemed to be "sore" under the HPA. In this scenario, APHIS would exempt all horses born before 1998 that exhibit old scar tissue.

NATIONAL MONITORING AND RESIDUE ANALYSIS LABORATORY

Question. Please list the other USDA agencies and entities with which the (National Monitoring and Residue Analysis Laboratory (NMRAL) in Gulfport, Mississippi does reimbursable work. Please list the reimbursements received by each. Will any other agency programs be located at this facility in Gulfport? If not, what will be done with the additional space available since relocation of agency employees to North Carolina has occurred? What amount of funding is proposed for fiscal year 2000 for NMRAL?

Answer. This year at NMRAL, we expect to receive approximately $50,000 from the Boll Weevil Eradication Foundations for analyzing environmental samples for insecticides used in the eradication program. In addition, we expect to receive approximately $100,000 from the Farm Service Agency for analyzing samples from a variety of commodities and approximately $8,500 from the Agricultural Marketing Service for analyzing soybean samples. Our imported fire ant methods development program is conducted at the Gulfport facility as well. Also, we are currently evaluating the feasibility of increasing staffing in the methods development unit to perform work on agricultural quarantine inspection technology. Approximately $1.6 million is proposed for fiscal year 2000 for NMRAL.

APHIS Y2K SYSTEMS

Question. At the first of January APHIS reported that 2 systems, the Licensing of the Registration Information System and the Integrated Systems Upgrade Project, are behind in the Y2K government-wide goals. Please provide an update of the agency's activities to prepare these two systems for the year 2000.

Answer. The Licensing and Registration Information System has been remediated, tested, and implemented in the three Regional Offices of the Animal Care Program. APHIS certified the system as Y2K compliant on March 31, 1999. The Integrated Systems Upgrade Project was certified as Y2K compliant on April 29, 1999. After reporting that these systems were falling behind schedule, the Agency allocated additional in-house and contractor resources to both efforts to accelerate progress.

SAFETY OF APHIS PERSONNEL

Question. In the 2000 budget request, how does the agency address the safety of personnel at state and field offices?

Answer. APHIS has taken and continues to undertake a wide range of activities to address and ensure the safety of personnel at State and field offices. Safety is a serious matter for APHIS, in light of the event that occurred in Oklahoma City in 1985, in which APHIS lost seven employees, as well as several other incidents including fire bombings in Washington State, and office break-ins and takeovers in New Mexico and Arizona. In accordance with the Department of Justice (DOJ) report, Vulnerability Assessment of Federal Facilities, the APHIS National Security Program (NSP) team is surveying all APHIS offices to ascertain vulnerability risks, and to determine appropriate security measures for each existing location as well as future ones. To date, over 250 APHIS field offices have responded to the self-assessment survey which are being evaluated by the NSP team. The APHIS-NSP team is currently involved in several major agency wide projects including assisting in the development of an emergency management preparedness plan; an emergency

management operations center; a workplace violence prevention program; an Agency-appointed bioterrorism coordinator, and an Agency-wide Continuity of Operations plan.

AGRICULTURAL QUARANTINE INSPECTION USER FEES

Question. What is the current balance of the Agricultural Quarantine Inspection user fee reserve program?

Answer. The fiscal year 1999 beginning-of-year total balance of the Agricultural Quarantine Inspection user fee reserve account was $30.5 million. Of this total, $14.7 million was unencumbered. However, current projections estimate an end-of-year unencumbered balance of $3.9 million for fiscal year 1999.

CONTINGENCY FUND

Question. What is the current balance of the Contingency Fund?

Answer. As of April 9, 1999, the balance of the Contingency Fund is $3,710,306.

JOHNE'S DISEASE

Question. What threat is Johne's Disease to the U.S. dairy cattle industry? How much funding in the fiscal year 2000 budget request is proposed for the establishment of a certification and control program for Johne's?

Answer. Johne's disease is a contagious bacterial disease of the intestinal tract. The disease occurs in a wide variety of animals but most often in ruminants, especially dairy cattle. The risk to dairy cattle is high because the transmission of the disease favors the close quarters of the animals. Cattle infected with this disease usually develop diarrhea, rapid weight loss, and a loss in milk production. Johne's disease is estimated to cost dairy farmers $1.5 billion annually in reduced milk production. In northern States such as Minnesota, Michigan, New York, Ohio, Pennsylvania, and Wisconsin, it has been estimated that 30 percent of the dairy cattle herds are infected with this disease. The fiscal year 2000 President's budget includes $1.5 million for a Johne's disease certification and control program.

NATIONAL ANIMAL HEALTH EMERGENCY MANAGEMENT SYSTEM

Question. Please outline the agency's proposal to create the national animal health emergency management system program and provide a breakdown of the fiscal year 2000 budget request of $1.2 million for this program.

Answer. The proposed program is designed to enhance USDA's primary responsibility to protect the Nation's food supply and animal populations from disease events, both accidental or intentional, that could negatively impact the economic status of the food supply and/or the livestock and poultry industries.

APHIS is requesting $1.2 million to develop an infrastructure to better position APHIS to provide the public and animal industry with a counter-terrorism force; developing disease detection and reporting systems; and promoting and strengthening partnerships with other Federal and State Agencies including the Federal Bureau of Investigation and the Federal Emergency Management Agency. Approximately $500,000 will be used to support 6 program positions. Another $300,000 will be used for systems development, software, and computer equipment. The remaining $400,000 will be used to conduct training courses on biological warfare and decontamination procedures and to provide funds for cooperative research efforts.

ASIAN LONG-HORNED BEETLE

Question. Will the fiscal year 2000 budget request of $2.1 million for the eradication program of the Asian Long-horned Beetle (ALB) be sufficient to meet the needs of the program in Chicago and New York? If this requested amount is not sufficient, how much additional funding is required?

Answer. The $2.1 million request will certainly help us control this devastating pest and prevent its further spread. We expect to remove all known infected trees by May 1999. If no additional infected trees are found, this amount is likely to be sufficient.

INVASIVE ALIEN PLANTS

Question. What need is there for a new national rapid assessment and response system for invasive alien plants in the U.S. and how will the fiscal year 2000 budget request of $1.7 million be used to create this system?

Answer. The development of a national early warning and rapid response system would be a critical component in our efforts to minimize the economic and ecological

impacts of introduced invasive plants under the new presidential executive order on invasive species. In addition, it would be crucial to the establishment of an effective noxious weeds prevention and control strategy for the United States. We will use the $1.7 million increase to begin establishing a Federal Interagency Rapid Response Weed Team; an APHIS Regional Weed Team team to determine Agency priorities regarding weed prevention and eradication; State-level Interagency invasive species councils to establish invasive plant prevention, eradication, and management priorities in each State, as part of an overall State strategy for invasive species; and State Weed Detection and Reporting Networks in association with the State Councils. The extent to which the national early warning and rapid response system will be implemented in fiscal year 2000 will be based in large part on State cooperation in developing local, State, and Regional partnerships to facilitate interagency action on invasive species.

Question. The Committee has consistently expressed concern about the growing problem associated with fish-eating birds which cause economic damages to farm-raising catfish operations. Please provide a detailed summary of the extent and scope of this problem, including the progress that is being made toward addressing the issues identified. Has the agency identified additional needs which are not currently being addressed, in terms of confronting bird depredation problems in the farm-raised catfish industry?

Answer. Aquaculturists report that fish-eating birds cause significant economic losses, with some operations reporting one year losses in excess of $200,000. In the lower Mississippi Valley, cormorants cause losses of more than $17 million to catfish operations each year. With cormorant populations increasing throughout their range at the rate of approximately 8 percent per year, these losses can be expected to increase. Cormorants have also been found nesting in the lower Mississippi Valley, adding to the potential impacts to aquaculture operations.

APHIS' Wildlife Services (WS) provides assistance to aquaculture producers in Alabama, Florida, and Mississippi. WS biologists conduct on-site evaluations to assess damage and make control equipment available to producers. If exclusionary and scaring techniques fail to reduce losses, producers may now take limited numbers of birds by lethal means under authority of a cormorant depredation order, developed by the Fish and Wildlife Service with WS cooperation. WS was an active participant in the roost dispersal program conducted to move roosting sites from producing areas to sites along the Mississippi River. Last year's efforts resulted in the dispersal of 70 percent of cormorants from catfish producing ponds.

WS is aware of the need for increased wildlife damage assistance for catfish farmers in the southern United States and has a research field station in Starkville, Mississippi, which conducts studies to improve current control methods and develop new ones. Catfish production areas in southern Georgia and northern Florida are experiencing increased levels of depredation by fish-eating birds, including herons and egrets. Many of these production facilities are small farms and are unable to sustain heavy operating losses due to wildlife damage. Additional WS personnel are needed to establish an active presence and to provide on-site technical assistance and develop cormorant damage management plans.

Question. The Committee believes that interagency coordination should increase between USFWS and APHIS. How can these two agencies address bird problems in a more orderly, effective, and ecologically responsible manner?

Answer. A major step in the coordination between APHIS and FWS was the effort to develop and implement a cormorant depredation order, which provides a more effective and efficient method of allowing producers to implement control actions. Both Agencies cooperate on research studies on the ecology, behavior, food habits, and migratory patterns of various fish-eating birds, which includes ongoing surveys to determine population status and trends on fish-eating birds migrating and nesting in the Mississippi River valley. Further progress can be made by cooperating in the development and implementation of a cormorant management plan that includes cormorant population dynamics from the upper Great Lakes to the Gulf of Mexico and the relationship to cormorant population status and trends in the Northeast. APHIS will work with FWS in the northeast to identify areas that experience difficulties with fish-eating birds. A review of activities in the northeast should include a consideration of the possibility of expanding the current cormorant depredation order to include states beyond the Southeast.

In addition, APHIS continues to provide technical and on-the-ground support to the public under the constraints imposed by the Migratory Bird Treaty Act. APHIS is currently working with FWS to streamline the resident Canada goose permitting process to assist our customers in receiving more efficient and cost effective support from FWS, which is the permitting Agency. APHIS provided FWS with information on damage caused by resident geese. FWS developed an environmental assessment

and asked for public comment on a special purpose, resident Canada goose permit. Based on the results of this environmental analysis, FWS proposed a modification of permit regulations to allow a more liberal approach by State wildlife agencies for controlling resident goose damage. In the absence of a migratory bird permitting process for Federal agencies, APHIS continues to consult with FWS before implementing wildlife damage management control activities for resident Canada geese. In addition, APHIS continues to work with FWS on the development of a long-term, flyway based strategic plan for resident goose management which will address resident goose damage nationwide.

BRUCELLOSIS

Question. Last year the Department anticipated that all 50 states would reach a brucellosis Class "Free" status by the end of 1998. Have all 50 states achieved this status? Which states have not achieved this status? How have the bison carrying brucellosis which wander beyond the boundaries of the Yellowstone affected this goal?

Answer. The established program goal was to have no affected herds and all states qualifying for Class Free status by the end of 1998. APHIS nearly reached this goal with only four affected cattle herds and one affected bison herd. In addition, 43 states had achieved Class Free status and 4 States (Florida, Kansas, Louisiana, and Oklahoma) were in the qualifying stage for Class Free status. The remaining three States, Missouri, South Dakota and Texas, were expected to be in the qualifying stage for Class Free status by the end of fiscal year 1999. Due to a newly affected herd being discovered in March 1999, the State of Oklahoma must reenter the qualifying stage and be disease free for one full year before they can reach Class Free status. The YNP bison have not affected this goal.

NATIONAL POULTRY IMPROVEMENT PROGRAM

Question. How much does the fiscal year 2000 budget propose for the National Poultry Improvement Program? How does this compare to the fiscal year 1999 appropriated level?

Answer. The budget request contains approximately $260,000 for the National Poultry Improvement Program. Funding for fiscal year 1999 is at a similar level.

BIOTECHNOLOGY

Question. How much is proposed in the fiscal year 2000 budget for the Biotechnology Products Regulatory Division of APHIS? Is this amount adequate to fulfill the unit's statutory responsibilities? How many new crop variety approvals did the agency approve in 1998? How many applications are estimated for approval in 1999?

Answer. Our fiscal year 2000 budget request includes approximately $5 million for biotechnology regulatory activities. Although this amount should be adequate to fulfill our statutory responsibilities, an ever-increasing demand for our services will create significant challenges for us as we struggle to keep pace with the projected continuous, rapid growth of biotechnology in agriculture. In fiscal year 1998, we regulated the field testing of two new crop plant varieties and expect to regulate the introduction of four new varieties this year. The addition of four new plant varieties will bring the total number of different genetically modified varieties of plants field tested in the U.S. to 56. Of greater importance, though, is that we made 1,799 regulatory decisions on genetically engineered crops. Included in this figure is 1,073 release notifications and permits that we issued at over 5,000 sites nationwide. These release notifications and permits represent over 25 percent of all field releases ever made. Also in fiscal year 1998, we processed several more petitions for determination of regulatory status than in fiscal year 1997. Processing these petitions is the last USDA regulatory step for the commercialization of genetically modified crop plants. Adding to this increased workload is the "determination extension process", which will significantly increase the document handling workload by fiscal year 2000. This streamlined petitioning process involves deregulating an organism which is similar to but not identical to an organism that has previously been deregulated. To help fund our costs associated with the expected workload increase, we have proposed user fees in the amount of $5.36 million. This proposal is designed to achieve full cost recovery for our biotechnology activities associated with the permitting process, field inspections, and the increase proposed for the biotechnology permits unit. Since service being provided by this activity benefits a limited and clearly defined group of people, it is appropriate that they rather than the general taxpayer pay for these services through a user fee.

MANAGEMENT AND OVERHEAD EXPENSES

Question. APHIS does not receive a separate appropriation for its management and overhead expenses. How are these costs funded? Please provide an accounting of management and overhead expenses for fiscal year 1998.

Answer. Because APHIS does not receive a separate appropriation for management and overhead expenses, funding for these costs are allocated to the various line items available to the agency, including appropriations, user fees, reimbursements, and trust fund receipts. As shown in the following table, management and overhead expenses totaled $77.7 million in fiscal year 1998, with total availability from all sources of approximately $613 million. APHIS' support costs fall into two categories: Agency support and program support. Agency support includes budget, finance, personnel, procurement, contracting, Congressional relations, public information, rulemaking, planning, policy development, program evaluation, civil rights enforcement and compliance, equal employment opportunity counseling, and Central Services which include National Safety and Health Council, headquarters security, labor, and copier maintenance services. Agency support costs are assessed to each budget line item on a proportional basis, except for the Information Systems Acquisition Project, the contingency fund, emergency transfers, and the Buildings and Facilities appropriation, which are exempted. Program support costs are funded by each individual unit from within its available funds, and may include regional offices in the field and an office of the Deputy Administrator and Resource Management Support at headquarters.

MANAGEMENT AND OVERHEAD COSTS—FISCAL YEAR 1998

[In thousands of dollars]

Cost Center	Agency Support	Program Support	Total funding
Plant health programs		17,881	17,881
Animal health programs		13,252	13,252
Wildlife Services		4,553	4,553
International Services		3,635	3,635
Animal Care		1,574	1,574
Investigative and Enforcement Services		783	783
Office of the Administrator Staff	2,181		2,181
Civil rights Enforcement and Compliance	1,138		1,138
Equal Opportunity Employment Counseling	527		527
Information technology support	167		167
Congressional relations and public information	3,445		3,445
Budget, finance, personnel, procurement, and contracting	16,678		16,678
Employee development and training	3,795	1,400	5,195
Policy, program planning and evaluation, regulatory support	5,510		5,510
Headquarters Central Services	1,148		1,148
Total, APHIS	34,589	43,078	77,667

Note: Excludes approximately $7.2 million in available funds and support costs performed for Agricultural Marketing Service and Grain Inspection and Packers and Stockyears Administration on a reimbursable basis.

PINK BOLLWORM

The National Cotton Council, along with growers in Arizona, are proposing an eradication program for the pink bollworm to begin in 2000 and complete in 2004. They are requesting an increase for APHIS of $5 million over the fiscal year 1999 level to facilitate increased production of sterile moths at the Phoenix facility and to allow APHIS to provide important technical oversight of the program.

Question. Why does the fiscal year 2000 President's budget not propose an increase to instigate a pink bollworm eradication program?

Answer. Current budget constraints and more pressing program needs prevented us from doing so. However, we remain confident that this type of program can succeed, particularly with the increased use of Bt cotton, and may consider it again along with other program priorities.

Question. Is this increase adequate to support the work that the National Cotton Council has proposed?

Answer. A $5 million increase, together with contributions from cotton growers, would be adequate to support this work. Our contribution would represent 30 percent of the total projected first year costs and the growers' contribution would represent 70 percent.

Question. Is it possible to eradicate the pink bollworm as they have proposed in their plan?

Answer. Yes, it is. This strategy has yielded extremely promising results in smaller scale projects; we would expect similar results from an area-wide program.

QUESTIONS SUBMITTED BY SENATOR BURNS

BRUCELLOSIS

Question. The APHIS budget was cut by $9 million in the fiscal year 2000 budget. APHIS is responsible for numerous important projects to the State of Montana. Funding for the brucellosis vaccine research is among those projects. Brucellosis remains a threat to the health and well-being of livestock in the bordering Yellowstone National Park (YNP). YNP will continue to serve as a reservoir for brucellosis unless it can be adequately managed or appropriate measures are taken. Considering that over 1.5 million people visit YNP annually and come into close proximity to wildlife and wildlife secretions, brucellosis poses an obvious threat not only to livestock and bison, but is also an issue of human biosafety. How does USDA expect to solve this problem when the APHIS budget is cut?

Answer. One of APHIS' greatest achievements has been the success of the brucellosis program. Through cooperative efforts between Federal and State governments and industry and careful herd management, the last pockets of infection are being eliminated from domestic livestock. At the end of fiscal year 1998, only 8 herds remained under quarantine. As a result of this success, the Agency will be able to reduce disease management activities in domestic cattle in fiscal year 2000 including tracebacks, investigations, vaccinations, and depopulation. The reduction in the brucellosis management program should not impact the Agency's activities in YNP.

As long as wildlife in YNP continues to serve as a reservoir for brucellosis, there will always be concern that the disease could be reintroduced in the country's livestock population. For this reason, APHIS will continue to conduct monitoring and surveillance activities from the Agency's animal health monitoring and surveillance program. This continued surveillance and testing will allow APHIS to detect and quickly eliminate the disease should it spread into the livestock population.

Public health issues, including educating Park visitors to the threat of brucellosis, have been addressed in the Environmental Impact Statement (EIS). The EIS includes seven separate alternatives that could be implemented by the National Park Service (NPS) in the management of bison in YNP. Until a final decision is made on the EIS, APHIS' long-term role in managing brucellosis in YNP will remain undetermined.

WILDLIFE SERVICES

Question. APHIS also serves as the agency for Wildlife Services which is extremely important to livestock producers in the state of Montana. $175,000, which was earmarked for the purchase of a new helicopter for Wildlife Services, was cut out of the APHIS budget. How will USDA restore this valuable funding to Montana livestock producers depending on it for the welfare of their animals?

Answer. The fiscal year 1999 Congressional directive of $175,000 for wolf control in Montana was not accompanied with additional appropriated funds. APHIS is addressing the directive through a contingency fund release.

AGRICULTURAL MARKETING SERVICE

QUESTIONS SUBMITTED BY SENATOR COCHRAN

PESTICIDE DATA PROGRAM

Question. The budget proposes an increase of $911,000 for the development of a program that monitors pesticide residues in meat, poultry, eggs and drinking water. Is this data collection currently conducted by any other federal agency? What jurisdiction or responsibility does USDA have to monitor drinking water? Why is this

not done by the EPA? How does this program differ from the pesticide data program?

Answer. The USDA's Food Safety and Inspection Service (FSIS) has regulatory authority over meat, poultry, and egg products. FSIS' compliance program is oriented towards enforcement of tolerances (maximum allowable pesticide residues in or on foods); therefore, their data, although appropriate for enforcement, have limited usefulness in population-based evaluations. FSIS' data are not statistically representative of the overall residue situation for a given slaughter class, pesticide, or region. Sampling for compliance programs is usually biased to take into account factors such as commodities or places of product origin with a history of violations. FSIS uses mostly multi-residue methods and no verification of findings is required unless a tolerance violation is suspected. These methods can detect pesticides at tolerance levels which in some cases are too high to be useful for accurate pesticide risk assessment.

EPA requested monitoring data for drinking water. These data will be obtained by the Agricultural Marketing Service (AMS), under authority of the Agricultural Marketing Act of 1946, using the Pesticide Data Program (PDP). Currently available drinking water data are very limited and are collected through the EPA's Public Water System Supervision Program by delegated States and tribes. Limitations of these data include lack of consistency in sampling and testing protocols, and an extensive array of data reporting formats which make it difficult to compile or derive national estimates. The U.S. Geological Survey (USGS) collects data for ground and surface water but does not sample drinking water. USGS monitors vulnerable bodies of water in areas of intense agricultural production, such as the corn belt region. Both the EPA and USGS programs focus on monitoring for compliance with Maximum Contaminant Levels of various chemicals, including selected pesticides. These programs do not provide data for all pesticides needed by EPA's Office of Pesticide Programs to meet Food Quality Protection Act (FQPA) requirements that exposures through drinking water be included in dietary risk assessments. AMS is working with EPA to develop a sampling and testing program for drinking water on a national scale.

If EPA does not have reliable residue values for food and water, they use assumptions or models which tend to overstate risk. PDP data have been of great value in providing sound data to EPA. This proposal would extend the PDP program to meat and water—important components of children's diets. Because FQPA requires EPA to consider all non-occupational exposure in the establishment of tolerances, assumed high-end exposures from meat, poultry, eggs, and drinking water can fill the "risk cup" and leave little or no room for critical agricultural pesticide needs. Sound data and realistic assessments of exposure are critical for maintaining critical agricultural use of some pesticides.

Because of the PDP experience, partnership with States, and existing infrastructure, adding to the scope of the current program is the most cost-effective way to generate the data needed to support agricultural pesticide needs.

In contrast to existing data sources for drinking water, PDP uses statistically-reliable, unbiased random sampling procedures to provide objective and comprehensive residue data to produce national estimates of pesticide residues. PDP collects samples as close to point of consumption as possible. For water, samples would be collected at water treatment facilities. State population figures are used to assign the number of samples collected per month. This number is constant for each commodity if the commodity is available in the marketplace. Generally, at least 600 samples of a commodity are obtained in a year. PDP uses refined multi-residue methods capable of detecting levels much lower than tolerances. These methods are resource-intensive and require various steps to allow for detection of residues at trace levels and verification of positive results. All PDP data are supported by rigorous quality assurance (QA) and quality control (QC) procedures. Approximately 30 percent of the analytical resources are in the QA/QC system to provide data integrity and uniformity. PDP uses a uniform reporting system and requires strict adherence to data reporting procedures. PDP's database allows for remote data entry and electronic transmission of data, and can be queried to provide customized reports for EPA.

AMS will modify PDP methods to incorporate meat, poultry, eggs, and drinking water, beginning with poultry. Analysis of these foods requires acquisition of equipment and new technologies, and reengineering of PDP's data system for processing of these data. These data will be provided to EPA and FSIS. EPA will use the data for FQPA risk assessments, and FSIS for mitigation and risk management activities. For the poultry program, AMS staff are working with FSIS personnel to develop procedures for sampling based on statistically-reliable protocols, with FSIS assuming responsibility for the sampling, handling, and shipping portion of the pro-

gram. The National Agricultural Statistics Service is providing the statistical consultation for this endeavor. Poultry was selected as the first of these products to monitor in fiscal year 2000. Meat and egg products will be introduced into the program in subsequent years.

For the drinking water testing program, PDP is working with EPA to develop sampling and testing protocols to collect drinking water data on a national scale. Additional funds will be needed to begin sampling and analysis of drinking water. The estimated cost to accomplish this work is $2.0 million.

MICROBIOLOGICAL DATA PROGRAM

Question. The budget proposes an increase of $6,185,000 to initiate a microbiological data program for food-borne pathogens. Is this data collection currently conducted by any other federal agency? How is this program to be coordinated with other agencies involved in this program, especially the Food and Drug Administration? Are other agencies contributing to the cost of this program?

Answer. Data collection of this magnitude and with statistical validity has not been conducted by any other Federal agency. At present, the Food and Drug Administration (FDA) is doing a survey of 10 imported products, with the purpose of detecting those levels of contamination that might result from a failure to follow adequate Good Agricultural Practices and Food Manufacturing Practices. The purpose of the Microbiological Data Program is to perform a statistically valid assessment of the contamination level of raw produce available to the American consumer. The FDA will be informed of test results and has assigned a research supervisor to act as liaison to work with AMS on this project. The Centers for Disease Control and Prevention will also be informed of MDP's test results. The National Agricultural Statistics Service will contribute directly to the program by providing the statistically-reliable sampling plans and associated laboratory testing quality control measures. The Agricultural Research Service has expressed a desire to receive isolated cultures which can be tested for antibiotic resistance, and arrangements will be made with Federal or university laboratories to perform serotyping. No funds will be received from any other agency for the execution of this project.

SUMMARY OF FEES BY ACTIVITY

Question. Dr. Figueroa's testimony indicates that 75 percent of AMS funding is derived from fees charged for services provided. Please provide an estimate of fees collected and disbursements by activity for fiscal years 1999 and 2000.

Answer. AMS funding is approximately 72 percent user fee funded in fiscal year 1999. If the budget requests are approved, the percentage in fiscal year 2000 will be 68 percent. The following is a table reflecting the summary of fees by activity.

SUMMARY OF FEES BY ACTIVITY

[Dollars in thousands]

	Fiscal year 1999 unobligated beginning balance	Earned revenue	Percent	Program Obligations	Fiscal year 200 unobligated beginning balance	Earned revenue	Percent	Program Obligations	Fiscal year 2000 unobligated ending balance
User Fee	$42,473	$60,730	25	$60,730	$42,473	$60,730	23	$60,730	$42,473
Trust Fund	20,860	106,122	43	106,122	20,860	106,122	41	106,122	20,860
PACA [1]	6,347	6,783	3	8,607	4,523	6,894	3	8,718	2,699

[1] PACA = Perishable Agricultural Commodities Act Program.

Note: This table does not include reimbursements to appropriations of approximately $3.7 million which represents approximately 1 percent in both fiscal year 1999 and fiscal year 2000.

ORGANIC CERTIFICATION PROGRAM

Question. Dr. Figueroa's testimony also indicates that $770,000 is requested for final implementation of the National Organic Standards program. When will the final regulation be published? When will it become effective? What will the additional staff position be used to do? Will the completion of the final rule not allow shifting of staff responsibilities to accomplish these tasks?

Answer. AMS staff has reviewed and analyzed the nearly 300,000 comments which were submitted in response to the proposed rule and subsequent issue papers. Based on this input, a revised rule is being prepared. Development of a final rule will commence after the comments have been received and thoroughly analyzed. Once the final rule is published there is an 18-month period during which full implementation will occur.

The additional position being requested is needed to augment existing staff. Functions which will be performed include assistance in developing international standards, accrediting both private and State certifying agents, determining equivalency of foreign programs, obtaining and disseminating relevant export data, monitoring State programs for compliance, developing a system to prevent fraudulent labeling, and extensive outreach efforts. While completion of the final rule will enable staff to shift responsibilities, it will not preclude the need for this additional staff position.

QUESTION SUBMITTED BY SENATOR BURNS

EXPORT FUNDING AND PRODUCER EDUCATION

Question. I am pleased that the Agricultural Marketing Service budget was increased by nearly $12 million. With the increase in funding for this important program, how will USDA utilize these funds for increases in exports and producer education for marketing?

Answer. Some of the additional funding for Marketing Services will be used by the Microbiological Data Program to facilitate the global marketing of domestically produced fruits and vegetables. This program will provide information on the contamination level of fresh fruits and vegetables for domestic risk assessment which can be used by exporters to market these commodities.

The Market News Program will use some of the additional funding to expand the number of foreign countries currently reported and to develop new reports on international trade and exports. Improving market awareness of conditions in the world market will increase export opportunities.

The additional funding requested for Wholesale Market Development will enable a number of direct marketing initiatives to be implemented for small producers, including educational outreach efforts on issues such as improving product quality, diversifying products, expanding markets, and developing market strategies.

GRAIN INSPECTION, PACKERS, AND STOCKYARD ADMINISTRATION

QUESTIONS SUBMITTED BY SENATOR COCHRAN

Question. Mr. Secretary, over the last few years we have heard a lot about the prices livestock producers have been receiving for their cattle and hogs. Many people have explained this situation as normal economic cycles in livestock production. Others have pointed to industry consolidation as the problem. Still others have claimed that country of origin labeling for meat and poultry products and mandatory price reporting of boxed beef would have provided relief. This committee has funded numerous GIPSA investigations into the meat packing industry. Can you share with the committee what the results of these investigations have yielded? Would mandatory country of origin labeling or mandatory price reporting have prevented these fluctuations in prices? Do you have additional studies underway? If so, please describe their focus and cost.

Answer. In addition to the Concentration study, GIPSA has used additional funds provided by this committee to fund a cooperative agreement with prominent economists from the University of Nebraska and Iowa State University to complete an econometric study of the data obtained in the Texas panhandle investigation. That study, as well as the investigation itself is currently undergoing professional peer review. Funds have also been used to recruit and hire additional economists for the regional offices and hire investigators with legal expertise, to undertake more complex investigations. These hiring efforts have allowed GIPSA to respond quickly to

complaints of anticompetitive behavior, such as a recently completed investigation of a feedyard boycott that is likely to result in further action, as well as a complaint issued by GIPSA against Excel Corporation alleging unfair and deceptive pricing practices in the procurement of carcass merit hogs. GIPSA will continue to investigate and monitor all aspects of the livestock industry. Current efforts underway include follow up work from the Texas Panhandle investigation for cattle as well as a plant closing investigation and a comprehensive review of current procurement contracts for hogs. Additionally, the Department is conducting a study on mandatory country of origin labeling and has a legislative proposal on mandatory price reporting and will be reporting on both issues to Congress.

Question. Can you provide the committee with the status of the GIPSA price reporting investigation of the meat packing industry mandated by Public Law 105–277?

Answer. A framework for conducting the Congressionally mandated price reporting pilot investigation has been developed by GIPSA. Project options that can be completed with the available funding have been identified. The anticipated date for commencing with the information collection is May 1, 1999.

Question. Public Law 105–277 also directed the Department to conduct a study on the effects of mandatory country of origin labeling for meat and poultry products. Can you share with the Committee the status of that study? Who in the department is conducting the study and when can we anticipate seeing the final report?

Answer. The Conference Report of the Omnibus Appropriations Bill directed the Secretary to conduct a comprehensive study on the potential effects of mandatory country of origin labeling of imported fresh muscle cuts of beef and lamb. The Food Safety and Inspection Service (FSIS) of USDA is preparing this report. The report is expected to address the impact of such requirements on imports, exports, livestock producers, consumers, processors, packers, distributors, and grocers. The report is also to address any additional costs to the federal government which would be incurred as a result of mandatory country of origin labeling of imported fresh muscle cuts of beef and lamb.

Question. Recommendation B. 15 of USDA's Advisory Committee on Agricultural Concentration calls for the reporting of more timely and accurate trade data. Public Law 105–277 provided clear direction to the Department to move forward and develop an electronic export certification reporting system. It is believed that such a system would provide important trade information to producers within a matter of one or two weeks instead of the current three-month delay. Can you share with the committee the development status of this electronic export certificate program.

Answer. Public Law 105–277 provides for a pilot investigation of a "streamlined eletronic system for collecting export data, in the least intrusive manner possible" for meat products. We understand that representatives of the U.S. meat industry are working to clarify their needs regarding price and export data reporting. Once these consultations between the producers and packers have concluded and we have their recommendations, we will reevaluate our work to ensure we develop systems compatible with the guidance provided by Congress.

Question. Farmers across the South were plagued with significant infestation of aflatoxin in the 1998 corn crop. What testing capability does GIPSA have for aflatoxin? Farmers were also plagued with inconsistent testing. Does GIPSA set standards for aflatoxin testing? Does GIPSA have the authority to do so? What funds are included in the budget request or would be required to establish such a program?

Answer. GIPSA provides aflatoxin testing service as official criteria for corn, sorghum, wheat, and soybeans, as official criteria under the Unites States Grain Standards Act (USGSA). Testing is also provided for rice, popcorn, corn meal, corn gluten meal, corn/soy blend, and other processed products governed by the Agricultural Marketing Act (AMA). Additionally, all corn exported from the United States is required to be tested for aflatoxin. Aflatoxin testing services are available nationwide, upon request and for a fee, as either a qualitative (screening above or below a threshold determined by the customer) or as a quantitative (actual results in parts per billion) service using several different types of test kits approved by GIPSA. The GIPSA approved test kits use enzyme linked immunosorbent assay (ELISA), monoclonal antibody affinity chromatography, or fluorescence technology. To further assist the grain industry, GIPSA also provides, on a limited basis, a complex chemical testing method, High Pressure Liquid Chromatography (HPLC) testing for aflatoxin. All official aflatoxin testing is performed as prescribed in the GIPSA directive by authorized employees of GIPSA or licensed delegated/designated agency personnel.

GIPSA has established sampling and testing procedures for GIPSA and official agency personnel to follow for aflatoxin testing. Official personnel receive extensive

training on the official procedures and must be authorized or licensed by GIPSA to perform aflatoxin testing. Other inspection laboratories and commercial businesses that measure aflatoxin levels in corn may or may not follow GIPSA procedures.

In addition to the official mycotoxin training and testing program, GIPSA has a program in place to evaluate equipment used in the official system. Test kits used in the official system must meet certain GIPSA specifications and pass a rigorous testing program. Test kits sold for commercial use in the United States are not regulated by USDA, therefore do not require GIPSA approval. Commercial businesses may or may not use GIPSA approved test kits.

GIPSA has the authority to set standards for aflatoxin testing only in the official inspection system.

Aflatoxin testing represents a user fee service under the Inspection and Weighing Program. In essence, revenue for this service is generated from fees charged by GIPSA and no additional funds are required to be appropriated.

Question. Please distinguish between the roles of GIPSA and the Justice Department in investigating competitive practices.

Answer. GIPSA has responsibility for enforcing the Packers & Stockyards (P&S) Act, including investigating competitive practices, trade practices and ensuring financial protection for producers in the livestock industry. The Justice Department, along with the Federal Trade Commission, has primary responsibility for enforcing the antitrust statutes, including the Sherman Act and the Clayton Act. GIPSA has a close working relationship with both of these agencies on matters of mutual interest and expects that relationship will continue. During the course of a GIPSA investigation, if it is determined that the conduct being investigated may be criminally prosecuted, the investigation is referred to the Justice Department, with GIPSA providing information and assistance, as required.

The Department of Justice has primary responsibility for mergers and acquisitions but has generally looked to GIPSA for broad industry information and concentration ratios. GIPSA has generally investigated most complaints alleging anticompetitive practices in the meat packing industry.

Question. Increased funding has been provided to GIPSA over the past few fiscal years to carry out recommendations of the Agricultural Concentration Committee. Please provide a detailed accounting for each of fiscal years 1997, 1998, and 1999 on the use of these funds. How will the increased funding requested for fiscal year 2000 be used?

Answer. For fiscal year 1997, GIPSA received $800,000 of additional funding to increase investigations of deceptive and fraudulent practices that affect the movement and price of meat animals and their products, and for increased analysis of industry structure and performance to monitor the competitive implications of behavioral practices in the meat packing industry and to support legal actions that require complex economic and statistical analysis.

During that year, GIPSA completed a comprehensive investigation of the procurement of slaughter cows in the Northwest region of the country and began a broad investigation of fed cattle procurement in the Texas panhandle. It also began conducting an investigation of slaughter hog procurement in the Central United States, and began an investigation involving slaughter lamb procurement in the Western United States. GIPSA also entered into cooperative research agreements to examine the effects of meat packing concentration on prices paid for fed cattle.

During fiscal year 1997, GIPSA began planning the restructuring of its P&S program areas to strengthen its ability to investigate industry structure and competitive practice issues, and to provide greater flexibility and efficiency in enforcing the trade practice and payment provisions of the P&S Act.

For fiscal year 1998, GIPSA received $800,000 of additional funds to recruit and integrate more economic, statistical, and legal expertise into investigative units that will conduct investigations involving anticompetitive practices. It also requested additional funding to increase its poultry compliance activities but none were appropriated.

During fiscal year 1998, GIPSA began the reorganization of P&S by consolidating and strengthening its field offices and by reorganizing its headquarters staff. P&S hired new economists and legal specialists for its Denver and Des Moines field offices and additional economists for its headquarters staff. It established a toll-free complaint hot line for producers and the public to file complaints and report market abuse. GIPSA began planning a peer review process for major investigations that will evaluate whether GIPSA asked the right questions, collected the right data, and conducted sound analyses using appropriate models. The Agency also completed or continued the investigations begun in fiscal year 1997 into procurement practices in the fed steer and heifer, cow, hog, and lamb markets, and conducted numerous investigations of live poultry dealers.

For fiscal year 1999, GIPSA received $397,000 of increased funding to increase staffing to pursue more aggressively and more comprehensively investigations into anticompetitive practices related to industry concentration without this work coming at the expense of its programs designed to protect individual producers from unfair practices and provide financial protection. In addition, GIPSA received $2.5 million to complete the restructuring of the P&S program.

During fiscal year 1999, GIPSA has continued to hire economists and legal specialists for its field offices and headquarters staff. It has also initiated the investigation peer review process, and the peer review panel is examining the investigations of fed cattle procurement in the Texas panhandle conducted by GIPSA staff and by cooperative university researchers. The funds received for reorganization are being used to relocate employees who are being displaced as a result of the reorganization. The increased funding and personnel are also being used to continue major investigations of potential anticompetitive procurement practices and detailed analyses of the slaughter steer and heifer, slaughter cow, slaughter hog, and slaughter lamb markets.

The requested budget increase of $1,386,000 for fiscal year 2000 is critical in expanding the Agency's capability to monitor and investigate the competitive implications of structural changes and behavioral practices in the meat packing and poultry industries. The Advisory Committee on Concentration recommended increased monitoring and enforcement of antitrust and regulatory policy and, specifically the antitrust enforcement of current regulations under the Packers and Stockyards Act be stepped up.

Question. Fiscal year 1999 funding of $2.5 million has been made available for one-time relocation costs associated with the restructuring the Packers and Stockyards Administration. Please give the Committee an update on the restructuring of the Administration and the use of these funds.

Answer. The three new regional offices have been established at Denver, Colorado; Des Moines, Iowa; and Atlanta Georgia, and all field employees now report to one of these offices. We are still in the process of relocating employees to the new regional offices and are positioning resident agents in outlying locations where they will conduct compliance investigations and provide routine services from home-based offices or one of three suboffices. The funds are being used for employee relocation; outplacement services; severance pay; equipment transfer and office setup; and to hire additional economists and other staff to conduct investigations of potential anticompetitive behavior in the cattle and hog industries. We expect our restructuring to be completed by June 1999.

QUESTION SUBMITTED BY SENATOR BURNS

Question. The budget cut for funding of GIPSA was cut by nearly $18.5 million. Currently, four packers control nearly 80 percent of the meat market. Livestock producers have no transparency in the market and not enough avenues to market their commodity. The grain industry is also highly consolidated and the effects of this concentration is hurting farmers immeasurably. Mergers and concentration within the agricultural industry play a huge role in the demise of farmers and ranchers. At a time when the agricultural economy is at a 30 year low, How does USDA justify cutting the budget of GIPSA, the agency responsible for monitoring the actions of packing and grain companies?

Answer. The President has requested authority for GIPSA to collect licensing fees to recover the cost of administering the P&S Act and for Standardization Activities under the United States Grain Standards Act in lieu of appropriated funding. The proposal would amend the P&S Act to provide authority to collect license fees to cover the cost of the program. It would also provide authority to initiate user fees for standardization activities including the developing, reviewing, and maintaining of official U. S. Grain standards used by the entire grain industry. Converting to license and user fees is consistent with the Administration's overall effort to shift funding for programs to the beneficiaries of such programs.

QUESTIONS SUBMITTED BY SENATOR COCHRAN

Question. The fiscal year 1999 Senate report indicates that the Committee expects the Secretary to use his authority to collect, assimilate, and make available information regarding the boll weevil eradication program to agencies and entities that use this information concerning acreage planted to cotton. Has the Secretary made this information available? If not, why?

Answer. We are aware of the Senate language. However, OMB has not approved the collection of land use information for FSA. Because the collection information for bollweevil eradication and other areawide pest control programs is not legislatively mandated, OMB considers this is a voluntary submission by producers.

Question. The fiscal year 1999 appropriations act blocks the availability of the $60 million available for the Fund for Rural America for fiscal year 1999. Since these funds are available for two years, the fiscal year 2000 budget restores these fiscal year 1999 funds and then proposed to block their availability in fiscal year 2000 but to restore $60 million in annual increments beginning in fiscal year 2001.

Since the Administration did not support the action taken by Congress to block the availability of fiscal year 1999 funding for the Fund for Rural America, is the budget proposal to block these funds the second year and restore them in increments in the outyears simple one to offset discretionary spending.

Answer. The proposal to make fiscal year 1999 funding for the Fund for Rural American available in the years after fiscal year 2000 was one of several budget proposals used to ensure that the Department met its tight discretionary budget target for fiscal year 2000.

Question. Of the fiscal year 1997 funding for the Fund for Rural America, the budget indicates that $26.1 million was allocated for the "core initiative," $7.8 million for the secretary's initiative and $2.2 million for Telecommunications Infrastructure Research. For each of these categories, please provide a description of each project/grant funded, the amount of funds allocated to it, a brief description of the project, who carried out the work, and an evaluation of benefits of the work undertaken.

Answer. A description of the project funded by the Fund for Rural American of CSREES is provided to the subcommittee. Because the grants were made in the past 12–18 months, and the nature of the projects involved, it is too soon to provide an evaluation of the benefits of the work undertaken. It is expected that CSREES will be able to initiate assessment of impacts at the end of fiscal year 2000. Some assessment may occur prior to that time from annual reports that are submitted for each project, and the first set of annual reports was just recently received.

[The information follows:]

Fund For Rural America

Core Initiative	$22,659,800
Secretary's Initiative	5,471,000
Agriculture Telecommunications	2,112,000
Planning Grants	886,900
Center Grant	1,585,026
Subtotal, Grants Awarded	33,714,726
Federal Administration	1,444,000
Small Business Innovation Research	453,600
Peer Panels	487,674
Total	36,100,000

SECRETARY'S FARMWORKER INITIATIVE

Question. What is the "Secretary's Farmworker Initiative?"

Answer. The Secretary's Farmworker Initiative is to establish a Farmer/Rancher Coordinator position to develop policy, establish relationships with community-based farm work organizations, and develop and participate in the development of initiatives with other Federal agencies and non-Government organizations. Recent examples of improving conditions for farmworkers have been to (a) partnership with the Department of Labor (DOL), Migrant and Seasonal Labor, (b) exchange models for DOL ONE STOP and USDA Service Centers for purpose of including farm workers in programs or services which are going to be provided by both Federal Agencies, (c) partnership with Health and Human Services (HHS) to explore health service for migrant workers through the USDA Rural Housing Service program, (d) meet with Farm Worker organizations in the Northeast corridor from New Jersey to Florida to identify program needs of the farm workers, and (e) creating working relations with the National Farm Worker unions UAW and FLOC.

Question. Please list, by USDA agency and appropriations account/activity, the funds available for fiscal year 1999 and requested in the fiscal year 2000 budget to implement the following: (1) the Civil Rights Action Team (CRAT) report; (2) the National Commission on Small Farms Report, (3) the Secretary's Farmworker Initiative; (4) the Global Change Research Program; (5) the Clean Water Action Plan; (6) the Debt for Nature initiative; and (7) the Climate Change Technology Initiative.

[The information follows:]

[Budget Authority in millions of dollars]

Program	Fiscal year 1999 appropriation BA	Fiscal year 2000 budget BA
SECRETARY'S CIVIL RIGHTS INITIATIVE		
DEPARTMENTAL ADMINISTRATION:		
Fund Civil Rights Activities, including Office of Outreach	$17.8	$21.1
Grants & Cooperative Agreements to improve Outreach to USDA customers & socially disadvantaged farmers & ranchers	3.0	10.0
Subtotal, DA	20.8	31.1
OFFICE OF THE GENERAL COUNSEL: Civil Rights Division	0.9	0.9
COOPERATIVE STATE RESEARCH, EDUCATION AND EXTENSION SERVICE:		
Fund Small Farms Initiative	.....	4.0
Address Disparities in Funding of Institutions of Higher Ed:		
1890 Facilities Programs	8.4	12.0
Extension Services at 1994 Institutions	2.1	3.5
Research at 1994 Institutions	.....	0.7
Hispanic Serving Institutions Education Grants	2.9	3.2
Increase Extension Indian Reservation Program	1.7	5.0
Pesticide Applicator Training	.....	1 5
Subtotal, CSREES	15.1	29.9
FARM SERVICE AGENCY:		
Farm Ownership & Farm Operating Loans:		
Farm Ownership	12.8	4.8
Loan Level	(85.6)	(128.0)
Farm Operating	50.1	29.3
Loan Level	(733.8)	(500.0)
Farm Labor Housing Program:		
Farm Labor Housing Loans	10.4	11.3
Loan Level	(20.0)	(25.0)
Farm Labor Housing Grant Level	11.4	15.0
Rural Rental Assistance Payments	10.0	15.0
Subtotal, FSA	94.7	75.4
NATIONAL AGRICULTURAL STATISTICS SERVICE: Address the Needs of Farmworkers: Fund Pesticide Use Survey	.....	1.6
NATURAL RESOURCES CONSERVATION SERVICE:		
Debt for Nature:		
Financial assistance to historically underserved for land stewardship	.....	4.0
Technical assistance	.....	1.0
Subtotal, NRCS	.....	5.0
TOTAL, Secretary's Civil Rights Initiative	131.5	143.9

[Budget Authority in millions of dollars]

Program	Fiscal year 1999 appropriation BA	Fiscal year 2000 budget BA
SMALL-SCALE FARM PROGRAMS IN THE NATIONAL COMMISSION ON SMALL FARMS REPORT		
COOPERATIVE STATE RESEARCH, EDUCATION AND EXTENSION SERVICE:		
Sustainable Agriculture Research and Education (BARE)	8.0	8.5
Sustainable Agriculture Extension	3.3	3.3
1862 and 1890 Formula Funding for Small Farmers	2.2	2.2
Renewable Resources Extension	3.2	3.2
Subtotal, CSREES	16.7	17.2
RURAL HOUSING SERVICE: Farmworker Housing Loans and Grants	31.4	40.0
RURAL BUSINESS-COOPERATIVE SERVICE:		
Appropriate Tech Transfer for Rural Areas (ATTRA)	1.3	2.0
Rural Cooperative Development Grants	2.0	5.0
Subtotal, RBS	3.3	7.0
DEPARTMENTAL ADMINISTRATION: Outreach and Technical Assistance (See 2501)	3.0	10.0
FARM SERVICE AGENCY:		
Direct Farm Ownership Loans:		
Subsidy appropriation (non-add)	(12.8)	(4.8)
Loan program level	85.6	128.0
Direct Farm Operating Loans:		
Subsidy appropriation (non-add)	(50.1)	(29.3)
Loan program level	733.8	500.0
Subtotal, FSA Loan Levels	819.4	628.0
AGRICULTURAL MARKETING SERVICE:		
Federal State Market Improvement Program (FSMIP)	1.2	1.2
National Organic Standards	0.9	1.7
Subtotal, AMS	2.1	2.9
GRAIN INSPECTION, PACKERS AND STOCKYARDS ADMINISTRATION:		
Packers and Stockyards: livestock industry analysis	1.2	1.8
Packers and Stockyards: poultry industry analysis	.....	0.8
Subtotal, GIPSA	1.2	2.6
FOOD AND NUTRITION SERVICE: WIC/Farmers Market Nutrition Program	15.0	20.0
NATURAL RESOURCES CONSERVATION SERVICE: Forestry Incentives Program	16.3	.....
FOREST SERVICE:		
Forest Stewardship	28.8	28.8
Stewardship Incentives	.....	5.0
Subtotal, FS	28.8	33.8

[Budget Authority in millions of dollars]

Program	Fiscal year 1999 appropriation BA	Fiscal year 2000 budget BA
Fund for Rural America	.....	60.0
Subtotal	937.2	821.5
Other Small Farm Activities:		
COOPERATIVE STATE RESEARCH, EDUCATION AND EXTENSION SERVICE:		
Small Farm Initiative	.....	4.0
National Research Initiative	5.0	7.0
Subtotal, CSREES	5.0	11.0
AGRICULTURAL RESEARCH SERVICE	11.8	11.7
AGRICULTURAL MARKETING SERVICE: Wholesale Market Development	2.2	2.6
Total, Small-Scale Farms Program	956.2	846.8
SECRETARY'S FARMWORKER INITIATIVE		
Salaries and Expenses (Coordinator)	.....	0.1
GLOBAL CHANGE RESEARCH PROGRAM		
Agricultural Research Service	26.0	34.0
Cooperative State Research, Education and Extension Service	9.0	16.0
Economic Research Service	1.0	2.0
Forest Service	17.0	23.0
Natural Resources Conservation Service	2.0	14.0
TOTAL, Global Change Research Program	55.00	89.0
CLEAN WATER ACTION PLAN		
Agricultural Research Service	1.0	5.0
Natural Resources Conservation Service:		
EQIP	174.0	300.0
Partnership Grants	.....	20.0
Monitoring	.....	3.0
Animal Feeding Operations Strategy	.....	20.0
Subtotal, NRCS	174.0	343.0
Forest Service	280.0	369.0
TOTAL, Clean Water Action Plan	455.0	717.0
DEBT FOR NATURE INITIATIVE		
DEBT FOR NATURE INITIATIVE	.....	5.0
CLIMATE CHANGE TECHNOLOGY INITIATIVE		
Agricultural Research Service	.....	7.0
Forest Service	.....	6.0
Natural Resources Conservation Service	.....	3.0
TOTAL, Climate Change Technology Initiative	.....	16.0

Question. Please explain the reason for the increase from the fiscal year 1999 level proposed in the Office of the Secretary "Other Services" object class.

Answer. The Office of the Secretary requested an increase for the Biobased Products Coordination Council in fiscal year 2000. The Council is chaired by the Under Secretary for Research, Education and Economics. Among the major activities that would be started or carried out in fiscal year 2000 by the Under Secretary are the development, publication and maintenance of a biobased products list as directed in Executive Order 13101, education activities, such as training and conferences to inform the public and Government agencies about biobased products, demonstration projects to create awareness of and demand for biobased construction materials, support for the Office of the Environmental Executive, support for technology transfer activities through our research agencies, and outreach to land-grant universities involved in biobased research, education and extension. The amount for this requested increase of over $1 million is reflected in Other Services.

AGRICULTURAL RESEARCH SERVICE

QUESTIONS SUBMITTED BY SENATOR COCHRAN

FISCAL YEAR 1999 APPROPRIATIONS

Question. Please provide a status report on the execution of each of the following funding increases provided to ARS for fiscal year 1999:

—Emerging Plant Diseases, Albany, CA, $250,000;
—Emerging Plant Diseases, Beltsville, MD, $250,000;
—Emerging Plant Diseases, Frederick, MD, $250,000;
—Emerging Plant Diseases, College Station, TX, $250,000;
—Emerging Plant Diseases, Montpellier, France, $250,000;
—Emerging Plant Diseases, Logan, Utah, $200,000;
—Fusarium Head Blight (consortium of 12 land grant universities), $3,000,000;
—Exotic Infectious Animal Diseases, Athens, GA, $500,000;
—Exotic Infectious Animal Diseases, Ames, IA (NADC), —$1,000,000;
—Exotic Infectious Animal Diseases, Beltsville, MD, $500,000;
—Exotic Infectious Animal Diseases, Pullman, WA, $600,000;
—Exotic Infectious Animal Diseases, Laramie, WY, $500,000;
—Environmental Quality/Natural Resources, Bioactive compounds, Gainsville, FL, $250,000;
—Environmental Quality/Natural Resources, IPM/Areawide, Beltsville, MD, $250,000;
—Environmental Quality/Natural Resources, IPM/Areawide, Columbia, MO, $400,000;
—Environmental Quality/Natural Resources, IPM/Areawide, Stoneville, MS, $250,000;
—Environmental Quality/Natural Resources, IPM/Areawide, College Station, TX, $250,000;
—Environmental Quality/Natural Resources, Livestock management systems, $1,000,000;
—Everglades Initiative, Canal Point, FL, $250,000;
—Everglades Initiative, Miami, FL, $250,000;
—Everglades Initiative, Ft. Lauderdale, FL, $250,000;
—Food Safety, Preharvest, Athens, GA, $250,000;
—Food Safety, Preharvest, Ames, IA, $250,000;
—Food Safety, Preharvest, West Lafayette, IN, $250,000;
—Food Safety, Preharvest, Beltsville, MD, $250,000;
—Food Safety, Preharvest, Clay Center, NE, $600,000;
—Food Safety, Preharvest, College Station, TX, $250,000;
—Food Safety, Postharvest, Safety/Quality of Fruits/Vegetables, $1,000,000;
—Food Safety, Postharvest, Food Safety Engineering, Purdue Univ., $1,000,000;
—Genetic Resources, Palmer, AK, $100,000;
—Genetic Resources, Columbia, MO, $700,000;
—Genetic Resources, Leetown, WV, $1,000,000;
—Human Nutrition, Little Rock, AR, $750,000;
—Human Nutrition, San Francisco, CA, $250,000;
—Human Nutrition, Boston, MA, $250,000;
—Human Nutrition, Beltsville, MD, $250,000;
—Human Nutrition, Grand Forks, ND, $250,000;
—Human Nutrition, Houston, TX, $500,000;

—Pfiesteria, $719,000;
—Alternative Fish Feed, Aberdeen, ID, $250,000;
—Appalachian Fruit Research Station, Kearneysville, WV, $250,000;
—Aquaculture research, AK, $1,100,000;
—Biological control of Western weeds, Albany, CA, $300,000;
—Biomedical materials in plants, $500,000;
—Cereal crops research, Madison, WI, $250,000;
—Cotton ginning, Stoneville, MS, $250,000;
—Endophyte research, $200,000;
—Fish diseases, Auburn, AL, $750,000;
—Fish Farming Experiment Laboratory, Stuttgart, AR, $750,000;
—Floriculture and nursery crop research, $1,000,000;
—Horticulture, Ft. Pierce, FL, $500,000;
—Forage crops, Woodward, OK, $250,000;
—Garden Unit, National Arboretum, Washington, DC, $250,000;
—Golden Nematode, Ithaca, NY, $150,000;
—Grape Rootstock, Geneva, NY, $300,000;
—Grasshopper research, AK, $750,000;
—Grazinglands research, El Reno, OK, $250,000;
—Honeybee research, Baton Rouge, LA, $300,000;
—Lettuce geneticist/breeding, Salinas, CA, $250,000;
—Lyme disease (Tick Control Project), Beltsville, MD, $200,000;
—Manure handling and disposal, Starkville, MS, $500,000;
—Meadowfoam research, Peoria, IL, $200,000;
—Mycoplasma research, Starkville, MS, $250,000;
—National Warmwater Aquaculture Center, Stoneville, MS, $1,100,000;
—National Agriculture Library, $250,000;
—Natural products research, MS, $750,000;
—New England Plant, Soil and Water Lab, Orono, ME, $250,000;
—Non-chemical control of pecan insect pests, Byron, GA, $250,000;
—Peach varieties research, Byron, GA, $150,000;
—Peanut quality research, Dawson GA/Raleigh, NC, $1,000,000;
—Pear Thrips, Ithaca, NY, $100,000;
—Potato Breeder, Aberdeen, ID, $150,000;
—Range research, Burns, OR, $250,000;
—Rice research, Stuttgart, AR, $1,400,000;
—Rice research, Davis, CA, $250,000;
—Rice research, Beaumont, TX, $200,000;
—Root diseases of wheat and barley, Pullman, WA, $500,000;
—Small fruits research, Poplarville, MS, $250,000;
— Small fruits research, Corvallis, OR, $250,000;
—Soil tilth research, Ames, IA, $500,000;
—Soybean and corn research, Stoneville, MS, $750,000;
—Subtropical Animal Research Station, Brooksville, FL, $500,000;
—Subtropical Horticultural Research Station, Miami, FL, $300,000;
—Sugarbeet research, Ft. Collins, CO, $200,000;
—U.S. Plant Stress and Water Conservation Laboratory, Lubbock, TX, $500,000;
—Vegetable research, East Lansing, MI, $200,000;
—Wild rice research, St. Paul, MN, $100,000;
—Wind erosion research, Manhattan, KS, $250,000.

Answer. ARS is in the process of releasing each of these program increases added by Congress in fiscal year 1999 in the amounts and for the purposes authorized in accordance with the fiscal year 1999 Appropriations Act. A detailed listing of the distribution of these increases will be provided for the record.

[The information follows:]

AGRICULTURAL RESEARCH SERVICE IMPLEMENTATION OF FISCAL YEAR 1999 PROGRAM INCREASES

Funding research	Amount	Research location	Status/purpose	Status of New Scientist(s) Position(s)
Emerging Plant Diseases	$250,000	Albany, CA	Funds have been released and work in underway on new and emerging invasive weeds in the Western U.S.	New scientist position not required.
	250,000	Beltsville, MD	Funds have been released and work is underway on taxonomy of bunt and smut of fungi.	Recruitment actions are underway to hire a Botanist.
	250,000	Frederick, MD	Funds have been released and work is underway for research on karnal bunt.	New scientist position not required.
	250,000	College Sta., TX	Funds have been released and work is underway for research on sorghum ergot.	Recruitment actions are underway to hire a Plant Pathologist.
	250,000	Montpellier, FR	Funds have been released and work is underway to develop exotic microbial biological control agents in eurasia.	Recruitment actions are underway to hire a Plant Pathologist.
	200,000	Logan, LT	Funds have been released and work is underway on research on poisoning of livestock by larkspur.	Recruitment actions are underway for a Veterinarian Pharmacologist.
Fusarium Head Blight	3,000,000	Headquarters	Negotiations have been completed and specific cooperative agreements are being entered into with the 12 State Consortium.	Not Applicable.
Exotic Infectious Animal Diseases	500,000	Athens, GA	Funds have been released and work is underway on highly pathogenic avian influenza and exotic newcastle disease.	Recruitment actions are underway for a Veterinary Medical Officer.
	1,000,000	Ames, IA	Funds have been released and research is underway on Johne's disease, bovine tuberculosis and emerging enteric diseases of swine.	Recruitment actions are underway for a Veterinary Medical Officer.
	500,000	Beltsville, MD	Funds have been released and research is underway on parasitic immunology.	Recruitment actions are underway to hire an Immunologist and and Animal Microbiologist.

	600,000	Pullman, WA	Funds have been released and research is underway on prion diseases and anaplasmosis.	Recruitment actions are underway to hire a Molecular Biologist and an Entomogist.
	500,000	Laramie, WY	Funds have been released and research is underway on vesicular stomatitis an arthropod-borne disease of livestock.	Recruitment actions are underway to hire a Entomologist/Microbiologist.
Environmental Quality/Natural Resources	250,000	Gainesville, FL	Funds have been released and research is underway for the development of bioactive compounds that attract natural enemies of insect pests.	Recruitment actions are underway actions are underway to hire a Chemist.
	250,000	Beltsville, MD	Funds have been released and Recruitment research is underway to develop technologies for management of gypsy moth with entomophaga maimaiga.	Recruitment action is underway to hire an Molecular Biologist/Botanist/Entomologist
	400,000	Columbia, MO	Funds have been released and research is underway to develop methods of in vitro proagation of beneficial insects for biological control.	Recruitment actions are underway to hire an Entomologist.
	250,000	Stoneville, MS	Funds have been released and research is underway to develop mass propagation technologies for beneficial insects (lygus bugs/leafy spurge).	Recruitment actions are underway to hire an Engomologist.
	250,000	College Sta., TX	Funds have been released andresearch is underway to developnew and improved areawide IPM technology in support of the boll weevil eradication program.	Recruitment actions are underway to hire an Entomologist.
Livestock Mgt	1,000,000	Ames, IA	Funds have been released to establish a program at the National Swine Research Center on livestock management.	Recruitment actions are underway to hire the Research Leader. Recruitment actions are underway for three animal scientists.
Everglades Initiative	250,000	Canal Point, FL	Funds have been released and research is underway on soil microbiology as it relatees to water quality.	Recruitment actions are underway to hire a Soil Microbiologist.

AGRICULTURAL RESEARCH SERVICE IMPLEMENTATION OF FISCAL YEAR 1999 PROGRAM INCREASES—Continued

Funding research	Amount	Research location	Status/purpose	Status of New Scientist(s) Position(s)
	250,000	Miami, FL	Funds have been released an research is underway to develop a computer model on the impact of the Everglades Nat'l Park Restoration Plan on the sustainability of agriculture in south Florida.	Recruitment actions are underway to hire an Agronomist.
	250,000	Ft. Lauderdale, FL	Funds have been released an research is underway for the development of melaleuca biological control..	A selection is pending to hire an Entomologist.
Food Safety, Preharvest	300,000	Athens, GA	Funds have been released and research is underway for treatment of poultry manure to prevent pathogen transmission.	Recruitment actions are underway for a Microbiologist.
	300,000	Ames, IA	Funds have been released and research is underway to prevent pathogen contamination in animals particularly swine.	Recruitment actions are underway to hire a Microbiologist.
	300,000	West Lafayette, IN	Funds have been released and research is underway to prevent pathogen contamination in animals particularly swine.	Recruitment action is underway to hire an Animal Scientist.
	600,000	Beltsville, MD	Funds have been released and research is underway for animal waste handling systems to prevent pathogen transmission.	Recruitment actions are underway to hire a Microbiologists and an Animal Scientist.
	300,000	Clay Center, NE	Funds have been released and research is underway to prevent zoonotic pathogen transmission in cattle.	Recruitment actions are underway to a hire a Microbiologist.
	600,000	College Stn., TX	Funds have been released research is underway to prevent antibiotic resistance.	Recruitment actions are underway to hire two Microbiologists.
Food Safety, Postharvest	1,200,000	Albanay, CA	Funds have been released and research is underway to develop knowledge pathogens on various fruits and vegetables.	Recruitment actions are underway to hire two Microbiologists. One Microbiologist has been hired.

	1,000,000	Purdue Univ	Funds have been released and a specific cooperative agreement has been executed with Purdue Univ.	Not Applicable.
(Note: Final distribution of Food Safety increases by location is different from those listed in question.)				
Genetic Resources	100,000	Palmer, AK	Funds have been released and research is underway on arctic plant germplasm storage, regeneration, evaluation and documentation at Palmer, AK.	Recruitment actions are underway to hire a Curator.
	700,000	Columbia, MO	Funds have been released and research is underway on soybean and genomic research.	Recruitment actions are underway to hire a Research Geneticist and a Molecular Biologist.
	1,000,000	Leetown, WV	Funds have been released and research is underway on trout genome at the National Center for Cool and Cold Water Aquaculture.	Recruitment actions are underway actions are underway for two Trout/Animal Scientists.
Human Nutrition	750,000	Little Rock, AR	Funds have been released and research is underway on nutrient-gene interactions.	New scientist position not required.
	250,000	San Francisco, CA	Funds have been released and research is underway on nutrient-gene interactions.	Recruitment actions are underway to hire a Human Nutritionist.
	250,000	Boston, MA	Funds have been released and research is underway on diet and degenerative diseases in the aging.	New scientist position not required.
	250,000	Beltsville, MD	Funds have been released and research is underway on diet and flavonoid function.	Recruitment actions are underway to hire a Human Nutritionist.
	250,000	Grand Forks, ND	Funds have been released and research is underway on the role of trace minerals in gene expression.	Recruitment actions are underway to hire a Immunologist/Chemist.
	500,000	Houston, TX	Funds have been released and research is underway on nutrition and child development.	New scientist position not required.

AGRICULTURAL RESEARCH SERVICE IMPLEMENTATION OF FISCAL YEAR 1999 PROGRAM INCREASES—Continued

Funding research	Amount	Research location	Status/purpose	Status of New Scientist(s) Position(s)
Pfiesteria ($719,000)	300,000	Beltsville, MD	Funds have been released and research is underway on the relationship between agricultural practices and pfiesteria in the Chesapeake Bay and its tributaries.	Recruitment actions are underway to hire a Soil Scientist.
	100,000	Auburn, AL	Funds have been released and research is underway on pfiesteria.	New scientist position not required.
	250,000	New Orleans, LA	Funds have been released and research is underway on pfiesteria.	Recruitment actions are underway to hire a Plan Physiologist.
	69,000	Florence, SC	Funds have been released and research is underway to protect water quality through effective mgt. of agricultural nutrients.	New scientist position not required.
Alternative Fish Feed	250,000	Aberdeen, ID	Funds have been released and research is underway on cereal grains and fish.	Recruitment actions are underway to hire a fish geneticist.
Appalachian Fruit Research Station	250,000	Kearneysville, WV	Funds have been released and research is underway on diseases of apples and pears.	New scientist position not required.
Aquaculture Res. in Alaska	1,100,000	Albany, CA (Fairbanks, AK).	Funds have been released and research is underway on aquaculture research in Alaska. Research is being conducted in cooperation with the Univ. of Alaska.	Recruitment actions are underway to hire a Chemical Engineer/Food Technologist.
Biological Control of Western Weeds	300,000	Albany, CA	Funds have been released and research is underway on biocontrol of yhellow starthistle and other non-indigeneous plant pests in the western U.S.	Recruitment actions are underway to hire a Research Entomologist.
Biomedical Materials in Plants	500,000	Beltsville, MD	Funds have been released and research is underway. A specific cooperative agreement ($300,000) has been executed with the Biomedical Foundation, Inc.	Not Applicable.
Cereal Crops Research	250,000	Madison, WI	Funds have been released and research is underway on barley and oak quality.	New scientist position not required.

Cotton Ginning	250,000	Stoneville, MS	Funds have been released and research is underway on cotton ginning.	Recruitment actions are underway to hire an Engineer.
Endophyte Research	200,000	Booneville, AR	Funds have been released and negotiations are underway with the Universities of AR, MO and Oregon State Univ.	No Applicable.
Fish Diseases	750,000	Auburn, AL	Funds have been released and research is underway on fish health.	Recruitment actions are underway to hire a Aquatic Pathologist. Selection has been made to hire a new Microbiologist.
Fish Farming Experiment LAB	750,000	Stuttgart, AR	Funds have been released and research is underway on aquaculture production systems, therapeutics evaluation and chemical registration.	Recruitment actions are underway to hire a Physiologist and a Fishery Biologist.
Floriculture and Nursery Crop Research ($1,000,000).	600,000	Headquarters	Funds have been released and negotiations are underway for specific cooperative agreements..	Not Applicable
	400,000	Wash., D.C. (Arboretum).	Funds have been released and research is underway on floriculture and nursery crops.	Recruitment actions are underway for a Plant Pathologist.
Horticulture	500,000	Ft. Pierce, FL	Funds have been released and research is underway on vegetable virology and irrigation management.	Recruitment actions are underway to hire a Plant Pathologist and a Horticulturalist.
Forage Crops	250,000	Woodward, OK	Funds have been released and research is underway to accelerate forage improvement.	Recruitment actions are underway to hire an Agronomist.
Garden Unit, Natl. Arboretum	250,000	Washington, DC	Funds have been released for increased staffing for the Gardens Unit at the National Arboretum.	New scientist position not required.
Golden Nematode	150,000	Ithaca, NY	Funds have been released and research is underway on golden nematode.	New scientist position not required.
Grape Rootstock	300,000	Geneva, NY (w/s Ithaca).	Funds have been released and research is underway on grape rootstock evaluation of pest, disease resistance and stress tolerance.	Recruitment actions are underway to hire a Geneticists.

AGRICULTURAL RESEARCH SERVICE IMPLEMENTATION OF FISCAL YEAR 1999 PROGRAM INCREASES—Continued

Funding research	Amount	Research location	Status/purpose	Status of New Scientist(s) Position(s)
Grasshopper Research	750,000	Sidney, MT (Alaska)	Funds have been released and research is underway on IPM for grasshopper control in the Delta Junction region of Alaska.	Recruitment actions are underway to hire two Entomologist.
Grazinglands Research	250,000	El Reno, OK	Funds have been released and research is underway for the development of pasture management systems that enhance productivity and water quality in the Southern Great Plains.	Recruitment actions are underway to hire an Agronomist that will be stationed at Langston Univ.
Honeybee Research	300,000	Baton Rouge, LA	Funds have been released and research is underway for the control of parasitic bee mites.	Recruitment actions are underway to hire an Entomologist.
Lettuce/Geneticist Breeding	250,000	Salinas, CA	Funds have been released and research is underway for the control to develop new lettuce varieties and improved product quality.	Recruitment actions are underway to hire a Geneticist/Breeder.
Lyme Disease	200,000	Beltsville, MD	Funds have been released to support the NE Regional Lyme Tick Project.	Not applicable.
Manure Handling and Disposal	500,000	Ms State (Starkville), MS.	Funds have been released and research is underway on procedures for poultry manure and disposal with emphasis on reducing the amounts of phosphorus in litter and the environment.	Recruitment actions are underway to hire an Engineer.
Meadowfoam Research	200,000	Peoria, IL	Funds have been released and research on meadowfoam is underway.	New scientist position not required.
Mycoplasma Research	250,000	MS State, (Starkville) MS.	Funds have been released and research is underway on mycoplasma gallisepticum.	Recruitment actions are underway to hire a Molecular Biologist.

Nat'1 Warmwater Aquaculture Ctr.	1,100,000	Stoneville, MS	Funds have been released and research is underway on warmwater aquaculture. Half of these funds will be added to the existing specific cooperative agreement with Mississippi Agricultural and Forestry Experiment Station (MAFES).	Recruitment actions are underway to hire a Molecular Biologist and a Microbiologist.
Nat'1 Agriculture Library	250,000	Beltsville, MD	Funds have been released and will be used to purchase periodicals, enhance preservation efforts, and improve electronic retrieval capacity, including the information centers.	Final selection of a Librarian/Technical Information Specialist is in process.
Natural Products Research	$750,000	Oxford, MS	Funds have been released and research is underway on natural products. Half of these funds will be added to the existing specific cooperative agreement with the University of Mississippi.	Recruitment actions are underway to hire a Molecular Biologist.
New England Plant, Soil, and Water Lab	250,000	Orono, ME	Funds have been released and research is underway on nutritient management in NE cropping systems.	Recruitment actions are underway to hire a Soil Biochemist/Microbiologist.
Non-chemical Control of Pecan Insect Pests	250,000	Byron, GA	Funds have been released and research is underway on nonchemical alternatives to the use of chemical pesticides to control fruit and foliar pests of pecans.	Recruitment actions are underway to hire an Entomologist.
Peach Varieties Research	150,000	Byron, GA	Funds have been released and research is underway on new peach varieties.	New scientist position not required.
Peanut Quality	1,000,000	Dawson, GA/Raleigh, NC.	Funds have been released and on peanut quality. A fpecific cooperative agreement is being negotiated with Auburn University.	Recruitment actions are underway to hire a Systems Engineer/Economist.
Pear Thrips	100,000	Ithaca, NY	Funds have been released to support a specific cooperative agreement with the Univ. of VT.	Not Applicable.

AGRICULTURAL RESEARCH SERVICE IMPLEMENTATION OF FISCAL YEAR 1999 PROGRAM INCREASES—Continued

Funding research	Amount	Research location	Status/purpose	Status of New Scientist(s) Position(s)
Potato Breeder	150,000	Aberdeen, ID	Funds have been released and research is underway to develop new potato germplasm with improve processing & fresh market qual. with resistance to pests/diseases.	Recruitment actions are underway to hire a Geneticist/Breeder.
Range Research	250,000	Burns, OR	Funds have been released and research is underway to develop new grazing management approaches that have positive effects on rangeland plant communities.	A selection has been made to hire Rangeland Scientist.
Rice Research	1,400,000	Stuttgart, AR	Funds have been released and research is underway on the genetic improvement of rice.	Recruitment actions are underway to hire a Plant Pathologist, Plant Physiologist and Molecular Biologist. Selection of a new Cytogeneticist has been made.
Rice Research	250,000	Davis, CA	Funds have been released and research is underway on the rice germplasm.	New scientist position not required.
Rice Research	200,000	Beaumont, TX	Funds have been released and research is underway on the rice germplasm improvement.	New scientist position not required.
Root Diseases of Wheat and Barley	500,000	Pullman, WA	Funds have been released and research is underway on the root diseases of wheat and barley.	Recruitment actions are underway to hire a Plant Pathologist.
Small Fruits Research	250,000	Poplarville, MS	Funds have been released and research is underway on the root diseases of what and barley.	Recruitment actions are underway to hire a Plant Pathologist.
Small Fruits Research	250,000	Corvallis, OR	Funds have been released and research is underway. Specific cooperative agreements are being negotiated ($160,000 for pest and diseases control and the development of agricultural systems for northwest small fruits productions.	New scientist position not required.

Soil Tilth Research	500,000	Ames, IA	Funds have been released and research is underway on effective soil and water management practices.	Recruitment actions are underway to hire to Agronomists.
Soybean and Corn Research	750,000	Stoneville, MS	Funds have been released and research is underway to increase farm profits through the use of corn and soybeans in rotation with cotton and to expand research on plant molecular genetics.	Recruitment actions are underway to hire a Plant Geneticists, Plans Physiologist and Plant Molecular Biologist/Geneticists.
Subtropical Animal Research	500,000	Brooksville, FL	Funds have been released and research is underway on beef cattle.	Recruitment actions are underway to hire a Nutritionist/Biological Systems and a Geneticists.
Subtropical Horticultural Research Station	300,000	Miami, FL	Funds have been released and research is underway on subtropical/tropical ornamental plant germplasm.	Recruitment actions are underway to hire a Geneticist/Curator.
Sugarbeet Research	200,000	Ft. Collins, CO	Funds have been released and research is underway on diseases of sugarbeet.	Recruitment actions are underway to hire a Plant Pathologist.
U.S. Plant Stress and Water Conservation Lab	500,000	Lubbock, TX	Funds have been released and research is underway on plant required stress factors in the High Plains region.	New scientist position not required.
Vegetable Research	200,000	Lansing, MI	Funds have been released and research is underway on vegetable crops.	New scientist position not required.
Wild Rice Research	100,000	St. Paul, MN	Funds have been released and added to the existing specific cooperative agreement with North Central Ag. Expt. Station.	Not Applicable.
Wind Erosion	250,000	Manhattan, KS	Funds have been released and research is underway on wind erosion in Manhattan, KS.	Recruitment actions are underway for a Soil Scientist/Agricultural Engineer.

FISCAL YEAR 2000 BUDGET REQUEST

Question. The fiscal year 2000 budget proposes an increase of $76.4 million for new and expanded research programs and an increase of $9.9 million for pay costs, partially offset by a proposed decrease of $35 million for ongoing research projects. As the Department's materials indicate, many of the projects proposed for termination have contributed to solving important agricultural problems. While the budget indicates that this research is proposed for termination because it has been deemed less critical than the higher priority research the Administration proposes, it is also apparent that the proposed terminations include only research the Congress initiated or has continued to support. Please tell the Committee how the Administration determined that each of these research projects was "less critical" than those the President's fiscal year 2000 budget proposes increased funding to support.

Answer. The President's fiscal year 2000 budget for the Agricultural Research Service is $836,868,000. This recommendation recognizes the importance of the Department's in-house science program and its capacity to solve a multitude of problems affecting production agriculture, the environment, human health and safety, utilization research, trade, and rural development. This budget provides an increase for new and expanded research programs of $51.4 million as well $9.9 million for authorized pay raises. Additionally, the Agency is requesting $44.5 million for ongoing laboratory modernization and construction projects.

These increase recommendations are made under the very tight funding limitations established for the fiscal year 2000 budget. This Administration has proposed and continues to support a number of critical initiatives, such as food safety, global climate change, and human nutrition. Given the spending constraints of the fiscal year 2000 budget, and the urgency this Administration places on the research initiatives proposed, it was necessary again to request the termination of a number of ongoing research projects. Some of these projects were identified in prior budgets as less critical to the overriding issues of national importance, such as food safety for all Americans. While important, such projects as wild rice breeding, turf grass evaluation, development of feeds for aquaculture, floriculture research, Hops genetics research, etc. were deemed to be of lesser priority than the initiatives advanced in this budget. All the projects are evaluated within the ARS research portfolio. Decisions are based on the following criteria: the relevance of the research project, the availability of sufficient resources to conduct the research, and the overall impact of research on American agriculture.

The overall reduction and redirection requested represents four percent of the total research program authorized and funded by the Congress. The $35 million would essentially be reallocated to these national research priorities. These initiatives are supported by the Congress, agricultural stakeholders and others who have interests in food, nutrition, and environmental programs. Infectious and zoonotic diseases of livestock, wheat and barley scab, bioinformatics, genetic engineering in major crops, invasive weeds, pathogen control in slaughtering, nutrition and chronic diseases, IPM, understanding the carbon cycle in global change—these are some of the new projects requested and are considered to be of greater critical importance to the Congress and the Nation than those projects recommended for termination.

Question. Please prioritize the research program and operational increases requested for fiscal year 2000.

Answer. ARS' program and operational increases proposed for fiscal year 2000 listed in order of priority will be provided for the record.

[The information follows:]

Agricultural Research Service

[Proposed Increases Listed in Priority Order]

Pay Costs	$9,930,000
Emerging Diseases and Exotic Pests of Plants and Animals	8,133,000
Food Safety	11,720,000
Human Nutrition Initiative	20,250,000
Food Quality and Protection Act Implementation	3,167,000
Sustainable Ecosystems	11,100,000
Agricultural Genome	2,750,000
Global Climate Change	15,300,000
Air Quality	2,000,000
Agricultural Information	2,000,000
Total	86,350,000

Question. For each of the research program increases proposed for fiscal year 2000, please provide the current (base) level of funding available to support the research, a brief description of the research work and where the research will be conducted.

Answer. The current base level funding, a brief description of the research work and location for fiscal year 2000 increases will be provided for the record.

[The information follows:]

AGRICULTURAL RESEARCH SERVICE FISCAL YEAR 2000 PROPOSED INCREASES

SUSTAINABLE ECOSYSTEMS—$11,100,000 ($112,074,000 AVAILABLE IN FISCAL YEAR 1999)

Implement the CENR (Committee on Environment and Natural Resources) Research and Monitoring Framework—$600,000

Tucson, AZ, $300,000.—Expand Semi-Arid Land-Surface-Atmosphere (SALSA) project in the Southwest.

Miami, FL, $300,000.—Expand projects on integrated crop and animal production systems in the Southeast.

Advance Ecological Science for Sustainable Livestock Management Systems—$900,000

Ames, IA, $300,000.—Develop improved storage, handling, and treatment systems for swine manure.

Brooksville, FL, $300,000.—Develop best management practices for effective use of manure nutrients from cattle.

University Park, PA $300,000.—Initiate a national effort to develop Park, PA the relationship between soil phosphorus and movement of phosphorus to surface waters in major soils of the U.S.

Predict Impacts and Restore the Viability of Damaged Riparian Zones and Coastal Habitats.—$1,100,000

Tifton, GA $300,000.—Develop management practices to maximize the ability of riparian zones to protect water quality in the Coastal Plains.

Oxford, MS, $300,000.—Develop methods to protect water quality in the Mississippi Delta.

Florence, SC, $250,000.—Determine the effectiveness of removal of nutrients and pathogens from liquid animal waste.

Baton Rouge, LA $250,000.—Develop guidelines and procedures to protect water quality in the Louisiana Bayous.

Conduct Integrated Ecosystem Risk Assessments—$600,000

Ft. Collins, $300,000.—Develop models and decision support CO tools to assess stresses and effects of Great Plains farming practices.

Temple, TX, $300,000.—Develop models to forecast ecosystem responses to multiple stresses related to agricultural production practices and systems.

Prevent and Control Invasive Weed Species for Ecosystem Management—$600,000

Prosser, WA $300,000.—Develop and implement weed IPM, with a focus on weeds of irrigated crops for ecosystem management.

Albany, CA, $300,000.—Conduct foreign exploration for new weed biological control agents for ecosystem management.

Develop and Implement Biologically-Based Integrated Pest Management Systems for Invasive Weeds and Other Pests—$2,700,000.

Davis, CA, $300,000.—Develop biologically-based weed management with emphasis on integration of biological control agents.

Logan, UT $300,000.—Develop biologically-based weed IPM with emphasis on invasive weeds.

Morris, MN, $300,000.—Develop biologically-based weed IPM with emphasis on crop weeds.

Frederick, $300,000.—Conduct foreign exploration MD for new pathogens of exotic weeds.

Ft. Lauderdale, FL, $300,000.—Conduct foreign exploration for new FLbiological control agents of exotic weeds.

Newark, DE, $300,000.—Conduct foreign exploration for new insect natural enemies of horticultural crop pests.

Stuttgart, AR, $300,000.—Develop and implement biological controls to manage invasive weed and problematic algal species.

Beltsville, MD $300,000.—Develop attractants for invasive pest species such as Asian Longhorned Beetle.

Kearneysville, WV $300,000.—Develop and implement non-chemical pest management of tree fruits and small fruits.

Prevent and Control Eutrophication, Harmful Algal Blooms, and Hypoxia—$4,100,000

Oxford, MS, $300,000.—Develop alternative practices and systems to reduce storm water runoff and runoff of manure and fertilizer nutrients in coastal waterways.

Lincoln, NE, $300,000.—Develop guidelines and decisionmaking tools that establish sound levels of manure and fertilizer nutrients in the Midwest and the hypoxia problem in the Gulf of Mexico.

Ames, IA, $300,000.—Establish a center for hypoxia research in the Midwest.

Beltsville, MD, $300,000.—Expand projects for improved soil, water, and air quality in the Chesapeake Bay.

Stoneville, MS, $500,000.—Develop techniques to better monitor and manage water quality, off-flavor components, and wastes in aquaculture production systems.

University Park, PA, $300,000.—Develop guidelines and decisionmaking tools on sound levels of phosphorus and other animal manure nutrients to reduce eutrophication and toxic algal blooms in the Mid-Atlantic region.

Columbus, OH, $300,000.—Expand projects to capture, treat, and recycle drainage water in the Midwest.

Watkinsville, GA, $300,000.—Expand projects for improved soil, water, and air quality in the Southeast.

Tifton, GA, $300,000.—Expand projects to enhance the use of wetlands and riparian zones for fish and wildlife habitat.

Bushland, TX, $300,000.—Expand projects for improved soil, water, and air quality on the High Plains of the Southwest.

Kimberly, ID, $300,000.—Expand projects for improved soil, water, and air quality in the Northwest.

Ames, IA, $300,000.—Determine processes controlling the effectiveness of biofilters in Midwest agricultural drainage areas.

Florence, SC, $300,000.—Develop best management practices for effective use of swine manure nutrients.

Predict Ecological Impacts of Extreme Natural Events—$500,000

Lubbock, TX, $250,000.—Develop technology for seasonal and interannual weather predictions based upon El Nino forecasting to decisionmaking by dryland farmers.

El Reno, OK, $250,000.—Develop weather forecasting capabilities to climate variability and forecasts in time scales relevant to agricultural operations.

AIR QUALITY—$2,000,000 ($4,923,000 AVAILABLE IN FISCAL YEAR 1999)

Research on Particulate (PM) Emissions and Controls—$1,500,000

Fresno, CA, $800,000.—Understand processes of agricultural PM emissions during field operations (equipment usage and burning).

Lubbock, TX, $400,000.—Understand processes of PM emissions by cattle feed yards, and swine facilities.

Pullman, WA $300,000.—Develop understanding of emission of PM by agriculture (emphasis on high wind-induced emissions, but also with attention to burning).

Research on Emission and Control of Odors—$250,000

Clay Center, NE, $250,000.—Determine the influence of cattle diet on the formation of odor-causing compounds.

Research on Protection of Agricultural Crops from the Effects of Tropospheric Ozone—$250,000

Raleigh, NC, $250,000.—Develop understanding of the biophysical processes by which ozone causes crop damage.

GLOBAL CHANGE RESEARCH—$15,300,000 ($25,806,000 AVAILABLE IN FISCAL YEAR 1999)

U.S. Global Change Research Program, Carbon Cycle Research Initiative—$5,000,000

Ft. Collins, CO, $600,000.—Develop a balance sheet approach to the modeling and prediction of agricultural emissions and sequestrations of greenhouse gases at the national scale.

Auburn, AL, $600,000.—Determine the extent of sequestration of greenhouse gases in cropland soils associated with tillage systems.

Cheyenne, WY, $600,000.—Determine the rate, sources, fate, seasonal timing, and depths of deposition of organic carbon in cropland and grazingland soils.

El Reno, OK, $600,000.—Develop methods and establish long-term monitoring of changes in the carbon balance of various forage production systems.

Temple, TX, $600,000.—Document rates of storage of atmospheric greenhouse gases in clay soils.

Athens, GA, $500,000.—Develop and apply new technology for monitoring methane emissions from cattle, livestock waste lagoons, and other agricultural sources.

Mandan, ND, $300,000.—Develop data bases suitable for modification and validation of models which quantify rates of carbon storage in grazinglands soils.

Pendleton, OR, $300,000.—Develop simple, easily-used models which accurately predict rates of change in organic carbon content of cropland soils.

Morris, MN, $300,000.—Document the effects of tillage and other management options for cold, wet soils with carbon storage.

St. Paul, MN, $300,000.—Develop new technology for accurately measuring fluxes of carbon dioxide above crops and cropland soils.

Ames, IA, $300,000.—Determine which of the many kinds of microbes present in cropland soils are most important in altering soil carbon content.

Mitigating Climate Change Impacts on Food Availability—$2,000,000

Phoenix, AZ, $600,000.—Determine how the availability of water and plant nutrients interact with rising temperatures and atmospheric carbon dioxide levels.

Gainesville, FL, $600,000.—Identify the physiological, biochemical, and genetic mechanisms by which rising temperatures reduce seed yield and quality of sensitive crops.

Beltsville, MD, $500,000.—Identify germplasm of major crops that is tolerant of high temperatures, limited availability of water or nutrients, and elevated atmospheric carbon dioxide levels.

Temple, TX, $300,000.—Determine how the effects of rising atmospheric carbon dioxide levels will alter the productivity and water relations of rangelands.

Impacts of Atmospheric and Climate Change on Alaskan Agro-Ecosystems—$1,000,000

Fairbanks, AK, $1,000,000.—Initiate research on the effects of a changing climate and rising atmospheric carbon dioxide levels on Alaskan agriculture.

U.S. Global Change Research Program National Assessment Activities—$300,000

Headquarters, $300,000.—Participate in developing integrated assessment of global change impacts on agriculture, food and water availability, and other relevant resources and sectors of the U.S. economy, as required by the Global Change Act of 1990.

New Technology for Predicting and Adapting to Global Change Impacts—$4,000,000

Tucson, AZ, $600,000.—Develop basin-scale simulation models of soil- vegetation-atmospheric fluxes of water and energy suitable for prediction of climate change impacts.

Beltsville, MD, $600,000.—Develop models to predict and assess impacts of weather variation and a changing climate on soil water availability.

Burns, OR, $600,000.—Develop data bases documenting long term effects of greenhouse-induced changes in amounts and patterns of precipitation on the productivity and species composition of rangeland vegetation.

El Reno, OK, $600,000.—Develop and apply new genetic improvement of forage cultivars tolerant to elevated temperatures, limited availability of water, and other extreme environmental conditions.

Boise, ID, $600,000.—Develop and refine simulation models which accurately predict effects of climate change on the availability of water from snowmelt in the West.

Raleigh, NC, $600,000.—Develop data bases to describe effects of rising atmospheric carbon dioxide on population dynamics and damage inflicted on major crops by insect pests.

Urbana, IL, $400,000.—Develop the molecular technology required in understanding the "sucrose transporter gene".

New Technologies for Improving and Expanding Biomass for Energy—$3,000,000

Lincoln, NE, $600,000.—Develop improved varieties and management practices for producing switchgrass and other promising grass species.

Madison, WI $600,000.—Develop processes and machinery for harvesting, transporting, and storage of crop residues and dedicated energy crops, for biomass separation.

St. Paul, MN, $600,000.—Develop improved varieties and management practices for producing alfalfa and other promising legume species.

Tifton, GA, $600,000.—Develop more productive varieties and improved management practices for switchgrass and other grasses.

Miss. State, MS, $600,000.—Develop persistent and productive legume/grass mixtures for biofuel production.

AGRICULTURAL GENOMES—$2,750,000 ($44,936,000 AVAILABLE IN FISCAL YEAR 1999)

Genomic Approaches for Improving Economically Important Traits in Livestock, Poultry, and Fish that Affect Animal Health and Economic Yield—$300,000

Beltsville, MD, $300,000.—Identify genetic basis for mammary gland resistance to mastitis and productivity.

Bioinformatic Tools, Biological Databases, and Information Management Technology—$1,100,000

Clay Center, NE, $500,000.—Develop methods to compare and analyze large numbers of DNA sequences for livestock genes, affecting production traits.

Beltsville, MD, $300,000.—Enhance the interconnection and interoperability of the GRIN and genome databases.

Columbia, MO, $300,000.—Develop software to improve the statistical precision of mapping genes and locating QTLs.

Genomic Approaches to Characterizing and Improving the Productivity of Microbes of Industrial or Medicinal Importance—$650,000

Peoria, IL, $350,000.—Apply genomic tools to discover genotypes of fungi, bacteria, actinomycete used to produce medicine or industrial products by fermentation and other biochemical processes.

Beltsville, MD, $300,000.—Develop knowledge of the genomes of the plant pest nematode, soybean cyst nematode, and of the swine pest nematode, Ascaris.

Characterize Genome of Insects which are Pollinators, Either Beneficial or Pests of Crops—$300,000

Baton Rouge, LA, $300,000.—Apply genomic tools to develop bees with resistance to mites and disease.

Functional Genomic Approaches to Manipulating the Function of Important Genes in Crops—$400,000

Albany, CA, $400,000.—Investigate the congruence of patterns in gene expression (as measured by mRNA occurrence).

FOOD QUALITY PROTECTION ACT IMPLEMENTATION—$3,167,000 ($90,992,000 AVAILABLE IN FISCAL YEAR 1999)

Areawide IPM Programs Demonstrating Alternatives to At-Risk Pesticides—$1,000,000

Headquarters, $1,000,000.—Develop increased areawide IPM programs focused on replacements for at-risk pesticides.

Support for USDA Office of Pest Management Policy—$1,500,000

Headquarters, $1,500,000.—Support for the USDA Office of Pest Management and Policy (OPMP).

Develop IPM Component Technology for Fruits and Vegetables Treated with Organophosphates and Carbamates and for Pests Under Large-Scale Action Agency Eradication or Control Programs—$667,000

Ft. Pierce, FL, $300,000.—Manage vegetable disease by control of vectors and disease transmission.

College Station, TX, $367,000.—Develop IPM technologies to replace malathion for boll weevil control and eradication.

EMERGING AND EXOTIC DISEASES, AND PESTS OF CROPS—$8,133,000 ($127,702,000 AVAILABLE IN FISCAL YEAR 1999)

Wheat and Barley Scab—$900,000

St. Paul, MN, $300,000.—Conduct research on spring wheat genetics for resistance to wheat scab.

Fargo, ND, $300,000.—Conduct research on durham wheat and barley for resistance to Fusarium head blight.

Peoria, IL, $100,000.—Conduct research on control of vomitoxin and biocontrol of wheat scab.

Madison, WI, $75,000.—Conduct research on the molecular biology of wheat transformation.

Albany, CA, $50,000.—Conduct research on wheat genetics for resistance to wheat scab.

Raleigh, NC $75,000.—Conduct research on wheat scab epidemiology in the Southeastern U.S.

New Emerging and Exotic Diseases—$600,000

Charleston, SC, $300,000.—Develop biologically-based control measures for management of nematodes and insects of vegetable crops.

Fort Pierce, FL, $300,000.—Develop improved methods for detection, identification, and control of whitefly-transmitted plant viruses.

Emerging and Exotic Weeds/Plant Pests—$2,033,000

Headquarters, $733,000.—Support scale-up pilot tests for areawide IPM implementation.

Montpellier, FR, $300,000.—Plant ecology and molecular taxomony-based foreign studies on the biology, genetics, and natural control of insect and weed pests in sites of origin.

Sidney, MT, $700,000.—Develop biologically-based weed IPM with emphasis on using plant pathogen agents for rangeland and crop weeds.

Miami, FL, $300,000.—Conduct biological control research in support of APHIS' exotic pest control programs in the Caribbean Basin.

Systematics of Invasive Weeds and Other Pests—$500,000

Beltsville, MD, $500,000.—Develop the systematics and taxonomy of key invading pest species and biological control agents for weed pests.

Rapid Identification, Prevention, and Control of Emerging Exotic Infectious Diseases of Livestock and Aquaculture—$1,300,000

Orient Point, NY, $1,300,000.—Compare the pathogenesis of new variants of classical swine fever (hog cholera) viruses from recent Western hemisphere and European outbreaks.

Rapid Identification, Prevention, and Control of Emerging Domestic Infectious and Zoonotic Diseases of Livestock—$900,000

East Lansing, MI, $300,000.—Develop DNA sequence databases and the needed diagnostic tools for investigations of the genetic diversity of the retrovirus, avian leukosis subgroup J.

Ames, IA, $300,000.—Determine how chronic wasting disease is transmitted through environmental contamination or animal contact on the range.

Beltsville, MD, $300,000.—Investigate mechanisms of drug resistance in coccidia in poultry.

Develop Vaccines for Brucellosis in Wildlife—$1,000,000

Ames, IA, $1,000,000.—Develop vaccines for brucellosis of wildlife.

Livestock Pests—$900,000

Lincoln, NE, $300,000.—Determine larval breeding sites, and IPM strategies to control stable flies.

Gainesville, FL, $300,000.—Develop wide area projects to control fire ants.

Weslaco, TX, $300,000.—Develop methods to control the small hive beetle.

FOOD SAFETY—$11,720,000 ($69,868,000 AVAILABLE IN FISCAL YEAR 1999)

Pathogen Control in Fruits and Vegetables—$2,100,000

Beltsville, MD, $600,000.—Investigate the ecology of foodborne pathogens on fresh cut produce to optimize varieties of fruits and vegetables.

Wyndmoor, PA, $900,000.—Develop methods of inhibiting pathogens on whole and fresh-cut fruits and vegetables, using irradiation, and steam pasteurization.

Albany, CA, $600,000.—Quantify effects of phytochemicals and environmental conditions on growth and survival of E. coli O157:H7, salmonella and campylobacter on the surface of fruits and vegetables.

Pathogen Control During Slaughter and Processing—$700,000

Athens, GA, $700,000.—Develop system for on-line detection of unwholesome poultry in slaughter plants.

Investigate Antimicrobial Resistance—$1,620,000

Wyndmoor, PA, $900,000.—Develop molecular characterization methods to facilitate identification of the resistant pathogens detected in food.

Peoria, IL, $720,000.—Establish culture collections of resistant and nonresistant bacterial and fungal pathogens.

Manure Handling and Distribution—$2,500,000

Miss. State, MS, $600,000.—Develop practical and economical pathogen reduction process methods to handle and treat manure in poultry production operations.

Ames, IA, $400,000.—Develop practical and economical pathogen reduction process methods to handle and treat manure in swine production operations.

Clay Center, NE, $300,000.—Develop practical and economical pathogen reduction process methods to handle and treat manure in swine production operations.

Lincoln, NE, $300,000.—Develop practical and economical pathogen reduction process methods to handle and treat manure in swine production operations.

Bushland, TX, $600,000.—Develop practical and economical pathogen reduction process methods to handle and treat manure in cattle production operations.

Phoenix, AZ, $300,000.—Determine the identity and amounts of viable, bacterial, and parasitic, and zoonotic pathogens associated with the use of municipal wastewater when used in irrigation of crops.

Antibiotic Resistance—$1,800,000

Athens, GA, $600,000.—Determine factors favoring the acquisition and dissemination of resistance genes among pathogens and nonpathogens, particularly for poultry.

Ames, IA, $600,000.—Determine the factors or conditions favoring the acquisition and dissemination of resistance genes among pathogens and nonpathogens, particularly in relation to cattle and swine.

College Station, TX, $600,000.—Develop basic information, using chemostat model systems, on the time and dose dependency of various antibiotics.

Risk Assessment—$2,400,000

Athens, GA, $600,000.—Develope data for use in assessing risk on the contamination of poultry presented for slaughter.

West Lafayette, IN, $600,000.—Assess the risk of various swine production practices, and transportation systems on contamination of the animals as they are presented for slaughter.

Clay Center, NE, $600,000.—Develop data for use in assessing risk on the contamination of cattle as they are presented for slaughter.

Beltsville, MD, $600,000.—Develop predictive models for the risk of transmission of zoonotic parasites through farm management systems, animal manure and water runoff.

Reduce Fungal Toxins—$300,000

Athens, GA, $300,000.—Develop methods to prevent the occurrence of endophytic fungi in corn and grasses, in particular those fungi producing the fumonisins and ergot alkaloids.

Reduce Zoonotic Disease Risk—$300,000

Fayetteville, AR, $300,000.—Develop knowledge of diseases in chickens and turkeys to prevent the serious manifestations of osteoporosis, anoxia, and ascites.

HUMAN NUTRITION—$20,250,000 ($69,121,000 AVAILABLE IN FISCAL YEAR 1999)

PHASE 3 OF THE PRESIDENT'S HUMAN NUTRITION RESEARCH INITIATIVE—$20,250,000

Update the National Nutrient Database—$2,200,000

Beltsville, MD, $2,200,000.—Analyze the nutrient content of those key foods that supply the bulk of the important nutrients in the American diet.

Development of Food Composition Methods—$1,200,000

Beltsville, MD, $1,200,000.—Develop robust analytical methods to determine the concentration of nutrients in foods.

Determination of Healthy Body Weight—$2,500,000

Beltsville, MD, $600,000.—Investigate energy restriction and physical activity as they relate to tissue metabolic activity and body composition.

Houston, TX, $600,000.—Identify the alterations in biochemical and neuropsychological regulators of energy intake, energy expenditure and appetite that relate to childhood obesity.

San Francisco, CA, $700,000.—Assess detrimental energy effects including reduced immune response, diminished short term memory and reduced energy needs.

Little Rock, AR, $600,000.—Study the interaction of diet with the long term physical and cognitive indicators of health in older children.

Role of Nutrition in Bone Growth and Maintenance—$3,600,000

Boston, MA, $1,200,000.—Assess the requirements for nutrients critical to bone health and the prevention of osteoporosis in aging adults.

Houston, TX, $1,200,000.—Determine factors that affect the ability of rapidly growing children to absorb and utilize minerals from animal and vegetable sources for the formation of bone.

Grand Forks, ND, $600,000.—Assess the role of mineral elements and their interactions relative to bone growth.

Little Rock, AR, $600,000.—Determine the effects of early dietary factors on long-term consequences of bone growth.

Development of Biomarkers of Nutritional Status—$3,500,000

Beltsville, MD, $700,000.—Study the relationship between immune competence and diet.

Houston, TX, $600,000.—Study the effects of colostrum and other dietary factors on skeletal muscle protein in the rapidly growing neonate.

San Francisco, CA, $1,200,000.—Identify sensitive biomarkers that are indicative of health promotion.

Grand Forks, ND, $1,000,000.—Identify the regulatory genes of importance that are responsive to trace minerals in the diet.

Cognition and Brain Function—$3,450,000

Boston, MA, $500,000.—Assess dietary factors that alter vascular reactivity and brain function in the elderly.

Grand Forks, ND, $600,000.—Study the relationship between mineral nutriture and cognitive function including reasoning, memory and visual perception.

Little Rock, AR, $1,700,000.—Study cognitive and social development of growth delayed in malnourished infants and children.

Little Rock, AR, $650,000.—Determine the precise relationship between nutrients in the diet and the development of cognition in children.

Diet and Immune Function—$2,100,000

San Francisco, CA, $900,000.—Define the relationship between nutrition and the induction of the synthesis of immunoglobulins.

Boston, MA, $300,000.—Determine changes in the immune response that occur throughout the aging process.

Beltsville, MD, $500,000.—Expand studies of the effect of nutritional status of a host on viral pathogen.

Little Rock, AR, $400,000.—Determine foods in the diets of young children that have a positive effect on growth and development.

Role of Nutrition Throughout the Life-Cycle—$1,300,000

Houston, TX, $800,000.—Define the relationship of nutritional status at various stages of childhood.

Boston, MA, $500,000.—Develop measures which help delineate the relationship between diet and the development of vascular dementia in the elderly, and between diet and the rate of physical form and function in the elderly.

Enhanced Dietary Survey Methodology—$400,000

Beltsville, MD, $400,000.—Continue development of telephone technology for use in dietary surveys with the aim of reducing cost and improving accuracy.

AGRICULTURAL INFORMATION—$2,000,000 ($19,948,000 AVAILABLE IN FISCAL YEAR 1999)

Information Services for Rural America—$2,000,000

NAL, $2,000,000.—Develop enhanced methods to communicate critical agricultural information to rural America.

TOTAL ALL PROGRAM INCREASES: $76,420,000

Question. An increase of $8.1 million is proposed for fiscal year 2000 for research on emerging diseases and exotic pests. Provide a summary of total ARS funding for emerging diseases and exotic pests for each of fiscal years 1998 and 1999 and that requested for fiscal year 2000, along with a brief description of the project and where the research is currently being conducted, or is proposed to be conducted.

Answer. The Agricultural Research Service devoted $109,772,700 in fiscal year 1998, $127,701,500 in fiscal year 1999, and proposes $148,273,000 in fiscal year

2000 for research on emerging diseases and exotic pests. A description of the current research and the locations where the research is being conducted is provided for the record.

[The information follows:]

Location/Research Description	*Fiscal year 1999 funds*
Auburn, AL (Aquaculture diseases, diagnosis and prevention)	$1,913,700
Fayetteville, AR (Food safety/pathogen reduction in poultry)	293,800
Albany, CA (Food safety/pathogen reduction in fruits and vegetables/yellowstar thistle/salt cedar)	6,180,900
Davis, CA (Control of diseases of perennial crops)	70,600
Fresno, CA (Alternatives to Methyl Bromide)	762,300
Funds Riverside, CA (Food safety/pathogen reduction in fruits, vegetables, beef and poultry/animal manure/alternatives to Methyl Bromide)	734,100
I89 Salinas, CA (Alternatives to Methyl Bromide)	428,700
Fort Collins, CO (Diseases of sugar beets)	242,100
Washington, DC (Control of diseases of ornamentals/alternatives to Methyl Bromide)	952,600
Newark, DE (Quarantine clearance, biology and ecology)	1,018,300
Canal Point, FL (Control of sugarcane diseases)	123,400
Fort Lauderdale, FL (Control of wetland and aquatic weeds)	749,700
Gainesville, FL (Control of arthropod pests of livestock and humans)	5,633,400
Orlando (Ft. Pierce, FL) (Alternatives to Methyl Bromide)	939,900
Athens, GA (Food safety/pathogen reduction in poultry)	10,058,400
Byron, GA (Control of nematodes and diseases of peaches)	209,700
Griffin, GA (Quarantine clearance/disease identification)	82,800
Tifton, GA (Integrated nematode management on irrigated crops and control of diseases of forage and turf)	633,000
Ames, IA (Zoonotic diseases such as brucellosis, leptospirosis, tuberculosis and infectious diseases of cattle and swine/food safety/pathogen reduction in cattle and swine)	20,570,100
Peoria, IL (Infectious diseases of livestock/biological control of root and tuber diseases)	1,238,900
Urbana, IL (Control of Soybean Cyst Nematode)	112,000
West Lafayette, IL (Food safety/pathogen reduction in swine)	296,400
New Orleans, LA (Control of diseases and insects in sugarcane)	219,300
Beltsville, MD (Systematics, biology, ecology and management of plant diseases and pests/parasitic diseases/mastitis/food safety/pathogen reduction in swine, fruits and vegetables)	18,852,900
Frederick (Ft. Detrick, MD) (Pathogen quarantine clearance, biology and ecology)	1,414,400
East Lansing, MI (Tumorigenic viruses of poultry)	2,088,600
St. Paul, MN (Control of forage disease)	52,900
Columbia, MO (Stress in pigs)	617,600
Mississippi State, MS (Control of mycoplasmosis in poultry)	544,900
Oxford, MS (Biological control of pests and diseases)	277,700
Funds Stoneville, MS (Application technology and bioherbicides/control of Soybean Cyst Nematode)	248,600
Sidney, MT (Control of rangeland weeds)	694,900
Raleigh, NC (Control of diseases in wheat)	146,100
Fargo, ND (Food safety/toxins/leafy spurge)	296,400
Clay Center, NE (Herd health/food safety/pathogen reduction in cattle)	5,191,600
Lincoln, NE (Control of livestock pests)	1,031,200
Ithaca, NY (Control of potato nematodes and diseases/small grain viruses/grape rootstocks	1,496,100)
Orient Point, NY (Highly infectious exotic animal diseases)	9,678,300
Wooster, OH (Pesticide application technology/control of corn virus diseases)	271,600
Stillwater, OK (Control of Russian Wheat Aphid)	196,600
Corvallis, OR (Control of diseases in nursery crops, ornamentals and small fruits)	1,448,600
Wyndmoor, PA (Food safety/pathogen reduction in animal products, fruits and vegetables)	8,692,900
Charleston, SC (Control of nematodes and diseases of vegetables)	486,600

Location/Research Description	*Fiscal year 1999 funds*
College Station, TX (Food safety/pathogen reduction in poultry, swine and cattle/application technology/control of cotton diseases)	4,407,500
Kerrville, TX (Integrated pest management of ticks and biting flies)	4,338,500
Lubbock, TX (Food safety/pathogen reduction of cattle)	281,600
Temple, TX (Biological control of salt cedar and musk thistle)	147,200
Weslaco, TX (Integrated production systems)	594,600
Logan, UT (Food safety/poisonous plants effect on livestock)	63,600
Prosser, WA (Potato variety improvement)	384,200
Pullman, WA (Control of smut diseases of grains/tickborne diseases/transmissible spongiform encephalopathy)	3,277,600
Wenatchee, WA (Control of diseases of tree fruits)	344,000
Kearneysville, WV (Fruit production and disease control)	677,200
Laramie, WY (Vector-borne diseases of livestock)	3,454,700
Buenos Aires, Argentina (Foreign exploration, biology, ecology, testing, and shipment)	507,000
Montpellier, France (Foreign exploration, biology, ecology, testing and shipment)	1,051,000
Panama City, Panama (Screwworm eradication)	980,200
Total	127,701,500

A description of the proposed research and the locations where the research is being proposed to be conducted which is included in the fiscal year 2000 Emerging Diseases and Exotic Pests increase is provided for the record.

[The information follows:]

Emerging diseases and exotic pests

Emerging exotic infectious diseases of livestock: Orient Point, NY—Hog cholera pathogenesis and vaccines	$1,300,000
Emerging domestic infectious and zoonotic diseases of livestock:	
E. Lansing, MI—Avian Leukosis J virus diagnosis and vaccines	300,000
Ames, IA—chronic wasting disease control	300,000
Beltsville, MD—drug resistance in coccidia of poultry	300,000
Subtotal	900,000
Vaccines for brucellosis in wildlife: Ames, IA—brucellosis vaccines for wildlife	1,000,000
Livestock pests:	
Lincoln, NE—integrated pest management of stable flies on cattle	300,000
Gainesville, FL—fire ants control	300,000
Weslaco, TX—control of small hivebeetle (pest of bees)	300,000
Subtotal	900,000
Emerging and exotic plant pests/weeds:	
Headquarters—areawide IPM implementation	733,000
Montpellier, FR—plant ecology and molecular taxonomy	300,000
Sidney, MT—biologically-based weed IPM	700,000
Miami, FL—biological control of pests in Caribbean Basin	300,000
Subtotal	2,033,000
New emerging and exotic plant diseases:	
Charleston, SC—biological control of nematodes and insects	300,000
Fort Pierce, FL—whitefly-transmitted plant viruses	300,000
Subtotal	600,000
Wheat and barley scab:	
St. Paul, MN—spring wheat genetics for wheat scab	300,000
Fargo, ND—fusarium head blight	300,000

Emerging diseases and exotic pests—Continued

Peoria, IL—vomitoxin and biocontrol of wheat scab	100,000
Madison, WI—molecular biology of wheat transformation	75,000
Albany, CA—wheat genetics	50,000
Raleigh, NC—wheat scab epidemiology	75,000
Subtotal	900,000
Systematics of invasive weeds/pests: Beltsville, MD—systematics and taxonomy	500,000
Total	8,133,000

Question. What has been accomplished through research on emerging and exotic pests?

Answer. Key accomplishments of ARS research on emerging and exotic pests and weeds include establishment of nine biological control agents against leafy spurge, a major weed that costs ND, SD, MT and WY alone $144.4 million/year. Biological control with co-evolved natural enemies is the only option for affordable, sustainable, and environmentally compatible leafy spurge management. For example, the introduced flea beetles (Aphthona spp.) cause 80 percent reduction of leafy spurge at release sites. A TEAM Leafy Spurge group has been formed to manage ARS' newest areawide pest management program (AWPM), against leafy spurge. Biological, chemical and cultural control of leafy spurge is managed as part of the ARS-funded ($4.5 million over five years) TEAM Leafy Spurge project, which involves other Federal agencies and States.

Another major accomplishment is the establishment of a weevil against the Australian plant melaleuca, a major wetlands invasive exotic weed in the Florida Everglades. Early damage on melaleuca by the weevil is significant. Melaleuca has changed the drainage in a large part of southern Florida: it spreads at the rate of 50 acres/day, and occupies 500,000 acres of native wetlands. Biological control is the only option for long-term, affordable, environmentally compatible management of melaleuca, and several other natural enemies are slated for release over the next several years.

Waterhyacinth, an invasive floating aquatic weed from South America, has been managed by the introduction of two weevil species, saving the southeastern U.S. millions of dollars, and reducing pressure on native aquatic and wetlands plants. This technology has been transferred to other countries (e.g., Australia and Africa) to help manage waterhyacinth.

Many other invasive weed species infest large portions of the U.S., causing loss of productivity and biological diversity, displacement of native vegetation, and job loss. There are annual losses of $13 billion from weeds in the U.S.

Pests such as codling moth, corn rootworm, stored grain insects, corn earworm/tobacco budworm, Russian wheat aphid, Colorado potato beetle, boll weevil, sweetpotato whitefly, and fruit flies are targets of the successful ARS AWPM programs. As with the leafy spurge AWPM program, these projects are funded at about $1 million/year for five years, about half of which funds work by partners in other Federal agencies and States. As examples of accomplishments of the ARS AWPM program, details of two of these projects follow.

Codling moth is a serious pest of apples and pears in the U.S. In 1994, before the AWPM program was initiated, only 11,000 acres were treated with mating disruption technology in Washington State. By 1998, there were more than 44,000 acres using the technology throughout Washington, Oregon, and California. A result of the diminished use of hard pesticides has been a resurgence in the natural enemy populations that have exerted almost complete control of secondary pests, and further reduced the costs of insect control on apples and pears in this three-state area. Populations of codling moth were reduced to almost undetectable levels at some of the 17 project sites. The cost of the control was less in the mating disruption treated orchards than in orchards treated with conventional organo-phosphate pesticides.

Corn rootworm populations can be reduced by 85 to 95 percent with less than 10 percent of the chemicals used in current corn rootworm control regimes by using adult attracticide baits developed by ARS and now marketed by industry. This technology is the basis for the AWPM program on corn rootworm in the midwestern U.S. and Texas, which includes more than 25,000 acres in the research demonstration project.

The ARS research on invasive pests has led to a better understanding of the ways that these pests are introduced into the U.S. (leading to better exclusion techniques), eradication of incipient populations before they become pests, and manage-

ment of established populations through biologically based integrated pest management. ARS plans and implements management of invasive species by closely working with customers and partners such as the USDA-Forest Service, USDA-Animal and Plant Health Inspection Service, universities and State departments.

Question. What new threats of plant and animal diseases and pests has the agency identified and what new and expanded research initiatives are proposed to address these problems?

Answer. *Plant Pests.*—New invasive species are discovered every month in the U.S. ARS has proposed several new initiatives to control these threats as they occur. Recently, for example, giant salvinia was discovered in Louisiana and Texas. This invasive floating weed from Brazil was successfully managed in Australia, Papua New Guinea and Africa by introduction of a small weevil in a biological control program. A USDA-State team is in the process of developing an integrated weed management program for the U.S.

The Asian gypsy moth, a close relative of the gypsy moth, is periodically discovered in the U.S. This species could further devastate trees in the U.S. However, rapid detection and eradication by USDA and States has prevented its establishment.

Programs are developed in advance of threats of invasion by key pest species. For example, ARS and APHIS, together with international colleagues, implemented a biological control program for the pink hibiscus mealybug in the Caribbean that resulted in management of this pest. Should the mealybug arrive in the U.S., the biological control technology is already available to quickly manage the pest.

New threats from other invasive weeds such as salt cedar, mile-a-minute weed, kudzu, Chinese tallow, tropical soda apple and other related species, and miconia, and insects such as the Asian longhorned beetle, giant whitefly, etc., continue to invade the U.S. Research initiatives concentrating on learning more about the basic biology, systematics, and ecology of these invasive species, leading to implementation of biologically based integrated pest management programs have been proposed for each region of the country.

ARS has approximately 70 projects at 29 locations conducting basic and applied research directly related to integrated pest management (IPM). Current and planned future IPM studies in support of the Department's IPM goal are tailored to each pest and designed to be sustainable over time.

Animal Diseases.—Changes in animal production practices, climate change, and increased international trade and travel are creating new opportunities for the reemergence and spread of infectious diseases and pests. Control of diseases is needed in both domestic and wild animals, as the latter are reservoirs of disease. Emerging threats have been identified from avian leukosis, chronic wasting disease of cervids, drug-resistant coccidiosis, wildlife brucellosis, and stable flies.

New and expanded program thrusts include:

Research to develop a new generation of biochemical and DNA based diagnostic tools for sensitive and rapid detection of exotic pathogens and to develop new vaccines.

Identification, prevention, and control of emerging domestic infectious and zoonotic diseases of livestock and aquaculture, including avian leukosis, chronic wasting disease, and coccidiosis.

Development of vaccines for brucellosis in wildlife.

Control of livestock pest flies through biologically based IPM strategies.

PAY COSTS

Question. ARS is requesting $9,930,000 to finance pay costs for fiscal year 2000. Is this the total required to meet the cost of mandatory pay requirements? If not, what additional amount would be required to meet these costs? If the full amount is not being provided, what will the impact of absorbing these mandatory pay requirements?

Answer. The $9,930,000 represents half of the total required to meet the cost of the mandatory, pay requirements in fiscal year 2000. An additional $8,768,000 is required to fully finance pay cost needs of $18,698,000. These funds are critical to support an effective and responsive USDA in-house research capability. Absorption of the pay costs will result in further erosion of the Agency's capacity to maintain viable research programs. To cover these anticipated pay increases, resources will have to be shifted from other research requirements such as: travel, equipment, supplies, contracts, etc., thereby impacting the productivity of many ARS locations. Continuing absorption of these costs consequently reduces the number of scientists and support personnel who can be supported with ARS funds. These individuals are needed to carry out the USDA in-house research mission and objectives.

Question. Provide a table showing historical data for each fiscal year from 1992 to 2000: (1) ARS pay cost requirements; (2) the funding requested in the President's budget to meet these requirements; and (3) the amount appropriated to meet these costs.

Answer. The information you requested is provided for the record.

[The information follows:]

AGRICULTURAL RESEARCH SERVICE

[Pay cost history]

Years	Agency Requirements	President's Budget Request	Appropriated
2000	$18,698,000	$9,930,000	.....
1999	14,805,000	12,201,000	.....
1998	17,021,000	6,407,000	.....
1997	11,745,000	6,576,000	.....
1996	9,703,000	9,091,000	.....
1995	11,119,000	4,201,000	$4,202,000
1994	19,705,000	8,628,000	.....
1993	17,328,000	7,387,000	.....
1992	16,281,000	16,042,000	16,042,000

Question. Provide a short explanation for each of fiscal years 1995 to 1999 of how pay costs were absorbed by the agency and the consequences of absorption of these costs on agency operations and activities, including research productivity and the hiring of scientists.

Answer. As indicated in the preceding table, ARS has absorbed some $60 million of costs associated with mandatory Federal pay raises from 1995 through 1999. These costs were absorbed by every ARS research laboratory throughout the Agency. Each laboratory was required to finance the costs of increased salaries and benefits within its operating budget. Financial plans for each year reflected reductions in other important research expenditures to accommodate these increased costs. Expenditures pursuant to research—travel, scientific equipment, cooperative agreements, research supplies, hiring of full-time and temporary personnel, and post-doctoral support—have been reduced to pay the higher personnel compensation due to pay raises. Research productivity is seriously eroded under these circumstances.

Because program increases are generally directed to specific locations, most ARS locations and research units do not benefit from annual appropriation increases and are facing tight financial situations.

In order to hire replacement scientists ARS must have the assurance that the funding will be available to fully support scientist needs required in attaining their research mission. Because of these absorptions, many research units have not been able to fill scientific and technical positions. Research units cannot effectively hire scientists and provide the adequate funding necessary for essential laboratory and operating costs. Research is curtailed; productivity at the bench is diminished; and benefits postponed.

ARS ROLE IN COUNTER-NARCOTICS/ANTI-BIOTERRORISM RESEARCH

Question. For fiscal year 1999, $23 million in emergency supplemental appropriations, along with an additional $4.5 million transfer of funds from the Office of National Drug Control Policy (ONDCP) has been made available to the ARS for counter-narcotics research. Provide a detailed description of the research work this funding is being used to support, the amount of funds allocated to each project, and who will conduct this work. Please show the allocation of the $4.5 million transferred from the Office of National Drug Control Policy separately from the allocation of the $23 million emergency appropriations.

Answer. Of the allocation of $23 million, $10 million was earmarked for an external contract for the biological control of coca, opium and cannabis; $5 million to ARS for herbicidal and biological control research; $5 million to ARS for alternative crop research; and, $3 million to ARS for research on illicit narcotic plant chemistry, remote sensing and illicit crop estimation.

Specific allocations are as follows:

Herbicidal and Biological Control of Narcotics, $5,000,000

Frederick, MD: $2,000,000 to investigate augmentative biological control of poppy

Stoneville, MS: $1,000,000 to investigate augmentative biological control of coca and cannabis

Albany, CA: $1,000,000 to investigate classical biological control of poppy, coca and cannabis

Headquarters: $1,000,000 for cooperative agreements on foreign exploration, host specificity testing, and mass rearing of biological control agents for narcotic plants

Alternative Crop Research, $5,000,000

Beltsville, MD: $500,000 to determine Phytopthora resistance in potato and cacao

Miami, FL: $300,000 to develop DNA markers of cacao resistance to Crinipellis, Phytopthora and Moniliopthora

Ft. Pierce, FL: $300,000 to develop disease resistance in tropical tree fruit crops

Mayaguez, PR: $500,000 for breeding resistance in tree crops, including cacao and banana, mango, mangosteen and papaya

Starkville, MS: $300,000 to develop coffee berry borer artificial diet for biological control purposes

Organization of American States: $666,667 for field trials in Peru for the biological control of cacao pests

USDA/APHIS: $100,000 for assistance in tropical crop export promotion in Peru

University of Mississippi: $194,444 for biocontrol of cannabis

CABI Biosciences, U.K.: $888,889 to conduct cacao breeding, resistance field trials and biological control assessments

University of Maryland: $1,250,000 to develop predictive models of the epidemiology of tropical crop diseases in Colombia

Narcotic Plant Biochemistry and Identification, $3,000,000

Beltsville, MD: $500,000 to develop test models for relating opium gum yield to capsule size for worldwide opium production estimates

Beltsville, MD: $1,500,000 to develop molecular markers that characterize coca, opium poppy and cannabis populations, species and cultivars in their different native and introduced areas

Beltsville, MD: $1,000,000 to test and refine yield models of narcotic crops, gather data to enhance model performance, combine models with weather and topographic data for predictive data, examine multispectral data for remote sensing of narcotic crops

Biological Control Contract, $10,000,000

Contract: $10,000,000 for a contract for product development, environmental testing, registration, production, aerial distribution, evaluation of product effectiveness and modification of biological control agents of coca, opium poppy and cannabis.

The allocation of $4.5 million was provided through the ONDCP to ARS by means of an interagency transfer of funds. Specific allocations are as follows:

Beltsville, MD: $2,337,000 for construction and instrumentation of containment greenhouse facilities

Beltsville, MD: $166,000 for equipment associated with containment greenhouse operations and a research field site at the University of Hawaii, Kauai

Beltsville, MD: $166,000 for postdoctoral position to work on mycoherbicides and alternative crops

Stoneville, MS: $222,000 for a cooperative agreement with University of Mississippi on the use of fungi to control cannabis production

Starkville, MS: $333,000 for a cooperative agreement with Mississippi State to work with Colombian counterparts on coffee berry borer parasatoids as biological control agents for coffee pests

Miami, FL: $166,000 for cooperative agreement with University of Florida to identify genetic markers for resistance to crinipellis in cocoa

Centro Internationale Agropecuria Tropicale, Colombiam: $277,000 to evaluate market growth potential for cocoa, oil palm, and field trials for temperate and tropical tree fruit crops

U.S. Department of State, Bureau of International Narcotics: $500,000 for a cooperative agreement with the United Nations Drug Control Program for monitoring biological control tests overseas

Bozeman, MT: $333,000 for cooperative agreement with Montana State University to enhance the efficiency, yields, alkaloid extraction and processing capability of the licit opium industry in Turkey

Question. Because the fiscal year 1999 funding made available to the ARS for counter-narcotics research is one year emergency funding, what is ARS doing to make sure that this funding does not increase the agency's base requirements for fiscal year 2000?

Answer. Without an increase in base funds, we will not implement the program with an increase in permanent staff. Of the $23 million, Congress earmarked $10 million for a biological control contract. Once awarded, the contract will be self-sustaining and will not increase ARS base resource requirements. The balance of the funds ($13 million) is earmarked for $5 million in alternative crop research, $5 million in illicit crop eradication research and $3 million for narcotic plant chemistry, remote sensing, illicit crop detection and worldwide illicit crop estimates. In addition to some purchases for equipment, the research will primarily be carried out through extramural agreements and limited-term, in-house, post-doctoral appointments. Extramural agreements will run for a period of five years and then expire; post-doctoral appointments for two years.

Question. Does the Department believe the Agricultural Research Service should be involved in counter-narcotics research? If so, what should be its role?

Answer. ARS should be involved in counter-narcotics research. The agency serves in a research support role to federal and international action agencies. ARS has unique expertise which makes the agency well-qualified to work in the plant sciences, which includes narcotic crops. For example, our expertise in plant pathology allows us to support programs in the development of biological control technologies for narcotic crops and research into diseases which affect tropical agriculture, specifically, alternatives to narcotic crop cultivation. Similarly, plant genetics are applied to improving varieties of coffee, cocoa and tropical tree crops, essential to developing the economies of many Andean and Central American economies. The agency has significant experience in spectral imaging of vegetation in mixed environments, as well as crop modeling, which is directly applicable to illicit crop estimation and detection. Our experience in weed science and herbicide application technology has direct impact upon the eradication programs for coca and opium, currently being implemented in Colombia.

ARS has a long history in narcotic plant research beginning with assisting the United Nations and Drug Enforcement Administration in evaluating strategies for the eradication of illicit narcotic crops and developing alternative crops, primarily in Thailand. Currently, our mission continues to be one of support of U.S. and international action and policy agencies, including the Office of National Drug Control Policy, the Department of State, United Nations Drug Control Program, and the U.S. intelligence community.

Question. Is the Agricultural Research Service involved in the Administration's bioterrorism initiative? If so, what is the role?

Answer. While ARS has no specific line item appropriation in support of the Administration's bioterrorism initiative, the Agency is actively involved in this program. The agricultural sector must play an integral part in the development of a coordinated, comprehensive national strategy to protect the security of the nation's food supplies in the event of a bioterrorism emergency. To this end, ARS has worked vigorously to have food and agriculture recognized as a critical infrastructure. In this regard, the Agency is posturing itself to engage this issue more directly, both internally and externally in terms of program and infrastructure requirements.

Naturally occurring pathogens and pests which could be used as biological agents against agriculture are widely available in foreign countries. Also, technologies, expertise, and delivery platforms related to many types of biological and chemical weapons are commonly employed in normal commercial agricultural practice world wide.

ARS' ongoing mission is highly relevant to the Administration's bioterrorism initiative. The research to protect crops and livestock from the farm gate to the consumer's table is a priority concern. ARS research on emerging exotic diseases of livestock carried out at the Plum Island Animal Disease Center and the National Animal Disease Center are central to this effort. Research carried out at other ARS laboratories on wheat scab, for example, is pertinent to the bioterrorism concern. Invasive species of agricultural crops is also central to this issue. The ARS infrastructure is of critical importance in assessing vulnerabilities to bioterrorism. The upgrade and modernization of ARS laboratories is also essential to this program. In fact, biocontainment capabilities at a number of ARS research locations—including the Plum Island Animal Disease Center to the National Animal Disease Center—can serve as the primary means for supporting the characterization of biological weapons-related pathogens in the event of a bioterrorism incident.

MANAGEMENT

Question. ARS does not receive separate appropriations for its management and overhead expenses. How are these costs funded?

Answer. ARS program and administrative management activities include the Administrator's Office; National Program Staff; Civil Rights Staff; Information Staff; Office of Technology Transfer; Budget and Program Management Staff; Eight Area Directors' and Administrative support; Human Resources Management; Information Technology Division; Procurement and Property Division; Extramural Agreements Division; Financial Management Division and Facilities Division. In addition to support of these internal management organizations, ARS finances its share of departmental assessments for such operations as the National Finance Center, computer centers, central supply, telephone services, security, etc. ARS, like a number of other agencies in the Department of Agriculture, does not have a line item or direct appropriations to finance costs associated with the program and administrative management activities necessary to support the Agency's mission. Historically, management costs in ARS have been financed through the assessment of research programs carried out by the agency. Costs associated with the support of program and administrative activities represents about 10 percent of the Agency's annual appropriated funds.

Question. Please provide an accounting of management and overhead expenses for fiscal year 1998.

Answer. The information you requested is provided for the record.

[The information follows:]

Program and Administrative Management Costs

Organization/Functions	*Fiscal Year 1988 Obligations*
Office of the Administrator (Immediate Office, Office of Technology Transfer, Civil Rights Staff, Budget and Program Management Staff)	$5,276,250
Information Staff	3,211,598
National Program Staff	7,356,599
Administrative and Financial Management (Office of Deputy Administrator, Human Resource Management, Financial Management, Facilities Division, Contracts and Extramural Agreements, Information Technology, and Procurement and Property Administration)	18,805,349
Area Program and Administrative Management (Area Directors, Associated Administrative Staffs)	16,396,600
USDA Central Charges (NFC, Computer Center, Central Supplies, Telephone Service, Security, etc.)	9,871,968
Total	60,918,364

Question. How does the ARS cover indirect research costs? Please show an accounting of these costs for fiscal year 1998.

Answer. ARS indirect research assessment provides for program and management of ARS's national and international research mission. These costs represents approximately 10 percent of the Agency's appropriations. The ARS program and management costs are reviewed annually and the indirect support rate represents a viable assessment needed to administer the ARS mission. An accounting of these costs is reflected in the previous response.

Question. How much money budgeted for positions was due to "lapse" at the end of each of fiscal years 1997 and 1998?

Answer. Fiscal year 1997 and 1998 lapsed salaries totaled $7,850,700 and $11,791,100, respectively. This represents 60 percent of the total lapse salary accrual which was managed from ARS Headquarters. The 40 percent balance of the accrued lapsed salaries were retained and used by local managers.

Question. How were the funds projected to "lapse" spent in each of fiscal years 1997 and 1998? Please provide a list of items funded and the amount provided for each, by fiscal year and location.

Answer. The fiscal year 1997 lapsed salaries were spent as follows:

Use of Funds	*Funds*
Research Equipment:	
Akron, CO	$75,000
Ames, IA	296,800
Auburn, AL	70,000
Beltsville, MD	570,000
Boston, MA	20,000
Brookings, SD	35,000

Use of Funds	*Funds*
Brooksville, GA	75,000
Clemson, SC	40,000
College Station, TX	44,500
Columbia, MO	96,100
Columbus, OH	9,300
Coshocton, OH	15,500
Davis, CA	70,000
Dawson, GA	41,300
E. Lansing, MI	17,000
Fargo, ND	172,000
Ft. Collins, CO	91,000
Grand Forks, ND	30,000
Ithaca, NY	50,300
Lincoln, NE	56,000
Lubbock, TX	97,600
Madison, WI	74,500
Miles City, MT	29,500
New Orleans, LA	178,000
Orient Pt., NY	74,300
Oxford, MS	60,000
Peoria, IL	332,200
Raleigh, NC	30,000
Stillwater, NC	46,600
St. Paul, MN	44,000
Temple, TX	6,500
Tifton, GA	178,000
Tucson, AZ	150,000
Urbana, IL	8,000
Weslaco, TX	69,000
Wooster, OH	84,100
W. Lafayette, IN	80,000
Total Research Equipment	3,417,100
Facilities Repair & Maintenance/Upkeep:	
Beckley, WV	85,000
Brookings, SD	25,000
College Station, TX	12,000
Columbia, MO	43,000
Durant, OK	46,500
Fargo, ND	158,000
Ithaca, NY	72,000
Manhattan, KS	30,000
Greenport, NY	1,142,300
Peoria, IL	51,000
Pullman, WA	35,000
Riverside, CA	138,000
Yakima, WA	221,000
National Agricultural Library	75,000
Total Facilities Repair & Maintenance/Upkeep	2,133,800
Operating Expenses:	
Ames, IA	35,000
Athens, GA	377,200
Auburn, AL	15,000
Beltsville, MD	577,500
Brooksville, GA	30,000
Canal Pt., FL	9,000
Durant, OK	50,000
Griffin, GA	26,300
Honolulu, HI	9,500
Ithaca, NY	50,900
Logan, UT	35,000
Lubbock, TX	47,000
Madison, WI	14,000
Phoenix, AZ	54,900
Prosser, WA	26,500

Use of Funds	*Funds*
Pullman, WA	49,000
Sidney, MT	27,500
Stoneville, MS	50,000
Stillwater, OK	70,000
Stuttgart, AR	35,000
Tifton, GA	48,000
Weslaco, TX	10,000
National Agricultural Library	119,900
Headquarters	532,600
Total Operating Expenses	2,299,800
Total fiscal year 1997 Use of Salary Lapse	[1] 7,850,700

[1] This represents 60 percent of the total lapse salary accrual which was managed from ARS Headquarters. The 40 percent balance of the accrued lapsed salaries were retained and used by local managers to directly support research programs and operating needs. The primary uses of these funds were for research equipment, employee relocations, facilities repair and maintenance, safety and health improvements, and unanticipated operating needs.

The fiscal year 1998 lapsed salaries were spent as follows:

Use of Funds	*Funds*
Research Equipment:	
Akron, CO	$71,200
Albany, CA	245,500
Ames, IA	355,500
Athens, GA	88,000
Auburn, AL	52,000
Beaumont, TX	46,400
Beckley, WV	204,900
Beltsville, MD	991,500
Brooksville, GA	17,600
Byron, GA	75,000
Columbus, OH	55,000
Coshocton, OH	56,000
Cheyenne, WY	12,000
College Station, TX	174,500
E. Lansing, MI	55,900
Fargo, ND	16,600
Fayetteville, AR	14,000
Frederick, MD	49,800
Ft. Collins, CO	92,000
Gainesville, FL	62,000
Grand Forks, ND	288,000
Laramie, WY	26,000
Lincoln, NE	98,000
Little Rock, AR	93,500
Logan, UT	25,000
Lubbock, TX	27,400
Madison, WI	36,000
Mandan, SD	27,500
Manhattan, KS	117,000
Miami, FL	75,000
Miss. State, MS	50,000
New Orleans, LA	35,000
Orlando, FL	134,000
Oxford, AL	354,500
Peoria, IL	159,000
Phoenix, AZ	50,500
Poplarville, MS	25,000
Pullman, WA	83,900
Raleigh, NC	24,000
Stillwater, OK	50,000
Stoneville, MS	295,000
Temple, TX	75,100
Tucson, AZ	140,000
Wyndmoor, PA	172,000

Use of Funds	*Funds*
Yakima, WA	48,000
Total Research Equipment	5,244,800
Facilities Repair & Maintenance/Upkeep:	
Akron, CO	20,000
Albany, CA	83,300
Athens, GA	7,500
Beltsville, MD	470,800
Booneville, AR	100,000
Canal Point, FL	162,400
Cheyenne, WY	101,700
College Station, TX	31,500
Fargo, ND	78,400
Florence, SC	28,000
Honolulu, HI	73,500
Ithaca, NY	17,200
Logan, UT	65,100
Lubbock, TX	40,000
Mandan, ND	64,100
Manhattan, KS	58,400
Miles City, MT	35,000
New Orleans, LA	60,000
Orient Pt., NY	200,000
Phoenix, AZ	104,000
Poplarville, MS	28,000
Pullman, WA	149,000
St. Paul, MN	31,200
Stillwater, OK	40,000
Stoneville, MS	80,000
Tifton, GA	65,000
University Park, PA	126,500
Washington, DC	40,000
Woodward, OK	321,500
Total Facilities Repair & Maintenance/Upkeep	2,682,100
Operating Expenses:	
Albany, NY	225,300
Ames, IA	152,000
Beckley, WV	46,000
Beltsville, MD	75,200
Brookings, SD	31,000
College Station, TX	116,000
Columbia, MO	150,000
Fargo, ND	50,000
Florence, SC	115,000
Fresno, CA	100,000
Ft. Collins, CO	211,700
Honolulu, HI	175,000
Ithaca, NY	50,000
Kearneysville, WV	130,000
Madison, WI	58,600
Peoria, IL	158,000
Raleigh, NC	50,000
Stoneville, MS	165,000
St. Paul, MN	13,000
Washington, DC	150,000
Weslaco, TX	24,200
Woodward, OK	34,000
Wyndmoor, PA	63,300
National Agricultural Library	265,500

Use of Funds	*Funds*
Headquarters	1,082,500
Total Operating Expenses	3,691,300
Total Fiscal Year 1998 Use of Salary Lapse	[1]11,618,200

[1] This represents 60 percent of the total lapse salary accrual which was managed from ARS Headquarters. The 40 percent balance of the accrued lapsed salaries were retained and used by local managers to directly support research programs and operating needs. The primary uses of these funds were for research equipment, employee relocations, facilities repair and maintenance, safety and health improvements, and unanticipated operating needs.

AQUACULTURE

Question. Aquaculture continues to be one of the fastest-growing sectors of U.S. agriculture. What level of funding is included in the fiscal year 2000 request for research to support this growth industry? How does this compare with the fiscal year 1997, 1998, and 1999 levels?

Answer. The funding levels are provided for the record.

Fiscal year 1997 funds	$10,184,800
Fiscal year 1998 funds	11,686,400
Fiscal year 1999 funds	17,330,300
Fiscal year 2000 funds	14,071,000

Question. Please list those locations involved in aquaculture research, their specific programs and mission, and current funding and staffing levels. Please list future funding and staffing requirements, by location.

Answer. The fiscal year 1999 aquaculture research funding, programs and mission, and staffing levels, by location, as well as future funding and staffing requirements, are as follows:

Location	Program and mission	Fiscal year 1999 funds	Fiscal year 1999 scientists	Total funds required	Total scientists required
Auburn, AL	Diagnosis and control of diseases and parasites of cultured fish	$1,913,700	7.0	$1,913,700	7.0
Pine Bluff, AR	Aquaculture production and processing technology	531,400	2.0	531,400	2.0
Stuttgart, AR	Research on therapeutics evaluation and culture systems for farm-raised fish.	2,448,600	9.0	3,590,000	11.0
Albany, CA (Fairbanks, AK worksite)	Processing technology to convert fishery byproducts into feed	1,086,800	1.0	1,086,800	1.0
Albany, CA (Hilo, HI) Oceanic Institute	Tropical aquaculture feeds and culture technology development	1,583,800		1,583,800	
Aberdeen, ID	Development of alternative, grain-based diets for aquaculture species using genetic enhancement of grains and aquaculture species.	123,500	1.0	373,500	2.0
New Orleans, LA	Improve flavor quality of farm-raised catfish	745,900	2.4	1,005,100	3.4
Beltsville, MD	Detection Methods for Cryptosporidium	29,600		29,600	
Beltsville, MD (NAL)	Aquaculture Information Program provides the public with information on all aspects of aquaculture.	34,000		250,000	
Oxford, MS	Catfish off-flavors	277,800	1.0	277,800	1.0
Stoneville, MS	Improve production efficiency, including breeding, genetics, nutrition, health, harvesting, and product quality of catfish.	4,681,900	8.0	5,298,600	8.0
Wyndmoor, PA (Dover, DE, Worksite)	Food safety of farm-raised shellfish	541,900	2.0	541,900	2.0
College Station, TX	Food safety of catfish	358,800		358,800	
Kearneysville, WV	Water Quality control and intensive culture of fish	1,737,600	1.4	1,737,600	1.4
Leetown, WV	Cool and cold water aquaculture research	1,235,000	4.0	4,000,000	12.0
Total		17,330,300	38.8	22,578,600	50.8

The fiscal year 2000 budget includes a proposed increase of $180,000 at Stoneville, MS for research related to harmful algal blooms, eutrophication, and hypoxia. In addition, reductions totaling $3,439,300 are proposed at Auburn, AL; Stuttgart, AR; Albany, CA (Hilo, HI); Aberdeen, ID; Stoneville, MS; and Leetown, WV.

LOWER MISSISSIPPI DELTA NUTRITION INTERVENTION RESEARCH INITIATIVE

Question. Please provide the Committee with an update on the status of the Lower Mississippi Delta Nutrition Intervention Research Initiative.

Answer. The Lower Mississippi Delta Nutrition Intervention Research Initiative (NIRI) is conducted by a consortium of seven partners: Alcorn State University, Arkansas Children's Hospital Research Institute, Pennington Biomedical Research Center, Southern University and A&M College, University of Arkansas at Pine Bluff, University of Southern Mississippi, ARS, and a Coordinating Center at Westat. Each partner participates in attaining the objectives of the Initiative by representation of the Steering and Research Committees. Research proposals and protocols are developed by the Research Committee utilizing expertise from each of the partners in specific Working Groups.

Question. What progress has been made to date?

Answer. The Delta NIRI Consortium has completed two major research projects: the Key Informant Survey (to determine the perceptions of community leaders in 36 counties in AR, LA, and MS relative to food, nutrition and health related problems and interventions) and the Foods of Our Delta Study (FOODS). The latter was a validation and pilot study conducted in three counties, one each in AR, LA, and MS. The validation study was to determine if the telephone methodology could be used for collection of food and nutrition survey data. The consortium has published in the Scientific literature and published a monograph, Nutrition and Health Status in the Lower Mississippi Delta of Arkansas, Louisiana, and Mississippi: A Review of Existing Data. Capacity has been built in each partner through the employment of additional scientists and workshops on statistical sampling, nutritional epidemiology, intervention strategies, and evaluation of nutritional status.

Question. What activities are planned for each of fiscal years 1999 and 2000?

Answer. In fiscal year 1999, the partners propose: the first phase of a comprehensive nutritional assessment survey (collection of dietary, food security, and health perceptions data) will be completed in the thirty-six counties in AR, LA, and MS delta area; planning for the second phase of the survey which will include biochemical, anthropometric, and dietary data, and partner institutions will complete and begin to implement their strategic plans for continuing the research activities of the Initiative. Extensive field surveys will be based on the results of preliminary assessments in 1998. The partnership will focus on data collection and analysis. Extensive collaborative field work will be required. Post fiscal year 1999, research will depend on prior outcomes but will include initial planning, implementation, and validation of targeted nutritional interventions. In fiscal year 2000 the data collection of the above studies will be completed and data analyses will be completed. Protocols for the assessment of community food security will be piloted; protocols for nutrition interventions will be finalized; additional research will be planned based on results of data analyses, especially in the area of food security. Individual partners will assume responsibility for specific research proposals of the initiative (for example: through the development of telephone survey centers, dietary data analyses, overall data analysis, and community outreach).

Question. What is the current level of funding for this initiative and what is the fiscal year 2000 request?

Answer. A total of $3,147,700 is the current level of funding for the Lower Mississippi Delta Nutrition Intervention Project. A total of $3,147,700 is budgeted for fiscal year 2000.

Question. Will fiscal year 2000 funding continue to be split equally among the seven partners of the consortium conducting this initiative?

Answer. The funding of $3,147,700 for fiscal year 2000 will continue to be shared equally among the seven partners.

GINNING RESEARCH

Question. Please provide the level of resources available in each of fiscal years 1998 and 1999, and included in the fiscal year 2000 request for the ginning labs at Mesilla Park, NM; Stoneville, MS; and Lubbock, TX.

Answer. Resources for each of fiscal years 1998, 1999, and 2000 for ginning research is provided for the record.

[The information follows:]

Location	Fiscal year 1998 Estimated	Fiscal year 1999 Estimated	Fiscal year 2000 Estimated
Stoneville, MS	$1,190,900	$1,423,400	$1,423,400
Las Cruces, NM	1,062,800	1,049,900	1,049,900
Lubbock, TX	1,262,000	1,246,700	752,700
Total	3,515,700	3,720,000	3,226,000

Question. Please describe the importance of the work being carried out by ARS at each of these locations and whether there are presently any unfunded facility or program requirements.

Answer. Cotton ginning remains an important area for improving the efficiency and profitability of the industry. The process of separating fiber from seed, removing trash, and drying often degrades the quality of the lint, making it less valuable and reducing the return to producers. With cotton prices very low, the cotton industry has called for research to improve profitability by 10 cents per pound of lint produced. Much of this shortfall can be captured by improved ginning efficiency, which both decreases costs and improves the quality and the price of the product.

Some recent important advances from these ARS laboratories include computerized process control for improved lint quality and better profitability; technology for reduced dust emissions from gins to improve air quality; online moisture sensors and control systems for improved drying efficiency, energy conservation, and decreased lint damage; seed coatings that reduce the need for delinting with dangerous acids; technology that reduces seed coat fragmentation and nep (fiber entanglements) formation during ginning; and combined drying and ginning operations to improve efficiency.

Equipment at all three laboratories is aging and some of it is outdated, with an estimated cost of up to $500,000 per laboratory for upgrading. Facility repair and upgrading is required to support ongoing research as well as to allow transition to new program initiatives. New program needs not currently being addressed include improved harvesting and processing equipment for ultra narrow- row production; technology to reduce use of defoliants and other harvest aid chemicals; value-added products from gin waste; and integration of gin management with production management and with the changing needs of the textile industry. At Lubbock, ARS has a good cooperative relationship with Texas Tech University and is in a position to develop the linkage to textile manufacturing, in part through collaboration with the University's International Textile Center, and with collaborative contributions from the other ginning laboratories and ARS laboratories in New Orleans and Clemson, and in partnership with State institutions.

Question. What are the unique capabilities of each of these labs and how does ARS ensure there is no duplication of effort among them?

Answer. The ginning laboratories are a unique resource in the United States, with no other facilities serving a similar purpose. The three laboratories have complementary roles. They are located in different cotton-producing regions of the U.S., each with greatly different cotton production systems and therefore with differing cotton processing and ginning needs. In part, the mission of each laboratory is to address problems of cotton harvesting, processing, and ginning that are specific to its region. These functions are, by their very nature, not duplicative. In Stoneville, ginning research addresses the needs of upland cotton producers in a humid production zone. In Lubbock, the research is focused on harvesting and ginning needs of short-season stripper-harvested cotton. The laboratory in Mesilla Park concentrates on high-quality long and extra-long staple cottons produced in the Irrigated West, which require different equipment and methods to preserve the inherent quality.

ARS provides national oversight and management of research through its National Program Staff, which determines priorities through interactions with customers and stakeholders; allocates funding to different research objectives consistent with the intent of the Congress and the needs of ARS customers; and coordinates activities among laboratories. Much of this management occurs through 23 recently established National Programs. The three ginning laboratories all participate in the same National Program (New Uses, Quality, and Marketability of Plant Products), which provides a venue for the scientific staff to plan, carry out, and report cooperative, coordinated, research. Because of this coordination, the existence of three different labs with complementary activities actually strengthens cotton ginning re-

search, because it serves customers in all regions without wasteful duplication and without gaps.

Question. The National Cotton Council has asked the Committee to instruct the ARS not to reprogram fiscal year 1998 funds provided to the Lubbock lab. Is the Administration contemplating such a reprogramming request? Are there any unused fiscal year 1998 funds available?

Answer. The fiscal year 2000 budget request includes the reduction of $494,000 appropriated for the Lubbock ginning laboratory. The funds, which were first added by Congress in 1998, are proposed to be redirected into areas of highest national priority, such as food safety, emerging and exotic diseases and pests, agricultural plant genomes, impact of FQPA implementation, and sustainable ecosystems. A total of $35 million in proposed reductions and terminations are being used to finance these proposed, high priority increase. Prior to the proposed redirection, the funds were used to hire two engineers who have already joined the staff of the laboratory in Lubbock. There are no unused fiscal year 1998 funds available, but ARS is committed to providing alternative employment opportunities to its scientific staff displaced by redirection of funds.

AFLATOXIN

Question. The Committee is aware of extensive problems which occurred during 1998 in southern corn production. In particular, aflatoxin in corn has adversely impacted the prices received by farmers and the markets for southern corn production. What steps are being taken to enhance and expand research to address this problem? Is there adequate focus being placed on this problem, especially in view of the fact that current farm policy has resulted in the rapid growth of southern corn production?

Answer. The ARS has taken steps to enhance and expand research to address the aflatoxin problem in southern corn. The Southern Regional Research Center (SRRC) of the ARS sponsored an "ARS Workshop on Aflatoxin Prevention in Southern Corn", January 27, 1999 in New Orleans, LA. There were 67 attendees comprising ARS and university aflatoxin researchers, corn growers and corn industry representatives with an intense interest in research aimed at eliminating aflatoxin. The workshop provided a forum by which corn industry representatives could discuss the conditions under which contamination occurred in 1998, and the state-of-the-art technology being developed by researchers to control aflatoxin contamination.

The workshop developed a plan to further focus and enhance resources aimed at the elimination of aflatoxin in corn before harvest using the extensive input from researchers and workshop participants. The goals of the plan are to:

Identify additional sources of resistant corn germplasm. Use marker assisted breeding to combine resistance traits for prevention of fungal infection, aflatoxin contamination, and insect injury in corn;

Elucidate the effects of drought on biochemistry, physiology, aflatoxin accumulation and fungal pathology in kernels of resistant corn genotypes;

Transform corn with "up-regulated' versions of disease and/or drought resistant genes;

Continue investigation on cultural practices and crop management techniques that may minimize aflatoxin contamination before harvest; and

Develop a toxigenic *A. flavus* technology for aflatoxin control on corn grown in the southern U.S. (Research experience has demonstrated that this technology is effective in preventing aflatoxin in cotton grown in Arizona.)

ARS has extensive resources devoted to solving the southern corn aflatoxin problem at several locations throughout the southern U.S., including Mississippi State, MS; New Orleans, LA; and Tifton, GA. Because of their research we have made significant advances in understanding how aflatoxin is produced and potential effective strategies for reduction. These research advances are as follows:

Delineated the effects of cultural practices and pest management on the accumulation of aflatoxins in corn.—ARS research has elucidated both the "life cycle" of A. flavus, the preharvest process by which aflatoxin contamination occurs, and the effects of cultural conditions and insects pests on aflatoxin contamination. Several factors can be manipulated which can affect the level of aflatoxin contamination—the corn hybrid utilized and its adaptability to the geographic region, choice of fields, soil fertility, planting and harvest dates, planting density, irrigation, harvest methodology, tillage and crop rotation and management of insect pests (for example, with the advent of new Bt transformed lines of corn resistant to insects). Generally, optimization of cultural and management practices in the particular growing region to produce healthy corn partially alleviates (or at least does not exacerbate) aflatoxin contamination.

Genetic and Biochemical Resistance Factors Identified in Corn.—ARS research has produced four germplasm releases (one release occurring in 1999) with useful levels of aflatoxin resistance, thus showing substantial progress in developing a genetic based resistance. Markers which could be useful in marker assisted breeding and/or genetic engineering of corn have been putatively identified in corn. Selection for these genetic and biochemical factors/traits could further help increase resistance in certain corn varieties to A. flavus, aflatoxin and insect attack (which can predispose corn to fungal infection).

Several putative resistance factors were characterized at the protein level and shown to comprise fungitoxic proteins, enzymes, enzyme inhibitors and peptides. Also identified were kernel pericarp properties (wax thickness and antifungal properties) in a resistant corn genotype that may either prevent the physical entry of A. flavus into kernel tissues or kill the fungus directly. Corn genotypes will be selected to maintain production of these resistance compounds even under suboptimal conditions for kernel health and development (such as drought stress or insect injury).

Identification and Successful Deployment of a Biocontrol Agent in Large Scale Cotton Field Trials.—A biological control formulation was invented by ARS scientists for use in aflatoxin prevention in cottonseed grown in the Yuma Valley, Arizona. The formulation is made from non-toxic strains of A. flavus previously discovered in Arizona cotton fields. When applied to cotton fields in large scale trials, the formulation reduced aflatoxin below the FDA mandated level of 20 ppb in cottonseed. In parallel work by ARS scientists, non-toxic strains of A. flavus/parasiticus were used in biocontrol of aflatoxin in peanut. This technology may also be effective for large area control of aflatoxin in corn grown in the southern US, however EPA approval is needed for each individual type of application.

Genetic Engineering of Plants with Resistance Genes Encoding Proteins Inhibitory to A. flavus.—Using genetic engineering resistance genes from corn and other sources, encoding antifungal proteins (effective against A. flavus) have been moved into tobacco plants and cotton callus where they showed high in vitro expression of antifungal activities. With the development of new efficient corn transformation protocols and identification of potent antifungal genes, the potential for genetically engineering corn for resistance to A. flavus becomes very feasible.

Molecular Basis for Aflatoxin Biosynthesis Elucidated.—A cluster of genes was found which encodes enzymes catalyzing aflatoxin formation in Aspergillus flavus and A. parasiticus. Previously, a "master switch" gene was discovered which could be targeted essentially to switch off aflatoxin production. Reporter genes consisting of portions of aflatoxin gene regulatory DNA or growth related genes linked to the GUS reporter gene were engineered into A. flavus. These reporter genes could help identify plant factors affecting levels of aflatoxin, which in turn could be used as selectable markers in breeding for resistance.

Question. The Department recently announced that ARS researchers have created a new corn line which is highly resistant to aflatoxin and could be an important step toward the long-term goal of commercial hybrids with strong aflatoxin resistance. Would you please tell us more about this major research advancement.

Answer. Agricultural Research Service (ARS) scientists at Mississippi State, Mississippi, have recently developed and released corn germplasm which is highly resistant to Aspergillus flavus, the fungus that infects grain and produces the toxic substance, aflatoxin.

Because corn hybrid seeds are all developed and marketed by the private sector, incorporating the A. flavus resistance into commercially available hybrids requires that ARS transfer the technology to hybrid seed corn companies. To do so, Cooperative Research and Development Agreements (CRADAs) have been established with two such companies.

Question. What is the current level of funding and staffing levels for aflatoxin research and at which ARS locations is this work conducted?

Answer. The current level of funding and staffing levels for aflatoxin research, including ARS locations at which this work is conducted are as follows:

[Fiscal Year 1999]

Location	Funds	Scientists
Albany, CA	$1,788,900	6.7
Dawson, GA	745,600	2.9
Tifton, GA	544,200	1.5
Peoria, IL	827,300	2.9
New Orleans, LA	2,832,700	10.9

[Fiscal Year 1999]

Location	Funds	Scientists
Miss. State, MS	669,100	2.8
Headquarters	861,200	0.0
Total	8,269,000	27.7

Question. What additional funds are required for aflatoxin research to expand projects implementing the biocontrol management technology and increasing funds for grants to translate our best knowledge into practical systems to help farmers?

Answer. The fiscal year 2000 budget does not request additional funds for aflatoxin research. ARS continues to meet with stakeholders and customers to ascertain their important research needs, including implementing biocontrol management technology and increasing the translation of our best research knowledge into practical systems to help farmers. The additional priorities for aflatoxin research will be met by redirection, or by future agency budget requests.

COTTON NEMATODE

Question. The Committee is concerned that cotton yields have been stagnant and even declined in some cases over the past decade in the Midsouth area. Among other problems affecting this situation, I understand that scientists at the Midsouth Research Center have detected a contributing factor to be the growing problem of cotton nematodes. In view of the rising cost of production for cotton farmers and the statistical plateau in Midsouth cotton yields, what is USDA doing to aggressively seek solutions to problems such as the cotton nematode. Are research needs being met to provide an adequate level of scientific support for solving cotton nematode problems?

Answer. The origins of the cotton "yield plateau" are complex, with a major source being the narrow genetic base of commercial cotton varieties. In the Mississippi Delta region and in some other areas, there is also a growing problem with nematodes. These pests are forcing many growers to look for the first time to rotation crops that are non-hosts for nematodes. Corn and rice have proved to be good rotation crops for soybeans and cotton in the Mississippi Delta.

ARS maintains a strong national research program that is focused on controlling or managing nematodes with environmentally friendly methods. In Beltsville, MD, ARS studies the fundamental biology of these pests and uses that information to develop new avenues to disrupt their life cycles and protect crops. Elsewhere, ARS research is targeted specifically at nematodes that affect specific crops. Cotton nematode work is carried out at College Station, TX (improved management, biological control, and host plant resistance); Stoneville, MS (cotton production systems that minimize pest damage from nematodes); and Mississippi State, MS (identification of new genes for nematode resistance, and using them to breed resistant cotton germplasm). ARS research has resulted in the development and release of nematode-resistant germplasm for use in breeding programs, including a variety which has been widely used in the Lower Rio Grande Valley of Texas.

The current ARS program has effectively targeted the most feasible ways to bring cotton nematodes under control. Promising approaches include genetic host plant resistance and biological control using fungi. Additional funding would allow a broader approach to nematodes and could intensify the ARS effort in selected areas where the pest pressure is increasing, such as the Mississippi Delta.

BASE FUNDING FOR COTTON NEMATODES

	Fiscal year 1998	Fiscal year 1999
College Station	$370,700	$370,700
Stoneville	45,100	45,100
Mississippi State	610,100	610,100
Total	1,025,900	1,025,900

RED IMPORTED FIRE ANT

Question. Where is the site of ancestral origin for the red imported fire ant, and how did it enter the United States?

Answer. Red imported fire ants originated from the Paraguay river drainage basin in Argentina, Paraguay and Brazil. The mode of entry into Mobile, Alabama, in the mid 1930s is unknown but probably was the result of contaminated ship ballast or agricultural products associated with soil arriving from Argentina or Brazil.

Question. What is the present and projected geographic range of the red imported fire ant in the United States?

Answer. Presently, this pest is distributed in about 310 million acres in Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Tennessee, Mississippi, Louisiana, Arkansas, Texas, Oklahoma and Puerto Rico. Recently it has been detected in limited areas of New Mexico, Arizona, California, but appears to be established in all but Arizona. Projected distributions, based on temperature limits, would allow expansion into the tidewater area of Virginia, the eastern shore of Maryland, and most or all of Oklahoma, Arkansas, Tennessee and North Carolina. Conditions also are favorable in the irrigated urban and agricultural regions of the western states including most of California (80 percent), and sections of Arizona (70 percent), Nevada (10 percent) and New Mexico (30 percent). Coastal regions in particular are vulnerable throughout California, in Oregon, and possibly Washington.

Question. What is unique about the red imported fire ant that allows it to be an urban, agricultural, wildlife, and industrial pest?

Answer. The red imported fire ant is virtually ubiquitous in the southeast and is characterized typically by 75–100 colonies (mounds) per acre with each colony containing half a million stinging ants. Thus, there can be 40–50 million imported fire ants per acre. The imported fire ants out-compete and replace native ants (including native fire ants) which reach about 1000 in number per colony and 1–2 million per acre. Fire ants are far more aggressive than the native ants and readily sting animals and humans when disturbed. Unlike native ants which move away from the disturbed areas, the red imported fire ants explore and thrive in disturbed habitats caused by human activities that include agricultural operations, urbanization, transportation infrastructures (roads, sidewalks, airports) and utilities. They produce hundreds of thousands of winged queens per acre that may disperse several miles and establish new colonies that mature within months, and release additional winged queens. In comparison, native ants produce up to 1,000 queens and do not spread as well. The red imported fire ant is inadvertently moved in agricultural and horticultural products in soils, and easily becomes established at final destinations.

Question. What is the economic impact of the red imported fire ant to the nation?

Answer. Nationally, imported fire ants are estimated to cause 0.5 billion to several billion dollars in damage every year. Exact figures are difficult to determine because economic impact is so diverse and widespread. Losses are incurred in agriculture, human health, damage to infrastructure, damage to wildlife and farm animals, and in the costs to manage this pest. This excludes the pain and aggravation associated with fire ant stings, or the environmental damages to biodiversity and the ecosystem. Fire ants kill newly hatched offsprings and reduce the populations of several wildlife species, including bob white quail, other ground-nesting birds, and others with few defenses, such as tortoises, tree snails, marsh hares, amphibians, and reptiles.

Question. What is the economic impact of the red imported fire ant to Mississippi?

Answer. The economic impact of the red imported fire ants to Mississippi is, according to the Mississippi Department of Agriculture, somewhere between 75 million and 200 million dollars per year.

Question. Describe the damage caused by the red imported fire ant in urban areas by stinging; in agricultural areas where livestock are attacked, plants damaged, and crop care and harvest interfered with; in wildlife areas where other invertebrates and ants are displaced and recreational activities interfered with; and in industrial areas where the ant causes malfunctions by tunneling and nesting near electrical conduits and communication systems.

Answer. The red imported fire ants are a major medical concern to approximately 0.5 million people who are severely allergic to even a single fire ant sting (1 percent of the population), and to millions of young children who are repeatedly stung by hundreds of fire ants when they accidentally step onto the mounds. People who are allergic or very sensitive to fire ant stings often need to limit outdoor activities because fire ants are found virtually everywhere except in dense forests.

Fire ants cause a wide variety of agricultural problems. They lower soybean harvests by 10–30 percent by killing seedlings, and from the need to raise the Combine cutting bar to avoid mounds. They frequently girdle and kill young citrus trees.

They attack and kill corn and sorghum seedlings. They can damage a wide variety of vegetables from okra and potatoes to watermelon and strawberries. They inhibit harvesting of many nuts, fruits, and vegetables that are picked by hand, or when the crop is shaken to the ground for subsequent collection. Their mounds mechanically jam or damage harvesting equipment. Fire ants also injure or kill young livestock and poultry. Foraging activity of fire ants commonly short circuits outdoor electrical equipment such as air conditioners, power transformers, and telephone boxes. Their tunneling and mounding activities loosen or removes soil from beneath roadways, causing these to collapse under weight of vehicles.

Fire ants are also a major environmental concern because they substantially reduce the biodiversity of native ants and other ground-dwelling arthropods. They also reduce populations of many native vertebrates such as quail, lizards, water birds, mice, and even deer. A number of rare and endangered animals such as gopher tortoises, sea turtles, alligators, butterflies, tree snails, grasshopper sparrows, and the least tern may also be negatively affected by fire ants.

Question. Why have U.S. federal, state, and private sector researchers failed in their efforts to develop technologies for stopping the spread of the red imported fire ant?

Answer. ARS was instrumental in the development of a chemical, mirex which provided 99 percent control level. In the early 1960s, large-area eradication tests with toxic baits (mirex) were conducted in several states, including northeastern Mississippi (256,000 acres), Tampa, Florida (626,000 acres), and Savannah, Georgia (2.13 million acres). Although mirex was very effective in controlling fire ants (99 percent control), it subsequently was removed from the market, because of the environmental and economic concerns. Consequently, in the late 1960s these field tests with mirex were terminated. Alternative materials that replaced mirex were less environmentally damaging, but not as effective in area-wide control, and provided only temporary relief.

To develop new and improved fire ant control technologies, the ARS laboratory in Gainesville, Florida focused on developing poison baits for controlling fire ants in small but high public-usage and livestock production areas, such as yards, parks, schools, hospitals, and feedlots. These newer bait materials, such as AMDRO and LOGIC are very effective, but give only temporary control in such areas that ultimately become reinfected. Consequently, since 1995, ARS has focused its research on the development and evaluation of an integrated long-term methods, including the release of classical biocontrol agents that have the potential of permanently reducing fire ant populations over large portions of their range. The goal is to help slow or stop the expansion of imported fire ants into uninfested areas. Small-scale field test releases have been initiated in 1998 in one-quarter acre plots in several states. Given the necessary resources, ARS plans to conduct research on mass propagation of selected biocontrol agents, and conduct large-area field evaluation and demonstration tests.

Currently, additional technologies may be needed to halt the expansion of fire ant populations. The biology of this pest is such that natural spread is difficult to prevent without a concerted, coordinated large-scale application of multiple control measures. Because it is so widespread environmentally (not limited to specific crops or plant types), and exists underground (largely unexposed), it is neither environmentally nor economically feasible to use toxic pesticides.

Question. What plans does ARS have for research to: (1) stop the spread of the red imported fire ant; (2) suppress it in infested areas; and (3) eradicate the fire ant at the local level, statewide (including in Mississippi), and nationwide?

Answer. The ARS laboratory in Gainesville, Florida has ongoing cooperative projects with states to evaluate its biologically-based approach, including: (1) cooperative projects between ARS and APHIS to stop the spread of fire ants through nursery stock. A new attractant has been developed and patented to assist in rapid assessment of infested material while still in nursery facilities; (2) current ARS research on suppression in infested areas is focused on the development and field evaluation of an integrated long-term approach. This approach relies on the use of biologically-based technologies to reduce overall population levels, combined with blanket applications of emerging bait formulations that are followed by precision-targeted treatments of high risk local areas (schools, health care facilities, parks, tourism, and recreation) with emerging bait technologies; and (3) two of the three biological control agents developed by the ARS laboratory in Gainesville, Florida are being evaluated in several pilot tests. In this effort, ARS is partnering with the National Fire Ant Task Force of the Southern Legislative Conference (SLC) of the Council of State Governments to develop proposals for pilot tests in several states. For example, ARS is proactively involved in developing a cooperative research project with the Mississippi State University and APHIS (Gulfport) to test inte-

grated control measures for a 300-acre health care facility in Mississippi. In addition, ARS is conducting cooperative projects with APHIS at field sites near Gulfport, and with the Mississippi National Guard/Nature Conservancy on managing fire ants at Camp Shelby. That effort is specifically addressing the issue of fire ant impact on gopher tortoises. Other pilot test sites in partnership with SLC include, Arkansas, Oklahoma, Texas, Virginia and Tennessee have been selected. However, current constraints in state and federal resources preclude large-scale field evaluation and implementation of the integrated approach.

Question. Which ARS locations have been directed to conduct research on the red imported fire ant and in each case what is the level of effort in terms of dollars and scientists? Is there any research on the fire ant being conducted in Mississippi?

Answer. ARS research on imported fire ants is conducted at the Center for Medical, Agricultural, and Veterinary Entomology in Gainesville, Florida ($1,311,800/5.9 SYs), with cooperative projects at the South America Biocontrol Laboratory at Hurlingham, Argentina ($101,400/.2 SYs). ARS research in Mississippi consists of cooperative projects with APHIS at field sites near Gulfport, and in a cooperative project with the Mississippi National Guard/Nature Conservancy on managing fire ants at Camp Shelby. That effort is specifically addressing the issue of fire ant impact on gopher tortoises.

Question. What is the level of Federal funding currently obligated by ARS, CSREES, and APHIS for research, education, and regulatory activities? How much funding is contributed by State and private organizations?

Answer. The level of Federal funding currently obligated for research, education, and regulatory activities for red imported fire ants is $1,413,200 for ARS; $76,300 for CSREES; and $1,330,000 for APHIS. Funding contributed by State and private organizations includes non-federal funds of $742,000 for CSREES and $1,139,959 for APHIS. ARS receives no funding from State and private organizations for red imported fire ant research.

NATIONAL PLANT GERMPLASM SYSTEM (NPGS)

Question. Are there materials in the National Plant Germplasm System (NPGS) that are at risk for loss and that will remain at risk under the Administration's budget request?

Answer. Duplicate germplasm samples and duplicate copies of databases maintained in at least two physically-separate locations represent perhaps the most effective safeguards against the risk of catastrophic loss from weather- related causes, other natural phenomena, equipment failure, and human activity, be it intentional or unintentional.

The Germplasm Resources Information Network (GRIN) in Beltsville, MD, which maintains key data associated with NPGS germplasm, is duplicated by mirroring, i.e., there are two copies of the database on disk. One weekly duplicate copy of the database is maintained off-site locally on tape and one duplicate is sent monthly to National Seed Storage Laboratory, (NSSL) Ft. Collins, CO. The Administration's budget requests an increase of $600,000 for additional data safeguards, such as incorporating into GRIN evaluation and characterization data that are still on local databases, and continual hardware and software upgrades to help safeguard database integrity.

At present, ca. 104,000 (ca. 26 percent of total) seed samples and 32,000 (ca. 85 percent of total) clonally-propagated samples in the NPGS are not duplicated, and consequently are at a higher risk of catastrophic loss than are the duplicated samples. Some of the samples that are not duplicated within the NPGS are duplicated in other nations or at International Agricultural Research Centers (IARCs). But, with fiscal shortfalls at other institutions, the NPGS cannot assume that duplicates of "lost" germplasm can be readily obtained elsewhere. As the preceding data indicate, the risk is greatest for clonally-propagated germplasm. With many clonal crops, long-term "backup" methods (e.g., cryopreservation) do not exist; more funds are needed for NPGS researchers to develop this technology.

Germplasm may also be at risk from slower, more insidious processes such as gradual loss of viability, loss of genetic integrity, infectious disease, etc., that deteriorate the quality of germplasm and associated data. The following list illustrates some NPGS germplasm potentially at risk:

(1) Griffin, GA: At least 20 percent (17,000 + accessions) of the seed samples at Griffin are greater than 20 years old, or are original seed lots with few seeds. With the few funds available for operations (ca. 6 percent of total fiscal year 1999 location budget), relatively few accessions can be regenerated at present.

(2) Ithaca, NY (Geneva, NY worksite): About 30 percent (ca. 4,000 accessions) of the seed-propagated germplasm accessions are at risk because of low or unknown

viability, or low seed numbers. With the few funds available for operations (ca. 10 percent of total fiscal year 1999 location budget), relatively few accessions can be regenerated at present.

(3) Mayaguez, PR: Without additional funds for clonal propagation and virus eradication, 30 percent of the plantain and banana clones at this site may die of virus infection.

(4) Ft. Collins, CO: More than 20 percent of the duplicate seed accessions in long-term storage at NSSL have not been tested recently for their viability, and consequently may be at risk. No funds are available to hire more technical staff to conduct germination tests.

(5) College Station, TX (Brownwood, TX worksite): Approximately 60 percent of the pecan accessions there are represented by only one tree, and none of the accessions are backed-up at another site. No funds are currently available to improve this situation.

(6) Ames, IA: Approximately 4,500 seed-propagated accessions with low seed number, and low germination percentages (9.5 percent of the total) are at risk because there are no funds to regenerate them. Funds are also unavailable to conduct applied research to regenerate and monitor seeds of species for which standard management protocols have never been developed.

(7) Corvallis, OR: Under the Administration's fiscal year 2000 budget request, $27,400 of the base funding for the Corvallis genebank will be eliminated. Those funds support the hop (a key ingredient for brewing) germplasm maintenance, regeneration, and viral eradication program. If the preceding funds are not reinstated, this site will be unable to maintain and distribute the collection in pathogen-negative (virus, fungus, and bacteria-free) status.

Question. With current resources, is the agency able to manage the materials that are in the quarantine centers in a manner that successfully fulfills the demands of the users? Have materials died in quarantine centers? Are the materials made available to the requesters in a timely manner?

Answer. In general, the Plant Germplasm Quarantine Office/National Plant Germplasm Quarantine Center (PGQO) in Beltsville, MD can manage the plant germplasm in quarantine successfully, provided the amount of germplasm in the PGQO does not exceed current capacity, which is determined primarily by the funding available for personnel, operations, and facilities. To ensure that its capacity is not exceeded by demand, the PGQO is establishing annual quotas for each type of germplasm. These will be communicated to germplasm users in May 1999 and put into effect for fiscal year 2000. The quotas will vary somewhat over years based on factors such as the germplasm in the quarantine testing "pipeline" at the beginning of the year, changes in testing protocols, and changes in program goals.

No significant germplasm losses have occurred in the potato, sweet potato, rice, or sugarcane held by the PGQO. In the past, fruit tree accessions in the PGQO orchards were lost because of inadequate care, and insufficient attention to matching the work load with the resources available to tend to this germplasm. These problems were addressed and loss has been minimal during the last three years of orchard testing. Some replicates of accessions have been lost to herbicide injury but, in these cases, a sufficient amount of backup material was available to repeat the tests as necessary. Occasionally, replicate samples of blackberry, raspberry, or currant perish from winter damage in the screenhouses. But, these samples are "backed up" so the accession is not lost, but its release from quarantine is delayed because the tests must be repeated. Losses from winter kill have been minor during the past two years because of mild weather, and improved horticultural care.

The stone fruit (cherry, peach) quarantine program is conducted entirely in greenhouses and screenhouses, where germplasm loss is relatively rare, but does occur occasionally because of several factors that are not unique to PGQO: (1) the inherent difficulty of maintaining trees in pots for years; (2) cherry and peach accessions received by PGQO as budwood are often difficult to propagate, especially after days in international transit, and may die before they are established.

Germplasm is made available ("released") from quarantine as rapidly as quarantine regulations and/or "pathogen clean up" permit. The only crop with a backlog of accessions awaiting quarantine testing is rice, with a 4,000 accession backlog:

(1) Pome fruits (apples, pears, quince) are now released "provisionally" within one year if the first round of testing is negative and if the propagative material is available. Under the "provisional release policy," germplasm users can propagate and evaluate the germplasm prior to its final release from quarantine. This policy has been very popular with germplasm users, and is feasible because of the polymerase chain reaction (PCR) test for phytoplasmas. Final release still requires at least 3–5 years because test trees must produce fruit for evaluation of symptoms: there is no technological substitute for the fruit evaluation.

(2) Stone fruits (cherry, peach) are also provisionally released after one year, but full release requires at least 3–5 years for germplasm imported as budwood. But germplasm imported as seed can be released sooner (12–18 months) because less testing is required.

(3) Sugarcane imported from other nations requires 18–24 months in quarantine, whereas sugarcane shipped interstate (e.g. Louisiana to Florida) requires 12–18 months. Current molecular technology will probably not accelerate the release time, although the former may improve the accuracy of test results.

(4) Rice cannot be released from quarantine until it sets seed, which can require 100 to 240 days, depending on the specific germplasm. Notably, quarantine testing could be conducted entirely from in vitro tissue culture and germplasm released in 30 days but, because it would be distributed in the form of tissue-cultured plantlets, rather than true seed, the user community has not been interested in this method.

(5) The quarantine process for potatoes and sweet potatoes requires 18–24 months; tests require one year and are repeated. The testing required for true potato seed is substantially less than for potato tubers.

(6) The quarantine process for currants and gooseberries requires 3–5 years, necessitated by waiting for plants to fruit so they can be evaluated for the reversion virus. There is a PCR-based test for the reversion virus but APHIS has not accepted it, although Agriculture Canada has done so. The PCR test could enable provisional release after one year, if the propagative material is available.

(7) The quarantine process for raspberries requires about 3 years.

Question. With current resources, are you able to take advantage of modern molecular techniques to accelerate the rate of quarantine testing for crops such as rice, apples, cherries, sweet potatoes, and others?

Answer. Molecular diagnostic techniques alone may not accelerate the finalrelease of germplasm from quarantine but they may accelerate the provisional release of germplasm, as described above for pome and stone fruits. The tests will detect target pathogens that have been thoroughly characterized genetically, but not other "exotic" pathogens which are often essentially unknown scientifically, except for symptoms on the plant or fruit. Thus, molecular diagnostic tests will not completely replace the time-consuming visual observations of plants currently required by APHIS regulations. Consequently, the speed of the entire quarantine process may be more closely related to principles of scientific risk assessment and/or the field and greenhouse capacity, rather than to modern molecular technology.

Despite the preceding factors, the current resources at the Plant Germplasm Quarantine Office (PGQO) do not enable the staff to take full advantage of molecular diagnostic techniques. Additional resources in the form of a senior technical assistant and additional supplies could hasten the implementation of molecular technology which would facilitate provisional germplasm releases. Additional resources are needed to hire additional technical staff to fully utilize the new greenhouse and screenhouse space at the PGQO, and accelerate the rate whereby germplasm can be released from quarantine.

(1) Pome (apple, pear) and stone fruits (cherry, plum, peach): The PCR-based test for phytoplasmas and molecular hybridization assays for viroids have enabled provisional quarantine release within one year, providing adequate budwood is available. Half-time technical assistance is needed to fully utilize new greenhouse and screenhouse space, implement more fully this molecular testing program, and further accelerate the quarantine process.

(2) Stone fruits: Implementation of a PCR-based test for sharka (plum pox) could supplement to plant graft testing on indicator species, but would require an additional resources for implementation, and half-time technical assistance to fully utilize new greenhouse and screenhouse space.

(3) Sugarcane: Current quarantine testing relies on observations of symptoms on greenhouse-grown plants, which is not ideal for sugarcane. Molecular tests for Fiji virus (Oceania) and sugarcane mosaic gemini virus (Africa) are under development at PGQO. Implementing these tests, which might result in provisional quarantine release, will require additional resources for the PGQO.

(4) Rice: Molecular techniques are not required to accelerate pathogen diagnostic testing with rice, because the key pathogens are readily culturable bacteria. Half-time technical assistance is needed to fully utilize new greenhouse and screenhouse space for the rice quarantine program.

(5) Currants and gooseberries: A PCR-based assay for the reversion virus in these plants should be implemented, but this will require APHIS approval and additional resources for PGQO.

(6) Potatoes and sweet potatoes: A PCR-based test for phytoplama should be implemented to improve the accuracy and reliability of the potato/sweet potato pathogen detection, but would not necessarily accelerate the rate whereby germplasm is

released from quarantine. Half-time technical assistance is needed to fully utilize new greenhouse and screenhouse space and to bolster this molecular testing program.

Question. Have the germplasm materials at the Griffin, GA, and Pullman, WA, facilities been tested for viability?

Answer. 18,781 (28 percent) of the 67,394 germplasm accessions at Pullman, WA have undergone germination testing at Pullman during the 10-year period of 1989–1998. Most of the germination tests (15,481/18,781, or 82 percent of the total tested) were conducted during the last 5 years (1994–1998).

During the last 10 years, 331 (.04 percent) of the more than 78,000 seed-propagated accessions at Griffin, GA have undergone germination testing. There are 1,100 clonally-propagated sweet potato accessions at Griffin that are regularly checked visually for health and vigor.

Duplicate samples of 72 percent of the seed-propagated accessions from Griffin and 85 percent of the accessions from Pullman have been deposited at the National Seed Storage Laboratory, Ft. Collins, CO. The viabilities of many, but not all, of these duplicate samples were tested by NSSL before being deposited in long-term storage and the germination information made available to curators at Griffin and Pullman.

Question. What percentage of the NPGS collection requires timely regeneration to maintain its genetic integrity?

Answer. In our response, we assume that 1) "timely" means "during the next 2–5 years" (consistent with the 1997 GAO study of the NPGS), and 2) "regeneration" is relevant for the 400,000 + seed- propagated NPGS germplasm accessions. Because of the variable quality and quantity of data available, the accuracy and precision of the following percentages vary. Across the NPGS, the median percentage of collections that require regeneration during the next 2–5 years seems to be about 30 percent.

Estimated Percentage Requiring Refeneration During the Next 2–5 Years

Selected NPGS collections	*Percentage*
Tomato genetic stock (Davis)	20–50
Soybean (Urbana)	55
Cotton (College Station)	50–60
Seed-propagated fruits and nuts (Corvallis)	50
Seed propagated accessions at Ames	20
Seed propagated accessions at Griffin	31
Seed propagated accessions at Geneva	30
Small grains (Aberdeen)	10
Seed propagated accessions at Mayaquez	10–50
Seed propagated accessions at Pullman	10–25
National Seed Storage Laboratory (Ft. Collins)	30

Question. With current resources, and at the current rate of regenerating accessions, how long would it take ARS to regenerate those accessions?

Answer. Regeneration rate is determined not only by fiscal resources available for that activity, but also strongly by the biological properties of each crop (breeding system, genetic constitution, growth rate, duration, etc.). Therefore, information for representative individual seed-propagated crops is presented. Because of the variable quality and quantity of data available, the accuracy and precision of the following figures vary. Across the NPGS, the median period required to regenerate these accessions seems to be more or less 10 years. But, importantly, for a substantial proportion of these accessions, especially of wild species (e.g., tomato, potato), research and development will be required to first develop methods for successful regeneration. Selected NPGS collections

Estimated Years Required to Regenerate Accessions

Selected NPGS collections	*Years*
Tomato genetic stock (Davis)	2–5
Soybean (Urbana)	5
Cotton (College Station)	10–15
Seed-propagated fruits and nuts (Corvallis)	(1)
Seed propagated accessions at Ames	10–23
Seed propagated accessions at Griffin	12–15
Seed propagated accessions at Geneva	1–32
Small grains (Aberdeen)	5–10
Seed propagated accessions at Mayaquez	10
Seed propagated accessions at Pullman	7–10

Selected NPGS collections	*Years*
National Seed Storage Laboratory (Ft. Collins)	(2)

[1] No resources are currently available for regenerating those accessions.
[2] Regeneration of base collection is conducted at active sites.

Question. What percentage of NPGS germplasm is not in long-term, back-up storage?

Answer. At present, ca. 104,000 (ca. 26 percent of total) seed samples and 26,000 (ca. 93 percent of total) clonally-propagated samples in the NPGS are not in long-term, backup storage at the National Seed Storage Laboratory, Ft. Collins, CO. Some of the samples that are not duplicated within the NPGS are duplicated in non-NPGS germplasm collections in the U.S., or in collections in other nations, or at International Agricultural Research Centers (IARCs). But, with budgetary cuts at universities, the IARCs and in developing nations, the increasing complications to international germplasm exchange associated with the Convention for Biological Diversity and other international germplasm legislation, the NPGS cannot assume that specific germplasm samples can always be secured on demand from international sources.

Question. If germplasm is lost due to the lack of regeneration, is it always possible to replace it?

Answer. No, it is not always possible to replace germplasm samples that are lost due to lack of regeneration when they are not duplicated within the NPGS, obtainable from other germplasm collections or genebanks within the U. S. or internationally, currently grown by farmers or produced by seed companies or nurseries, or if they are extinct in nature, as is the case with some wild species. Some of the genetic components of the "lost samples" may be conserved in other, genetically closely-related samples. But the degree of genetic redundancy between genetically closely-related samples may be quite variable and unpredictable. Consequently, germplasm managers in general do not assume that genetically closely-related samples necessarily contain precisely the same genetic components of the "lost samples," some of which may be key to current and future genetic improvement of crops.

Question. What percentage of the NPGS budget is spent on maintenance and regeneration?

Answer. Of the total $22.7 million allocated to the NPGS about 65 percent ($15 million) is devoted to germplasm conservation and preservation, which includes the activities of maintenance and regeneration. The remainder of the NPGS budget is allocated to germplasm acquisition, characterization, and agronomic assessment. At specific NPGS sites (e.g., plant introduction stations, crop- specific collections of grains, oilseeds, etc.) that both maintain and regenerate germplasm, the budgetary percentage devoted to maintenance and regeneration is often 75 percent or higher.

Question. If there is not a substantial increase (on the order of $20 million) in the NPGS budget within the next couple of years, what are some of the forecast ramifications?

Answer. The ramifications of a static NPGS budget for fiscal year 2000- fiscal year 2004 can be forecast from both a fiscal and a programmatic standpoint. From a fiscal standpoint, consider the current budget of $22.7 million, and assume the following: 1) inflation reduces purchasing power at a rate of 3.3 percent per year (a ten-year mean of the non-pay/inflation factor used by USDA for planning); and 2) personnel costs increase by 3.2 percent per year (a ten-year mean of the pay factor used by USDA for planning). Given the preceding figures, and a static budget, during fiscal year 2000–2004, the purchasing power of the NPGS budget would decrease by 18 percent from inflation. During the same period, the current percentage (13 percent) of the NPGS budget devoted to non-salary items (equipment, operations, travel) would decrease by 17 percent to 11 percent. Adjusted for inflation, the non-salary budget would effectively be reduced to less than 10 percent of the total NPGS budget. And, at certain NPGS sites, that percentage would be substantially less than 10 percent.

A static budget during fiscal year 2000-fiscal year 2004 would have severe programmatic ramifications throughout the NPGS. Funding at many sites would be insufficient not only for salaries of temporary employees, but also of some permanent curatorial staff. At many sites, no funds would be available for utilities, travel, operations, facility repairs or expansion, supplies, or equipment. Position vacancies would be abolished to provide funds for operations.

With a static budget during fiscal year 2000–2004, the NPGS would by necessity focus nearly exclusively on providing security for databases and for germplasm stored in coldrooms, greenhouses, and field plantings. Acquisition of endangered germplasm would slow or cease, as would evaluation of germplasm for agronomically or horticulturally valuable traits. The rate of duplicating (backing-up)

germplasm and testing it for health, viability, or genetic integrity would slow or cease. Germplasm would move through the quarantine process more slowly, or not at all. Germplasm currently at risk would perhaps be endangered further, whereas additional germplasm might also be endangered. As the funds available for maintaining each accession shrank, the supply of germplasm would shrink, which would limit germplasm distribution, and impede the progress of important research and breeding programs. Should additional funds become available in later years, they would initially be devoted to restoring the NPGS to its state in fiscal year 1999, rather than to progress on new initiatives.

A static budget would preclude the NPGS from exploiting the new tools of genomics and biotechnology to develop more effective and efficient means of maintaining and regenerating germplasm. The ramifications would be especially severe for clonally-propagated crops, many of which cannot now be preserved by long-term tissue culture or cryopreservation.

Lastly, there is currently more public interest in conserving genetic diversity and in exploiting it for crop improvement than at anytime in the past. For example, soybean farmers through the United Soybean Board and state checkoffs have been and still are investing millions to exploit soybean germplasm. Researchers are already finding new genes for improved levels of disease resistance and yield. Genomic technology is identifying loci important for yield, seed composition, disease resistance and other economical important traits in soybean and other crops. The major funding increases for plant genomic research at NSF will generate many new specialized genetic stocks for the NPGS to manage. For example, NSF-funded research will generate at least 50,000 new maize (corn) genetic stocks, which would more than double the size of the NPGS maize stock center. Just when researchers can use germplasm more effectively and efficiently than ever before, just when its clientele is demanding more from the NPGS, and just when the NPGS, if sufficiently funded, could deliver more than ever before to its customers, the NPGS will struggle just to maintain staff, facilities, and germplasm.

BIOLOGY AND MANAGEMENT OF TEMPERATE FRUIT FLIES

Question. The United States cherry and apple industry has brought to the Committee's attention the pressing need to develop effective pest control strategies for temperate fruit flies that minimize the use of chemical insecticides while adequately addressing the quarantine concerns of our industry's current and potential export markets. Do you agree that there is an unmet research need in this area and that the addition of a full-time entomologist at the Yakima, WA, research laboratory is required to conduct research on the biology and management of temperate fruit flies?

Answer. The most promising controls for temperate fruit flies, including the cherry fruit fly and the apple maggot, in the United States is by the use of Integrated Pest Control (IPM) programs. However, an important component of the IPM program is pesticides that have an uncertain future resulting from provisions of the recently passed Food Quality Protection Act (FQPA). The registrations for some of the most useful of these pesticides may be dropped for horticultural crops including apples and cherries. This could result in greatly increased fruit fly problems including invasion of the apple maggot into areas currently declared free of apple maggot. This would not only present a problem for production of high quality cherries and apples but would also raise quarantine issues for apples and cherries that could halt their export to states and countries where these fruit flies do not occur. ARS assigns high priority to research to study the biology and management of temperate fruit flies. Additional funding for an entomologist would be an important boost for this research.

POTATO RESEARCH

Question. Is the ARS working with the National Potato Council on how funds available for potato research can best be used to address research priorities?

Answer. Yes, ARS works closely with the leaders of the potato industry and the National Potato Council in developing research priorities and allocating funds.

Question. Does the ARS agree that there is a need to continue research on site-specific management and to focus on the biology of potato production and that the addition of an agronomist to supplement the soil science and pathology research would greatly strengthen the potato program in Orono, Maine?

Answer. Yes, potato production in northern Maine has shown a significant decline in recent years. This trend will, however, be reversed with the construction of a new potato processing facility in Maine by McCain Foods. It is estimated that 15,000 acres will be returned to potato production. The current ARS research program has

included a search for alternative crops that could be used in a potato rotation. Potatoes are grown in three-year rotations with soybean, canola, green bean, sweet corn, and barley/clover. An interdisciplinary team of two scientists is evaluating cropping system impacts on soil nutrient dynamics and soilborne pathogen ecology. A third scientist is being recruited to assess crop management system interactions with potato late blight. The addition of an agronomist to supplement the soil science and pathology research will greatly strengthen the potato program in Maine. Estimated cost is $300,000/year.

Question. Do you agree that an agronomist position (in addition to the weed and soil scientist for which recruitments are currently in process) to integrate the soil, weed, pathology and entomology information on potato production into a more effective system and achieve better quality as well as improved yield is needed at Prosser, WA, to continue research on site-specific management and to focus on the biology of potato production?

Answer. Yes, the site-specific management research team at Prosser, WA is in the process of rebuilding after the loss of several scientists. A new soil scientist has been selected and will be on-board soon. Recruitment is underway for a new weed scientist. The objective of this team is to develop site-specific management strategies based on knowledge of the biology of the potato crop and its interactions with pests, pathogens, and the aboveground and below-ground environment. The resulting management systems will be more efficient in the use of resources, improve yield and quality of the crop, and reduce the risk of negative impacts on groundwater quality. To accomplish these goals, an agronomist to lead the research on potato biology and water management should be added to the Prosser group. Just as the plant integrates biological, chemical, and physical factors to determine yield and quality, the agronomist will be the point of integration for knowledge of potato biology, pathology, entomology, soil science, and weed science into an effective management system that is acceptable to growers. The estimated cost is $300,000/year.

PASTURE-BASED BEEF SYSTEMS FOR APPALACHIA INITIATIVE

Question. Please describe the cooperative agreement between the USDA ARS station in Beaver, WV; the Virginia Polytechnic Institute and State University; and West Virginia University for support of the Pasture-Based Beef Systems for Appalachia initiative.

Answer. A cooperative agreement between the USDA ARS in Beaver, the Virginia Polytechnic Institute and State University, and West Virginia University does not formally exist. The three institutions have actively collaborated in the development of a cooperative research initiative for a Pasture-Based Beef System for Appalachia that capitalizes upon the complementary capabilities of the three institutions. This initiative will develop innovative concepts/practices to enhance the efficiency, profitability and sustainability of pasture-based beef production systems in Appalachia. Systems for each of the different phases of cattle production and marketing will be compared. The initiative will be a long- term, multi-disciplinary/multi-institutional regional effort that will impact and benefit small farms. The net result will be increased economic viability of small livestock producers, enhanced economic development of Appalachia and enhancement of the environment.

Question. What level of effort, both in terms of dollars and scientific support, is ARS currently provided for this initiative and what increase is required to provide full ARS support for the initiative?

Answer. At the present time, the initiative is unfunded though some effort at each institution is relevant to the objectives of the initiative. An increase of $2.5 million will be needed to effectively implement this project. Of this, $1.5 million annually would be shared equally between the three institutions to provide the critical mass of disciplines and infrastructure needed to sustain the program. The remaining $1 million will be used to meet special disciplinary/resources requirements of the project to be distributed on a competitive basis among the three institutions. The annual request for proposals will be developed by consensus of the member institutions and will be based on the particular needs and stage of the project.

FUSARIUM HEAD BLIGHT (WHEAT/BARLEY SCAB) RESEARCH

Question. The fiscal year 1999 Appropriations Act provides increased funding for fusarium head blight research. Please describe the current level effort, both in terms of dollars and scientists, for the ARS base program and the ARS consortium with 12 land-grant universities, as compared with that in fiscal year 1998, and summarize research accomplishments to date.

Answer. The current efforts for fiscal year 1998 and fiscal year 1999 are as follows:

	Fiscal Year 1998		Fiscal Year 1999	
	Scientists	Dollars	Scientists	Dollars
In-House	3.0 (SY)	$773,500	4.7 (SY)	$1,188,400
Consortium		500,000		3,500,000

Recent accomplishments within ARS include: the identification and maintenance of resistance genes from wild wheat relatives into wheat germplasm, the development of molecular markers for resistance genes, release of a scab- tolerant wheat variety for the upper Midwest, identification and isolation of genes that inactivate the toxin produced by the head blight fungus and incorporation of these genes into wheat and barley, and identification of anti- fungal genes that appear to inhibit the fungus.

Question. Please describe the budget proposal for fiscal year 2000 funding to address fusarium head blight or scab. What research enhancements are proposed for ARS? Is any increase in funding requested to support the consortium?

Answer. The fiscal year 2000 budget proposes a $900,000 increase to fund fusarium blight research at St. Paul, Minnesota; Fargo, North Dakota; Peoria, Illinois; Madison, Wisconsin; Albany, California; and Raleigh, North Carolina. Research topics to be addressed include: genetics of resistance in spring and durum wheat, transformation of wheat and barley for fungus resistance and control of vomitoxin, biological control of the fungus, and disease epidemiology. The fiscal year 2000 budget does not request additional funding to support the consortium.

Question. Describe the Wheat and Barley Scab Initiative. What parts of the plan have been implemented with the funding provided to date? What additional funding will be required to fully implement the research plan?

Answer. The U.S. Wheat and Barley Scab Initiative is a consortium of representatives of the wheat and barley industries and university, ARS, and private researchers. Activities include research on all aspects of the disease, especially enhancement of genetic resistance to head blight in wheat and barley, disease epidemiology, and disease management strategies. The funding plan developed called for $5,125,000 per year for 5 years, and the Wheat and Barley Protection Act of 1997 authorized $5.2 million per year for a partnership between land grant universities and the federal government to address scab in wheat and barley. In fiscal year 1999, $3.5 million was appropriated to partially address each of the objectives. Full funding would require an additional $1.7 million per year.

Question. The Committee has been asked "to limit to no more than 5 percent, the overhead charges" deducted from ARS grants to land grant universities for the Scab Initiative. Please explain what percentage is taken from each of these grants and why it is taken.

Answer. Universities typically charge an "overhead" or "indirect" cost to extramural grants to partially defray in-house infrastructure costs of conducting the research. The percentages taken by the land grant universities for the grants in fiscal year 1999 were:

University	*Percent*
North Dakota State University	
University of Minnesota	5
Michigan State University	14
South Dakota State University	10
Ohio State University	5.5
University of Illinois	10
Purdue University	
University of Missouri	5
Kansas State University	
University of Nebraska	
North Carolina State University	
University of Maryland	
Cornell University	
University of Kentucky	
University of Arkansas	
Virginia Tech	
University of Georgia	10
Louisiana State University	
Washington State University	14

Question. The Committee has learned that despite the fact that the Upper Midwest has been devastated by several serious plant disease epidemics over the past ten years caused by stem rust and fusarium head blight, there are currently no ARS scientists working on fungal diseases of barley in the region. Is this true? If so, does the ARS agree that federal support in combating serious disease in the region is desirable? What level of effort, in terms of dollars and scientists, would be required to do this?

Answer. It is not true. Currently, ARS researchers in Madison, Fargo, and St. Paul are conducting research on fungal diseases of barley, including fusarium head blight, stem rust, and powdery mildew. Research areas include genetics of host plant resistance, genetic variability of pathogens, host- pathogen interactions, and enhancing host-plant resistance through conventional and biotechnological means.

TURKEY RESEARCH

Question. Please provide the Committee with a status report on ARS Poult Enteritis Mortality Syndrome (PEMS) research.

Answer. During fiscal year 1999, the following has been accomplished:

—Initial studies showed that turkey poults exposed to PEMS-infected tissues exhibited immunosuppression prior to the enteritis and this had a direct impact on the immune system, specifically the thymus gland.

—Turkeys exposed to thymus gland tissue from infected birds developed a PEMS-like disease with mortality, severe growth depression, enteritis, immunosuppression, and tissue atrophy.

—A new virus has been isolated from the thymus of PEMS-infected birds—a "Small Round Virus" (SRV). A culture system was developed to grow and purify the virus. Initial experiments indicated SRV can cause disease in turkey poults similar to PEMS in the field. The virus is not identified by diagnostic tests for common turkey enteritis viruses.

Question. How soon will a diagnostic test be available for the rapid identification of the likely presence of the PEMS virus?

Answer. Current studies are in progress to produce experimental antisera for development of diagnostic tests for use in the field. The antisera will be available for initial tests in 3–4 months. The ARS Southeast Poultry Research Laboratory (SEPRL) has committed to providing the antisera for initial testing at North Carolina State University, College of Veterinary Medicine and Purdue University Diagnostic Laboratory. Development and release of a commercial diagnostic kit is 12–18 months to the future.

Question. Based on the fiscal year 2000 request for ARS funding for PEMS research, when do you estimate a vaccine will be developed? Would the hiring of a post-doctoral fellow to concentrate solely on PEMS vaccines and other therapeutic treatments reduce the time necessary to develop a vaccine? By how much would this additional research support reduce the time needed to develop a vaccine?

Answer. Estimates based on current personnel and financial resources suggest a vaccine would be available within 3–5 years. Although the hiring of a post- doctoral fellow would allow a full-time person to work on the vaccine development alone, the prospect for an effective vaccine would be greater with the recruitment of a permanent scientist. This would require an additional $300,000 in permanent funds. This additional person would free the current personnel to work on the identification of the Small Round Virus, define its role in production of PEMS and development of the diagnostic tests. This could reduce the estimated time to vaccine development from the current 3–5 years to a 1–3 years.

Question. Avian pneumovirus is a new disease posing a potential serious threat to the turkey industry. The industry and the State of Minnesota have allocated more than $500,000 to pneumovirus research in the past year and are seeking a federal contribution to efforts to further refine diagnostic tests, improve disease containment procedures, and accelerate vaccine development. Is ARS currently involved in the University of Minnesota project? Is ARS performing any research related to this disease? What level of participation in the University of Minnesota project would be appropriate if resources were made available to the ARS to participate in this research effort?

Answer. No direct or indirect involvement has been requested by the Minnesota Turkey Federation or the University of Minnesota. ARS has offered to assist in the Minnesota research effort, but such offers have not been accepted. Recently, several Minnesota pneumoviruses were sent to SEPRL for molecular analysis. This was the first occurrence of cooperation between ARS and the Minnesota state research effort on pneumoviruses.

In fiscal year 1998, the National Veterinary Service Laboratory, Animal and Plant Health Inspection Service, USDA, requested assistance from SEPRL, ARS, in avian pneumovirus research, especially in analysis of the Colorado virus. In fiscal year 1999, pneumovirus research was incorporated into existing research efforts at SEPRL.

ARS has conducted molecular epidemiologic evaluation of the initial avian pneumovirus from Colorado, making appropriate comparisons to the avian pneumoviruses Subtypes A and B of Europe and Africa. The findings indicated that the U.S. Colorado pneumovirus was a new subtype of pneumovirus distantly related to the European viruses and most likely not introduced from Europe or Africa. Other studies in progress include development of DNA-based tests for diagnostics, determining the reservoir and original source of the pneumoviruses in North America and understanding the disease and its control, including vaccines.

ARS could assist in poultry experimental studies to determine the role of individual viruses in the field disease. Currently, APHIS has limited in vivo experiments to biological containment facilities which are lacking in Minnesota. SEPRL could provide additional assistance and coordination in molecular analysis and vaccine development.

EURASIAN AVIAN INFLUENZA

Question. The Senate report accompanying the fiscal year 1999 appropriations Act encourages ARS scientists at Athens, GA, to provide technical assistance and to collaborate with other leading virologists and ornithologists to develop and assess baseline data on Eurasian birds as an influenza reservoir and their migration habits between Southeast Asia and North America and their breeding grounds in Alaska. Have ARS scientists assisted in this effort to assess the threat viruses from Eurasian birds migrating to the United States?

Answer. The Southeast Poultry Research Laboratory (SEPRL), Athens, Georgia, has provided technical assistance, in the form of virus isolation, identification and characterization, to the University of Alaska since the summer, 1998. Additional assistance has been provided to the Department of Agriculture and Fisheries in Hong Kong on Asian Influenza. Currently, SEPRL has two Specific Cooperative Agreements with universities for establishing baseline data on Eurasian birds as influenza reservoir and their migration habits between Asia and Western North American (Cooperator: University of Alaska) and between Europe and Eastern North America (Cooperator: University of Georgia).

Question. Do findings from surveillance efforts to date call for an increase in this screening effort? How many Eurasian avian influenza positives were found as a result of surveillance efforts last year?

Answer. The findings to date cover only fall 1998 and winter 1999 sampling and such data represents only 6 months of effort. Patterns of influenza ecology and identification of reservoirs can only be established from sampling over multiple years in wide geographic areas.

Four avian influenza viruses were obtained from the 700 samples tested from Alaskan birds and 34 influenza viruses from 400 samples from the Midwest and Eastern US wild birds. The infected samples are being evaluated in studies to determine the genetic origin and relationships to Asian, European and North American avian influenza viruses. However, additional isolates need to be obtained from both locations in order to make the epidemiologic study viable by multi-year sampling.

Question. What additional funding would be required for the Athens ARS laboratory to collaborate with the University of Alaska and the University of Georgia to further develop and assess these baseline data, specifically to increase the number and diversity of wild bird samples obtained and analyzed.

Answer. The SEPRL will provide the virologic and molecular biologic components of both collaborative research projects. An additional $100,000 would allow the hiring of a post-doctoral research associate and the purchase of reagents to be used in the isolation and identification of the influenza viruses from a greater number of more diverse samples. Both university cooperators will provide the ornithologic expertise and obtain the diagnostic samples from wild birds in the field, and in the case of the University of Georgia, the initial virologic isolations from the Midwest and Eastern USA. The cooperators would need an additional $100,000 each to continue and enhance their field sampling activities. The total required funds would be $300,000.

NATIONAL SEDIMENTATION LABORATORY

Question. Please provide the fiscal year 1998, 1999 and proposed 2000 funding levels for the National Sedimentation Laboratory.

Answer. The fiscal year 1998, 1999 and proposed 2000 funding levels for the National Sedimentation Laboratory are respectively; $5,424,000, $5,424,000, and $5,964,000.

Question. What level of funding is available for the Laboratory to conduct research on sources and causes of water impairment in the Yazoo River Basin and to seek economically feasible Best Management Practices for attaining new water quality goals (Total Maximum Daily Loads) at field, farm, watershed, and basin levels?

Answer. In fiscal year 1999, the Laboratory will have $3,297,200 available to conduct research on the sources and causes of water impairment in the Yazoo River Basin, and to develop economically feasible Best Management Practices for attaining new water quality goals in the Yazoo River Basin and Mississippi Delta. This does not include the $1,246,900 in financial support that the National Sedimentation Laboratory currently provides the University of Mississippi's Center for Computational Hydroscience and Engineering and National Center for Physical Acoustics. The fiscal year 2000 budget will provide the Laboratory with an additional $540,000 that will be used to expand the current research effort on water quality in the Yazoo River Basin, and to assess the performance and reliability of a broad spectrum of farming and resource management practices for attaining new water quality goals at farm, field, watershed, and basin levels.

GENOME RESEARCH

Question. Please describe the animal and plant genome research programs being carried out by ARS and the importance of that research.

Answer. Plant Genome Research. The ARS' Plant Genome Research Program began in fiscal year 1990, and now has several major components: 1) development, enhancement, and maintenance of a genome database system for managing gene mapping and sequence information, and integrating the former information with knowledge of biological function and other attributes within and among crop species; 2) research that elucidates crop genome structure and organization, and that interrelates the preceding information to biological function so as to facilitate the manipulation of genomes to improve crops; 3) development of research tools, such as DNA libraries, molecular probes, and primers; and 4) development of bioinformatics software tools for characterizing and integrating complicated plant genome data. To date, this program has stressed the development of individual genome databases for several major crops (e.g., maize, wheat, soybeans) and software development and database management.

ARS is currently allocating $3.9 million to plant genomic research for several major crops. New crop genome research and database support positions have been established at Ithaca, NY, in association with Cornell University, and at the Western Regional Research Center, Albany, CA. The ARS-Cornell partnership has been strengthened by establishing a joint center for comparative genomics and bioinformatics.

The VA-HUD Bill (Public Law 105–65) in fiscal year 1998 approved $40 million to be allocated by the National Science Foundation (NSF) to a National Plant Genome Initiative focused on "economically significant plants." In the first competition for these funds, nine ARS scientists were Principal Investigators or co-Principal Investigators on proposals that were funded. ARS is striving to ensure that its institutional genome research and database development efforts are coordinated with and effectively complement research funded by the new NSF program, and other crop genome initiatives.

Importantly, the USDA/ARS Plant Genome Research program contributes to solving many of USDA/ARS's priority research problems. It addresses environmental deterioration (e.g., global change, water quality), promotes sustainability and profitability of crop production, improves the quality of food, fiber, feed, ornamentals, and industrial products by facilitating the development of new crops and crop varieties. These new crops and crop variants will use inputs more efficiently, and yield products with higher quality and higher value. This research program will also contribute to the optimal conservation and utilization of crop genetic resources.

Animal Genome Research.—ARS initiated a program on animal genome mapping in 1988. In 1994, ARS scientists published the first genetic linkage maps in the world for livestock and was a key participant in the first genetic linkage map for poultry. Second generation linkage maps in cattle, swine, poultry and sheep were published in 1997. They are the most complete genetic maps for this livestock species available in the world. ARS scientists have established cooperative efforts in genome mapping and databases with scientists in State Agriculture Experiment Stations, other countries, and agribusiness companies.

The USDA/ARS is currently allocating $9.1 million to animal genome research. ARS has programs on the identification of genes of importance for animal production, gene mapping, and gene characterization in cattle, sheep, swine, poultry, and fish at the U.S. Meat Animal Research Center, Clay Center, NE, Avian Disease and Oncology Laboratory, East Lansing, MI, Animal Physiology Research Unit, Athens, GA, National Animal Disease Center, Ames, IA, Beltsville Area Research Center, Beltsville, MD, and the Cool and Cold Water Aquaculture Research Unit, Leetown, WV. The improved genetic linkage maps permit ARS to direct research efforts to identify genes that regulate growth, lactation, reproduction, carcass traits and disease resistance. These efforts will improve production efficiency, resistance to diseases and parasites, and quality and safety of products, and keep U.S. agriculture competitive in international markets.

Question. How will the increased funding requested for fiscal year 2000 enhance this research effort?

Answer. The Administration's budget for fiscal year 2000 requests an increase of $800,000 for animal genome research and $700,000 for plant genome research. The new funding for animal genome research will enable the Agency to augment its efforts to: 1) identify the genetic basis for productivity in dairy cattle and mammary gland resistance to mastitis (Beltsville, MD; $300,000); and 2) develop high throughput methods for comparing, analyzing, and storing large numbers of DNA sequences and gene variants (polymorphisms) so as to identify economically important genes in cattle and swine (Clay Center, NE; $500,000). The new funding for plant genome research will enable the Agency to augment its efforts to: 1) apply new genomic approaches to manipulating agriculturally important genes in crops (Albany, CA; $400,000); and 2) develop new bioinformatic tools, biological databases, and information management technology to generate, store, locate, arrange, interrelate, analyze and communicate the voluminous data produced by plant genomic sequencing, mapping, and other genomic research (Columbia, MO; $300,000).

HUMAN NUTRITION RESEARCH

Question. Two years ago, the Administration proposed an ARS Human Nutrition Research Initiative. Please distinguish research performed as a result of this initiative from the agency's ongoing nutrition education and research program at each of the Human Nutrition laboratories?

Answer. The research performed as a result of the Human Nutrition Research Initiative can be distinguished from the agency's ongoing nutrition education and research program at each of the Human Nutrition Center's will be provided for the record.

The ARS Human Nutrition Research Centers do not have a nutrition education program. However, Children's Nutrition Research Center at Baylor College of Medicine has a nutrition specialist person that is employed by USDA's Cooperative Research, Education, and Extension Service.

The Initiative strengthens ARS' integrated, multi-disciplinary human nutrition research program by using new approaches to elucidate the fundamental interrelationships between diet, genetics, and health, and by applying and validating strategies to stimulate healthy food, nutrition, and lifestyle behaviors. Specifically, it has allowed the ARS Human Nutrition Research Centers to focus on the following five vital concerns: food, phytonutrients and health; healthy body weight to avoid diabetes and other diseases; brain function and resistance to mental decline; bone growth and protection from osteoporosis; and foods and nutrients' roles in preventing infectious disease. This funding has allowed the Grand Forks Human Nutrition Research Center to examine the role of trace minerals in gene expression; the Human Nutrition Research Center on Aging was able to examine the influences of diet on loss of immunocompetence and other functions during aging, including examining the relationship between diet, adult-onset Type 2 diabetes, functional disabilities, and food security in a Hispanic population; the Children's Nutrition Research Center at Baylor has examined how fetal nutriture affects later human development and functioning, specifically how in-utero nutrition may alter the course of human development and produce permanent consequences for the child after birth; the Western Human Nutrition Research Center has examined the molecular links between gene expression, dietary intakes, individual nutrient requirements, and risk of disease; the Arkansas Children's Nutrition Center has examined the molecular basis for nutrient effects on cognitive development of children, in addition, they are examining phytonutrient compounds extracted from soybean (components part of soy-based infant formulas) and how they might reduce the risk of various cancers; and the Beltsville Human Nutrition Research Center was able to establish a new ARS project for research on diet and flavonoid (a major constituent of fruits

and vegetables) function, which is to determine the bioavailability of flavonoids and their role as biomarkers of health status.

Question. What has been accomplished to date from increased funding made available for the Human Nutrition Research Initiative?

Answer. Some of the accomplishments to date will be provided for the record.

Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University, Boston, Massachusetts

Dietary Antioxidants and Aging.—High dietary intakes of antioxidant vitamins and phytochemicals are associated with better maintenance of physiologic function and a lower prevalence of many degenerative conditions in older adults. Understanding how antioxidants reduce oxidative stress and impact the pathogenesis of chronic disease present opportunities for health promotion. There is a compelling body of scientific evidence that suggests that free radical pathology is associated with many of the chronic diseases that are common among older adults, e.g., cancer, heart disease, and degenerative eye disorders. It has been found that the food matrix in which carotenoids are found affects their bioavailability. Chicken eggs may serve as a rich dietary source of bioavailable lutein and zeaxanthin, two common carotenoids, possibly due to the lipid matrix of the yolk in which they are located. Antioxidant status as assessed by measuring plasma antioxidant capacity can be with increased consumption of fruits and vegetables. This is the first time anyone has demonstrated that antioxidant status can be altered with increased fruit and vegetable consumption.

Nutrition, Aging and the Immune Response.—The long recovery period and pathology associated with infectious disease has a debilitating effect on functionality and quality of life in elderly; and infectious diseases are among the leading causes of death in this age group. Nutrients play an important role in regulation of the immune response and host defense against infectious diseases. Understanding the mechanism of nutrient modulation of the immune response during aging will help in designing effective interventions. Consumption of up to 800 IU/day for six months of vitamin E had no adverse effect in healthy elderly and significantly improved their immune response. One of the mechanisms by which vitamin E contributes to the reduction of risk of atherosclerosis and cancer is through modulation of immune and endothelial cell interaction, production of several chemokines, pro-inflammatory cytokine and modulation of angiogenesis. Green tea flavonoids showed similar but more potent inhibitory effects on angiogenesis compared to that observed with vitamin E.

Bone Health in the Elderly.—The current RDA does not appear to support optimal functioning of vitamin K-dependent proteins in bone. These observations are of concern because vitamin K has recently been identified as a potentially important nutrient that can affect bone mineral density and the risk of hip fracture. A sub-clinical deficiency of vitamin K showed significant increases in abnormal forms of vitamin K-dependent proteins. These investigations showed a direct evidence that dietary depletion of vitamin K has a detrimental impact on bone metabolism in humans. Repletion of vitamin K restored function of vitamin K-dependent proteins, and bone resorption levels returned to baseline.

Grand Forks Human Nutrition Research Center, Grand Forks, North Dakota

Micronutrients.—Copper deficiency can lead to anemia, low white blood cell count, bone loss, poor growth, and some forms of heart disease. ARS researchers have identified a link between copper deficiency during pregnancy and neurological defects in the offspring of laboratory animals. Mice fed diets lacking adequate copper throughout pregnancy and for a few weeks after delivery; had altered observed enzyme levels in the brains of pups and changes in protein kinase C, an enzyme involved in the development of the nervous system. These findings may have implications for human mothers by showing the importance of an adequate copper intake during pregnancy.

The major signs of copper deficiency found in depleted men and women resemble the most common characteristics that can predict risk of ischemic heart disease in people. Although official recommendations about desirable amounts of dietary copper have been made, no Recommended Dietary Allowance has been assigned. In addition to the link of low dietary copper to ischemic heart disease there has been a recently identified link between heart disease and osteoporosis. Adequate dietary copper is required for health of both hearts and bones. Mice deficient in copper had fragile bones.

Strong evidence was found supporting the view that glycation, the undesirable binding of sugar to proteins, is enhanced in dietary copper deficiency. Because glycation is a process that is increased in diabetes and aging, the present finding

suggests that reduced copper intake may worsen the consequences of these two conditions.

Zinc is essential for growth and early development, but the relationship between zinc and cognition in later development is largely unknown. ARS scientists determined that short-term supplementation with zinc combined with other micronutrients may improve some aspects of cognitive function of school-aged Mexican-American children, who are at increased risk for zinc deficiency primarily because of high intakes of dietary phytate.

Beltsville Human Nutrition Research Center, Beltsville, Maryland

Bioavailability, Transport and Antioxidant Activity.—ARS scientists have been able to demonstrate that lesser known carotenoids in tomato, phytofluene and phytoene, are much more bioavailable from tomato juice than is the dominant tomato carotenoid lycopene. The mechanism of protection of tomato products dies not appear to be related to immune function as judged from a T-lymphocyte proliferation assay. ARS plant scientists and nutritionists have developed a variety of tomato that is rich in phytofluene and phytoene. They have shown that the carotenoid content of colon cells is markedly increased in humans consuming carotenoid-rich vegetables, thus relevance to colonic cell mutagenesis is likely.

Diet and Infectious Disease.—Nutritional interactions may play a significant role in the etiology of several chronic degenerative or acute infectious diseases. ARS scientists have shown that dietary oxidative stress increases viral virulence apparently by changing the genetic nature of the virus as it replicates with the host. Nutritional status of an individual, especially in vitamin E and selenium, appears to affect virulence and genetic structure of the virus.

Children's Nutrition Research Center, Baylor College of Medicine, Houston, Texas

Calcium Intakes in Girls.—Most of the calcium found in the body is in teeth and bone. The remaining small percent plays a role in mediating vascular constriction and vasodilation, muscle contraction, nerve transmission and glandular secretion. Calcium reference intake values must be set at levels associated with maximum retention of body calcium. ARS scientists showed that girls must increase their calcium intakes at the earliest onset of puberty, rather than previously accepted ages, since peak mineral accumulation occurs at an early age.

Body Composition.—Obesity affects 20–30 percent of the U.S. population. Obesity is an increasing problem in children. Children and adolescents expend less energy and become more sedentary as the social encounters revolve around electronic devices. Dieting has not been successful for the long-term control of obesity. Consequently, a thorough knowledge of the metabolic and endocrine factors controlling fat deposition is needed in order to rationally modify the current trends. A complete body composition profile has been obtained in children ages 3–18 representing white, black and Hispanic populations. Preliminary analyses indicate that new standards are needed and that these must be ethnic and gender specific.

Growth and Neurodevelopment.—Breastfeeding optimizes brain development and reduces infections and allergy. Understanding how milk is made, and understanding what controls how much milk is made, will tell us what we need to know to improve milk quantity and composition and promote breastfeeding. ARS scientists were able to identify the possibility of genetic factors related to calcium absorption and utilization. They showed that GLUT1 glucose transporter is responsible for transferring glucose, the major sugar in the mother's blood, to the place where milk sugar is made in breast cells. This is significant because the amount of milk sugar the breast cells make determine how much milk is produced.

Western Human Nutrition Research Center, San Francisco, California

Diet, Antioxidants, and Optimal Health.—Studies have shown that vegetables rich in beta-carotene protect against heart disease and cancer. The amount of beta-carotene that it takes to prevent chronic disease is not known. In well-controlled carotenoid depletion studies ARS scientists examined the effective range of beta-carotene in the antioxidant defense system of healthy women. They found that maximal protection occurred at low, physiological concentrations of beta-carotene. They are identifying groups of people that have low beta-carotene status and might need targeted nutritional guidance on beta-carotene.

Healthy Body Weight: Influences of Nutritional, Biological and Environmental Factors.—The conditions of overweight and obesity are leading nutritional problems in the U.S. National surveys indicate that 97 million American adults or 55 percent of the population are overweight or obese, and the prevalence is escalating. Thus, achieving and maintaining a healthy body weight is a concern of many Americans. ARS scientists demonstrated that during a prolonged period of dietary energy restriction in women, the levels of plasma leptin, a protein, were predictive of sensa-

tions of hunger. This is the first report linking leptin to long-term appetite regulation in humans. Iron status declined in about half of the women subjects during the energy restriction. The inability to sustain attention may be an early cognitive indicator of developing iron insufficiency in these women. Bone mineral content of obese women did not decline after a 3-month period of energy restriction. However, in premenopausal women, those who chronically restrained their dietary intake for the purpose of weight control had significantly lower bone mineral density.

Arkansas Children's Human Nutrition Research Center, Little Rock, Arkansas

Soy-based Infant Formulas.—The same protein extracted from soybeans and used as the exclusive protein source for over 95 percent of the world's soy-based infant formulas will reduce the risk of various cancers when fed to animals. In addition, the factors associated with these proteins circulating in the human body after consumption are being examined.

Question. Please describe the nutrition education and research program at each of the ARS Human Nutrition labs. Provide the fiscal year 1998 and 1999 levels of funding and staffing (FTE) for each lab.

Answer. The ARS Human Nutrition Research Centers do not have a nutrition education program. However, Children's Nutrition Research Center at Baylor College of Medicine has a nutrition extension specialist that is employed by USDA's Cooperative Research, Education, and Extension Service. The research carried out by each of the ARS Human Nutrition Research Centers will be provided for the record.

Beltsville Human Nutrition Research Center, Beltsville, Maryland.—defines the role of food and its components in optimizing health and reducing the risk of nutritionally related disorders in the diverse American population. To accomplish this mission, the Center develops new methods of food analysis; determines the role of nutrients and their interactions in maintaining health; monitors nutritional intakes and maintains the database of the nutrient content of foods; studies the expenditure of energy by using direct and indirect calorimetry; and investigates the consequences of altered nutrient intakes in free-living humans.

Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University, Boston, Massachusetts.—defines safe and adequate nutrient intakes and identifies factors that may contribute to degenerative processes associated with aging. To accomplish this mission, the Center determines factors related to prevention of age-related loss of bone density leading to osteoporosis and fracture, and the preservation of muscle strength; identifies dietary factors critical in slowing or preventing cataract development; determines the relation of antioxidant food components to heart disease and immune function; and explores relationships between vitamins and brain function, stroke, and dementia.

Grand Forks Human Nutrition Research Center, Grand Forks, North Dakota.—determines nutrient needs for humans with an emphasis on mineral element requirements that prevent disease and promote health and optimal function throughout life. To accomplish this mission, the Center determines the importance of mineral elements at the molecular level with an emphasis on chronic disease; identifies detrimental functional changes, especially in bone, brain, cardiovascular and reproductive systems, that occur in the U.S. population because of improper mineral element nutriture; identifies and validates biochemical and physiological status assessment indicators for use in the study of populations at risk from inadequate mineral element nutrition; and defines the impact of environmental, dietary, physiological and psychological stressors on specific mineral requirements.

Children's Nutrition Research Center at Baylor College of Medicine, Houston, Texas.—defines the nutritional needs of pregnant and lactating women and of their infants and children from conception through adolescence. To accomplish this mission, the Center establishes nutrient requirements to prevent low birth weight babies, particularly in pregnant adolescents; elucidates nutrient-gene interactions that regulate metabolism and disposition of nutrients; determines nutrient requirements for growth and development of school-aged and adolescent children; and establishes nutritional relationships to acute and chronic childhood diseases.

Western Human Nutrition Research Center, San Francisco, California.—determines the impacts of dietary, environmental, behavioral, and genetic factors on nutrient requirements and functions. To accomplish this mission, the Center establishes markers of nutritional status in relation to maintenance of healthy body weight, nutrition, infection and immune disorders; and protective factors in foods.

Arkansas Children's Nutrition Research Center, Little Rock, Arkansas.—determines the role of nutrition in cognitive and behavioral function, and the health consequences of infant consumption of dietary factors (phytochemicals) such as

phytoestrogens on endocrine and metabolic development and prevention of chronic diseases.

The funding and staffing for the ARS Human Nutrition Research Centers and related programs for fiscal years 1998, and 1999 will be provided below for the record.

[The information follows]:

HUMAN NUTRITION

Location (FTE)	Fiscal year 1998 estimated	SY's	Fiscal year 1998 estimated	SY's
Arkansas Children's Hospital Research Institute, Little Rock, AR	$2,769,500	.....	$3,519,500	.....
Western Human Nutrition Research Center, San Francisco, CA	5,537,500	11	5,717,200	12
Jean Mayer USDA Human Nutrition Research Center on Aging, Boston, MA	14,909,000	3	15,159,000	3
Beltsville Human Nutrition Research Center, Beltsville, MD	18,645,200	36	19,609,900	37
Grand Forks Human Nutrition Research Center, Grand Forks, ND	8,204,400	12	8,351,700	12
Children's Nutrition Research Center, Houston, TX	11,191,700	4	11,691,700	4
National Agricultural Library	675,000	.....	675,000	.....
Lower Mississippi Delta Intervention Research Initiative, (LA, AR, MS)	3,147,700	.....	3,147,700	.....
Other Locations	1,265,000	5	1,249,300	5
Headquarters (Special CSFII Samples for Children, FQPA)	5,000,000	.....	.....	.....
Totals	71,345,000	71	69,121,000	73

Question. Is ARS conducting any nutrition education and research outside of the Human Nutrition labs? If so, please describe the education and research being conducted and where it is being conducted.

Answer. The nutrition education and research conducted outside of the ARS Human Nutrition Research Centers will be provided for the record.

ARS does not conduct nutrition education at any of the nutrition laboratories outside the ARS Human Nutrition Research Centers.

The Lower Mississippi Delta Nutrition Intervention Research Initiative (NIRI) is conducted by a consortium of seven partners: Alcorn State University, Arkansas Children's Hospital Research Institute, Pennington Biomedical Research Center, Southern University and A&M College, University of Arkansas at Pine Bluff, University of Southern Mississippi, and ARS. The mission of the Delta NIRI is to evaluate the nutritional health in the Lower Delta, to identify nutritionally responsive problems, and to design and evaluate interventions which may be sustained at the community level and implemented on a larger scale in similar areas of the United States.

The research conducted by the U.S. Plant, Soil and Nutrition Laboratory, Ithaca, New York, has a human nutrition component that examines the absorption and utilization of organic and mineral constituents of plant foods. ARS scientists are identifying and depicting dietary and physiological factors that interact to affect absorption, distribution and utilization of organic and inorganic constituents in plant foods.

Human nutrition research conducted at the ARS National Center for Agricultural Utilization Research, Peoria, Illinois has examined the effect of triglyceride structure and dietary fat composition on fatty acid and lipid metabolism in humans.

INTEGRATED PEST MANAGEMENT

Question. How has ARS research to date contributed to progress made toward the Administration's goal of implementing integrated pest management (IPM) programs on 75 percent of the Nation's crop acreage by the year 2000?

Answer. During the past 15 years, USDA agencies, including ARS, have developed research, education, and extension programs to support the policy of implementing IPM programs on 75 percent of the Nation's crop acreage by the year 2000. Of

course, strong interagency coordination and cooperation with the Departmental Agencies, including CSREES, AMS, ERS, and NASS and other public and private sector organizations is vital if IPM is to be implemented in the United States and the year 2000 goal is to be achieved. The USDA has developed a Strategic Plan, completed in 1993, for implementation of USDA's Integrated Pest Management Initiative. Under the plan, specific strategies to attempt to meet the year 2000 goal have been formulated for each Agency. ARS currently carries out a program, using base funding, that conducts research to meet the needs of the policy. ARS has approximately 70 projects at 29 locations conducting basic and applied research directly related to IPM. Current and planned future IPM studies in support of the Department's IPM goal are tailored to each pest and designed to be sustainable over time.

Emphasis of the ARS IPM program is placed on biological, cultural, and other biorational technologies. In addition, special programs are underway to facilitate the transfer of new IPM technologies from small-scale research studies to producers, which typically require large-scale tests. An area-wide IPM program initiative has been developed by ARS in collaboration with other federal and state agencies, as well as private entities. An area-wide pest management pilot study using mating disruption for codling moth on tree fruits in the Pacific Northwest was fully implemented in fiscal year 1995, followed by full implementation of another area-wide program using an adult attracticide against the corn rootworm in the midwestern United States in fiscal year 1997. A third area-wide IPM program was initiated by ARS in 1997 and is directed at the leafy spurge weed in Montana, North and South Dakota, and Wyoming, using primarily a natural insect predator. The numerous other ARS IPM research projects in support of the Department's IPM initiative emphasize traditional biological control, host-plant resistance, behavior-modifying chemicals (e.g. pheromone mating disruptors), resistance management, cultural practices, improved pesticide application technologies, and other related control technologies. Target pests include a multitude of insects, mites and ticks, plant pathogens and nematodes, and weeds.

The Agency's IPM and area-wide programs are involved with the development of potential substitutes to the 95 organophosphate and carbamate pesticides currently on the EPA priority list of pesticides to be reviewed and possibly terminated for grower use under FQPA. For example, pheromone mating disruption of codling moth in apples and pears will substitute for azinphos-methyl. A semio- chemical attracticide bait will substitute for methyl parathion and carbaryl in the control of corn rootworms; the leafy spurge predatory insect, Apthona, will substitute for certain herbicides on the EPA list; kaolin clays could substitute for methylchlorpyrifos, methyl parathion and other chemical insecticides in the control of orchard pests; and photoactive compounds in a bait matrix could substitute for chlorpyrifos and diazinon for imported fire ant control. These examples are only a small sampling of substitutes of the more than 90 technologies that ARS has in the developmental pipeline currently to help address the impact of FQPA.

Much progress has been made by ARS in generating pest management technologies for use in the Nation's IPM systems to meet the year 2000 goal, and only a select few are mentioned here:

As a result of the area-wide codling moth management program, mating disruption technology is being used widely in the apple and pear growing areas of the western U.S. In 1994, before the area-wide program was initiated, only 11,000 acres were treated with mating disruption technology in Washington State. During 1997, more than 30,000 acres were treated with mating disruption technology, almost tripling the usage in 3 years. There were more than 44,000 acres using the technology throughout Washington, Oregon, and California in 1997 and 1998. A result of the diminished use of hard pesticides has been a resurgence in the natural enemy populations that have exerted almost complete control of secondary pests. This has further reduced the costs of insect control on apples and pears in this three-state area. Populations of codling moth were reduced to almost undetectable levels at some of the 17 project sites. The cost of the control was less in the mating disruption treated orchards than in orchards treated with conventional organo-phosphate pesticides. The number of pesticides sprays were reduced in all orchards under the area-wide program and were entirely eliminated at most of the project sites. Because of the overwhelming success of the program, thus far, numerous other growers in these states have indicated their desire to be included in this large-scale IPM program.

Corn rootworm populations can be reduced by 85 to 95 percent with less than 10 percent of the chemicals used in current corn rootworm control regimes by using adult attracticide baits developed by ARS and now marketed by industry. This technology is the basis for the area-wide IPM program on corn rootworm in the midwestern U.S. and Texas. More than 25,000 acres are included in the research dem-

onstration project. This technology could ultimately become the treatment of choice on the 20 million acres of U.S. cropland currently treated with corn rootworm insecticide, in combination with transgenic corn.

ARS scientists imported and developed a black flea beetle for control of the weed, leafy spurge, in the Midwest during 1988. By 1995, leafy spurge was virtually eliminated at the release sites in North Dakota and Montana. This technology is one of the major strategies being used in the area-wide program on leafy spurge in the northern plains of the U.S., which includes the States of Montana, Wyoming, and North and South Dakota.

This past year, extensive fundamental, ecological, biological, and IPM research on the silverleaf whitefly and its natural enemies produced strategies for an ecologically-based management system. Some crop management and community- oriented farm decision-based practices, such as water-use patterns, and proximity of alternate host crops; and spatial considerations have been implemented in an effort to provide overall silverleaf whitefly population reductions. Area-wide, community-based IPM approaches covering infested crops were implemented across the southern tier of the U.S., and growers now have available cotton cultivars, which are less susceptible and have reduced losses from whiteflies. New commercial safer pesticides have been tested and made available, and new biological control agents have become available on the market, such as a natural fungus agent that was discovered and developed by ARS, and a number of parasites.

ARS developed a nematode biological control agent, Steinernema riobravis, for control of pink bollworm, corn earworm, and fall armyworm, among others. Biosys, Inc. started selling the nematode-based product commercially in 1994–95 for use in IPM systems. Photodyes have been developed for use in fruit fly IPM systems for control and for possible use in eradication of these pests from Hawaii and the mainland. ARS scientists have found that releasing large numbers of the boll weevil parasite, Catolaccus grandis, on infested cotton can kill up to 95 percent of the weevils. This biocontrol agent has great potential when used in an IPM system or eradication scheme for boll weevils.

A new pear variety has been developed by ARS that resists fire blight disease and will reduce chemical pesticide use and improve export markets. Sugarbeet cultivars have also been developed and released with resistance to leafspot and root and crown rot.

Other projects that contribute to the overall IPM program include a community-based field trial study for control of the deer tick and lyme disease in the northwestern United States, the management of Colorado potato beetles and aphids with biological control systems and cultural practices to lessen the need for chemical insecticides, and the management of cotton plant bugs in post-boll weevil eradication zones.

The anticipated outcome of these projects will be the adoption of the component technologies by end-users into IPM and sustainable agriculture system with a concomitant reduction; in chemical pesticide use and increased worker and food safety. Most of these projects are using alternative technologies that will substitute for at-risk chemical pesticides and which could be lost as a result of the Food Quality Protection Act. The ARS, the Animal and Plant Health Inspection Service (APHIS), and the Cooperative State Research, Education, and Extension Service (CSREES), in cooperation with other USDA agencies and local and regional organizations and producers will continue to cooperatively implement IPM research, education, and proactive technology transfer programs to help growers to adopt new IPM practices.

Question. An increase of $3.17 million is requested for fiscal year 2000 for the Food Quality Protection Act (FQPA) research initiative. Please describe this initiative more fully. What resources is ARS currently committing to this initiative and where is the research being conducted?

Answer. Department policy places high priority on funding, development, and testing of safe substitute technology for currently used pesticides at risk of being phased out after review by EPA under FQPA, including the development of area-wide pest management programs using biointensive IPM approaches, biological control agents, and other IPM components technology.

Research funded by the proposed increase will allow ARS to expand support for its area-wide IPM research demonstration programs based on the use of biorational and biologically-based strategies for control of key pests where organophosphate and carbamate pesticides are used primarily as management agents. New projects selected for implementation will be chosen through a scientific review process with a major criteria tied to replacement technology for at-risk pesticides. ARS also needs to expand its IPM component research for pests of fruits and vegetables treated with organophosphates and carbamates, as well as for pests under large-scale action agency eradication or control programs, such as boll weevil and the silverleaf

whitefly, a vector of crop diseases. These programs will specifically help U.S. agriculture adjust to changes resulting from implementation of FQPA and the cost of chemicals currently used against these pests.

Finally, the increase in funds will be used to support the USDA Office of Pest Management and Policy (OPMP). The Office functions to improve USDA's ability to address FQPA by improving integration and coordination of pest management and pesticide data programs and by strengthening communications with the existing network of grower organizations and crop specialists at land-grant institutions. The activities coordinated by OPMP will help increase USDA's responsiveness to the pest management needs of the agricultural community. Overall, OPMP has been designated as USDA's lead office on pest management policy and will coordinate USDA's interface with EPA, FDA, growers, and interested groups on pest management and pesticide-related issues. OPMP will be directly responsible for developing and implementing the Department's overall pest management strategy to adequately meet the needs of growers throughout the FQPA implementation process.

The current location and funding for the Food Quality Protection Act research initiative for fiscal year 1999, as addressed by the Agency's IPM research programs, will be provided for the record.

[The information follows:]

Location	*Fiscal year 1999 funds*
Fresno, CA	$991,200
Salinas, CA	535,900
Shafter, CA	226,700
Ft. Lauderdale, FL	1,265,200
Gainesville, FL	1,414,500
Miami, FL	1,463,100
Byron, GA	195,800
Tifton, GA	849,900
Ames, IA	142,400
West Lafayette, IN	84,800
Manhattan, KS	358,800
New Orleans, LA	86,400
Beltsville, MD	2,926,500
Morris, MN	223,600
Columbia, MO	88,400
Stoneville, MS	2,018,800
Sidney, MT	1,386,200
Raleigh, NC	146,100
Lincoln, NE	274,900
Ithaca, NY	123,400
Stillwater, OK	194,500
Charleston, SC	524,900
Brookings, SD	1,944,200
College Station, TX	841,600
Kerrville, TX	409,900
Weslaco, TX	904,500
Prosser, WA	142,000
Pullman, WA	222,700
Yakima, WA	2,747,300
Washington, DC	250,200
Total	22,984,400

Question. Why is USDA's Office of Pest Management Policy being funded by the ARS? What is the role of this office and when was it established? Please provide the level of resources, in terms of dollars and full-time equivalent staff years, allocated for this office for each fiscal year.

Answer. Because of the central role of ARS laboratories and field research facilities in crop production and pest management research, housing the Office in ARS provides the Office of Pest Management Policy (OPMP)with ready access to a large existing network of scientific resources and expertise. These resources are fundamental to the OPMP mission of better informing EPA's decision processes and, when necessary, leading efforts to develop strategies to transition to lower risk pest management tactics. OPMP has assumed the responsibilities of the NAPIAP program and it is reasonable to maintain funding in ARS and follow the NAPIAP model of drawing upon other Departmental resources as necessary. OPMP works cooperatively with CSREES to maintain and fully utilize the network of crop production in the land grant system.

The OPMP was created in response to the demands of the Food Quality Protection Act (FQPA) for the Department to better integrate and coordinate numerous programs related to pesticides and pest management. In addition, OPMP serves as the primary contact point for EPA and agricultural producers on pesticide matters. Deputy Secretary Rominger announced the Office in September of 1997 and it became effective in February, 1998.

The resource level has remained constant and equal to the former ARS-NAPIAP budget of $1.192 million in 1998 and $1.089 million in 1999. This level of funding supports approximately ten full time equivalent staff members. Additional funding is sought in fiscal year 2000 to meet the demands of the FQPA and to develop strategies allowing agricultural producers to transition away from pest management chemicals that have been targeted by the EPA risk assessment process.

FOOD SAFETY

Question. What food safety research will ARS conduct in fiscal year 1999, and what is proposed for fiscal year 2000? Provide a brief description of each research project.

Answer. In fiscal year 1999, ARS is undertaking $69,867,600 food safety research specifically in the areas of detection and prevention/control of foodborne hazards; antimicrobial/antibiotic resistance; risk assessment; and food handling, distribution and storage, consisting of: 40 projects ($14.2 million) in detection of foodborne pathogens; 70 projects ($37.9 million) in prevention and control of pathogens; 7 projects ($2.2 million) in anti-microbial/antibiotic resistance; 9 projects ($4.9 million) in risk assessment; and 18 projects ($10.6 million) in food handling, distribution and storage.

In fiscal year 2000, ARS plans to undertake $11,720,000 in additional food safety research to expand work on the following: detection of foodborne pathogens ($700,000); prevention and control of pathogens ($4,750,000); antimicrobial/antibiotic resistance ($3,420,000); risk assessment ($2,400,000); and food handling, distribution and storage ($450,000).

A listing of the fiscal year 1999 projects is provided for the record.

[The information follows:]

Research title	Location	Fiscal year 1999 funds
Detection of Foodborne Pathogens		
Food Safety Pathogen Reduction	Headquarters	$110,000
Agriculture vs Natural Habitats as Sources of Cryptosporidium Parvum.	Beltsville, MD	42,100
Epidemiology and Control of Toxoplasma, Trichinella and Related Parasites.	Beltsville, MD	353,400
Prevention and Therapy for Protozoan Parasites	Beltsville, MD	245,700
New Technologies to Improve and Assess Meat Quality and Safety	Beltsville, MD	344,700
Develop Detection Methods for Cryptosporidium	Beltsville, MD	296,400
Methods of Analysis for Residues in Meat and Agric. Products	Beltsville, MD	310,300
New Handling Systems and Pathogen Decontamination Technology for Fruits.	Beltsville, MD	59,300
New Handling Systems and Pathogen Decontamination Technology for Fruits.	Beltsville, MD	59,300
Detection of Pathogenic Bacteria by Biosensors	Wyndmoor, PA	1,141,000
Advanced Technologies for the Analysis of Contaminants in Foods	Wyndmoor, PA	1,093,600
Rapid Pathogen Diagnostic and Detection Methods	Wyndmoor, PA/Purdue University.	541,900
Stress Adaptation and Virulence Expression of Pathogens in Food	Wyndmoor, PA	328,300
Food Safety Engineering Univ. Of Purdue: Biosensor Technology	Wyndmoor, PA	988,000
Microbial Germplasm Collection for Agricultural and Industrial Uses.	Peoria, IL	378,800
Supercritical Fluid Techniques for Food Safety and Nutrient Analysis.	Peoria, IL	434,100
Detection, Identification, and Surveillance of Mycotoxins in Cereals.	Peoria, IL	826,100
Prevention of Loss from Colibacillosis/E. coli O157:H7 in Cattle and Swine.	Ames, IA	284,300

Research title	Location	Fiscal year 1999 funds
Prevention in Livestock of Potential Human Foodborne Pathogens	Ames, IA	487,000
Treatment/Handling of Animal Manure to Prevent Pathogen Transmission.	Riverside, CA	148,200
Control of Pathogens on Surfaces of Poultry and of Fruits and Vegetables.	Albany, CA	478,100
Adhesion of Human Pathogens to Surfaces of Poultry, Fruits and Vegetables.	Albany, CA	538,500
Removal of Aflatoxin Contamination from Human Foods in Real-Time by Imaging Techniques.	Albany, CA	215,000
Treatment of Animal Manure to Prevent Pathogen Transmission	Albany, CA	148,200
Pinus and Gutierrezia Species: Toxicoses and Abortion in Livestock.		53,700
Astragalus and Oxytropis Poisoning in Livestock	Logan, UT	63,600
Livestock Poisoning by Pyrrolizidine Alkaloids and Other Hepatotoxic and Teratogenic Plants.	Logan, UT	43,800
Poisoning of Livestock by Larkspur (Delphinium) Species	Logan, UT	53,700
On-Line Verification and Intervention Procedures for HACCP in Slaughter/Processing Systems.	Clay Center, NE	436,500
Control of Salmonella and E. coli 0157:H7 in Livestock/Preharvest	Clay Center, NE	783,400
Prevent the Occurrence of Toxins in Water/Protect Food and Environment.	Fargo, ND	296,400
Methodology Development for Rapid Analysis of Drug and Pesticide Residues in Food Animal Products.	College Station, TX	797,000
Mississippi Center for Food Safety and Postharvest Technology	Mississippi ST, MS	358,700
Determine Isoflavonoid Induction in Legumes and Their Phytoestrogenic Effects in Animal Systems.	New Orleans, LA	206,200
Post-Mortem Muscle/Meat Changes That Affect Product Safety and Quality.	Athens, GA	414,100
Reduction of Fusarium Mycotoxins in Agricultural Commodities	Athens, GA	166,500
Rapid Pathogen Diagnostic and Detection Methods	Athens, GA	245,500
Reduction of Biofilms Related to Bacterial Contamination and Pathogen Load During Poultry Processing.	Athens, GA	297,600
Prevent Pathogen Transmission in Animal Manure	Athens, GA	74,100
Treatment of Poultry Manure to Prevent Pathogen Transmission	Athens, GA	74,100
TOTAL		14,217,200
Prevention and Control of Pathogens		
Preharvest Control of Aflatoxin	Headquarters	861,200
Food Safety Pathogen Reduction	Headquarters	105,700
Assessment of Agricultural vs Natural Habitats as Sources of C. Parvum.	Beltsville, MD	168,500
Epidemiology and Control of Toxoplasma, Trichinella and Related Parasites.	Beltsville, MD	342,700
Strategies to Control Swine Parasites Affecting Food Safety	Beltsville, MD	766,600
Prevention and Therapy for Protozoan Parasites	Beltsville, MD	245,600
Animal Waste Handling Systems to Prevent Pathogen Transmission.	Beltsville, MD	592,800
Fate and Environmental Impact of Agricultural Nutrients in Sustainable Production Systems.	Beltsville, MD	350,800
The Effect of Plant Genetics and Zinc on Cadmium Concentration and Bioavailability in Crops.	Beltsville, MD	218,200
Composting, Stabilization, and Safe Use of Manure and Mineral By-Products from Rural/Urban Areas.	Beltsville, MD	790,800
Integrated Soil-Nutrient-Crop-Microbial-Pest-Waste Management Strategies for Sustainable Agriculture.	Beltsville, MD	240,600
Development of Techniques for Inspection of Poultry Carcasses	Beltsville, MD	1,001,800

Research title	Location	Fiscal year 1999 funds
New Handling Systems and Pathogen Decontamination Technology for Fruits.	Beltsville, MD	177,800
Quality Maintenance and Food Safety of Fresh and Fresh Fruits/Vegetables.	Beltsville, MD	545,200
Agricultural Approaches to Human Health Through Understanding Soil-Plant-Human/Animal Food Systems.	Ithaca, NY	166,500
Improving the Nutritional Quality and Stress Tolerance of Food Crop Species.	Ithaca, NY	149,700
Interventions to Improve the Microbiological Safety and Quality of Fruits and Vegetables.	Wyndmoor, PA	776,000
Pathogen Contamination in Food Producing Swine	West Lafayette, IN	296,400
Molecular Approach to Understand/Control Fusarium Infection and Mycotoxin Contamination of Crops.	Peoria, IL	852,800
Strategies for Developing Maize Kernels Resistant to Invasion by Fusarium.	Peoria, IL	222,700
Control of Fusarium Mycotoxins and Diseases in Corn and Small Grains 984,000 Peoria, IL Integrated Control of Aspergillus Flavus and Aflatoxin in the Midwest Corn Belt.	Peoria, IL	1,201,100
Control and Prevention of Cryptosporidium Parvum Infection	Ames, IA	415,700
Rumen Microbes and Their Interactions with Secondary Plant Metabolites.	Ames, IA	475,800
Prevention of Losses from Colibacillosis and E. coli O157:H7 in Cattle/Swine.	Ames, IA	710,800
Epidemiology and Control of Salmonella	Ames, IA	657,200
Prevent Zoonotic Pathogen Transmission in Swine	Ames, IA	592,800
Prevent Pathogen Contamination in Food Producing Animals, Swine	Ames, IA	296,400
Treatment/Handling of Animal Manure to Prevent Pathogen Transmission.	Riverside, CA	444,600
Practical Application of Molecular Genetics for Improved Potato Cultivars.	Albany, CA	327,700
Reduction of Aflatoxin in Tree Nuts and Figs Through Control of Major Insect Vectors.	Albany, CA	946,900
Control and Prevention of Aflatoxin Formation in Tree Nuts	Albany, CA	750,100
Control of Pathogens on Surfaces of Poultry and of Fruits/Vegetables.	Albany, CA	697,200
Adhesion of Human Pathogens to Surfaces of Poultry Fruits/Vegetables.	Albany, CA	517,000
Treatment of Animal Manure to Prevent Pathogen Transmission	Albany, CA	444,600
Pinus and Gutierrezia Species: Toxicoses and Abortion in Livestock.	Logan, UT	483,100
Astragalus and Oxytropis Poisoning in Livestock	Logan, UT	572,100
Livestock Poisoning by Pyrrolizidine Alkaloids and Other Hepatotoxic and Teratogenic Plants.	Logan, UT	394,200
Poisoning of Livestock by Larkspur (Delphinium) Species	Logan, UT	483,100
Control of Salmonella and E. coli 0157:H7 in Livestock During Preharvest.	Clay Center, NE	1,081,900
Determine the Correlation Between Production and Transportation Practices in Cattle.	Clay Center, NE	296,400
Cytokine-Mediated Modulation of the Innate Immune Response to Prevent Salmonellosis in Poultry.	College Station, TX	539,500
Development of Microbial CEC Methods to Reduce Pathogens in Swine.	College Station, TX	1,249,900
Prevention and Control of Salmonella and Other Enteropathogens in Poultry During Growout.	College Station, TX	1,189,400
Prevent Pathogen Contamination in Food Producing Animals, Cattle.	Lubbock, TX	281,600
Disease Related Problems of Poultry Production and Processing	Fayetteville, AR	293,800

Research title	Location	Fiscal year 1999 funds
Enhancing Biotic Pest Resistance in Corn Germplasm	Mississippi ST, MS	669,100
Aflatoxin Control Through Targeting Gene Cluster Governing Aflatoxin Synthesis in Corn and Cottonseed.	New Orleans, LA	1,019,900
Modification of Fungal Community Structure to Improve Food Safety.	New Orleans, LA	488,600
Aflatoxin Control Through Addition of Enhancement of Antifungal Genes in Corn and Cotton.	New Orleans, LA	1,324,200
Development of Improved Peanut Germplasm with Resistance to Disease and Nematode Pests.	Tifton, GA	267,700
Genetic Improvement of Corn and Sorghum for Resistance to Insects and Aflatoxin.	Tifton, GA	151,700
Plant Resistance and Germplasm Enhancement for Managing Insect Pests of Southern Crops.	Tifton, GA	145,000
Biochemical, Physical, Microbiological Management for Prevention of Mycotoxin in Peanuts.	Dawson, GA	745,600
Pathogenesis, Detection, and Control of S. Enteritidis and Other Salmonellae in Chickens.	Athens, GA	1,025,400
Stimulation of Mucosal Immunity in Chickens to Protect Against Enteric and Respiratory Pathogens.	Athens, GA	371,200
Engineering Innovations and Micro Developments to Reduce Contamination of Poultry and Equipment.	Athens, GA	537,500
Control of Campylobacter Jejuni in Poultry	Athens, GA	1,117,400
Control of Salmonella During Poultry Production	Athens, GA	844,400
Reduction of Fusarium Mycotoxins as Concerns in Agricultural Commodities.	Athens, GA	666,000
Control and Prevention of Mycotoxin Formation by the Corn Endophyte Fusarium Moniliforme.	Athens, GA	1,032,300
Epidemiology and Ecology of S. Enteritidis in Commercial Poultry Flocks.	Athens, GA	327,400
Food Safety-Pathogen Reduction in Poultry	Athens, GA	237,000
Prevent Pathogen Transmission in Animal Manure	Athens, GA	222,300
Treatment of Poultry Manure to Prevent Pathogen Transmission	Athens, GA	222,300
On-Line Detection Technology: PPQRU RRRC/Institute Technology Development.	Athens, GA/Inst. Of Tech. Dev.	439,100
Food Safety, Waste Minimization, and Value Enhancement of Fermented and Lightly Processed Vegetables.	Raleigh, NC	491,800
National Agricultural Library: Food Safety Data Base	Beltsville, MD	219,600
TOTAL		37,942,600
Antimicrobial/Antibiotic Resistance		
Assurance of Microbiological Safety of Thermally Processed Foods	Wyndmoor, PA	159,900
Stress Adaptation and Virulence Expression of Bacterial Pathogens in Food Environments.	Wyndmoor, PA	506,100
Improve Safety and Shelf-Life of Meat and Poultry with Ionizing Radiation.	Wyndmoor, PA	156,700
Epidemiology and Control of Salmonella	Ames, IA	295,300
Development of Microbial CEC Methods to Reduce Pathogens in Swine.	College Station, TX	588,200
Pathogen Reduction in Poultry	Athens, GA	218,800
Antibiotic Resistance Research	Athens, GA	296,400
TOTAL		2,221,400
Risk Assessment		
Epidemiology and Control of Toxoplasma, Trichinella in Domestic Animals.	Beltsville, MD	374,800

Research title	Location	Fiscal year 1999 funds
New Technologies to Improve and Assess Meat Quality and Safety	Beltsville, MD	344,700
Minimally Degradative Pasteurization Processes for Liquid or Solid Foods.	Wyndmoor, PA	302,900
Assurance of Microbiological Safety of Thermally Processed Foods	Wyndmoor, PA	399,900
Risk Modeling to Improve the Microbiological Safety of Poultry Products.	Wyndmoor, PA	120,700
Microbial Modeling Components for Use in Risk Assessments	Wyndmoor, PA	1,209,600
Improve Safety and Shelf-Life of Meat and Poultry by Irradiation	Wyndmoor, PA	156,700
Disposition of Beta-Agonists in Farm Animals	Fargo, ND	915,300
Dioxins and Other Environmental Contaminants in Foods	Fargo, ND	1,084,400
TOTAL		4,909,000
Food Handling, Distribution and Storage		
Develop New Handling Systems and Pathogen Decontamination Technology for Fruits.	Beltsville, MD	59,300
Develop New Handling Systems and Pathogen Decontamination Technology for Fruits.	Beltsville, MD	59,300
Interventions to Improve the Microbiological Safety and Quality of Fruits and Vegetables.	Wyndmoor, PA	987,600
Development of Minimally Degradative Pasteurization Processes for Liquid or Solid Foods.	Wyndmoor, PA	959,200
Detection of Pathogenic Bacteria by Biosensors	Wyndmoor, PA	303,300
Assurance of Microbiological Safety of Thermally Processed Foods	Wyndmoor, PA	239,900
Risk Modeling to Improve the Microbiological Safety of Poultry Products.	Wyndmoor, PA	120,700
Stress Adaptation and Virulence Expression of Pathogens in Food	Wyndmoor, PA	533,400
Improve Safety and Shelf-Life of Meat/Poultry with Ionizing Radiation.	Wyndmoor, PA	1,253,800
Quantitative Determination of Pathogen Reduction During Animal Slaughter and Food Processing.	Wyndmoor, PA	966,700
Control of Pathogens on Surfaces of Poultry and Fruits and Vegetables.	Albany, CA	816,700
Adhesion of Human Pathogens to Surfaces of Poultry and Fruits/Vegetables.	Albany, CA	1,098,600
Adv. Technologies for Reduction of Microorganisms and Particulate Matter in Food Processing.	Albany, CA	541,300
Removal of Aflatoxin Contamination from Human Foods in Real Time by Imaging Techniques.	Albany, CA	215,000
Control of Pathogenic and Spoilage Bacteria on Red Meat	Clay Center, NE	844,400
Develop On-Line Verification and Intervention Procedures for HACCP in Slaughter/Processing Systems.	Clay Center, NE	436,500
Engineering Innovations and Micro Developments to Reduce Contamination of Poultry and Equipment.	Athens, GA	537,500
Reduction of Biofilms Related to Bacterial Contamination and Pathogen Load During Poultry Processing.	Athens, GA	604,200
TOTAL		10,577,400
TOTAL FOOD SAFETY		69,867,600

A listing of the proposed fiscal year 2000 projects is provided for the record.
[The information follows:]

PREHARVEST

Manure handling and distribution ($2,500,000)

—Ames, IA, $400,000—pathogen reduction

—Miss. State, MS, $600,000—pathogen reduction
—Clay Center, NE, $300,000—pathogen reduction
—Lincoln, NE, $300,000—pathogen reduction
—Bushland, TX, $600,000—pathogen reduction
—Phoenix, AZ, $300,000—identify pathogens associated with water

Risk assessment ($2,400,000)

—Athens, GA, $600,000—poultry contamination
—West Lafayette, IN, $600,000—swine production practices
—Clay Center, NE, $600,000—microbiological models in cattle
—Beltsville, MD, $600,000—zoonotic parasites

Antibiotic resistance ($1,800,000)

—Athens, GA, $600,000—gene resistance for poultry
—Ames, IA, $600,000—gene resistance for cattle and swine
—College Station,TX, $600,000—antibiotics for organisms in food animals

Fungal toxins ($300,000)

—Athens, GA, $300,000—prevention of endophytic fungi in corn and grasses

Zoonotic disease risk ($300,000)

—Fayetteville, AR, $300,000—metabolic diseases in chickens and turkeys

POSTHARVEST

Pathogen control during slaughter/processing ($700,000)

—Athens, GA, $700,000—on-line detection of unwholesome poultry

Pathogen control in fruits/vegetables ($2,100,000)

—Beltsville, MD, $600,000—ecology of foodborne pathogens, development of handling procedures
—Wyndmoor, PA, $900,000—intervention strategies for pathogens on vegetables
—Albany, CA, $600,000—growth and survival of pathogens inbiofilms

Antimicrobial resistance ($1,620,000)

—Wyndmoor, PA, $900,000—molecular characterization methods
—Peoria, IL, $720,000—culture collections of fungal pathogens

Question. Please indicate how ARS' food safety research agenda for each of fiscal years 1998 and 1999 was tailored to meet the needs of the participant agencies in the President's Food Safety Initiative. What process was used to determine research needs and priorities?

Answer. The following process was used to tailor the ARS' food safety research agenda for each of fiscal years 1998 and 1999 to meet the needs of the participant agencies in the President's Food Safety Initiative, and to determine research needs and priorities:

There was continual dialogue between the agencies conducting food safety research via meetings between the Chief Scientist at the Center for Food Safety and Applied Nutrition and his staff at the Food and Drug Administration, the Deputy Administrator for Public Health and Science and her staff of the Food Safety Inspection Service, and ARS Food Safety National Program Leaders. The ARS and the FSIS hold a joint Program Planning Workshop each year where research progress is reviewed and additional research needs are discussed. Representatives from the FDA are invited to participate in the workshop, and are often requested to review specific programs of research. In addition, there was a comparison of research agendas from each of the agencies conducting food safety research, that is ARS, CSREES and FDA, and a delineation of activities in order to eliminate any duplication of effort. These activities were formalized through an inventory of all food safety research performed by USDA and DHHS. This document is under preparation for the Office of the Under Secretary of Research, Education and Economics. There is continual interaction between agencies on projects or issues of national importance when required.

ALTERNATIVES TO METHYL BROMIDE

Question. Please give us an update on the status of the agency's research efforts to find alternatives to the use of methyl bromide.

Answer. ARS continues to conduct an aggressive research program to identify and develop effective, practical and cost effective alternatives to methyl bromide for use by U.S. farmers, postharvest commodity handlers and processors, exporters, and others impacted by the 2005 ban.

The ARS methyl bromide alternatives research program encompasses a wide range of approaches. For soil fumigation they include: alternative chemicals, new technology for pesticide application, resistant plant varieties, biological control, and cultural practices such as soil amendments. For postharvest they include: new chemicals, heat and cold treatments, controlled atmospheres, inert dusts, radiation, systems approaches and combinations of these.

Research to develop alternatives to methyl bromide to control pests of stored commodities produced in the western United States is conducted at ARS laboratories in Fresno, California, and Yakima, Washington. Commodities being studied include nectarines, cherries, apples, raisins and other dried fruits, citrus, tree nuts, cotton, and hay. Also, methyl bromide is currently used to control pests of many of these crops during storage. Many of these commodities cannot currently be exported without methyl bromide treatment to eliminate quarantine pests. Research approaches include alternative fumigants, heat and cold, modified atmospheres, and combinations of treatments.

At Weslaco, Texas, and at Orlando and Miami, Florida, ARS is developing alternative quarantine treatments for citrus, vegetables, and subtropical fruits, as well as studying ways to minimize phytotoxic effects of these treatments. Emphasis is placed on pest-free zones, irradiation, heat and cold treatments, and advanced quarantine pest detection systems.

At the Hilo/Honolulu, Hawaii, ARS laboratory, alternatives are being developed for tropical fruit infested with fruit flies, especially Mediterranean and oriental fruit flies, to allow export of Hawaii-grown fruit to foreign markets and mainland United States, and to protect mainland United States from introduction of pests present in Hawaii. This research focuses on irradiation, heat and cold commodity treatments and on techniques to eradicate fruit flies.

At Manhattan, Kansas, ARS is developing alternatives to use of methyl bromide to fumigate flour mills, food processing plants, and other structures for insect infestations. Building heat-ups alone and in combination with other treatments such as diatomaceous earth are the approaches being researched.

Research to develop alternatives to soil fumigation with methyl bromide to control pathogens and weeds is conducted at 15 ARS locations. Methyl bromide is used to some extent on more than 100 crops, although nearly 80 percent of all the preplant methyl bromide soil fumigation is used on just four crops—strawberries, tomatoes, ornamentals/nursery crops, and peppers. Alternatives to methyl bromide soil fumigation include host plant resistance, biological control, alternative chemicals, and different cultural practices, either alone or in combination.

At Washington, D.C., biological control and alternative, naturally-occurring chemicals are being evaluated as alternatives to methyl bromide for control of soilborne diseases of ornamentals.

At Beltsville, Maryland, biological control agents are being identified and their mode of action determined to improve control of diseases of vegetables.

At Kearneysville, West Virginia, natural plant volatiles are being evaluated as alternative fumigants and compost and other cultural methods identified for disease and weed control.

At Fresno, California, integrated strategies are being tested that involve host plant resistance, biological control and alternative chemicals for control of disease, nematodes and insects of strawberries, grapes, tree fruits, and vegetables. The application of alternative chemicals using irrigation systems is being tested.

At Riverside, California, research is under way to reduce methyl bromide emission in strawberry and vegetable production and to track the movement and degradation of methyl bromide and alternative fumigants.

At Davis, California, work is directed at using host plant resistance and cultural modifications to manage diseases in tree fruits and nuts.

At Salinas, California, research is aimed at finding biological and cultural control methods to manage strawberry and vegetable diseases, and to characterize the ecology of soilborne pathogens.

At Wenatchee, Washington, disease problems in tree fruit production are being identified, and strategies for their control are being sought.

At Corvallis, Oregon, biological controls are being investigated for diseases of ornamentals and nursery crops, and the role of beneficial microorganisms in disease and weed management is being explored.

At Stoneville, Mississippi, biological control agents to control weeds in vegetables are being identified and characterized.

At Tifton, Georgia, the emphasis is on finding cultural methods and alternative chemical treatments and integrated strategies for control of nematodes and diseases on vegetables, and on identifying alternative herbicides for control of weeds.

At Byron, Georgia, research is aimed at improving cultural practices and host resistance to manage nematodes and diseases in peaches and other tree fruits.

At Gainesville, Florida, work is under way to find alternative soil treatments, such as solarization, flooding, or heating, to control pests, weeds, and pathogens in vegetables.

At Orlando, Florida, integrated methods involving biological control, cultural practices, and alternative chemicals are being developed for control of weeds, nematodes and diseases in tomatoes, peppers, and other vegetables.

At Charleston, South Carolina, alternative fumigants, host-plant resistance, and cultural practices are being explored as alternative disease management strategies in vegetables and fruits. The survival and spread of soilborne pathogens as influenced by other microorganisms and the environment is being determined.

In addition, field-scale validation projects that were begun in fiscal year 1996 were continued in Fresno, California, and Orlando, Florida, to determine if the most promising experimental alternatives were effective, economically feasible, and adaptable to commercial production systems of strawberries, vegetables and perennial crops.

ARS conducted a review of the Florida methyl bromide alternatives research program in December 1998. Participants included growers and other commodity representatives and university and ARS scientists. The objective of that meeting was to get grower input on research needs. A major outcome of that meeting was a refocusing of the ARS research effort in Florida to include more research on pesticides such as Telone as methyl bromide alternatives. A similar meeting is planned for California in April 1999 to get input from growers and others impacted by the loss of methyl bromide.

Question. How much is included in the fiscal year 2000 request for this work and where will this research be conducted?

Answer. Resources and locations for each of fiscal years 1998, 1999, and 2000 for methyl bromide research is provided for the record.

[The information follows:]

Location	Fiscal year 1998 estimated	Fiscal year 1999 estimated	Fiscal year 2000 estimated
Davis, CA	$228,800	$226,000	$226,000
Fresno, CA	3,542,400	3,485,400	3,485,400
Riverside, CA	128,200	126,600	126,600
Salinas, CA	542,500	535,900	535,900
Washington, DC	244,100	241,200	241,200
Gainesville, FL	215,600	213,000	213,000
Miami, FL	1,234,300	1,219,300	1,219,300
Orlando, FL	1,616,800	1,597,100	1,597,100
Byron, GA	984,900	83,900	83,900
Tifton, GA	467,800	462,200	462,200
Hilo, HI	1,705,500	1,684,700	1,684,700
Manhattan, KS	71,700	70,800	70,800
Beltsville, MD	1,061,100	1,048,200	1,048,200
Stoneville, MS	184,500	182,200	182,200
Corvallis, OR	493,900	487,400	487,400
Charleston, SC	334,600	330,600	330,600
Weslaco, TX	1,501,100	1,482,900	1,482,900
Wenatchee, WA	211,800	209,200	209,200
Yakima, WA	261,200	258,000	258,000
Kearneysville, WV	440,400	435,000	435,000
TOTAL	14,571,200	14,379,600	14,379,600

Question. Are the agency's research findings being transferred to producers and others?

Answer. To demonstrate promising methyl bromide alternatives and provide opportunity for grower involvement of alternatives testing, ARS conducts numerous tests collaboratively with growers in grower fields. In addition, ARS provides approximately $500,000 each year from base funds to university scientists, primarily in California and Florida, to fund demonstration projects of the most promising methyl bromide alternatives in grower fields. The USDA co-sponsors the Inter-

national Methyl Bromide Alternatives Research Conference each year where scientists, extension agents, growers, exporters and other members of the impacted agricultural community discuss the latest methyl bromide alternatives technology. In addition, ARS scientists work closely with grower organizations and key farmers to ensure that technology is transferred in a timely manner.

For example, in California, ARS has methyl bromide alternative experiments on six commercial growers' land, covering the north to south (Watsonville to Oxnard) strawberry growing regions, both to validate the feasibility of possible alternative fumigants and to allow the growers input and experience in using them in commercial settings. The growers work collaboratively with ARS scientists and do the land preparation, planting, and harvesting themselves. ARS then uses grower observations and field data in planning subsequent trials. Similar validations have been conducted in Florida on tomatoes and peppers on six to eight locations from the northern part of the state (Quincy) to the southern (Homestead).

ENVIRONMENTAL INITIATIVES

Question. Increased funding is proposed for fiscal year 2000 for ARS on sustainable ecosystems and air quality. Please describe the agency's current research programs in each of these areas; what has been accomplished to date; and the level of resources, both in terms of dollars and scientists, allocated to these programs.

Answer. *Sustainable Ecosystems*.—The proposed funding increase on sustainable ecosystems is in direct response to the National Science and Technology Council, Committee on Environment and Natural Resources (CENR), Integrated Science for Ecological Challenges (ISEC) Initiative. ISEC was initiated by the CENR member agencies in 1998, and a detailed strategic plan has been completed where key actions have been proposed for natural resource and environmental challenges in fiscal year 2000 and beyond. The seven areas included in sustainable ecosystems and ARS involvement are as follows:

—*Implement the CENR Research and Monitoring Framework*.—ARS is currently involved in the implementation of the CENR Mid-Atlantic Pilot, which is an interagency effort that will lead to improved monitoring and understanding for water quality and environmental issues in the Delaware River Basin and the Chesapeake Bay. The Mid-Atlantic Pilot has been used to establish environmental data comparability as Federal agencies increase collaboration; and ARS proposes to expand research and monitoring for the South Florida Ecosystem Restoration Initiative in fiscal year 2000. ARS currently provides $4,848,100 in funding and 15 SYs that are contributing towards Mid- Atlantic Pilot.

—*Prevent and Control Eutrophication, Harmful Algal Blooms, and Hypoxia*.—ARS became involved in eutrophication, harmful algal blooms, and hypoxia research with a funding increase in fiscal year 1999 for Pfiesteria research. The Pfiesteria research has begun to determine the effects of harmful algal blooms in aquaculture and preliminary results show that land-based agricultural management practices can protect water quality and prevent future outbreaks. ARS has $801,600 and 2 SYs currently for Pfiesteria research. In terms of hypoxia research, ARS currently has no funding that will provide direct solutions at the farm and watershed-scale to the problem of increased nutrient loadings into the Gulf of Mexico.

—*Predict Impacts and Restore the Viability of Damaged Riparian Zones and Coastal Habitats*.—ARS has been the primary agency involved in determining the effectiveness of conservation buffers for the removal of nutrients, pesticides and other pollutants. The Clean Water Action Plan calls for farmers to create two million miles of biofilters adjacent to waterways by year 2002, construct 100,000 acres of wetlands by 2005 and restore 25,000 miles of stream corridors by 2005 without knowing the capabilities of these practices in agricultural areas throughout the United States. ARS has shown that conservation buffers can remove sediments and contaminants generated by agricultural activities before they reach surface waters, but limited data are available on the long-term effectiveness of conservation buffers for the removal of nutrients, pesticides, pathogens, and other pollutants. ARS has $1,558,800 and 6 SYs involved in wetlands and conservation buffers research.

—*Predict Ecological Impacts of Extreme Natural Events. ARS currently conducts weather and climate research at several locations*.—The major thrust of this research is to obtain more reliable information on the spatial and temporal distributions of precipitation and temperature for several major physiographic regions of the country. ARS has developed weather generators that can assist food and fiber producers and resource managers in developing strategies for coping with weather variability and climatic extremes. The funds requested in the

budget for fiscal year 2000 will be used to improve our current ability to predict the ecological impacts of extreme climatic events through the development of new and improved techniques for determining trends in climate and the impacts of oceanic anomalies, such as the El Nino, on the frequency and severity of extreme climatic events, such as floods and droughts, at watershed and river basin scales. ARS has funding of $14,876,800 and 54 SYs involved in weather and climate research.

—*Advance Ecological Science for Sustainable Livestock Management Systems*.—ARS has recently refocused its manure and byproduct research to reduce nutrient enrichment of soil and water, to decrease release of odor causing compounds and greenhouse gases to the atmosphere, and control pathogens in manure for public and animal health. The current research has resulted in information and findings on the extent of manure problems and new methods for manure handling, storage, and treatment. Additional research is being conducted to protect surface waters from build up of excess phosphorous in soils, and future research is planned on reducing pathogens from animal feeding operations. ARS has funding of $7,195,400 and 21 SYs involved in manure and byproduct utilization research.

—*Conduct Integrated Ecosystem Risk Assessments*.—ARS currently conducts research on understanding the mechanisms by which agricultural operations affect natural resources, on control measures to ameliorate these impacts, and develops models and decision support systems for comparing different crop and livestock management systems in terms of effects on natural resources. ARS has developed models for predicting soil erosion, water quality impacts at the farm- and watershed-scales, and crop and livestock response based on different levels of inputs. However, action and regulatory agencies are currently being required to conduct risk assessments before and after conservation management practices are placed on the land. ARS has funding of $850,100 and 3 SYs involved in the development of integrated natural resource, crop, and livestock models.

—*Prevent and Control Invasive Weed Species for Ecosystem Management*.—ARS has an extensive weed research program that addresses conventional weed problems on natural areas, waterways, croplands, rangelands, and pasture lands; and ARS is currently conducting some research on a number of invasive weed species, including the control of invasive weed species such as melaleuca, leafy spurge, salt cedar, and yellow starthistle. ARS has shown that integrated pest management (IPM) systems that include biological control, cultivation, other cultural approaches, and appropriate herbicide management practices can be used to prevent and control weed species; however, prevention and control of invasive weed species is needed for many agricultural ecosystems. ARS currently provides $10,137,300 in funding and 34 SYs for invasive weed species research.

Air Quality.—The Agricultural Research Service conducts air quality research on issues associated with agricultural emissions of particulate matter (as dusts or as such volatilized particulate precursors as ammonia and pesticides) and odors. Research goals are to understand the physics and chemistry of these emissions, to develop approaches to reducing emissions, and to develop simulation models to use in evaluating alternative emission-reduction strategies. Research is also conducted regarding physiological mechanisms of ozone damage to crops and the development of measures to reduce crop damage by ozone. The Agency has developed a technique for analyzing dust particles to determine sources of origin, the level of differentiation being sufficient at this time to distinguish between roads, crop lands, and rangelands. A computer-based predictive model for particulate matter (PM–10) has been developed for the Columbia Plateau region of Washington. Co-composting of dairy manure with municipal refuse compost reduced volatile loss of nitrogen by 90 percent compared with composting dairy manure alone. The Agency has provided some of the first evidence that plants' antioxidants (like ascorbic acid or vitamin C) help protect them from the oxidative damage caused by ozone. The Agency played a significant role in research and reporting that led to publication of "Farming with the Wind—Best Management Practices for Controlling Wind Erosion and Air Quality on Columbia Plateau Croplands". The Agricultural Research Service currently allocates $4.9 million and 18 scientist years to the air quality research initiative, not counting the odors research. The latter, which is currently carried out at the $1.3 million level with 5 scientist years, is reported under an animal wastes research initiative.

ENVIRONMENTAL INITIATIVES

Question. The fiscal year 2000 budget proposes increased ARS funding for the Administration's global change initiative. Please describe the agency's current research effort in this area, what is being accomplished, and the importance of this research to agriculture in the United States.

Answer. For the past several years, ARS's global change research has focused on determining the likely effects of global change on: (1) Ecosystem dynamics, i.e. how will the increasing atmospheric CO_2 concentration and any accompanying climate change affect the productivity and water requirements of agricultural crops in the future; (2) Biogeochemical dynamics, i.e. what are the amounts of greenhouse gases (carbon dioxide, methane, nitrous oxide) being emitted and stored by agriculture and how are these amounts likely to change in the future; and (3) Hydrologic processes, i.e. how to improve predictions of water and energy flows to, within, and from managed ecosystems and how they will change in the future.

ARS research has determined the rates of storage and emission of carbon dioxide from soils under various tillage systems and from the undisturbed soils of rangelands. The emissions of methane and nitrous oxide from soils and livestock waste lagoons have also been measured. The responses of several of the most important crops, especially soybean, rice, cotton, and wheat, to elevated levels of carbon dioxide and its interactions with other environmental variables have been observed. Our understanding of the effects on specific plant physiological processes, such as photosynthesis, has been increased. From monitoring of experimental watersheds, long-term hydrologic, climatic, and vegetation databases have been developed that are useful for documenting change and developing an understanding of hydrologic processes and climatic effects on crop and livestock production.

One accomplishment from the past year is especially noteworthy. ARS scientists along with colleagues from Ohio State University and from the Natural Resources Conservation Service published a keystone book on *The Potential of U.S. Cropland to Sequester Carbon and Mitigate the Greenhouse Effect.* Refinements are needed, but nevertheless, this book is a major accomplishment that is being used by nearly everyone in and outside of government who is looking for guidance on the soil carbon sequestration issue. The authors' calculations suggest there is a huge potential for sequestering carbon in soils if conservation management practices are adopted, practices which would additionally reduce erosion and improve soil tilth.

The importance of global change, and of the research needed to prepare for it, is very high for agriculture. Agriculture is more sensitive to weather than any other economic sector, and climate is the primary determinant of agricultural productivity. Climate change is expected to influence crop and livestock production, hydrologic balances, and input supplies. For example, crop and livestock yields are directly affected by changes in temperature, precipitation, and the frequency of droughts, floods, and wind storms. Climate change may also change the types, frequencies, and intensities of various pests, the availability and timing of irrigation water supplies, and the severity of soil erosion. Trying to cope with the vagaries of weather is not new for agriculture. However, the increased carbon dioxide concentration in the atmosphere adds a new dimension to the issue because it is an essential plant nutrient for photosynthesis, and higher concentrations have the potential to actually enhance productivity of agricultural systems.

Global change research in agriculture is also important for devising ways to mitigate the increases in greenhouse gas concentrations in the atmosphere. As already mentioned, with improved management practices on the hundreds of millions of acres of agricultural land, significant quantities of carbon could potentially be stored in soils, and methane and nitrous oxide emissions could also be reduced. Agriculture could potentially also provide biomass as a alternative to burning fossil fuels.

CENTERS OF EXCELLENCE

Question. Please list the Centers of Excellence receiving ARS funding for each of fiscal years 1998 and 1999, and the funds proposed for each Center in the fiscal year 2000 budget request. Please list the institution, the amount of funding, and describe the research program funded.

Answer. The location, funding and staffing levels of the ARS Centers of Excellence for fiscal years 1998, 1999 and proposed for 2000 are as follows:

Location	Fiscal year 1998		Fiscal year 1999		Fiscal year 2000	
	Funds	Scientists	Funds	Scientists	Funds	Scientists
University of Arkansas Pine Bluff, AR	537,900	2.0	$531,400	2.0	$531,400	2.0
Delaware State University Dover, DE	248,500	1.0	241,400	1.0	241,400	1.0

Location	Fiscal year 1998		Fiscal year 1999		Fiscal year 2000	
	Funds	Scientists	Funds	Scientists	Funds	Scientists
University of Maryland Princess Anne, MD	244,400	1.0	541,900	1.0	541,900	1.0
Alcorn State University Lorman, MS	164,700	1.0	162,700	1.0	162,700	1.0
Langston University Langston, OK	199,000	.....	444,600	1.0	444,600	1.0
Tennessee State University McMinnville, TN	488,400	2.0	482,500	2.0	482,500	2.0
Total	1,882,900	7.0	2,404,500	8.0	2,404,500	8.0

The research programs at each of the Centers will be provided for the record.

Swine Production at Alcorn State University.—The objective of the program is to develop an efficient system for the production of meat type hogs in the Southern United States. The research includes the evaluation of breeds of swine suitable for production in Southern climates, the use of local feeds, and development of feeding systems to obtain efficient production of pork.

Aquaculture Products at Delaware State University.—This program will develop rapid detection and monitoring methods for pathogens and spoilage microorganisms in aquaculture processes and products and improving the efficiency of purging contaminants in order to prevent human illnesses.

Grazing Lands at Langston University, Oklahoma.—The objective of this program is to determine impact of pasture design and grazing animals on quality of water emerging from watersheds, and develop pasture management systems that will optimize water quality and productivity in the semi-arid U.S.

Horticulture at Tennessee State University, McMinnville.—The objective of the program is to develop new and improved ornamental trees and shrubs for the U.S. nursery industry. The research includes development of basic genetic and physiological information related to nursery crop species; reduce pesticide use and fertilizer runoff during nursery crop production; develop improved nursery crop propagation methods; and evaluate existing germplasm or ornamental trees and shrubs for pest resistance, tolerance of environmental stress, and superior ornamental value.

Aquaculture at University of Arkansas at Pine Bluff.—The ARS Aquaculture Systems Research Unit develops and evaluates new or alternative aquaculture production systems, particularly small scale systems, and develops new components of these systems to improve the efficiency of fresh water fish farming. Research also addresses improvement of cultivation and processing methods to enhance the quality of farm-raised fish and their products.

Critical Control Points in Model Systems at University of Maryland Eastern Shore (UMES).—The program seeks to determine the natural prevalence of bacterial pathogens in poultry grow-out houses, processing plants, and in distribution channels; to conduct challenge studies on critical control points in model systems to provide data for predictive model development; and to develop risk assessment models for use in hazard management systems. In particular, the laboratory is developing risk assessment and predictive models to provide the scientific basis for Hazard Analysis Critical Control Point (HACCP) systems in poultry production, processing, and distribution. ARS research is conducted in close collaboration with the USDA Food Safety & Inspection Service (FSIS), providing critical research to support their regulatory mission.

NATIONAL AGRICULTURAL LIBRARY

Question. Please describe in greater detail the $2 million research initiative the National Agricultural Library (NAL) proposes to improve information services for rural America, including how information currently is made available by the library to farmers and rural communities; how this initiative will improve that information flow; specifically how the $2 million requested will be spent, and which universities and "Centers of Excellence" will be involved in this initiative.

Answer. The increase of $2,000,000 is for an Initiative on Digital Libraries for Rural America. This is a natural extension of current services provided by the National Agricultural Library (NAL) to the entire U.S. population. General information services provided by NAL include reference, online searching, interlibrary loan, and information products. In addition, NAL provides leadership for the Agriculture Network Information Center (AgNIC), a collaborative effort of twenty-three institutions (mostly land-grant universities) to organize and provide universal access to quality Internet information resources on agriculture and related sciences. NAL currently provides information to farmers and rural communities on such topics as: sustainable agriculture, nutrition, and rural economic development.

NAL recognizes that there is much more information that would be beneficial to rural communities, but not all that information is available in electronic format. This initiative will improve information flow by developing specific electronic information resources of use to rural America. This new funding will enable NAL, in partnership with the land-grant community, to assess the information needs of rural citizens, ensure that needed information is made available, and facilitate the use of that information by rural citizens and others involved in rural development.

The $2,000,000 requested will be used to improve the electronic delivery infrastructure available to rural communities and to add significant subject content. A portion of the funding will be used at NAL to enhance delivery infrastructure. The remainder of the funding will be made available to land-grant universities and other institutions to augment subject content, features, and services for rural America. NAL will establish criteria for selecting organizations to do that work, publicize the subject work to be done, and invite proposals. Funding will be provided to the institutions best able to do the work needed.

It is too early to know which universities and "Centers of Excellence" will be involved in this initiative. Over the past decade, NAL has worked closely with a number of land-grant universities including, but not limited to, Cornell University, Iowa State University, Michigan State University, New Mexico State University, North Carolina State University, Pennsylvania State University, Ohio State University, the University of Arizona, and the University of Wisconsin.

Question. The Committee is aware that the NAL serves as a storehouse for numerous art collections of major historical and botanical significance to horticulturists, historians, artists, and publishers from around the world. Please provide a list of the collections maintained by NAL and describe the importance of each collection. Also, how much does it cost NAL each year to maintain these collections, including the cost of making them accessible to historians and researchers around the world?

Answer. The Special Collections Section of the National Agricultural Library serves as a storehouse for, and provides access to, numerous rare and historical collections of artistic interest, including 15,000 rare books and more than 300 collections of watercolors, posters, nursery catalogs, photographs, and historic papers. These collections are consulted by users from throughout the world who conduct subject-specific research in all fields of agriculture. A representative list of important collections unique to NAL includes the following treasures:

—The USDA Pomological Watercolor Collection (1887–1937). This collection includes hand-painted, detailed, scientifically-accurate watercolors of fruit and nut species and varieties. It is the historical record of early research.

—The Nursery and Seed Trade Catalog Collection (1731–1999). This is one of the largest collections of nursery catalogs in the world, including some of the earliest U.S. catalogs. It is the historical record of the U.S. seed industry.

—The Horace J. McFarland Collection (ca. 1900–1940). The papers of this conservationist and publisher include one-of-a-kind glass plates documenting the history of landscape architecture and horticulture, as well as American rose introductions.

—The Forest Service Historical Photograph Collection (1898–1974). This collection includes 60,000 black and white photographs documenting rural life in America, forestry practices, and fire-fighting techniques.

—The Beverly T. Galloway Papers (1891–1933). The papers of the first Chief of the USDA Bureau of Plant Industry trace the history of plant pathology, plant exploration, and USDA cooperation with state universities.

—The Charles Valentine Riley Papers and Memorabilia. The papers of the Father of Biological Control document early USDA entomological research and the beginning of biological control.

—The Smokey Bear Campaign Collection (1902–1994). This collection documents one of the most successful public awareness campaigns and includes early Smokey posters, illustrations, and memorabilia.

NAL has an annual budget of approximately $70,000 to provide limited maintenance of and access to these materials. This level of funding is clearly inadequate to take proper care of the materials or to provide the access these collections deserve; it is not even enough to prevent deterioration of these items. An initial appropriation of $1 million is needed to begin to conserve and provide permanent public access to rare and irreplaceable materials.

In order to enhance NAL's ability to maintain and provide access to these special collections, NAL would use approximately 65 percent of the requested funds to provide access via the Internet and 35 percent of the requested funds to support initial maintenance and conservation activities. The seven collections described above represent NAL's top priorities. Funded activities would include:

Access ($650,000):

—Prepare materials for electronic access. Scan materials into electronic form.
—Make items available via the World Wide Web (WWW).
—Link full-text and images to AGRICOLA, NAL's database now available via the Internet.

Collection, Maintenance, and Conservation ($350,000):
—Rehouse materials into preservation quality media.
—Conduct a thorough survey of collections to determine appropriate conservation treatments and then to perform such activities that will retard further deterioration.
—Convert extremely fragile paper and photographic materials to longer lasting media such as acid free paper, slides, etc.
—Improve the storage environment to consistently meet national standards for temperature, humidity, and security, etc. to ensure their longevity.

Funding such an integrated program will enable us to enhance NAL's digital library with a unique and historically significant collections for use by researchers, students, and the general public.

BUILDINGS AND FACILITIES

Question. The explanatory notes indicate that the design of the Beltsville Human Nutrition Research Center is scheduled for completion in the second quarter of fiscal year 2000. Why are construction funds requested for Phase I of the facility for fiscal year 2000 rather than fiscal year 2001?

Answer. The design of the Beltsville Human Nutrition Research Center will be completed in the second quarter of fiscal year 2000. Construction funds are needed for Phase 1 in fiscal year 2000 in order to advertise and award a construction contract by the third quarter. If funds are not received until fiscal year 2001, the construction process will be delayed and the estimated construction cost will increase due to inflation.

Question. How many phases are proposed for construction of the new Human Nutrition Research Center? What funding is required for each phase of this project?

Answer. Two phases are proposed. Phase I requires $11.4 million in fiscal year 2000, and Phase II requires $10.8 million in fiscal year 2001.

Question. The fiscal year 2000 request proposes an increase of $4.4 million for modernization of the Eastern Regional Research Center in Philadelphia, PA. Will this funding be sufficient to complete the sixth phase of the Chemical Wing Laboratory? Please describe the nine phases of this project and the additional funding that will be required to complete this work.

Answer. The funds required to complete the sixth phase of the Chemical Wing Modernization are $4.4 million.

Phases 1 and 2 of the ERRC modernization renovates the Engineering Research Laboratory of the Pilot Plant and Service Buildings. The Chemical Wing construction consists of Phases 3 through 7. Once Phase 7 is accomplished, the Chemical Wing renovation will be complete. Phase 8 includes an addition to the Service Building (Power Plant) to allow for the higher load of steam and chilled water required for the expanded laboratory functions. Phase 9 consists of renovation of the Pilot Plant Wing Engineering Laboratories.

An additional $13 million will be required for Phases 7, 8, and 9.

Question. Provide the proposed schedule for modernization of each of the other ARS facilities for which funding is requested in the fiscal year 2000 budget. Include planned project phases, the funding provided to date, and the additional funding needed to complete the work scheduled.

Answer.

Western Regional Research Center Chemical Wing

Funding to Date (Chemical Wing):	
1990—Design (R&M)	$1,938,830
1990—Construction Phases I & II (R&M)	5,900,000
1991—Construction Phase III (R&M)	3,400,000
1993—Construction Phase IV (R&M)	3,000,000
1994—Construction Phase V (R&M)	4,900,000
1994—Construction Phase VI (R&M)	4,400,000
1994—Construction Phase VII (B&F)	1,161,000
1995—Construction Phase VII (B&F)	919,000

Western Regional Research Center Chemical Wing—Continued

1997—Construction Phase VII (B&F)	4,000,000
Total	29,618,830

Additional Funding Needs:	
2000—Design Research & Development Facility (RDF), all phases	2,600,000
2001—Construct RDF—all phases	19,600,000
Total	22,200,000

National Center for Agricultural Utilization Research

Funding to Date:	
1989—Study (R&M)	170,000
1990—Phasing Study (R&M)	56,000
1990—Design Phase I (Infrastructure Upgrade)	330,000
1991—Construction Phase I (R&M)	2,404,000
1992—Design Phase II, Pilot Plant (B&F) ($1.7 Allocated)	1,825,000
1993—Design Phase III Chemical Wing (B&F) (Redirected to Pilot Plant)	1,545,000
1996—Construction Phase II—Segment 1 Pilot Plant (B&F)	3,900,000
1997—Construction Phase II—Segment 1 Pilot Plant (B&F)	1,500,000
1998—Modernization Phase II—Segment 2 Pilot Plant (B&F)	8,000,000
1999—Modernization Phase II—Segment 3 Pilot Plant (B&F)	8,200,000
Total	27,930,000

Additional Funding Needs:	
Funding to Date:	
2000—Design Chemical Wing—all phases	1,800,000
2002—Construct Chemical Wing—Phase 1	5,900,000
2004—Construct Chemical Wing—Phase 2	7,400,000
2006—Construct Chemical Wing—Phase 3	8,000,000
Future—Design and construct South Wing and Administration Wing—All phases	30,900,000
Total	54,000,000

Southern Regional Research Center

Funding to Date (Chemical Wing):	
1990—Design (R&M)	884,000
1991—Construct Phase I (R&M)	1,400,000
1992—Construct Phase II (R&M)	2,400,000
1992—Construct Phase III, IV (R&M)	3,050,000
1992—Construct Phase V (B&F)	1,950,000
1993—Design/Construct Site Repairs (B&F)	1,651,000
1994—Construct Phase VI (B&F)	2,667,000
1995—Construct Phase VII (B&F)	2,934,000
1996—Construct Site Repairs, Phase II (B&F)	900,000
Total	17,836,000

Funding to Date (Industrial Wing):	
1998—Design (B&F) All phases	1,100,000
1999—Construct Phase 1 (B&F)	6,000,000
Total	7,100,000

Additional Funding Needs:	
2000—Construct Phase 2—Industrial Wing	5,500,000
2003—Construct Phase 3—Industrial Wing	14,000,000

Southern Regional Research Center—Continued

2005—Construct Phase 4—Industrial Wing	5,500,000
Total	15,000,000

Plum Island Animal Disease Center

Funding to Date:	
1992—Design (Redirected to Consolidation)	(2,000,000)
1993—Modernization	2,540,000
1993—APHIS Transfer	1,183,000
1994—Modernization	1,475,000
1994—APHIS Transfer	516,250
1995—Modernization	1,168,000
1995—APHIS Transfer	747,000
1996—Modernization	5,000,000
1996—APHIS Transfer	3,200,000
1997—Modernization	5,000,000
1997—APHIS Transfer	3,200,000
1998—Modernization	2,000,000
1998— APHIS Transfer	3,200,000
1999—Modernization	3,500,000
1999—APHIS Transfer	3,200,000
Total	35,929,250
Additional Funding Needs:	
2000—Modernization	8,200,000
Future	45,871,000
Total	54,071,000

Beltsville Agricultural Research Center (BARC)

Funding to Date:	
Fiscal year 1988:	
Renovate Building 007	2,000,000
Design Building 003	660,859
Renovate Abattoir, Building 204	57,446
Renovate Building 303	506,877
Modify HVAC, Building 306	372,270
Water Lines	1,402,195
Miscellaneous Projects, BARC (under $100,000)	374,234
Repair Building 307	88,064
Repair Building 467	10,835
Repair Building 264	5,480
Small Animal Facility Contingency	271,740
Total	5,750,000
Fiscal year 1989:	
U.S. National Arboretum Roof Repairs	300,852
U.S. National Arboretum Greenhouse Electrical Repairs	273,200
Steam Lines, Phase IV	1,100,000
Oil to Gas Conversion	328,237
Renovate Building 203 (Boar Facility)	529,026
U.S. National Arboretum, Relocate Service Road	87,643
Hazardous Waste Marshaling Facilities	79,662
Waste Water Treatment Study	194,864
Renovate Building 204	354,335
Beltsville Area Security	91,806
Pesticide Handling Facilities	441,793
Swing Space	274,100
Miscellaneous Projects	44,482

Beltsville Agricultural Research Center (BARC)—Continued

USNA Brickyard	2,000,000
Total	6,100,000
Fiscal year 1990:	
Steam Lines, Building 169–179	568,752
Steam Lines, Buildings 001–011A	1,407,084
Range 2 Modernization	690,574
Waste Water Treatment Facility	1,100,056
Electrical Distribution System	574,157
BARC Roads	361,027
Animal Parasitology Unit Planning	30,282
HVAC System, Building 050	44,598
Repair Embankment Failure	211,135
Powder Mill Road	1,547,588
Swing Space	103,685
Brooder House	230,000
Renovate Building 043, 046, 047	148,591
Annual Painting	200,098
Annual Roofing	247,582
U.S. National Arboretum Storage Building	90,402
U.S. National Arboretum Plastic Greenhouses (3)	235,687
Demolition of Facilities	27,985
Replace Chiller, Building 006	103,965
Renovate Building 209	71,693
Renovate Headhouse 16	35,124
Repairs Building 177B	12,465
Repairs Building 211	7,965
Renovate Building 1120	18,391
Elevator, Building 449/Gas Cyl	50,954
Renovate Building 449	4,865
Key Card Security Gate	37,002
Small Miscellaneous Projects	625,031
Repairs, Building	15,000
Contingency Steam Lines	297,170
Contingency	197,604
Replace Roof, Building 012	139,000
Contingency	424,488
Total	9,860,000
Fiscal year 1991:	
Addition, Building 426	65,000
Conference Room, Building 005	435,000
Electrical	1,500,000
Building 001	735,000
Plant Sciences Building	1,100,000
Dairy Research Facility	2,186,330
Central Hay Storage	803,670
Repair Building 201	50,000
BARC—East Waste Water Treatment	6,534,000
Building 200 Modernization	60,000
Renovate Building 007	1,290,000
Demolition	198,904
Swing Space	991,888
Contingency	50,000
Total	15,999,792
Fiscal Year 1992:	
Renovate Range 2 Greenhouse Complex	3,100,000
Repair/Replace Waste Water Treatment Facility	300,000

Beltsville Agricultural Research Center (BARC)—Continued

Construct Plant Sciences Building	12,600,000
Total	16,000,000
Fiscal year 1993:	
Range 2 Greenhouse Complex	7,400,000
BARC—West Waste Water Treatment Plant	4,000,000
BARC—East Water System	600,000
Controlled Environmental Chamber Facility	586,000
Office/Laboratory Economic Analysis	200,000
Animal Space Economic Analysis	230,000
Contingencies	531,000
Total	13,547,000
Fiscal year 1994:	
Modernize Building 001	9,700,000
Modernize East Potable Water System	7,400,000
Design New Animal Building	530,000
Upgrade West Electrical System	1,500,000
Design to Modernize Building 004	450,000
Contingencies	120,000
Total	19,700,000
Fiscal year 1995: Modernize Building 004	3,960,000
Fiscal year 1996:	
Construct Controlled Environment Facility	4,700,000
Design/Construct Infrastructure in 300 Area	2,000,000
Contingencies	60,000
New Animal Building Design	615,000
Cooling Tower for Building 004	375,000
Renovate Building 001	250,000
Total	8,000,000
Fiscal year 1997:	
Design New BHNRC Building	1,700,000
Infrastructure BARC—East	1,400,000
Fiber Optic Backbone Cabling	700,000
Contingencies	700,000
Total	4,500,000
Fiscal year 1998:	
Construct New Feed Center	1,970,000
Fiber Optic Backbone Cable	850,000
Contingencies	380,000
Total	3,200,000
Fiscal year 1999:	
Design/Construct New Poultry Barn	2,200,000
Demolish Facilities	100,000
Contingencies/Miscellaneous Small Projects	200,000
Total	2,500,000
Proposed fiscal year 2000:	
Construct BHNRC	11,400,000
Contingencies/Miscellaneous Small Projects	1,600,000
Total	13,000,000

The balance of funds needed beyond fiscal year 2000 is in excess of $83.7 million. Due to uncertainty regarding future funding levels, and potential changes to priority projects, the Agency has not developed a firm phasing plan beyond fiscal year 2000.

Question. What temporary space arrangements has ARS made to relocate its staff from the Army research laboratory at Presidio, due to the expiration of the lease at the end of April 1999?

Answer. On February 2, 1999, ARS executed a short-term lease agreement with the University of California, Davis, for laboratory and office space on campus for the temporary relocation of personnel and programs from ARS' space at the Army research laboratory at the Presidio, San Francisco. This lease is effective through March 31, 2003, and is renewable on a monthly basis.

Question. When will the agency conduct and complete the further review of the most cost-efficient size and capacity of the replacement facility for the water conservation and cotton research program, as directed by Congress last year? If complete, please provide the results/findings to the Committee.

Answer. ARS has conducted a review of the needs of its U.S. Water Conservation Laboratory and Western Cotton Research Laboratory in Phoenix and reevaluated the space requirements of a replacement facility. ARS' report is being reviewed by the Secretary's Office and should be submitted to Congress shortly.

Question. Provide the Committee with a status report on the urgency of facilities' improvements at the Avian Disease Oncology Laboratory in East Lansing, Michigan. Has ARS done a cost-benefit analysis on this facilities modernization project, in terms of the cost of constructing new facilities versus relocation of the research program? Please provide the results of that analysis to the Committee.

Answer. Building system components have exceeded their normal life expectancy and the existing facilities are in need of repair. Deficiencies include safety and health needs, such as fume hood upgrades, and ventilation issues in labs; accessibility issues; and building code compliance issues. These conditions have resulted in a facility that is costly to maintain and inadequate for present research programs. A four-phase program involving renovation, new construction, and demolition is underway. The total appropriations to date for planning and design are $2.262 million. The remaining need for construction, construction management, and contingency is estimated to be $17.2 million.

ARS is presently conducting an analysis of ARS' poultry health and related facility needs. Results of this study will be provided to the Committee when completed. The agency is moving forward with the design for the modernization of this facility which performs research on domestic diseases of chickens. The design project is expected to be completed by June, 2000.

Question. When will planning and design work funded over the last two fiscal years for the Poisonous Plant Laboratory, UT; Biocontrol and Insect Rearing Laboratory, MS; and Pest Quarantine and Integrated Pest Management Facility, MT be completed? Why isn't funding to begin construction of each of these facilities proposed for fiscal year 2000?

Answer. The Poisonous Plant Research Laboratory design will be awarded in the third quarter of fiscal year 1999 and will be completed in the first quarter of fiscal year 2001. Construction funding will be required in fiscal year 2001.

The name of the Biocontrol and Insect Rearing Laboratory has been changed to the National Biological Control Laboratory. The site design will be completed in fiscal year 1999, with full design of the facility completed in April 2000. Fiscal year 1998 funding of $900,000 for planning and design was rescinded by line item veto. The Agency did not anticipate that this would be reversed. Therefore, no construction funds were requested for fiscal year 2000. If fiscal year 2000 construction funding is available in the amount of $13.4 million, site work can be awarded in January 2000, with full laboratory construction awarded by August 2000.

The Pest Quarantine and Integrated Pest Management Facility design will be completed in the fourth quarter of fiscal year 1999. The necessary construction funds in the amount of $7.3 million were appropriated in fiscal year 1999. No further funding is required.

Question. Provide a report on each of the ARS projects for which funds were provided for fiscal years 1998 and 1999, indicating the current status of the work funded, and what additional funds will be required, if any, to complete the project.

Answer.

[The information follows:]

[Millions of dollars]

Project Location	Appropriated	Additional needed	Status
MAC, Mariocpa, AZ	1999—$0.5	$23.1	Project is on hold pending determination by the Agency of the most cost-effective size for the facility.
HWMRL, Parlier, CA	1998—$23.4	None	Construction will be completed in the Second Quarter of fiscal year 2000.
WHNRC, Davis, CA	1998—$5.2 1999—$6.15	9.0	Design will be complete Davis, in the Fourth Quarter of fiscal year 2000.
EBCL, Montpellier, France	1998—$3.4	None	Construction will be complete in the Fourth Quarter of fiscal year 1999.
PBRC, Hilo, HI	1999—$4.5	51.0	Design will be completed in the Fourth Quarter of fiscal year 2000.
NCAUR, Peoria, IL	1998—$8.0 1999—$8.2	54.0	Phase II, Segment 2, Pilot Plant construction will be complete in the Third Quarter of fiscal year 2000. Segment 3 design will be complete in the Fourth Quarter of fiscal year 1999 and construction will be awarded in the Fourth Quarter of fiscal year 2000.
NADC, Modernization, Ames, IA.	1999—$2.957 1999—$1.943 [1]	328.0	Waste Water Treatment Plant modernization design will be awarded in the Fourth Quarter of fiscal year 1999.
GRL, Manhattan, KS	1999—$1.4 1998—$1.1	8.25	Construction of Phases 1 and 2 will be awarded by the Third Quarter of fiscal year 1999.
SRRC, New Orleans, LA	1998—$1.1 1999—$6.0	15.0	Phase I (Industrial Wing) Design will be completed LA in the Second Quarter of fiscal year 1999. Construction will be awarded in the Third Quarter of fiscal year 1999.
BARC, Beltsville, MD	1998—$3.2 1999—$2.5	96.7	Feed Center design will be completed in the Second Quarter of fiscal year 1999. Poultry Production design will be awarded in the Third Quarter of fiscal year 1999. BHNRC design will be complete in the Second Quarter of fiscal year 2000.
NAL, Beltsville, MD	1998—$2.5 1999—$1.2	26.3	Construction of Phase I will be complete in the First Quarter of fiscal year 2000.
E. Lansing, MI	1998—$1.8	17.2	Design will be completed in the Second Quarter of fiscal year 2000.
Stoneville, MS	1998—$0.9 1999—$0.2	13.4	Design will be completed in the Third Quarter of fiscal year 2000.
Sidney, MT	1998—$0.606 1999—$7.3	None	Design will be completed in the Fourth Quarter of fiscal year 1999. Construction will be awarded in the First Quarter of fiscal year 2000.
Las Cruces, NM	1998—$0.7 1999—$6.7	None	Design will be completed in the Fourth Quarter of fiscal year 1999. Construction will be awarded in the First Quarter of fiscal year 2000.
PIADC, Greenport, NY	1998—$2.0 1999—$3.5	57.0+	Electrical modernization construction to be completed in the Third Quarter of fiscal year 1999. Sewage Decontamination Plant design will be awarded in the Third Quarter of fiscal year 1999. Boiler Plant Replacement design will be completed in the Third Quarter of fiscal year 1999.
Grand Forks, ND	1998—$4.40	None	Construction to be completed by the Third Quarter of fiscal year 1999.
ERRC, Wyndmoor, PA	1998—$5.0 1999—$3.3	17.4	Phase 3 and 4, construction will be completed in the First Quarter of fiscal year 2000. Phase 5 construction will be awarded in the First Quarter of fiscal year 2001.
Charleston, SC	1998—$4.824	14.6	Construction of Phase I will be completed in the Third Quarter of fiscal year 2001.
Logan, UT	1998—$0.6 1999—$0.030	8.6	Design will be awarded in the Third Quarter of fiscal year 1999.
Leetown, WV	1998—$6 1999—$2	None	Construction will be awarded in the Fourth Quarter of fiscal year 1999 with construction completion by the Fourth Quarter of fiscal year 2000.

[1] Reprogrammed.

Question. Does the Administration have any plans to close the Tucson laboratory which is conducting honeybee research?

Answer. ARS is considering its options for providing support to the honey bee industry through its honey bee laboratories. ARS has four honey bee laboratories that have some overlap in program assignment. ARS has a partially occupied new facility for honey bee research at Weslaco, Texas. ARS believes that it would realize increased operational efficiency through program consolidation that would strengthen honey bee research. ARS has consulted with the bee industry and with the University of Arizona on relocation of the program at Tucson to Weslaco. ARS will not propose a reduction in the number of scientists or funding for honey bee research.

Question. Please provide a list, by ARS project, of any available unobligated funds remaining from prior year appropriations.

Answer. The following is a list of available unobligated funds remaining from prior year appropriations as of 2/28/99:

[In thousands]

Project	*Unobligated Balances*
Albany, CA: Western Regional Research Center	$632
Athens, GA: Poultry Disease Laboratory	1,005
Charleston, SC: Vegetable Laboratory	762
Davis, CA: Western Human Nutrition Research Center	5,200
E. Lansing, MI: Avian Disease & Oncology Laboratory	655
Ft. Pierce, FL: Horticulture Laboratory	1,495
Grand Forks, ND: Human Nutrition Center	652
Greenport, NY: Plum Island Animal Disease Center	3,822
Las Cruces, NM: Jornada Range Research Center	602
Logan, UT: Poisonous Plant Research Laboratory	600
Lubbock, TX: Plant Stress Laboratory	647
Manhattan, KS:	
Grain Marketing Research Laboratory	13
Water Conservation Laboratory	396
Montpellier, France: European Biological Control Laboratory	335
New Orleans, LA: Southern Regional Research Center	232
Oxford, MS: National Center for Natural Products	7,000
Parlier, CA: Horticulture Crop Research Laboratory	6,604
Peoria, IL: National Center for Agricultural Utilization	Research
Philadelphia, PA: Eastern Regional Research Center	1,707
Riverside, CA: Salinity Laboratory	125
Sidney, MT: Pest Quarantine & Integrated Pest Management	495
Stoneville, MS: National Center for Warmwater Aquaculture	900
Stuttgart, AR: Rice Research Center	479
Weslaco, TX:	
Bee Laboratory	76
Subtropical Agricultural Research Laboratory	3,141
Leetown, WV: National Center for Cool & Cold Water Aquaculture	11,801
Beltsville, MD:	
Beltsville Agricultural Research Center	5,094
National Agricultural Library	94
Hurricane (Andrew/Iniki) Funds	11,177
Total	67,274

Question. Provide a list of the facilities' maintenance and repair work, by project and location, funded in each of fiscal years 1997, 1998, and 1999 and planned for fiscal year 2000, showing the cost of each.

Answer. The fiscal year 1997 repair and maintenance budget was $18.262 million. This amount includes $14.246 million in Agency funds, $900,000 for the National Agricultural Library, $740,000 for the USNA, and $2.376 million in BARC Renaissance 1993 funds. Some of the types of repair and maintenance projects funded in fiscal year 1997 include: roof repair, HVAC repair, plumbing repairs, upgrade to sewage lines, electrical repairs, fencing replacement, painting, pavement repair, asbestos and lead abatement, accessability projects, and replacement of fire alarm systems.

[The information follows:]

State/Location/Project	*Amount*
AL, Auburn: Install New Roof Bldg 3	$50,575
AR, Booneville: Replace Chill Water Air Conditioning System Bldg 1	54,880
AR, Stuttgart: Rehabilitate Levies at 27 Acre Reservoir	18,720

State/Location/Project	*Amount*
CA, Albany:	
Renovate Greenhouse Control & Ridge Vent Systems	222,840
Fire Alarms	24,825
CA, Davis: Resurface Access Road & Driveway	71,100
CO, Akron: Concrete Drive & Parking Area	151,650
CO, Ft. Collins: Area Energy Audits	7,228
DC, U.S. National Arboretum:	
Exterior Lighting	250,000
Paths, Irrigation, Drainage and Lighting	300,000
Bonsai Courtyard	35,000
Auditorium/Lobby Renovation	20,000
Trim and Remove Trees	25,000
Street Signs	22,000
Miscellaneous Repairs	87,633
FL, Brooksville:	
Replace Water Systems	347,333
Replace Grain Storage Bins	80,000
FL, Canal Point: Remodel Bldg 1	31,030
FL, Gainesville: Replace Fire Alarm System	18,557
GA, Athens:	
Replace Sewage Connection Lines	35,947
A&E Services	3,300
GA, Byron:	
Irrigation Well & Flow Meters	257,005
Connect to City Sewer System	40,846
A&E Services	4,164
ID, Dubois: Feed Distribution System	101,632
ID, Kimberly: Renovate HVAC System, Main Bldg	758,307
IL, Peoria:	
Energy Audits or Chemical Storage	9,897
Replace Fire Alarm System	195,000
IA, Ames: Upgrade HVAC System Bldg 4	1,691,128
KS, Manhattan: Partial Repaint Pilot Plant & Grain Elevator Bldg	46,192
MD, Beltsville:	
Demolition of Facilities	300,000
Mod Office Salaries	197,327
Inspection	51,052
Replace CFC Refrigerants	20,000
Telecommunications East & West (Y2K Upgrades)	150,000
Road Repairs	100,000
Roof Repairs	100,000
Install Dearator Bldg. 014	70,000
Replace Storm/Sanitary Lines 3rd St	100,000
Convert 10 Boilers to Gas	160,000
Replace Steamlines, Bldgs 307 and 306	150,000
Remove Pipe Chase Asbestos, Bldg. 200	150,000
Correct Water Leak, Bldg. 008, Rms. 10 and 12	20,000
Install Backflow Prevention on BARC	175,000
Install Fall Protection at Sites	70,000
Install Fence at Manure Pit	10,000
Install Smoke Indicator, Bldg 309	10,000
Repair/Replace Granary Docking/Turnheads	15,000
Replace Roof, Bldg. 161	150,000
Replace Roof, Bldg. 301	40,000
Replace Variable Frequency Drives, Bldg. 007	30,000
Correct Drainage, Bldg. 50, GH 2/Section 2	10,000
Install O/H Garage Doors, Bldgs 029, 1124, and 1125	70,000
Replace HVAC System, Bldg. 046	45,000
Contingencies	182,683
MD, Frederick: Renovate Building 1301	30,000
MD, NAL:	
Sprinkler System, Phase II	250,000
Replace Cooling Tower	375,000
Miscellaneous/Emergency Repairs	100,000
Facility Seismic Study	30,000
Clean air Ducts	145,000
MN, St. Paul: Upgrade Steam System & Install Boiler	28,316

State/Location/Project	*Amount*
MS, Mississippi State: Repave Roadways and Parking Lots	225,000
MS, Oxford: Renovation Chemistry Labs	9,484
MS, Poplarville Bldgs 1, 2 & 3: Sandblast, Seal & Paint	40,000
MS, Stoneville: Replace Boilers & Steam Pipes	275,000
ND, Grand Forks:	
Flood Damage Project	2,244,472
Upgrade HVAC	563,594
NM, Las Cruces:	
Repair Fencing	18,370
Regravel HQ/Storage Area	3,600
Repair Water Lines	2,840
NY, Ithaca: Renovate Labs 201, 205, 222, Bldg. 002	319,000
NY, Plum Island:	
Harbors & Docks	370,315
Replace East End Exit	199,341
OK, El Reno:	
Remove 34 Bldgs	207,600
Laboratory Renovation	4,464,360
OK, Woodward: Regravel Roads	8,075
OR, Corvallis: Repair Main Air Handler Intake	6,403
PA, Wyndmoor: Replace Underground Storage Tank	13,165
PA, University: Renovate Pasture Lab Bldg Park Basement	143,800
PR, Mayaguez:	
Replace Emergency Generator	21,500
Repair Screenhouse	50,000
TX, College:	
Pecan Building Accessibility	14,002
Station Replace Electrical Distribution Panels	65,943
Replace Heating Pipes	18,437
Replace Boiler	93,050
TX, Houston: Install HVAC Motion Sensor	9,767
TX, Kerrville: Remove/Replace Rusted Purlins & Roof Panels	126,970
TX, Lubbuck: Greenhouse Repairs	8,772
TX, Temple:	
Rework/Replace/Modify Hot Water System	134
Handicap Accessability for Main Bldg	36,900
TX, Weslaco:	
Building 305 Renovations	85,000
Replace Light Fixtures	2,340
Retrofit Sprinkler System	2,500
Upgrade Field Drains	2,500
Replace Roof Bldg. 201	13,672
Install Thermostats	6,680
UT, Logan: Roof Replacement	90,222
WV, Beckley: Construct Centralized Location For Lab Gas Tanks	136,338
WY, Cheyenne:	
Overlay Pavement	57,220
Agency Reserve (Uncommitted)	9,986
Total	18,262,519

The fiscal year 1998 repair and maintenance budget was $18.262 million. This amount includes $14.246 million in Agency funds, $900,000 for the National Agricultural Library, $740,000 for the USNA, and $2.376 million in BARC Renaissance 1993 funds. Some of the types of repair and maintenance projects funded in fiscal year 1998 include: roof repairs, HVAC repairs, plumbing repairs, electrical repairs, water system repairs, sewage system repairs, road repairs, greenhouse repairs and reglazing, fencing replacements, telephone system repairs, painting, accessability projects, and replacement of fire alarm systems.

[The information follows:]

State/Location/Project	*Amount*
AZ, Phoenix: Renovate Three Labs	$252,794
AR, Booneville:	
Replace Greenhouse Doors, Fire Extinguisher	2,250
Upgrade Sewage Lagoon	107,590
CA, Albany:	
Exterior Manlift/Accessability Issue	65,000

State/Location/Project	*Amount*
Upgrade Mechanical Rooms	303,573
CA, Riverside: Upgrade Electrical Service	22,633
CA, Salinas: New Replacement Well	106,000
CO, Fort Collins: Upgrade Security System	28,700
DC, U.S. National Arboretum:	
Exterior Lighting	207,000
Repair Paths, Irrigation, Drainage, and Lighting	310,000
Renovate Bonsai Courtyard	25,000
Auditorium/Lobby Renovation	30,000
Trim & Remove Trees	25,000
Chiller Repairs	23,000
Replace Street Signs	21,000
Miscellaneous Repairs	99,000
DE, Newark:	
Replace HVAC Chiller	31,820
Remove/Replace Greenhouse Benches and Sidings	32,937
FL, Brooksville: Repair Concrete Roadway	32,681
FL, Canal Point: Repair/Modify Various Buildings	336,342
FL, Gainesville: Modernization	4,336,144
GA, Athens:	
RRC Handicap Ramps	14,850
Construction Management Renovation	57,260
Renovate Laboratory for Handicapped Accessability	18,053
Renovate Warehouse	24,543
300KV Energy Generator	107,743
Repair Sewage System	28,064
Elevator/Stair Construction	75,000
GA, Byron:	
Repair Well	28,432
Repair Electrical Distribution System	10,371
GA, Griffin: Replace HVAC in Headhouse/Greenhouse	6,628
GA, Tifton: Construction Management Renovation	41,800
GA, Watkinsville: Elevator/ADA Compliance	1,705
HQ Nationwide: Seismic Studies	245,413
ID, Dubois:	
Repair Gravel Road	35,000
Repair 1.5 Miles of Entrance Road	248,806
ID, Kimberly: Repair Roof Bldgs 2, 3, 4 & 5	213,867
IL, Peoria:	
Replace Steam Traps	47,594
Replace Hot Water Tank	33,788
Upgrade Ventilation Basement, Center Wing, Other Areas	65,000
Install Additional Fire Hydrants	141,925
Replace Cooling Water Tower	150,000
IN, West Lafayette:	
Fume Hood	9,700
Install Insulation in Grinding Room	17,966
IA, Ames:	
NADC Telephone Y2K Upgrade	279,883
Construct Bldg 5 Improvements	54,563
NADC Master Plan	617,290
KS, Manhattan: Replace Telephone Switch (Y2K Upgrade)	25,780
LA, Houma: Construct Handicapped Entrance	7,000
MD, Beltsville (BARC):	
Annual Demolition	300,000
Replace Refrigerants	9,735
Upgrade Telecommunications (Y2K Upgrade)	150,000
Repair Animal Spaces	156,600
Roof Repairs	100,000
Boiler Conversion	148,019
Replace Expansion Joints for Bldgs 306 & 307	25,000
Remove Pipe Chase Asbestos Bldg 200	86,682
Correct Water Leak Bldg 008, Rms 10 & 12	20,000
Replace Chutes and Doors on Silos	123,814
Replace Three Backflow Preventers BARC-W	56,508
Install Smoke Indicator Bldg. 309	10,000
Repair/Replace Granary Decking/Turnheads	15,000

State/Location/Project	*Amount*
Replace Roof Bldg. 301	40,000
Replace Overhead Doors Bldg. 029, 1124/1125	70,000
Replace HVAC System Bldg. 046	45,000
Renovate Laboratory Bldg. 200	100,000
Renovate Security Section, Bldg. 307	15,000
Update Security Alarms	75,000
Locate Underground Utilities	10,000
Upgrade Telecommunications Equip. Bldg. 050 (Y2K Upgrade)	8,000
Paint Fence Bldg. 017	1,900
Replace Windows Bldg. 426	30,000
Replace Gas Boiler Bldg. 26	225,000
Recondition Elevators Bldg. 011A	120,000
Ice Dam Bldg. 007	55,000
Update Telecommunications Equip. Bldg. 002 (Y2K Upgrade)	15,000
Paint and Repair Interior Bldg. 005	200,000
Replace Storm Drain Poultry Modular Home	25,000
Fire Alarm Bldg. 003	25,000
Fire Alarm Bldg. 308C	7,000
Modernization Office	169,845
Replace Carpet Bldg. 003, Rm 20	3,907
Repair Cafeteria Bldg. 003	500
Miscellaneous Repairs	133,552
MD, NAL:	
Sprinkler System	263,000
Cooling Tower	386,000
Fifth Floor, HVAC	53,000
Air Handling Unit	14,000
First Floor Renovation	55,000
Miscellaneous Repairs	129,000
MD, Frederick:	
Renovate Labs and Offices	114,873
Upgrade HVAC and Lab Infrastructure Bldg 1301	400,000
MI, East Lansing:	
Replace Roofs	34,280
Sewage Disposal Improvements	35,270
MN, Morris:	
Install Fire Alarm System	91,562
Upgrade Microbiology Laboratory	45,000
MN, St. Paul:	
Glazing on Greenhouse #2	3,930
Repair Structure of Building	210,153
MO, Columbia: Improve Ventilation	224,907
MS, Mississippi State: Replace Telephone System	212,222
MS, Oxford:	
Renovate Chemistry Labs	148,270
Paint Buildings	15,450
MS, Poplarville:	
Repair Well	19,915
Replace HVAC Systems and Lights in Bldgs 1 & 2	49,194
Add Sheetrock to Interior Walls of Maintenance Building	12,592
Repair Well and Replace Storage Tank	19,025
MS, Stoneville:	
Maintain Exterior of Building	8,300
Renovate Building 44 and 5	24,019
Repair Exterior JWRC	34,108
Replace Sewer System JWRC	29,524
Caulk Windows	5,180
Replace Underground Water Supply	106,682
Renovation of Laboratory/Quarantine Facility	100,000
Repair Pond Levees	84,216
Replace Heating Pump	24,359
Repair/Replace Structural Supports	38,703
Replace Access Ramp	12,089
Modify HVAC System	19,852
MT, Miles City:	
Maintain Windmills	2,800
Replace Telephone Switch (Y2K Upgrade)	25,000

State/Location/Project	*Amount*
Additional Fencing Materials	33,771
Maintain Waterers	8,600
MT, Sidney:	
Upgrade HVAC System	936,380
Asbestos Abatement	77,636
NC, Raleigh: Replace Chiller	53,842
ND, Fargo:	
Renovation Incinerator Building	22,000
Handicap Access	1,685
Repair Greenhouse	2,150
ND, Mandan:	
Re-roof Bldgs 3, 30 and 31	5,340
Renovate Security Fencing	13,600
Repair Gravel Road and Fencing Supplies	22,000
Replace HVAC Motors	4,220
Glyco (HVAC)	2,000
NE, Clay Center: Replace Telephone Switch (Y2K Upgrade)	42,740
NM, Las Cruces:	
Gravel & Seal Coat Parking Lots	5,000
Painting/Roof Repairs	23,420
NY, Ithaca:	
Replace Fume Hoods, Fans Stacks	173,339
Repair Air Handling Unit, Main Bldg	26,438
Repair Greenhouse & Road	24,100
Construct Stairway Enclosure, Bldg 004	5,281
NY, Plum Island:	
Coating Existing Building 100	43,670
Animal Room Painting, Lighthouse Repairs, Cattle Loading Dock Repairs, Replace Overhead Garage Doors	54,730
OH, Coshocton:	
Repair Air Exchange System	36,186
Historic Survey	9,998
OK, El Reno:	
Develop Facilities Historic Preservation Plan	185,113
Asphalt East Campus Road	138,651
Renovate Bldg 45	460,406
OK, Lane Replace: Automated Telephone System (Y2K Upgrade)	9,933
OK, Stillwater:	
Repair/Renovation of 3 Greenhouses	27,437
Repair Asphalt Parking	10,200
Facility Condition/Energy Survey	4,626
OK, Woodward:	
Design/Analysis for HVAC/Electrical Upgrade	74,598
Install UFAS Elevator	30,644
Painting Buildings 2, 7, 9, 11, 12	25,000
Restroom/Elevator Upgrade	50,327
Regravel Roads	25,000
OR, Burns: Upgrade Access Road	29,910
PA, Univ. Park	
Renovate Grinding Room	34,061
Renovate Chemical Storage Area	19,375
Upgrade/Replace HVAC	28,943
PA, Wyndmoor:	
ERRC Re-Roof	81,585
Replace Underground Storage Tank	52,525
SC, Charleston: Repair Pavement	21,380
SC, Florence: Replace and Expand Exterior Walls of Offices	161,100
TX, Bushland:	
Upgrade for Accessability	20,000
Replace 500 SF Gas House	16,585
TX, College Station:	
Energy Audit	20,005
Replace Electrical Distribution Panels Bldgs 11 and 12	28,650
Renovate Swine Facility	31,000
Comprehensive Roof Evaluation	2,396
TX, Houston:	
Comprehensive Energy Audit	20,000

State/Location/Project	*Amount*
Roof Design, CNRC	4,958
TX, Kerrville:	
Repair Polymer Roof Coating	94,636
R&M Projects	10,400
TX, Lubbock:	
Replace Hot Water Piping	10,440
Retrofit Greenhouse Screening	10,000
TX, Temple:	
Upgrade Interior Building Ceiling Light	96,070
Asbestos Removal	42,976
Replace AC, in Seed Building	5,000
TX, Weslaco: Replace Boiler Bldg 203	9,950
WA, Yakima: Upgrade Fire Alarm	19,789
WI, Madison: Upgrade Building Access	74,511
WV, Beaver: Repair/Replace Exterior Lighting	59,467
WV, Beckley:	
Master Plan/Deficiency Study/Energy Conservation	57,235
Alter Soils Prep Bldg redirected to Update Walk-In Growth Chamber	53,330
WV, Kearneysville: Maintain and Repair HVAC	37,000
WY, Cheyenne: Corral Poles, Lag Bots and Gravel	4,975
Total	18,262,338

The fiscal year 1999 repair and maintenance budget was $18.262 million. This amount includes $14.246 million in Agency funds, $900,000 for the National Agricultural Library, $740,000 for the USNA, and $2.376 million in BARC Renaissance 1993 funds. Some of the types of repair and maintenance projects funded in fiscal year 1999 include: roof repairs, HVAC repairs, plumbing repairs, electrical repairs, water system repairs, sewage system repairs, road repairs, greenhouse repairs and reglazing, fencing replacements, telephone system repairs, painting, accessability projects, replacement of fire alarm systems, and Y2K upgrades.

[The information follows:]

State/Location/Project	*Amount*
CA, Albany:	
WAB Lab Renovation Upgrade Solvent Processing	$72,000
Facility	85,000
Sanitary/Storm Sewer Survey	55,000
CA, Riverside: Rescreen Screenhouse	80,000
CA, Salinas: Renovate Greenhouses	222,000
CO, Akron: Replace Roof, Building 1	110,000
CO, Fort Collins:	
Upgrade HVAC System	50,000
Upgrade Phone System (Y2K Upgrade)	30,000
DC, U.S. National Arboretum:	
Repair Lath House	522,000
Replace Exterior Lighting	61,000
Renovation of Lobby and Auditorium	41,000
Restore Outdoor Restroom	25,000
Miscellaneous	91,000
DE, Newark: Upgrade Quarantine Facility	320,000
FL, Canal: Point Laboratory Ventilation	161,300
GA, Athens:	
Renovate Storage Building	250,000
Sewage Decontamination System	406,977
RRC Modernization Study	800,000
GA, Byron: Secondary Electrical/Fire and Security Alarms	137,500
IA, Ames:	
Construct Improvements to Building 5	170,000
Renovate Ag Facility Bldg. 3 Design	250,000
ID, Dubois:	
Repair/Refill Fire Hydrants	25,000
Construct Wheelchair Access	35,000
ID, Kimberly:	
Remodel Exterior Walls	310,000
Repair Roof Bldgs 1	157,000

State/Location/Project	*Amount*
MD, Beltsville (BARC):	
Miscellaneous Small Projects	203,401
Demolition of Facilities	383,798
Upgrade Telecommunications	150,000
Renovation of GGPL Laboratories	19,007
Bldg 005 Rehab	70,750
GH Control System	75,000
Repair Roads—1st St/Parking Lots Bldg 006 & Visitor's Center	260,000
Replace HVAC Bldg 1180	30,000
Install Backflow Prevention Bldg 1040	1,975
Renovation of Water Tower—across from Bldg 426	285,000
Repair Animal Spaces	140,000
Silicone Seal—Bldgs 001/002/003/004/005/006/007/307 & 308	150,000
Paint Bldg 202	48,000
MD, Beltsville (BARC):	
Correct Erosion Around Water Main—Entomology Road	75,000
Minor Renovations Bldg 005	125,000
Replace Building Control Bldg 050	25,000
Install New Fire Alarm System Bldg 1040	3,635
Replace Emergency Generator Bldg 014	25,000
Replace Steamlines between Bldgs 309 & 310	25,000
Remove Breaching and Asbestos Bldg 014	22,000
Telephone Forprs	280
Replace Round Door Bldg 010A	10,000
Replace Door Bldg 031	675
Sliding Door (ADA) for Bldg 003	3,511
Small Miscellaneous Projects	100,000
Bridge Inspections	4,000
Bldg 161 Install Ramp and Renovate Bathrooms (ADA)	55,000
Steam Tunnel Repair (SAFETY ISSUE) Bldg 200 to Bldg 201	50,000
Log Lodge Repair	35,000
MD, NAL:	
Clean Air Duct	170,000
Design AHU (Wings)	175,000
Clean Air Quality Study	10,000
Retrofit Low Volt Circuit Breaker	50,000
Clean, Seal & Paint Sub-Basement Floor	30,000
Repair Freight Elevator Doors	20,000
Replace Ceiling, Third Floor	20,000
Annual Calibration High Voltage Equip	10,000
Miscellaneous Small Projects	415,000
Replace Air Handling Unit	1,200,000
MD, Frederick: Renovate Lab and Office	300,000
MI, East Lansing:	
Upgrade Sewer System	265,000
Replace Roofs	485,000
MN, St. Paul: Repair/Reglaze Greenhouse	180,740
MO, Columbia: Install Controls for Heating/AC	12,000
MS, Mississippi: Design Glass and Window State Replacement	13,000
MS, Stoneville:	
Renovate HVAC System Building 8	235,000
Design Replace	300
Ton Chiller	13,600
Elevator Repair Building 1	160,000
Repair Exterior Building 1	300,000
MT, Miles City: Design Bridge	50,000
NE, Clay Center: Overlay Road	100,000
ND, Fargo:	
Replace Steam Boiler	60,000
Repave Parking Area	210,000
Roof Repair	130,000
ND, Mandan:	
Repipe Chiller, Building 1	60,000
Upgrade Headhouse/Greenhouse	70,000
OK, El Reno:	
Repair and Pave Roadway	52,000
Develop Facilities Historic Preservation Plan	100,000

State/Location/Project	*Amount*
Renovate Bldg. 45, Renovate Sheep Barn Bldg. 40, and Renovate West Scale House Bldg. 67	1,800,000
OK Woodward: Modify Restrooms, Building 6	100,000
OR, Corvallis: Repair Screenhouses	140,000
PA, University: Upgrade/Replace HVAC System Park	200,000
PA, Wyndmoor: Y2K Upgrades	59,000
PR, Mayaguez: Replace Vehicle Maintenance Building	15,000
TX, College Stn.:	
Comprehensive Facility Assessment	30,000
Repair Storm Damage to Greenhouses	293,500
Refurbish Interior Building 3	280,000
TX, Lubbock: Renovate Building 8	328,200
WA, Pullman: Upgrade Computer Controls in Greenhouse	29,760
WY, Cheyenne: Replace Roofs	31,000
WY, Laramie:	
Install Cooling System	45,000
Incinerator	100,000
Uncommitted at this time	3,071,391
Total	18,262,000

The fiscal year 2000 repair and maintenance budget is anticipated to be $18.262 million in Agency funds. Some of the types of repair and maintenance projects anticipated are: roof repairs, HVAC repairs, plumbing repairs, electrical repairs, water system repairs, sewage system repairs, road repairs, greenhouse repairs and reglazing, fencing replacements, telephone system repairs, painting, accessability projects, replacement of fire alarm systems, and Y2K upgrades.

Question. Please describe the agency's activities and funding obligations in each of fiscal years 1997 and 1998 under the provisions limiting construction, alteration, repair and improvements of buildings in the ARS appropriations language specifying (1) that the cost of constructing any one building shall not exceed $250,000; (2) head houses and greenhouses shall be limited to $1,000,000; and (3) no more than ten buildings can be constructed or improved at a cost not to exceed $500,000 each.

Answer. The agency's funding obligations in fiscal years 1997 and 1998 under the specified provisions are as follows:

Buildings not exceeding $250,000:	
1997 New Storage Building (Pacific West Area)	$207,000
1997 New Screenhouse Building (Pacific West Area)	113,000
1997 New Barn (Midwest Area)	90,000
1998 New Storage Building (Pacific West Area)	137,000
1998 New Shop Building (North Atlantic Area)	160,000
1998 New Residence (Beltsville Area)	115,000
Head house/Greenhouse not exceeding $1,000,000:	
1997 New Greenhouse, Riverside, CA	183,000
1998	(1)
Ten Small Buildings not exceeding $500,000:	
1997 Administrative Building (Southern Plains Area)	455,000
1997 Building A (Southern Plains Area)	205,000
1997 Building B (Southern Plains Area)	205,000
1998	(1)

[1] None.

RESEARCH ACTIVITIES

QUESTIONS SUBMITTED BY SENATOR COCHRAN

IMPLEMENTATION OF THE AGRICULTURAL RESEARCH, EXTENSION, AND EDUCATION REFORM ACT OF 1998

Question. The Agricultural Research, Extension and Education Reauthorization Act of 1998 amends the Competitive, Special, and Facilities Research Grant Act (1) to require grantees to arrange for scientific peer review of their proposed research and merit review of their proposed extension and education activities prior to award; and (2) an annual report of the results of the research, extension, or education activity and the merit of the results. How are these new statutory requirements being carried out? Will the new requirements for scientific peer review of re-

search grants and merit review of proposed extension and education activities delay the award of funds provided for fiscal year 1999?

Answer. Prior to the award of a grant by the Cooperative State Research, Education, and Extension Service, grantees are required to arrange for scientific peer review of their proposed research activities and merit review of their proposed extension and education activities. The review arranged by the grantee must provide a credible and independent assessment of the proposed project. A credible review is one that provides an appraisal of technical quality and relevance sufficient for an organizational representative to make an informed judgment as to whether the proposal is appropriate for submission for Federal support. To provide for an independent review, such review may include USDA employees, but should not be conducted solely by USDA employees. A notice of completion of the review must be conveyed in writing to the Cooperative State Research, Education, and Extension Service either as part of the submitted proposal or prior to the issuance of an award. The written notice constitutes certification by the applicant that a review has occurred. Annually, within 30 days of the anniversary date of each award, the recipient must submit a report describing the results of the research, extension or education activity and the merit of the results.

Regulations to implement these requirements were published as a proposed rule in the Federal Register on March 24, 1999. A 30-day period is provided for submission of public comments to be considered in the development of the final rule. To meet the statutory requirements, the Cooperative State Research, Education, and Extension Service cannot award fiscal year 1999 Special Grants until the final rule is published and recipients have certified that they have conducted reviews in accordance with the provisions of the final rule. It is anticipated that the final rule will be published in May. Therefore, the earliest date that Special Grants could be awarded is June 1999. However, while the rule making process is taking place, the Cooperative State Research, Education, and Extension Service is proceeding with the internal review of proposals and the preparation of grants for signature to minimize delays in making awards.

THOMAS JEFFERSON INITIATIVE

Question. The Agricultural Research, Extension, and Education Reauthorization Act of 1998 authorizes the Thomas Jefferson Initiative for Crop Diversification. The fiscal year 2000 budget proposes no funding for this program. Does the Administration support the program?

Answer. The Administration does support the Thomas Jefferson Initiative for Crop Diversification. The Initiative is funded directly through a Cooperative State Research, Education and Extension Fund for Rural America grant entitled "Diversifying Cropping Systems to Enhance Rural Development." The Center for Crop Diversification brings together a critical mass of partners and expertise to catalyze change in cropping systems and farming communities. The Center works with locally-led teams to develop new oilseeds, grains, fiber crops, and horticultural alternatives for targeted areas in the Midwest, Great Plains, and Pacific Northwest. Partners in this Center include farmers, non-profit organizations, and land-grant universities including the University of Missouri, Jefferson Institute, Purdue University, Iowa State University, University of Nebraska, Colorado State University, and Oregon State University.

This project proposes to help farmers return to the constructive practices of diversification. Over a 4-year period the Center will accomplish several objectives spanning on-farm research, economic analysis and marketing, and comprehensive education programs. Activities to enhance rural development include developing teams of farmers conducting on-farm research on new crop options; supporting the farmer teams with technical, management, and marketing assistance; and building local support through workshops, on-farm tours, information exchange, and leadership development. Additional objectives include: providing facilities; serving as a central information resource; and reducing institutional barriers to diversification.

Question. What funding would be needed for fiscal year 2000 to carry out the Thomas Jefferson Initiative for Crop Diversification?

Answer. No additional funds are needed. The current grant awarded under the Fund for Rural America program runs through year 2002.

U.S. GLOBAL CHANGE

Question. Please provide the Committee with an update on USDA's Global Change/UVB Monitoring Program. What is the importance of this program to U.S. agriculture?

Answer. The Cooperative State Research, Education and Extension Service, CSREES, is in the process of establishing a network for monitoring surface UV-B radiation which will meet the needs of the science community of the United States, and which will be compatible with similar networks being developed throughout the world. The fiscal year 1998 grant supports work through September, 1999.

This grant is part of a government-wide initiative. The research is closely coordinated with other Federal agencies involved in the U. S. Global Change Research Program Inter-agency UV-Monitoring Network Plan.

The principal researcher believes destruction of the stratospheric ozone layer, our shield from the full intensity of solar radiation, continues to increase. This creates a high priority need for information to document not only the levels of UV-B radiation reaching the earth's surface, but the climatology of that radiation. The United States, and the rest of the world, needs to know the strength of the UV-B radiation reaching the earth and the potential impact on all forms of life, especially animal and plant life of agriculturally-important species. The principal researcher believes this research to be of national as well as regional and local importance.

The USDA UV-B Network is to provide accurate, geographically-dispersed data on UV-B radiation reaching the surface of the earth and to detect trends over time in this type of radiation. A primary problem which had to be overcome in order to reach this goal is the development of instrumentation adequate to make the measurements required for the monitoring network.

Colorado State University is managing the operating network, which when completed will include all regions of the country. At least 30 sites are planned for the climatological network including sites in Hawaii, Alaska, and Puerto Rico in order to provide broad geographic coverage. Ten sites have been operational with broad band instruments for up to five years and 26 sites are now operational with new generation instruments. The research level network began with the first instrument installed at the Table Mountain, Colorado instrument intercomparison site and the second to be installed at the Department of Agriculture Plant Stress Laboratory at Beltsville, Maryland. Negotiations are underway with the Department of Energy Solar Radiation site near Ponca City, Oklahoma as part of the Atmospheric Radiation Measurements field network as a potential site for the third instrument to be deployed later in 1999.

As with other weather and climate observations, this network will be an ongoing need for the predictable future. These measurements will provide information on the nature and seriousness of UV-B radiation in the United States and will provide ground truth validation to other predictions of UV-B irradiance. The project has now met it's first objective of the establishment of a climatological network to monitor UV-B radiation at the surface of the earth. Years of operation will be required to measure trends in UV-B radiation and to develop models to predict the climatology of UV-B radiation.

SUSTAINABLE AGRICULTURE

Question. Provide a list of the Sustainable Agriculture Research and Education (SARE) research grants awarded for fiscal year 1998, including a description of the project, who conducted the research, and the amount of the award.

Answer. The list of the Sustainable Agriculture Research and Education (SARE) research grants awarded for fiscal year 1998 are as follows. Projects starting with E are Extension funds.

[The information follows:]

SUSTAINABLE AGRICULTURE RESEARCH AND EDUCATION (SARE) RESEARCH GRANTS AWARDED FOR FISCAL YEAR 1998

Project number	Project title	Project Coordinator	SARE
ENC98–028	Alternative Information Networking to Support Sustainable Agriculture on Small Farms.	John Ikerd	$32,950
ENC98–029	Michigan Field Crop Ecology: Training and Field Demonstration.	Natalie Bement-Rector	47,677
ENC98–030	Marketplace '99	Thomas Hanson	12,600
ENC98–031	Revitalizing Community Development in the Dakotas.	Thomas Hanson	64,700
ENC98–032	Planning Sustainable Grazing Systems	Mark Boswell	45,740

SUSTAINABLE AGRICULTURE RESEARCH AND EDUCATION (SARE) RESEARCH GRANTS AWARDED FOR FISCAL YEAR 1998—Continued

Project number	Project title	Project Coordinator	SARE
ENC98–033	Developing Advanced Grazing Educational Materials and Schools on Sustainable and Profitable Grazing Systems for the North Central Region.	Henry Bartholomew	60,000
ENC98–034	Introduction to Management Intensive Grazing Systems Workshops and Resource Manual for Educators.	Deborah Cavanaugh-Grant.	32,308
ENC98–035	Workshops on Land Use and Farmland Policy	Kevin Schmidt	48,247
ENC98–036.1	Educate the Agricultural Educators and Bankers on Profitability, Lifestyle and Environmental Benefits of MIG for the Livestock Farmers of Central Wisconsin.	Paul Daigle	12,500
ENC98–037.1	Outreach Education for Permaculture as Native Science.	Ann Krush	36,450
ENE98–037	How to Keep Agriculture Sustainable: Training Trainers on Conserving Farmland & Resolving Land Use Conflicts in the Delmarva Peninsula.	Julia Freedgood	77,282
ENE98–038	Organic Grain Production Another Way	John Hall	90,100
ENE98–039	Northeast Training @ Support Network for Agriculture Development.	Judy Green	132,392
ENE98–040	Diagnostic Team Approach to Enhancing Dairy Farm Sustainability, Phase II.	William Heald	50,000
ENE98–041	Increasing Producer Adoption of Pasture of a Whole Farm System.	Edward Harwood	30,393
ENE98–042	Feeding Our Cities: Establishing a Strong Urban/Sustainable Agriculture Interface in Southern New England.	Michael T. Keilty	6,500
ENE98–043	Nutrient management Education: Development and Implementation of Training Modules on Basic Principles, Current State of Knowledge and Advances in Research.	Karen L. Gartley	6,500
ENE98–044	Locally Led Farmer Groups for Sustainable Agriculture: The Study Circle.	Jim Hanson	6,500
ENE98–045	Re-Inventing the Appalachian Shephard	Tom McConnel	6,500
ENE98–046	Conducting On-Farm Research: Enabling Farmers to Implement Sustainable Change in Agriculture.	Kathryne L. Everts	50,000
ES98–037	Oklahoma Master Woodland Owners Program	William G. Ross	23,640
ES98–038	Motivating Teams for Enterprise Facilitation	James V. Worstell	96,000
ES98–039	Multi Disciplinary Training on Pasture-Based Dairy System—A Sustainable Alternative for the Region.	Steve Washburn	52,578
ES98–040	Grazing Management Training to Enhance the Sustainability of Pasture-Based Beef Production Systems.	Jim Green	31,745
ES98–041	Training in Sustainable Systems Approach to Production, Harvesting, Processing and Marketing of Value Added Syrup Crops in MS and Surround States.	William Patton	99,912
ES98–042	Training in Agriculture Program (TAP)	Dorothy Barker	17,890

SUSTAINABLE AGRICULTURE RESEARCH AND EDUCATION (SARE) RESEARCH GRANTS AWARDED FOR FISCAL YEAR 1998—Continued

Project number	Project title	Project Coordinator	SARE
EW98–001	Broadening the Audience: Providing Sustainable Agriculture Education for Pest Control Advisors and Agricultural Consultants in California and Oregon through Multiple Information Delivery Systems.	David Chaney	80,100
EW98–004	Agroforestry Handbooks for Pacific Islands	Craig Elevitch	57,685
EW98–007	Navajo Noxious Weed Training Program	Wallace Tsosie	52,542
EW98–008	Organic Food Production and Marketing—Educational Resource Development.	Miles MeEvoy	19,100
EW98–009	Alternative Crop for Dryland Agriculture in the Intermountain Pacific Northwest.	Edward Adams	67,500
EW98–011	Portable Extension Office for Program Literature Exchange (PEOPLE).	Bob Barber	41,360
EW98–012	Covering New Ground: Tropical Cover Crops for Improving Soil Quality.	Richard Bowen	85,400
	TOTAL, EXTENSION		1,574,791
LNC98–125	Feasibility of Agroforestry System using Management Intensive Grazing in Eastern Black Walnut Plantation.	Sandra Hodge	48,487
LNC98–126	Marketing Sustainable and/or Organic Products in Small Metro Areas.	David Watt	41,355
LNC98–127	County Fair Tomato Cooperative: Developing an Organic Tomato Processing Cooperative.	Dan Nagengast	67,800
LNC98–128	Congregationally Supported Agriculture	Marvin Freiborg	38,900
LNC98–129	Strengthening Farms on the Edge: Developing Rural/Urban Partnerships.	Rebecca Cline	29,450
LNC98–130	Educating Consumers About Local, Sustainable Produced Meat.	Margaret Krome	23,200
LNC98–131	Travelling Food Processing/Educational Trailer.	Susan Houghton	41,138
LNC98–132	Producer-Owned Cooperative to Process and Market Sustainably Produced Pork.	Aaron Heley	23,590
LNC98–133	Strengthening Links Between Meat Producers, Processors, and Consumers.	Jenifer Buckley	6,000
LNC98–134	Perennial Legumes for Sustainable Pasture Systems.	Craig Sheaffer	99,800
LNC98–135	Annual Forages for Integrated Crop and Livestock Systems.	Burt Weichenthal	52,000
LNC98–136	Addressing Agricultural Practices and Water Quality Issues through Youth-Developed Decision Cases.	Marla Reicks	41,498
LNC98–137	Nutrient and Pesticide Loads in Subsurface Drainage from Organic and Conventional Cropping Practices.	Gregory McIsaac	78,902
LNC98–138	Soil Fertility Paradigms Evaluated through Collaboration On-Farm and On-Station.	Derrick Exner	59,027
LNC98–139	Innovative Tart Cherry Orchard Systems: Design, Evaluation, and Demonstration.	Charles Edson	75,000
LNC98–140	Soil Quality Improvement with Cover Crop Mixtures.	Eileen Kladivko	93,256
LNC98–141	Biological Control of Bacterial Diseases of Vegetable Crops.	Sally Miller	103,580
LNC98–142	Heartland Sustainable Agriculture Network	Jerry Jost	64,000

SUSTAINABLE AGRICULTURE RESEARCH AND EDUCATION (SARE) RESEARCH GRANTS AWARDED FOR FISCAL YEAR 1998—Continued

Project number	Project title	Project Coordinator	SARE
LNC98–143	Adding Local Value with Community Partnership Strategies.	Denise Durham	37,800
LNC98–144	Alternative Systems for Livestock in Nebraska	Wyatt Fraas	98,200
LNE98–098	Adaptive Nitrogen Management in Orchards: Developing Soil and Groundcover Management Systems that Optimize Nitrogen Uptake, Retention and Recycling.	Ian Merwin	153,505
LNE98–099	Creating a Farmers-Owned Value-Added Production/Processing Facility for Dairy Farmer in Central PA; A Joint Farmer/Community R&D Project.	Joe Detelj	40,000
LNE98–100	Producing Native & Ornamental Wetlands Plants in Constructed Wetland Designed to Reduce Pollution from Agriculture Sources.	Brian Maynard	72,840
LNE98–101	CORE Values Northeast: A Northeast IPM-Apple Consumer Education & Mkt Development Project.	Wendy Gordon	45,000
LNE98–102	Sustainable Integrated Management of Weeds of Diseases in a Cabbage Cropping System.	Helene Dillard	140,000
LNE98–103	Soil Amendment and Crop Rotation Effects on Productivity and Soil Properties within Potato Production Systems.	Gregory A. Porter	100,126
LNE98–104	Controlling Pests of Pastured Livestock on Organic Farms.	William Murphy	32,590
LNE98–105	Controlling Honey Bee Mites with Essentials Oils.	James Amrine	80,000
LNE98–106	Biological Control for Soil-Dwelling Insects & Diseases in Strawberries.	Richard S. Cowles	147,557
LNE98–107	Integrated Management of Cranberry Insect, Weed, and Disease pests Using Fall and Spring Floods.	Carolyn DeMoranville	130,000
LNE98–108	Nutrition and Management of Dairy Sheep and Goats on Pasture.	Bruce Clement	151,190
LNE98–109	Resource Kit for Preserving Rural Character	Jean Conklin	6,000
LNE98–110	Development of a Knowledge Base for Site-Specific Applications of Crop Nutrients.	Harold VanEs	109,968
LNE98–111	Use of Hoop Structures for Growing-Finishing Swine on the Delmarva Peninsula.	Mark Estienne	32,000
LNE98–112	Strengthening CSA in the Northeast: Next Steps.	Kathryn Ruhf	57,733
LNE98–113	Alternate Grain/Bean Rotations for Optimized Economic Yield in Northeast Organic Farming.	William Brinton	68,604
LS98–090	An Integrated System of Organic Food Production and Urban Food Waste Recycling Using On-farm Anaerobic Digestion and Fertigation.	Anne Barkdoll	142,623
LS98–091	Development of Decision Support Systems for Improvement of Silvicultural Practices on Farm-Based Non-Industrial Private Forests.	Frederick W. Cubbage	26,204
LS98–092	Development of Sustainable Cropping Systems for Canola on Limited-Resource Farms in Alabama.	Udai Bishnoi	124,488
LS98–093	Accountability at Local, State, and Federal Levels for Impacts of Agricultural Conservation Practices on Water Quality.	Dwight Fisher	223,322

SUSTAINABLE AGRICULTURE RESEARCH AND EDUCATION (SARE) RESEARCH GRANTS AWARDED FOR FISCAL YEAR 1998—Continued

Project number	Project title	Project Coordinator	SARE
LS98–094	A Model for Long-Term, Large-Scale Systems Research Directed Toward Agricultural Sustainability.	J. Paul Mueller	558,758
LS98–095	Intergenerational Educational for Sustainable Agriculture.	Savanah E. Williams	176,240
LS98–096	Integrating Farmer-Driven, Value-Added Enterprises into Sustainable Agricultural Systems.	Keith Richards	120,590
LS98–097	Introducing Alternative Crops Into Traditional Cotton-Grain Farming to Aid Transition To ''Freedom to Farm'' Agriculture.	Roland E. Roberts	114,279
SW98–006	Hybrid Poplars in Natural Buffer Systems for Agricultural Pollution Reduction and Income Enhancement.	Barry C. Moore	157,721
SW98–031	Advancing Sustainable Potato Production in the Northwest.	Karen Murphy	42,000
SW98–036	Indian Range Livestock Production in the West and Southwest: Entering, Enduring, and Emerging from Drought Conditions.	Robert Katnig	103,000
SW98–041	Evaluation of Processing Food Refuse and By-products for Growing Finishing Swine.	Farouq G. Abanni	121,850
SW98–044	Cropping Systems for Intensive Desert Vegetable Production.	Milt McGiffen	130,672
SW98–058	Reducing Chemical Inputs in Arid Climates through Sustainable Orchard Management.	Schuyler Seeley	261,044
SW98–060	Acequia Conservation Management	Marcario Herrera	49,272
SW98–064	Selecting Cattle to Prevent Grazing Distribution Problems.	Derek W. Bailey	115,598
SW98–068	Minimum Tillage Systems for Cotton: Reduced Energy, Time and Particulates.	Wayne Coates	182,850
SW98–071	Annual Legumes in Fallow as an Integrated Crop/Livestock Alternative in the Central Great Plains.	James M. Krall	173,979
	TOTAL, RESEARCH		5,314,586

Question. Provide a list of the SARE producer grants awarded for Fiscal Year 1998.

Answer. In fiscal year 1998, 131 producer grants were awarded.

[The information follows:]

PRODUCER GRANTS GRANTS AWARDED FOR FISCAL YEAR 1998

Project number	Project title	Project Coordinator	SARE
FNC98–201	Wolf's Native Garden Project	Charlie Smoke	$4,160
FNC98–202	Expanding Partnerships Between Southern Michigan Cash Crop Farmers and Northern Michigan Livestock Farmers.	Henry Miller	5,000
FNC98–203	Southwestern Michigan Marketing Plan for Locally-Grown Produce.	Phillip Prillwitz	10,000
FNC98–204	On-Farm Market for High Quality, Locally Grown Products and an Experience for School Age Children.	Pamela Bosserd	4,490
FNC98–205	Deer Damage Abatement Research Project	Gary Mensinger	3,627
FNC98–206	Alternative Use for Small Tobacco Acreage in Southeastern Indian.	Denise Dailey	3,270

PRODUCER GRANTS GRANTS AWARDED FOR FISCAL YEAR 1998—Continued

Project number	Project title	Project Coordinator	SARE
FNC98–207	Biological Control of Pests	David Kreutz	2,089
FNC98–208	Sustainable Hog Production in Old Farm Buildings.	Dave Serfling	4,770
FNC98–209	Enhancing Native Solitary Bee Populations for Pollination.	John Cuddy	4,700
FNC98–210	Keep the Cows in the Corn Even During the Winter Storms.	Donald Struxness	4,997
FNC98–211	Removal of Infected Fescue with Warm Season Grasses and Introduction of Legumes.	Von Dole	1,738
FNC98–212	The Rotational Cutting of Clover Will Increase the Quantity and Quality of Honey and Bees Within a Specific Habitat.	James Harlow	3,347
FNC98–213	You Pick for the Handicapped	Thomas Robinson	5,000
FNC98–214	Alternative Vegetable Crop Irrigation System for Remote Areas.	Kevin Smyth	2,110
FNC98–215	Elixir Farm: Chinese Medicinal Herbs as Field Crops in the Ozarks.	Lavinia McKinney	5,000
FNC98–216	The Expansion of the South Dakota Goosemobile Project to Include Beef, Lamb and Pork.	Tom Neuberger	9,025
FNC98–217	Alternative Nitrogen Sources for O	John Ellis	3,617
FNC98–218	Speciality Meats Marketing Project at Sycamore Street Market.	Phil Hueneke	9,984
FNC98–219	Interseeding Legumes Into Fescue	Tom Mulroy	1,455
FNC98–220	Beef Alliance Association to Develop a Premium Market.	Larry Becker	3,650
FNC98–221	Creating and Expanding Direct Markets for Sustainable Products.	Dennis Rabe	5,000
FNC98–222	Machinery Link Co	David Govert	5,000
FNC98–223	Establishing On-Farm Management Systems for Grass-Fed Beef.	Doug Erickson	4,980
FNC98–224	Economically Powered Water Supply Systems for Remote Locations.	Donn Teske	3,372
FNC98–225	Creating Value in Pooled Cull Cow Sales	Myron Runft	10,000
FNC98–226	Composting Greenhouse	Jan Metz	3,848
FNC98–227	Chariton Valley Beef Industry Initiative: Producer Cost Share for Technology Adoption and Market Access.	Mike Hunter	9,875
FNC98–228	Quantifying Seasonal Nutrional Changes in Managed Pastures.	Greg Williamson	5,000
FNC98–229	Don't Take Grass for Granted	Jack Orts	1,977
FNC98–230	Results of Alternative Usage of Apistan Strips and Formic Acid for Mite Control in Honeybee Colonies.	Kathy Hawthorne	4,951
FNC98–231	Sugar Maple Control and Hardwood Restoration in Central Illinois Woodland.	Kevin Green	5,000
FNC98–232	Swath-Grazing: A Potential Alternative to Hay Feeding for Wintering Beef Cows in the Northern Plains.	Mark Sip	2,955
FNC98–233	Organic Livestock Marketing Coop	Ronald Rosmann	10,000
FNC98–234	Low Environmental Impact Establishment of Hybrid Popular Plantation.	Michael Nohner	2,790
FNC98–235	Trout and Walleye Production in Freshwater Springs.	Michael Rahe	4,834

PRODUCER GRANTS GRANTS AWARDED FOR FISCAL YEAR 1998—Continued

Project number	Project title	Project Coordinator	SARE
FNC98–236	Cover Crops Influence on Soil Quality in No-Till Corn/Soybean Rotations: The Role of Soil Arthropods.	Gary Manley	5,000
FNC98–237	Expansion of Grape Production	Marchell Baehr	4,940
FNC98–238	Honey Bee Varroa Mite Control Research and Langstroth Versus Top Bar Hive Economics.	Robert Cessac	4,797
FNC98–239	A Consumer Driven System to Natural Beef Marketing.	Diana Endicott	9,449
FNC98–240	Utilizing Alternative Harvesting Methods in Storing Silage.	David McCartney	5,000
FNC98–241	Sustainable Viniculture for Midwestern Fruit Growers.	Gene Sigel	5,000
FNC98–242	Kura Clover Cover Crop Demonstration	Dan Barns	1,290
FNC98–243	''Weed and Feed'' Vegetable Transplants with Corn Gluten Meal.	Renee Randall	4,866
FNC98–244	Determination of Optimal Application Amounts Needed for Weed Control and Soil Amendment Qualities of Corn Gluten Meal in the Production of Strawberries.	Denice Trimmer-May	4,996
FNC98–245	Linking Downstate Illinois Small-Scale Goat and Sheep Producers.	Les Gioja	2,338
FNC98–246	Prairie Wetlands	David Zahrt	2,836
FNE98–190	Guinea Foul for Orchard Income and Insect Control.	Warren Bower	1,820
FNE98–191	Training Site for the Micro Process Design 25 Gallon Vat Pasturizer.	Courtney Haase	5,500
FNE98–192	Soil Quality Improvement in Field Crops Using Legume Overseeding.	John Shearer, Jr	1,725
FND98–193	Farmers Marketing Strategy for Westmoreland City.	Paul Sarver	6,300
FNE98–195	Commercial Organic Hops Production Trial	Jeffrey Klein	3,512
FNE98–196	Establishment of an Herbal Ley: Phase 1	Stephen Sheen	1,375
FNE98–197	Managed Intensive Grazing	Ray Paddock	8,353
FNE98–198	An Alternative to Flooding for the Winter Protection of Cranberries in ME.	Bert-Sid Look	4,938
FNE98–199	Barber Ledge Organic Dairy: Composting	Mark Russell	1,535
FNE98–200	Organic No-Till Cropping System Farm Evaluation 1998–2000.	Jon Danko	4,200
FNE98–202	Evaluating Raised Beds and Various Mulches for Vegetable Production.	Ed Armacost	3,120
FNE98–203	Squash Vine Borer and Cotton Row Covers	Bryan O'Hara	1,540
FNE98–204	Raspberry Mulch Evaluation	Chris Bailey	1,895
FNE98–205	Sustainable Aquaculture Waste Management Through Cranberry Bogs.	Wilson Sallum	6,625
FNE98–206	Low-input Sustainable Dairy Farming Through Draft Horse Power.	Dennis Trainor	1,825
FNE98–207	Development of a Potting Media Utilizing Composted Poultry Litter.	Jay Martin	1,744
FNE98–208	Sheep Farmstead Cheesemaking in CT	Suzanne Sankow	3,050
FNE98–209	Timing and Intensity of Cultivation and Effects on Weed Control.	Gerald Fortin	2,770
FNE98–210	Development and Implementation of Marketing Strategies for Emu Meat.	Dave Randall	4,770
FNE98–211	Developing Excellence in Grass Hay Farming	Matthew Beckerink	7,500
FNE98–212	Elk Farming	Debra Armstrong	5,610

PRODUCER GRANTS GRANTS AWARDED FOR FISCAL YEAR 1998—Continued

Project number	Project title	Project Coordinator	SARE
FNE98–214	Goldenseal Production for Sustainable Woodlot Management.	Tom Griffin	4,125
FNE98–214	Designing and Establishing a Small-Scale Goat Milk Cooperative.	Thomas Clark	1,223
FNE98–216	Integrated Approach in Controlling Japanese Beetles Project.	George Joseph	4,117
FNE98–217	Northeast Livestock Export Program (Phase III).	Lydia Ratcliff	5,370
FNE98–218	Improving the Viability of Lamb Production in VT through the Use of Superior Genetics.	Lawrence Faillace	2,766
FNE98–219	Rootswork 1998—A Community-based Research, Demonstration, Education and Participation Project.	Linda Faillace	3,393
FNE98–220	Forest Grown Medicinal Plants to Increase Woodlot Income.	Charles Baylies	1,545
FNE98–221	Effect of Compost Teas in Controlling Late Blight Damage to Tomatoes in Pennsylvania.	Donald Kretschmann	500
FNE98–222	Improving Air Quality in Diary Barns Using Sodium Bisulfate.	Mia Lee Morrison	1,690
FNE98–223	Apple Pest Management Trial	Louis Lego	2,669
FNE98–224	Sustainable Fire Pruning on Lowbrush Blueberries with Recycled Paper.	Thomas Ford	1,895
FNE98–225	Year Round Hydroponic Tomato Production	Donnie Tenney	2,499
FNE98–226	Expanding Local Production of Cage Cultured Hybrid Bass by Demonstrating an Integrated Approach with Limited Space and Equipment and Farmer Cooperation.	Fred Hays	4,996
FNE98–227	The Feasibility of a Growing Organic, Wild Simulated Ginseng in a Northern Maine Climate.	Michael Fillion	5,500
FNE98–228	Low-Cost Conversion of Cow Dairy to Sheep Dairy.	Neil Urie	4,625
FNE98–229	Research and Development for Existing Cooperative Preorder Distribution of Local Foods.	Jean Paul Courtens	4,970
FS98–066	Adding Value to Kentucky Grown Produce Through Season Extension and Market Development.	Ann Bell	8,670
FS98–067	Feasibility of Indoor Culture and Production of Ornamental Goldfish.	Robert Draughon	2,216
FS98–068	Late Blight Suppression in Tomatoes—Using Competing Fungi on Leaf Surfaces.	Tom Elmore	5,800
FS98–069	Integrated Goat Management System for Fiber and Meat.	Claud Evans	10,000
FS98–070	Red Plastic Mulch as an Alternative to Insecticides in Production of Seedless Watermelons.	John Frazier	7,390
FS98–071	Workshop on Parasite Control Through On-Farm Fecal Studies.	Susan Gladin	6,545
FS98–072	Microbial Input for Organic Production of Vegetables.	Skip Glover	9,039
FS98–073	Developing a Diary hair Sheep: Assessing the Potentials.	Army Hayner	4,377
FS98–074	Alfalfa Hay Production to Lower Soil Phosphorus Levels Caused by Animal Waste Application.	Keith Boozer	9,556
FS98–075	An Intensive Marketing Workshop for Growers and Ranchers.	Sue Johnson	7,561

PRODUCER GRANTS GRANTS AWARDED FOR FISCAL YEAR 1998—Continued

Project number	Project title	Project Coordinator	SARE
FS98–076	Development of Low Input Sustainable Practices for Rose Production.	Jacqueline Jones	2,690
FS98–077	Test marketing and Financial Analysis of Fresh Cut Flowers.	Emmett Lowe	5,416
FS98–078	High-Fructose Corn Syrup as a Replacement for Mepiquat to Reduce Vegetative Growth in Cotton.	Hubert Morris	2,224
FS98–079	Demonstration of a Low-Input Diversified Small Farm Operation.	Theodore Nesmith	8,900
FS98–080	Establishment of a Grazing Management School for Producers.	Kenneth Rogers	9,260
FS98–081	Soil Nutrient Balancing in Vegetable Production.	Mark W. Schonbeck	7,325
FS98–082	Using Shearing to Control Nantucket Pine Tip Moth in Virginia Pine Christmas Trees.	William Slaugher, Jr	5,672
FS98–083	Organic Specialty Lettuce Production in Tobacco Greenhouses.	John Vollmer	7,455
FW98–002	Baby Corn-Alternative Crop for Southwest Washington.	Owen Schaffner	3,460
FW98–003	Local Feed Production for Tilapia	Nocolas Songsong	4,500
FW98–004	The Conversion of Agricultural Waste into Plant and Fish Food.	Robert Gann	3,400
FW98–009	Soil Solarization as a Methyl Bromide Alternative in Strawberries.	Touxia Thauxaochay	4,000
FW98–012	Solarization for Small Farm ''Specialty Crops''.	Mike Smith	4,000
FW98–019	Using a Cultivable Catchment System to Establish a Dryland Commercial Truck Farm.	John Leaf	2,700
FW98–020	Testing Alternative Crop Rotations for Traditional Small Grain/Fallow System.	James Faughnan	3,000
FW98–021	SDA Community Nutritional Support Group	Litani Ahoia	4,646
FW98–024	Integrated Weed Management of Musk Thistle with Emphasis on Biological Control.	Larry Malschke	2,938
FW98–025	Annual Forage Production for an Intensive Winter Grazing System.	John Haws	2,665
FW98–030	Permanent Irrigated Pasture Demonstration Project Reducing Irrigation Water Use.	Milford Denetolaw	3,100
FW98–031	Navajo Nation Livestock Disease Survey	Glenda Davis	7,000
FW98–032	The Sustainable Use of Cover Crops in an Annual Vegetable Production System in Northern New Mexico.	Don Bustos	4,289
FW98–035	Annual Forages for Dryland Rotations	Vern Pluhar	1,540
FW98–036	Brewster Area-wide Management (BAM)—Low Impact Control of Codling Moth and Leafroller in Applies.	Jim Davis	10,000
FW98–055	Onenoa Eel and Tilapia Farm	Alosina Toamalatai	2,210
FW98–056	Piggery Deep Litter System	Nikolao Mageo	2,975
FW98–057	Beef Cattle Pasture Management Project	Ma'ataura Te'o	2,900
FW98–062	Free Range Pork Production	Samuel Okami	5,390
FW98–063	Total Utilization of Swine Waste for Crop and Hog Productivity.	Ronald McKeehan	4,985
FW98–064	Propagation of Indigenous Lingonberry Species for Sustainable Development.	Vickie Talbot	5,000
FW98–065	Cultures and La Manga Cattlemen's Association Range Analysis and Improvement Project.	Dennis Moeller	8,700

PRODUCER GRANTS GRANTS AWARDED FOR FISCAL YEAR 1998—Continued

Project number	Project title	Project Coordinator	SARE
FW98–067	Low Cost Vacuum Silage in the Pacific Northwest.	Tim Clark	3,460
FW98–072	Goats as a Source of Weed and Brush Control in Forest Plantations.	Aaron Albaugh	5,000
FW98–074	Clover Creek Ranch Early Weaning Comparison.	Ron Jones	2,658
FW98–075	High Quality Perennial Forage Peanut (Arachis pintal) Pastures for Sustainable Cattle Production in Hawaii.	Zach Gibson	5,000
FW98–076	Organic Soil Amendments and Fertilization Practices for Processed Vegetable Crops: A Study in Nitrogen Mineralization and Soil Quality.	Woody Deryckx	8,025
FW98–082	Alternative Techniques for Control of Apple Replant Disease.	Fred Barkley	3,200
FW98–093	Cull Potato Composting	Steve McCullough	7,500
FW98–097	Fear and Loathing in the Potato Patch: Controlling Nematodes with Rape Seed Meal and Green Manures.	John O'Connor	9,910
FW98–099	Wiersema Dairy Agroforestry Project	Jim Wiersema	5,000
	TOTAL, PRODUCER GRANTS		619,480

FORMULA FUNDS

Question. What is the rationale for the reductions proposed in formula grant funding? Why doesn't the Administration consider these programs a priority?

Answer. As you know, the Administration supports a balanced portfolio of funding for university-based agricultural research including formula programs, competitive grants, special grants and projects, and other programs such as Smith-Lever 3(d).

In fiscal year 1999, formula programs received approximately $540 million, almost five times the funding for competitive grants funded through the NRI. The Administration believes that the fiscal year 2000 budget proposals, which reduces this imbalance, actually results in increased funding for formula institutions.

This is because redirecting funds to competitive grant programs does not have to be at the expense of our land grant partners. In fiscal year 1998, land grant colleges and universities received approximately 75 percent of the funds awarded under CSREES competitive grant programs. If past percentages hold true, the proposed $81 million increase in the National Research Initiative in fiscal year 2000 may result in $61 million in additional research to land grant colleges and universities more than offsetting the proposed decrease in formula funds and ensuring that federal research, extension and education programs meet national priorities. The Administration also believes focusing on competitive programs will allow USDA to leverage research dollars from other agencies such as NSF, Environment Protection Agency, and National Institutes of Health to agricultural problems, thereby increasing the funding opportunities for land grant partners. A broadly competitive grant program will also ensure that scientific expertise from outside the land grant system will be brought to bear on agricultural problems, thereby increasing the potential return to taxpayers. Through this approach to research funding, the Administration believes more resources can be devoted to agricultural problems and we can continue to provide our farmers, ranchers and consumers with world-class cutting edge research to meet the ever increasing array of production, processing and nutritional challenges that face them.

Competitive grants are an important mechanism for achieving accountability to taxpayers. The Agricultural Research, Extension and Education Reform Act of 1998 sets specific standards for federally funded agricultural research activities, including activities resulting from formula funding programs. Section 101 (a) requires that agricultural research, extension or education activities address priority concerns that are of national, multi-state or regional in significance. The legislation also requires the Secretary of Agriculture set research priorities after consulting with persons who conduct or use agricultural, research, extension or education and that entities

receiving formula funds also develop a procedure for receiving such input into program development. Competitive grant programs provide an opportunity for the Administration to meet that statutory obligation to taxpayers. Following extensive consultation with stakeholders including the National Research, Extension and Education Advisory Board, the land grant university system, and producer representatives, the Administration develops a list of national agricultural research priorities for fiscal year 2000, including food safety, methyl bromide alternatives, small farms, Food Quality Protection Act implementation and water quality. Through the competitive grants process, the Cooperative State Research, Education, and Extension Service (CSREES) can ensure that scarce federal resources are used to address these high priority concerns. States and localities may still choose to invest the funds they receive through formula programs or other sources to address issues of immediate state and local concern as identified through their own stakeholder input process. Since they are free to use those funds, as well as the funds they receive from formula programs in the manner they choose, the impact of the proposed fiscal year 2000 budget will vary from state to state.

Question. How is the increased funding provided for fiscal year 1999 for each formula program being used?

Answer. The laws authorizing Federal formula programs enable the States to determine how to use their formula allocations for specific projects or programs to address critical issues facing agriculture in their States, region, and the Nation. Generally, the areas of research supported with Hatch Act funding include forest and natural resources; crop resources; animal resources; people, communities and institutions; competitions trade, adjustment, price, and income policy; and food science and human nutrition. The areas of research supported with McIntire-Stennis funding include timber production; forest land management; wood utilization; the associated development of new products and distribution systems; and wildlife, recreation, water, range, and environmental quality. Evans-Allen funding supports research emphasizing small-scale agriculture; human nutrition; rural development and quality of living; crop resources; and animal resources. Animal Health and Disease funding is dedicated to improving the health and productivity of animals; protecting human health through control of animal diseases transmissible to humans; minimizing livestock and poultry losses resulting from transportation and handling; and facilitating the effective treatment and prevention of animal diseases.

Funds provided to the States under the Smith-Lever 3(b) and (c) formula program support base extension programs in Nutrition, Diet and Health; Natural Resources and Environmental Management; 4-H and Youth Development; Leadership and Volunteer Development. The base programs are the foundation of the extension mission, but there are special emphasis areas that are periodically targeted as National Initiatives by the Cooperative Extension System. Currently, the National Initiatives include Food Safety and Quality; Children, Youth, and Families at Risk; Managing Change in Agriculture; Workforce Preparation; Healthy People/Healthy Communities; Animal Waste; and Child Care. Formula funds provided to the 1890 Institutions for extension activities are used to address the needs of small-scale and minority agricultural producers and other limited-resource audiences.

MANAGEMENT

Question. How does CSREES cover its overhead and management costs? Please provide an accounting of these costs for fiscal year 1998.

Answer. Funds to administer CSREES' programs are obtained in primarily two ways: from a percentage set-aside of a program's total appropriation or from funds appropriated specifically for Federal administration. An accounting of these costs for fiscal year 1998 are as follows:

Fiscal Year 1998 CSREES Management Costs

Personnel Compensation:	
Total personnel compensation	$20,336,340
Personnel benefits	5,016,930
Benefits for former personnel	728
Total Personnel Comp. & Benefits	25,353,998
Other Costs:	
Travel	1,647,529
Transportation of things	82,222
Communications, utilities, and misc. charges	907,585
Printing and reproduction	988,641

Advisory and assistance services	148,716
Other services	1,149,181
Purchases of goods and services from Government Accounts	1,041,678
Supplies and materials	460,279
Equipment	285,972
Interest for prompt payment	414
Total Other Costs	7,712,217
Total Fiscal Year 1998 Management Costs	33,066,215

Question. How does CSREES cover the indirect costs of research? Please provide an accounting of these costs for fiscal year 1998.

Answer. The indirect costs of research conducted by land-grant universities and other recipients of CSREES funding are realized in two ways. First, a percentage of funds may be charged by recipients against competitively-awarded research grants to pay indirect costs. The percentage of funds that can be used to pay indirect costs is subject to the recipient's Federally-negotiated indirect cost rate and any statutory limitations on indirect cost recovery. For example, Section 711 of the General Provisions of the fiscal year 1999 appropriations act, Public Law 105–277, limits the recovery of indirect costs under research grants awarded by CSREES to 14 percent.

Second, indirect costs of research are borne by land-grant universities and other recipients under certain situations. For example, a recipient may elect to waive all or part of the indirect costs to which they are entitled so that all, or a larger portion of, the Federal funds provided under an award are used to support the direct costs of the research. In cases where indirect costs are statutorily limited, the recipient must use other resources to offset differences between allowed and actual indirect costs. There also are some CSREES programs under which no indirect cost recovery is allowed, such as earmarked Special Research Grants, and the recipient must bear all indirect costs of the research being conducted.

The fiscal year 1998 funds awarded and indirect costs charged in those research programs allowing indirect costs are shown below:

Program	Total Funds Awarded	Indirect Costs Charged
Federal Administration	$7,833,643	$875,173
Higher Education	4,330,108	342,708
National Research Initiative	50,622,574	6,493,936
Special Research Grants (competitively-awarded)	5,857,333	617,603
Totals	68,643,658	8,329,420

COMPETITIVE GRANTS

Question. The President's fiscal year 2000 budget for the Cooperative State Research, Education, and Extension Service indicates a shift in funding from formula and special research grants to competitive research. What evidence is there to support that the competitive process selects higher priority agriculture research of greater benefit to agricultural producers than research funded through formula or special grants?

Answer. The Administration believes that the highest possible rate of return to funds allocated for agricultural research is through a balanced portfolio of funding for university-based agricultural research including formula programs, competitive grants, special grants and projects, and other programs such as Smith-Lever 3(d).

The Administration, under the Agricultural Research, Extension, and Education Reform Act of 1998 has a statutory mandate to ensure that agricultural research, extension, and education activities address national, multi-state, or regional priorities. The Administration sets these priorities through on-going consultation with the National Research, Extension, and Education Advisory Board, the land grant research and extension system, and producer organizations. This stakeholder input process ensures that competitive grant programs meet national, multistate, or regional priorities. Competitive grants can also be a tool to address national issues which have a narrower regional focus. For instance, the fiscal year 2000 budget contains a request for $5 million to support competitive grants for Methyl Bromide alternatives. This program will benefit producers in very specific areas of the country

while addressing a pressing national need. Also, while competitive grant program areas address broad national priorities, the individual proposals which are submitted and funded may represent issues of particular local concern.

The Administration also believes that competitive grant programs, open to a broad array of scientists, will attract the best scientific talent to the solution of high priority agricultural problems. In fact, much of the best talent lies within the land grant college and university system. In fiscal year 1998, approximately 75 percent of grants funded under CSREES' National Research Initiative—NRI—went to institutions in the land grant system. Through competitive programs, such as the NRI, land grant colleges and universities receive research support, and taxpayers are assured that scarce funds are addressing problems of the highest national priority. States and localities may, of course, use formula fund resources, state funds, and private support to address the local priorities of their stakeholders, as allowed under the authorizing statutes for these programs.

Question. For each of fiscal years 1997 and 1998, show who received funding awards through the National Research Initiative, e.g., the percent of funds awarded to land-grant colleges and universities, to the Agricultural Research Service, to other federal agencies, to state extension agencies, etc.

Answer.

[The information follows:]

NATIONAL RESEARCH INITIATIVE COMPETITIVE GRANTS PROGRAM GRANTS AWARDED FROM FISCAL YEARS 1997 APPROPRIATION

Performing organization	Grants awarded in fiscal year 1997	Dollars awarded in fiscal year 1997	Percentage of funds awarded in fiscal year 1997	Grants awarded in fiscal year 1998	Dollars awarded in fiscal year 1998	Percentage of funds awarded in fiscal year 1998
Individual	8	$705,000	1	2	$171,000	1
1862 Land-Grant Universities (includes SAES)	411	51,045,252	69	71	9,736,473	77
1890 Land-Grant Universities	1	49,772	([1])			
Other	2	357,000	([1])			
Private Non-Profit	26	3,070,500	4	5	443,800	4
Private Profit	2	280,000	([1])			
Private Universities	39	5,000,054	7	7	498,583	4
Public Universities	76	8,367,660	11	16	1,114,292	9
State/Local Government						
Agricultural Research Service	20	2,841,679	4	2	260,000	2
Forest Service	5	471,870	1	2	148,500	1
Veterinary Schools and College	13	1,859,298	3	2	300,000	2
1994 Institutions						
Hispanic Serving Institutions						
TOTAL	603	74,048,085	100	107	12,672,648	100

[1] Less than 1 percent.

NATIONAL RESEARCH INITIATIVE COMPETITIVE GRANTS PROGRAM GRANTS AWARDED FROM FISCAL YEARS 1998 APPROPRIATION

Performing organization	Grants awarded in fiscal year 1997	Dollars awarded in fiscal year 1997	Percentage of funds awarded in fiscal year 1997	Grants awarded in fiscal year 1998	Dollars awarded in fiscal year 1998	Percentage of funds awarded in fiscal year 1998
Individual	1	$85,000	([1])			
1862 Land-Grant Universities (includes SAES)	304	39,483,187	78	207	$26,948,373	72
1890 Land-Grant Universities				1	49,493	([1])
Other	1	14,000	([1])			
Private Non-Profit	22	1,410,250	3	6	939,700	3

Private Profit	.....	.....	.....	1	81,820	([1])
Private Universities	26	3,349,100	7	13	1,585,580	4
Public Universities	35	3,382,762	7	39	4,209,491	11
State/Local Government	.....	.....	.....	.....	.....	.....
Agricultural Research Service	6	855,000	2	8	1,519,946	4
Forest Service	1	159,329	([1])	3	201,060	([1])
Veterinary Schools and College	10	1,673,946	3	[2] 10	1,523,724	4
1994 Institutions	.....	.....	.....	.....	.....	.....
Hispanic Serving Institutions	1	90,000	([1])	.....	.....	.....
Department of Commerce	.....	.....	.....	1	150,000	([1])
TOTAL	408	50,622,574	100	289	37,209,187	100

[1] Less than 1 percent.
[2] Includes one 1890 Institution.

NATIONAL RESEARCH INITIATIVE

Question. The fiscal year 2000 budget justification indicates a $43,407,663 carryover into fiscal year 1999 of funds available for the National Research Initiative. No carryover into fiscal year 2000 is estimated. What is the reason for the $43,407,663 carryover?

Answer. The no year funding authority for the National Research Initiative has allowed greater flexibility in awarding grants with start dates that best suit the needs of the research area. Carryover funds largely represent grants that were reviewed in the previous fiscal year, but that have start dates after September 30th. Most of these grants will start sometime in the fall or early winter of the following fiscal year. Starting grants later allows investigators who do field work to start their investigations as necessary to take advantage of a summer growing season. In addition, being able to carryover funds from one fiscal year to the next distributes the work load required to administer awards more uniformly during any given 12-month period. Without carryover, work load was concentrated during a short time period at the end of each fiscal year which became unmanageable under the heavy workload CSREES sustains (over 2000 awards each year). Carryover funding also provides CSREES with greater flexibility in funding programs and taking advantage of new research opportunities by offering new programs and by combining small amounts of funds from successive years into meaningful programs.

FOOD SAFETY INITIATIVE

Question. The conferees on the fiscal year 1999 Appropriations Act directed USDA to consult with the Food and Drug Administration (FDA) regarding food safety objectives and recommended that $5 million of the food safety component of the National Research Initiative be used to meet those needs. What consultations with FDA occurred and what food safety objectives were identified? Is $5 million of the NRI food safety funds being reserved for this research?

Answer. The Conference report of Oct 2, 1998, directed USDA to consult with the Food and Drug Administration—FDA—regarding food safety research objectives of that agency and recommended that $5.0 million of the funds provided for the food safety component of the National Research Initiative—NRI—be used to meet those needs. In meeting this directive, the NRI program staff developed from stakeholder meetings and the National Food Safety Conference a list of research areas that addressed the President's Food Safety Initiative and supported the public health mission of Federal regulatory agencies. These food safety research areas were provided to, and a joint meeting held with, representatives from the FDA's Center for Food Safety and Applied Nutrition, as well as from agencies within USDA, including the Food Safety and Inspection Service, the Agriculture Marketing Service, the Office of Risk Assessment and Cost-Benefit Analysis, the Economic Research Service, and the Agricultural Research Service. As a result, a supplemental NRI program titled, Epidemiological Approaches for Food Safety, was developed. The program will support research in the following areas:(a) identification of sources and reservoirs of pathogenic organisms and their toxins in food, animal feed, and the environment; (b) determination of the levels of microbial contamination in finished food products; (c) identification of farm-based production practices that contribute to increased prevalence of foodborne pathogens; and (d) identification of potential sites of contamination in the processing, transportation, retail setting, and consumer use of food products. Proposals are encouraged that use collaborations and partnerships among institutions and bring a multidisciplinary approach to derive innovative approaches to solve problems. Proposals are to describe how research outcomes will be transferred for implementation. It is anticipated that some awards will be granted up to $1 million in fiscal year 2000. The deadline for submission of proposals was April 5, 1999. This research will provide a better understanding of the multiple factors involved in food safety and provide science-based information for those who establish public health policy. The information from this research will help to better identify the sources, incidence, and control of disease-causing microorganisms in meats, poultry, seafood, fruits and vegetables, and other food products.

NATIONAL RESEARCH INITIATIVE

Question. The prepared testimony submitted to the Committee indicates that the increase requested for the National Research Initiative (NRI) will "enable the NRI to attract more of the best scientists." How will a funding increase do this?

Answer. The National Research Initiative is the largest competitive research grants program in the USDA and is unique because all scientists throughout the country, regardless of where they work, are eligible to compete for funds. However,

at current funding levels, the NRI is not positioned to take full advantage of the potential scientific expertise because inadequate funding discourages many excellent scientists from participating in USDA programs. Agriculture needs to attract the best scientists, regardless of where they work, to address key research problems. This is best done by competitive programs at adequate levels of funding. Increased funding for the NRI also means that additional funds would be available for agricultural research at small and midsized institutions and in states that typically are less successful in the competitive grants arena. These funds are provided through the NRI Strengthening Program which targets 10 percent of total NRI funding towards small and midsized institutions and institutions in USDA EPSCoR states. As funds for the NRI increase, so do funds for the Strengthening program. Finally, substantial funding increases would attract beginning investigators into scientific fields that would benefit the agricultural system by increasing available funds for postdoctoral fellows and new investigators grants.

EXTENSION ACTIVITIES

Expanded Food and Nutrition Education Program (EFNEP)

Question. Why is the Administration proposing a $2.348 million increase in funding for the Smith-Lever 3(d) Food and Nutrition Education Program for fiscal year 2000 when it proposed to cut the program by this same amount last year?

Answer. In fiscal year 1999, EFNEP and other CSREES programs were reduced to provide the funding necessary to support Department and Presidential initiatives and to help eliminate the Federal deficit. In fiscal year 2000, the budget once again focuses on high priority research, education, and extension programs including the Expanded Food and Nutrition Education Program. EFNEP has been and continues to be very effective in providing low-income families information to increase nutritional knowledge and improve nutritional practices. The delivery and use of dietary information is critical to meeting the needs of the undernourished portion of the population, especially children. This multi-faceted program addresses many USDA and national goals and initiatives, including the President's Initiatives on Food Safety and Child Care.

FARM SAFETY AND AGRABILITY

Question. Why does the Administration propose to discontinue funding for the Smith-Lever 3(d) farm safety and AgrAbility programs?

Answer. The U.S. Department of Agriculture has determined that alternative funds from formula programs, State and local governments, and private sources could be used to support aspects of this program deemed to be of a high priority at State and/or local levels.

RURAL HEALTH

Question. Please give the Committee an update on the Louisiana and Mississippi rural health projects funded for the last several years.

Answer. The focus of the Nurse Managed Family Health Care Center project being conducted by Southern University and A&M College in Baton Rouge, Louisiana is health promotion and disease prevention for at-risk populations residing in rural and inner city neighborhoods in south Louisiana. Quality, cost-effective, community-based primary health care services are being offered where graduate nurse faculty, nursing students, and physicians located in community health outreach centers assist women, children, and the elderly in understanding and utilizing self-care health practices.

More than 1,300 rural and urban citizens have been served by Nurse Managed Clinics and the Jag Mobile, a mobile health clinic equipped with a laboratory, patient processing areas, pharmacy, nurse's station, examination rooms, and a conference room for teaching. The clients include senior citizens, homeless individuals and families, refugees, battered women, and those seeking substance abuse treatment. In addition, 540 children enrolled in Head Start have received health services.

Services include: physical examinations; childhood vaccinations; and height and weight, blood pressure, and vision screenings. Health education is provided to participants to enhance health promotion and disease prevention by increasing self-care capabilities. Health education topics include nutrition, safety, breast self-examination, dental health, hypertension, and diabetes.

During fiscal year 1997, more than 200 nursing students from Southern University and A&M College and 44 nursing students from Southeastern in Hammond utilized the Jag Mobile as a clinical experience. Eight nutrition education students from Southern University and A&M College were also assigned to the mobile unit

for a clinical rotation. The Louisiana State Board of Nursing has granted approval for the Nurse Managed Clinic and the mobile unit to serve as training facilities for nursing students.

The Mississippi Rural Health Corps is a collaborative effort of the states' 15 community and junior colleges and Mississippi State University Extension Service to increase the number of health care professionals in rural practice. Since Fiscal Year 1993, the project has provided student loans to nursing and allied health students who are willing to commit to a period of service in rural Mississippi upon graduation.

Since the inception of the program, 1,499 students have graduated from the program. A total of 561 have completed their service obligation and 580 are currently completing their obligation by working in rural areas. In fiscal year 1998, 559 Rural Health Corp loans were awarded to nursing and allied health professional students enrolled in the community college system and 9 loans were granted to community college nursing faculty members to pursue advanced degrees.

In addition, statewide health education is provided by Mississippi State University Extension Service. In fiscal year 1998, the major focus was on increasing the understanding of medical self-care, breast cancer prevention, tobacco avoidance, and teen postponement of sexual involvement. One hundred thousand women were reached with breast self exam training, 20,000 individuals were taught medical self-care techniques, and a self-care Web site was created to provide health education throughout the state.

Mississippi State University Extension Service personnel form community based healthcare coalitions to expand the health education outreach. Currently, there are 18 active coalitions. During fiscal year 1998, the coalitions conducted 52 health-related events such as health fairs, health screenings, and a variety of seminars and workshops.

Last year for the first time, the Rural Medical Scholars program was started to interest high school students in serving as physicians in rural Mississippi. Twenty-eight students participated in a 5-week residential experience at Mississippi State University. The students completed two pre-med courses, "shadowed" physicians, and attended a lecture series for aspiring physicians. In fiscal year 1999, an additional week of training will be added. Thirty students will be selected for this program in fiscal year 1999.

In fiscal year 1999, the Scholars program will also be expanded to include a Rural Health Explorers component for high school students with a more general interest in health care careers. The Explorers will take one course, either anatomy or physiology, tour hospitals, interact with health care professionals, and talk with community college representatives about academic requirements for health care careers. The goal is to have thirty students complete the Rural Health Explorers program in fiscal year 1999.

1890 FACILITIES

Question. What is the current demand for 1890's facilities funding? Is the fiscal year 1999 funding sufficient to meet project requests from the 1890 institutions approved by the agency?

Answer. The availability of adequate agricultural research and education facilities at the 1890 Institutions currently lags far behind that of the 1862 institutions. There is a significant need to renovate buildings and to construct and equip new facilities at the 1890 Institutions to ensure high quality training for future scientists and educators, the recruitment and retention of faculty, and the needed infrastructure for the generation and dissemination of agricultural research and extension knowledge.

The fiscal year 1999 appropriation for Section 1447 is not sufficient to meet the project needs of the 17 institutions. The fiscal year 1999 funding allows an average award of less than $475,000 to each school. Usually a school stockpiles the funds over a period of several years until they have a critical mass of capital to enter into subcontracts for renovation or construction or to purchase equipment. Unfortunately, in situations such as this, the buying power of the funds are diminished by inflation. In addition, even after five years of funding at this level many schools are able to address only a portion of their needs.

Question. Provide a list, by 1890 institutions, of the renovation and construction projects funded in each of fiscal year 1997 and 1998.

Answer. As mentioned in the above response, projects completed in any one year may be funded by the accumulation of prior year funds. The 1890 facilities follows.

1980 FACILITIES PROGRAM SUMMARY OF PROGRESS

[Fiscal Years 1997 and 1998]

Institution	1997	1998
Alabama A&M University, Normal, Alabama ...	—Complete initial structural assessments and architectural renderings for the Research Extension Conference Center and the Food Science and Nutrition Laboratories —The Distance Learning Center is operative —The bid materials have been completed for the purchase of equipment for the farm, plant, food and animal biotechnology laboratories —Bids have been completed for replacement windows in the James I. Dawson Extension Building.	—Obtain modern lab equipment and other instructional resources to support traditional and non-traditional learning opportunities —Renovate and construct teaching and research training facilities for all program areas —Purchase state-of-the-art research and training equipment for food and agricultural sciences programs —Improve the coordination among extension, research and academic programs by enhancing extension facilities and equipment, including computer networking and distance education.
Tuskegee University, Tuskegee, Alabama	—A schematic drawing and plan of work was developed and presented to the University Administration for the renovation of the Woodruff Food Processing Laboratories —The asbestos survey was completed and a report was submitted to the University —The decision was made to renovate the Vocational Education Building for extension work —The construction of the Caprine Research Facility has been completed —The roof for Campbell Hall has been replaced These facilities will provide updated extension, research and education initiatives in food technology and processing laboratories to conduct hands-on demonstration for youth, family and community life experiences, interdisciplinary research on ruminants, agro-forestry, food processing, food safety and quality, and environmental quality and waste management.	—Renovate and upgrade Milbank Hall for research —Upgrade the Vocation Building as an Extension Activity Center —Upgrade gutters and repair Morrison-Mayberry Hall for extension activity.

1980 FACILITIES PROGRAM SUMMARY OF PROGRESS—Continued

[Fiscal Years 1997 and 1998]

Institution	1997	1998
University of Arkansas, Pine Bluff, Arkansas	—Purchase data processing equipment —Partially construct, furnish and equip the Extension complex —Purchase farm and laboratory supplies and equipment —Renovate farm structures —Partially construct a demonstration fish processing facility —Partially construct a sheep facility.	—Improve and further develop two farm sites to enhance the quality of research and outreach —Purchase equipment to support research, extension and instruction —Renovate Woodard Hall, which houses the departments of Agriculture and Aquaculture —Expand the child development laboratory and playground in Adair-Greenhouse Hall —Renovate farm structures including the S. J. Parker Research Center, and a fish hatchery.
Delaware State University, Dover, Delaware ...	—Complete the construction of the greenhouse —Begin construction of School of Agriculture herbarium —Construct ponds —Convert dairy barn to a small animal lab.	—Construct an animal handling, holding and teaching facility —Construct an office, laboratory and classroom building to support the research, extension and academic programs and centralize the location of two academic departments of the School of Agriculture, Natural Resources, Family and Consumer Sciences.

Florida A&M University, Tallahassee, Florida ..	—Complete construction of a facility to house research, teaching and extension demonstration animals —Complete construction of teleconference centers on campus and at the University farm site in Quincy, Florida —Purchase furniture and equipment for distance education programs —Develop feasibility proposal for multi purpose research and extension facility —Purchase equipment for a water quality lab and a plant biotechnology lab —Install irrigation wells for animal and vegetable research and demonstration projects —Initiate plans for construction of farm shop and an equipment shed at farm site —Repair a dam and construct a dock at a two acre pond for acquaculture and environmental studies —Renovate an entomology lab for research programs.	—Acquire land to construct a facility for research, teaching and extension aquaculture —Develop program plans and specifications for a multi-purpose research, teaching and extension facility —Monitor program plans for the construction of the agriculture multi-purpose research, teaching, and extension facility —Construct an outreach facility for youth development programs at the farm site —Develop environmental science programs for workshops, seminars, conferences, and distance learning programs for rural and urban youth and families.
Fort Valley State University, Fort Valley, Georgia.	Funds for fiscal years 1996 and 1997 have not been awarded pending the submission of proposals by the University. However, the objectives of the grant for the fiscal years 1993-1995 were for construction of a small ruminant research and extension center; a research, extension education support center; and a research, extension human development and family life center.	—Construction of a family development center —Acquisition of laboratory and demonstration equipment.
Kentucky State University, Frankfort, Kentucky.	—Repair roof, replace boiler, and complete the horticulture and entomology labs in the Atwood Research Facility —Purchase and install telecommunication and interactive video conferencing equipment in the extension building —Complete parking lot —Complete plumbing and electrical upgrades for the greenhouse —Initiate pond repair.	—Design, develop, and select a site for a research, extension and teaching aquaculture field station to expand the aquaculture program.

1980 FACILITIES PROGRAM SUMMARY OF PROGRESS—Continued

[Fiscal Years 1997 and 1998]

Institution	1997	1998
Southern University and A&M College, Baton Rouge, Louisiana.	—Purchase and install equipment including animal pens, electronic timers, portable bleachers, portable panels, poultry coops —Purchase a small vehicle —Purchase fire and sound evacuation, security and monitoring systems for the Multi-purpose Livestock Show Arena.	—Upgrade equipment in Fisher Hall to establish a state-of-the-art computer-assisted and multimedia instruction facility —Equip a Small Farm Family Resource Development Center —Complete the Multi-purpose Livestock Show Arena.
University of Maryland Eastern Shore, Princess Anne, Maryland.	—Design, plan, and construct the Food Science and Technology Research and Extension Center —Renovate the Lifespan Human Development Center.	—Site planning and design of the Plant Science Teaching and Research Center and an Ag Tech Center —Renovate the interactive teaching lab for the early childhood education program —Purchase equipment for research and teaching programs.
Alcorn State University, Lorman, MS	—Construct multi-purpose building —Renovate research facilities.	University is preparing a proposal for fiscal year 1998 funds.
Lincoln University, Jefferson City, Missouri	—Completed Phase 11 construction of Allen and Foster Halls for extension and research —Review plans and specifications for the beef cattle/sheep handling facilities, storage facility, vehicle storage facility, greenhouse and irrigation unit, and multi-purpose building.	—Construct greenhouse/propagation facility for research and teaching programs —Construct farm equipment/hay storage facility and mobile residence for research, teaching, and extension programs
North Carolina A&T State University, Greensboro, North Carolina.	—Continue renovation and construction on Coltrane Hall for extension —Initiate planning and construction of the Extension/Research Office Building —Initiate planning for renovation/conversion of Farm Barn —Renovate Ward Hall for research —Renovate Analytical and Food/Nutrition Labs —Purchase scientific equipment.	—Wire and connect offices and classrooms for teaching to fiber optic network in Benbow Hall, Carver Hall, C. H. Moore Ag Research Facility, Webb Hall, and Coltrane Hall —Upgrade equipment for School of Ag-IV Studio —Upgrade computer network equipment and purchase computers for Benbow Hall for research —Purchase scientific equipment for Analytical Services Laboratory for research —Purchase teleconferencing equipment for Coltrane Hall for extension

Langston University, Langston, Oklahoma	—Construct/renovate Extension/Research Complex.	—Construct/renovate Research/Extension Building —Construct/renovate greenhouse —Construct new facility to house teaching, research and extension programs
South Carolina State University, Orangeburg, South Carolina.	—Continue renovation/repair on residential youth camp —Continue construction on Distant Learning —Purchase equipment for Extension Office Complex.	—Complete construction on Extension Office Complex —Construct/Renovate Commercial Foodservice Management Laboratory Renovate R. L. Hurst Research Center Renovate Staley Hall for teaching
Tennessee State University Nashville, Tennessee.	—Construct a research and extension facility.	—Develop a comprehensive distance learning studio —Renovate/construct teaching learning center
Prairie View A&M University, Prairie View, Texas.	—Purchased some of the equipment needed for the Cooperative Agricultural Research Center (CARC) —Construct/renovate H.S. Estelle 4-H and Youth Camp —Renovate dairy goat center, creamery laboratory, meat laboratory, greenhouse, swine center, feed mill, poultry center, and human nutrition/food science laboratories.	—Continue to purchase equipment and vehicles for the CARC —Continue to construct H.S. Estelle 4-H and Youth Camp —Purchase equipment for Communications Network —Continue renovations for dairy goat center, creamery laboratory, meat laboratory, greenhouse, swine center, feed mill, poultry center, human nutrition/food science laboratories —Renovate Carden-Waller Extension Building —Renovate Jesse H. & Mary Gibbs Jones Building, calf/hay barn, and farm operations for research —Renovate teaching labs —Plan and construct Family Development Research/Extension Center —Construction addition to Cooperative Extension Office and Training Facility; multi purpose pavilion; and Animal Systems Building —Install access gates to Extension parking lots —Construct greenhouse for research

1980 FACILITIES PROGRAM SUMMARY OF PROGRESS—Continued

[Fiscal Years 1997 and 1998]

Institution	1997	1998
Virginia State University, Petersburg, Virginia.	—Purchase equipment for plant science and aquaculture research labs —Purchase equipment for distant education capability in new extension building —Construct/renovate Poultry Building —Construct/renovate Pole Barn Building —Construct greenhouse (Phase 1) —Construct service building on Randolph Farm.	—Complete purchase of equipment for Desktop Publishing and Reference Center —Complete renovations on Animal Science Teaching Laboratory —Renovate former sheep facility to office and storage facility

1994 INSTITUTIONS FUNDING

Question. Is there a need for facilities funding for the 1994 institutions? How does the fiscal year 2000 budget address this need?

Answer. There is a significant need for facilities funding for the thirty 1994 land grant institutions. Current facilities do not place these institutions in a strong position to address broad research, education and extension issues related to the food and agricultural sciences which are important to the communities and students served by these institutions. Of critical need is funding for research facilities. Such funding would enhance the utilization of funds currently appropriated through the U.S. Department of Agriculture, Cooperative State Research, Education, and Extension Service for higher education and cooperative extension programs, and anticipated research program funding proposed in the President's fiscal year 2000 budget. Facilities grants to these institutions would be useful to assist in the purchase of equipment and land, and the planning, construction, alteration or renovation of buildings to strengthen their capacity to conduct research in the food and agricultural sciences and the delivery of relevant research-based information through cooperative extension programs. In the fiscal year 2000 budget there are no funds to address facilities funding for the 1994 institutions.

EXTENSION INDIAN RESERVATION

Question. The fiscal year 2000 request proposes an increase of $3,286,000 for the Extension Indian Reservation Program. Which Indian reservations currently have an extension agent, and which Indian Reservations will receive an agent if the budget request is approved?

Answer. We currently have Extension agents on 25 reservations in 15 states. These include Alaska—Tanana Chiefs' Conference; Arizona—Navajo Reservation, Ship Rock and Window Rock, San Carlos Apache Reservation, Colorado River Indian Tribes Reservation, and Hopi Reservation; Florida—Seminole Reservation; Idaho—Fort Hall Reservation; Mississippi—Choctaw Reservation; Montana—Flathead Reservation, Northern Cheyenne Reservation, Blackfeet Reservation, and the Fort Belknap Reservation; North Carolina—Cherokee Reservation; North Dakota—Fort Berthold Reservation; New Mexico—Jicarilla Apache Reservation and the Zuni Reservation; Nevada—Nevada Indian Reservations; Oklahoma—Muscogee (Creek) Nation; Oregon—Warm Springs Reservation; South Dakota—Pine Ridge Reservation and the Rosebud Reservation; Washington—Chehalis Reservation and the Colville Reservation; and Wyoming—Wind River Reservation.

We also have previously submitted applications from Alaska—Kenaitze Nation; Arizona—Navajo Reservation at Crown Point, Tuba City, Chin Le, and Kayenta; and the Hualapai and Havasupai Reservations; Colorado—the Southern Ute Reservation and the Ute Mountain Reservation; Idaho—the Fort Hall Reservation; Kansas—the Kickapoo Nation; Montana—the Crow Reservation and the Rocky Boy's Reservation; North Dakota—the Fort Totten Reservation, the Standing Rock Reservation, and the Turtle Mountain Reservation; New York—the St. Regis Mohawk Reservation; Rhode Island—the Narragansett Nation; and South Dakota—the Cheyenne River Reservation. These have not been funded, nor have they been recently updated. We anticipate new applications from each of these, should the increase be provided.

We have had recent inquiries from the Menominee Nation—Wisconsin; the Cherokee Nation—Oklahoma; the Tohono O'odham, Gila River, and White Mountain Apache Reservations—Arizona; and the Couer D'Alene Reservation— Idaho.

If the increase is enacted, we expect to receive applications, or new applications, from most of the locations listed above and from more Reservations in Idaho, New Mexico, Texas, Utah, Wisconsin, and Washington.

INTEGRATED ACTIVITIES

Question. The Administration proposes first-time funding of $73 million for an integrated research, education, and extension competitive grants program, as authorized by the Agricultural Research, Extension, and Education Reform Act of 1998. Does the authorization require that a separate appropriations account be created for these integrated activities?

Answer. Section 406 of the Agricultural Research, Extension, and Education Reform Act of 1998 authorizes an integrated research, education, and extension competitive grants program, but it does not require that a separate appropriations account be created. The account implements authorizing legislation to break down the artificial barrier between research and education and extension, as well as to include initiatives. The Administration is proposing that the new account be created

to enable the agency to more efficiently manage existing parallel research and extension programs authorized and administered under separate legislative authorities and separate appropriation accounts, as well as new programs that promote integrated approaches to problem-solving. This is not the first year that some of the programs in this account have been funded. Water quality, food safety, and pesticide impact assessment were funded under the Special Research grants and Smith Lever 3(d) programs in previous years. Fiscal year 1999 level was $30 million.

Question. Is the Department providing fiscal year 1999 funding for integrated activities? If so, please explain.

Answer. The integrated research, education, and extension competitive grants program is not being implemented in fiscal year 1999. However, as it has for the past several years, CSREES will manage the fiscal year 1999 Special Research Grants and Smith-Lever 3(d) funding for the National Pesticide Impact Assessment Program so that single proposals addressing research and extension issues are submitted by the States to the agency for review and award. This approach has significantly streamlined the submission, review, and award process. Because of the separate authorizations and appropriations accounts, we have continued to track obligations separately.

Question. How has the Department determined which programs should be funded under a new integrated authorities account?

Answer. CSREES, which resulted from the 1994 merger of the former Cooperative State Research Service and the former Extension Service, has previously administered parallel research and extension programs in several areas, including the Water Quality, National Agricultural Pesticide Impact Assessment, and Food Safety programs. These programs were administered under the separate legislative authorities for Special Research Grants and Smith-Lever 3(d), and the use of funds awarded under these programs was limited to only research activities or only extension activities. The agency determined that it would be appropriate to include these parallel programs, as well as new programs promoting integrated approaches to problem-solving, in the new account so that research, extension, and education activities can be fully integrated without the artificial barriers resulting from separate legislative authorities. The integrated authorities account will enable the agency to more efficiently manage these programs by streamlining the proposal submission, review, and award processes.

FARM*A*SYST

Question. Please give us a status report on the Farm*A*Syst funded through the Water Quality grant program and the level of funding provided for this program for each of fiscal years 1997, 1998, and 1999.

Answer. Farm*A*Syst has now spread to 47 states, plus Puerto Rico and the Virgin Islands. More than 80,000 assessments have been conducted since the program began. Nineteen of these states raised a total of over $1.1 million in matching funds. An additional $55 million in private citizen funding has been invested in pollution prevention measures due to Farm*A*Syst findings. One study in Nebraska showed that farmers spent an average of $5,400 each in renovations to protect water supplies. In addition to general farm assessments, the program is evolving into commodity-specific assessments such as new pilot assessments in cotton, potatoes, dairy, and beef. In Mississippi, more than 2,000 properties have been assessed; and over 10,000 youth have been trained in simple assessments. The Delta Council FARM group uses materials in their environmental stewardship program. California has certified over 900 dairy farms to date with this program. In Michigan, farmers receive a 20 percent insurance premium reduction for implementing assessment and prevention measures. Several states used trained volunteers to deliver the program.

For rural homeowners without major agriculture, the Home-A-Syst program was developed. This program addresses issues such as rural well and septic maintenance and hazardous waste. This program is now in 31 states; and booklets are in the third printing after distribution of 26,000 copies. Half of these states have raised a total of $510,000 in matching funds.

Funding for fiscal year 1997 was $197,977; fiscal year 1998 was $148,483; and fiscal year 1999 is planned for $111,362 to the national coordinating staff in Wisconsin. An additional $497,000 is available in fiscal year 1999 for competitive grants to states to strengthen their programs.

FOOD QUALITY PROTECTION ACT RISK MITIGATION AND CROPS AT RISK

Question. Please explain how the proposed Food Quality Protection Act (FQPA) Risk Mitigation and Crops at Risk programs will help producers meet requirements of FQPA. Which FQPA requirements? Who would be eligible for these programs?

Provide some specific examples of the activities to be carried out through these programs.

Answer. The new Crops At Risk (CAR) from FQPA Implementation program is requesting $5.0 million for fiscal year 2000. Many crops and cropping systems face potentially severe economic constraints as a result of the impending loss of certain pesticides through implementation of the Food Quality Protection Act (FQPA). In the short term, these are mainly small-acreage fruit and vegetable crops due to the current elimination or restrictions on organophosphate and carbamate pesticides. However, slightly further down the road, many more crops, including the large-acreage grain, forage and fiber crops will be impacted as well. The Crops At Risk (CAR) program is an intermediate-term research and implementation program designed to keep the crop or cropping system as the focal point. The goal of this program is to design and promote the development of new Integrated Pest Management (IPM) strategies to assist producers transition to new technologies necessitated by FQPA implementation. Crop Profiles, which are being developed through the leadership of the Office of Pest Management Policy (OPMP) will be used to prioritize a list of crops potentially at risk within each state as a result of FQPA implementation. State priorities will then be assessed at the regional level to identify crosscutting challenges and opportunities for multi-state and multi-regional cooperation. The resulting reports will serve as the basis for priority setting for this competitive research grants program to be coordinated through CSREES in consultation with OPMP.

The funding mechanism, for the Crops at Risk program, will involve the awarding of competitive grants whose merit has been determined following a relevancy and scientific peer review process. The request for proposals will be developed to attract innovative applications for projects that demonstrate integrated research, education and extension activities.

FOOD RECOVERY AND GLEANING

Question. A new Food Recovery and Gleaning Community Infrastructure Grants Program is proposed to be funded for fiscal year 2000 as an integrated activity. The budget justification indicates that $10 million is proposed to be awarded to support infrastructure projects; $2,850,000 in Smith-Lever 3(d) funding is to be awarded to establish a technical assistance and education network to help coordinate gleaning activities, establish local hunger programs, and administer food recovery programs; and $2,150,000 is to establish a competitive food recovery and gleaning competitive grants program. For fiscal year 1999, the President proposed that a Food Recovery and Gleaning program be managed and overseen by USDA's Food and Nutrition Service. Why is the President now proposing that this be a CSREES activity?

Answer. The Secretary has determined that CSREES should be the lead USDA agency on food recovery and gleaning grants for a number of reasons:

—CSREES is the USDA agency with the most significant previous hands-on experience giving grants to food recovery and gleaning and related activities (through the Fund for Rural America), as well as the USDA agency with the greatest expertise overall in giving grants to grass-roots activities.

—There are numerous CSREES-related food recovery and gleaning projects sponsored by state and local extension services which have proven track records of success in efficiently feeding hungry people, utilizing volunteers, and empowering communities.

—The CSREES-affiliated Cooperative Extension System has a unique ability to help serve isolated rural areas, which are currently under served by nonprofit feeding groups.

—Tying such grants to the Cooperative Extension System will help the effort fully utilize the expertise of universities and county offices, as well as increase hunger-related volunteer activities through the 4-H Program.

—It is desirable to better integrate food recovery and gleaning projects with Community Food Projects grants, which are currently awarded by CSREES, as well as to place the Food Recovery and Gleaning Initiative in the same overall USDA mission area as the overall Community Food Security Initiative.

Question. Please explain the need for a separate food recovery and gleaning competitive grants program, and why such grants can't be funded through the Department's other competitive research programs?

Answer. The food recovery and gleaning grants would go mostly to infrastructure improvements and extension activities that directly feed people and help people better utilize the food provided. Most of these activities would not qualify as research activities that could be funded under research programs.

In previous years USDA had limited ability to provide small grants for food recovery and gleaning activities through both the AmeriCorps National Service Program and the Fund for Rural America (FRA). Because the USDA AmeriCorps program has been eliminated and the fiscal year 1999 Agriculture Appropriations Act prevents USDA from using funds to administer the FRA, USDA can no longer use those avenues to fund such efforts. The Department has been able, over the last few years, to provide some publicity and technical assistance to food recovery and gleaning projects, but USDA currently lacks the ability to provide significant financial resources to help local efforts to directly expand their infrastructure to recover, glean, and distribute excess foods. The $15 million grant program would provide significant aid to hard-pressed nonprofit feeding organizations throughout the country, many of whom now report that they are unable to keep up with large-scale, recent increases in demand for supplemental and emergency food.

A 1998 study by the Second Harvest Food Bank Network indicated that over 21 million Americans obtain supplemental and emergency food from food pantries and hot meal programs, most of which are run by faith-based nonprofit groups. Most of these groups have recently reported that they have experienced dramatic increases in demand for food—especially from families with children and/or families in which one or more adults are working. These groups have also reported that they have been generally unable to collect enough additional food to meet the rising need of their clients.

Existing USDA food recovery and gleaning efforts have certainly been helpful. However, we know that—because local efforts often lack the appropriate equipment and processes for collecting, transporting, heating, refrigerating, packaging, processing, and distributing the food, nonprofit groups and other local entities are often unable to fully utilize USDA technical assistance and publicity to expand their efforts. Such groups and entities repeatedly inform USDA that they need monetary assistance to buy those pieces of equipment and build those processes.

Due to this lack of local infrastructure—even though food can be safely recovered from farms, ranches, orchards, manufacturing and processing plants, wholesale and retail markets, restaurants and food service operations—an estimated 96 billion pounds of the 356 billion pounds of food produced for human consumption in America continues to be wasted. By providing limited Federal funds to leverage community-based efforts to recover, glean, and distribute such food, hundreds of millions of pounds of additional, wholesome food can be distributed to hungry Americans each year.

It is clear that community organizations (including faith-based organizations) are willing to bring significant resources of their own to aid food recovery and gleaning efforts and community volunteers are able and willing to provide free labor to such efforts. Yet these organizations still require some help from the Federal government—as well as from state and local governments, foundations, and private businesses. Federal assistance is needed to provide seed money and leverage other resources.

Question. Please distinguish between activities eligible for funding through the Department's Commodity Assistance Program and those which would be undertaken this through this new grant.

Answer. Most of the funds ($45 million) currently available to states for the administration of the Emergency Food Assistance Program (TEFAP) are used to transport and otherwise handle USDA commodities distributed through TEFAP. The remainder of the funding is usually used by states to support the transport and handling of donated food already moving through the emergency feeding system. Thus, states have very limited ability to use such funds to help non-profit and often community-based, faith-based organizations substantially improve their infrastructure to obtain and use new sources of food.

Furthermore, food banks and their member agencies throughout the country are currently reporting that they are facing dramatic increases in request for food—particularly from working poor families—and that they are frequently unable to provide the additional food needed to meet the additional demand. In addition, food banks and their member agencies are facing great difficulty making up the 10 percent cut in fiscal year 1999 in TEFAP appropriations. For this reason, the Administration has proposed returning funding for TEFAP food purchases to the fiscal year 1998 level of $100 million, as well as proposing an additional $15 million in funding to help such agencies develop and support the channels necessary to obtain and distribute large-scale new sources of donated food.

Question. What types of nonprofit organizations will be eligible for the $10 million "infrastructure" component of this program and please give examples of the types of "infrastructure" projects which would be eligible for funding and the need to provide federal support for these projects.

Answer. Any non-profit organization, including faith-based, community-based, as described in section 501(c) (3) of title 26, United States Code; state governments; local government agencies (including school districts), and Indian tribal governments would be eligible to receive the grants.

The following of some of the "infrastructure" items that could be funded by the grants:

—equipment and supplies to harvest, collect, sort, process, store, dehydrate, preserve, transport, and distribute recovered and gleaned food;

—infrastructure additions needed to start or expand programs that combine food recovery with job training.

—preparation and distribution of handbooks, resource guides, and instructional materials (including materials to help persons use recovered food safely, nutritiously, and cost effectively);

—equipment, programs, and systems (including integrated transportation systems) to improve operations and integration of food recovery and gleaning efforts;

Funds provided through the grants would only be used to start new activities or expand or improve existing activities; funds would not replace funding for existing activities. Federal assistance would be used in conjunction with private, non-profit, and State funds to empower community-based food recovery and gleaning efforts and encourage community volunteerism, as well as to increase ties to broader community food security activities.

Preferences would be given to applicants based on the following criteria:

—the offer of non-Federal matching funds in excess of the match required; the cost-effectiveness of the project; the effectiveness of similar projects operated by the eligible grantee;

—the socio-economic composition of the population to be served by the project;

—the extent to which the project promotes the self-sufficiency of communities and food recipients, utilizes sweat equity to help individuals collect their own food, increases the dignity of food recipients, and helps individuals train for eventual paid employment;

—the extent to which the project includes partnerships with other private or public entities involved with other community food security activities; and

—the extent to which the project will directly affect an area that is designed as an empowerment zone or enterprise community.

FARM*A*SYST

Question. Will the Administration's proposal to provide water quality funding through the integrated activities program affect the Farm*A*Syst program?

Answer. It is anticipated that the Farm*A*Syst program will not be affected by the Administration's proposal to provide water quality funding through the integrated activities program. The integrated activities program is expected to maintain and strengthen existing National initiatives, such as the Farm*A*Syst program, by ensuring that the knowledge and technology generated by research is delivered to the end-users, including producers, communities, and consumers.

METHYL BROMIDE

Question. The fiscal year 2000 budget proposes $5 million under the integrated activities program for a Methyl Bromide Transitions Program. The budget justification indicates that the ARS is focusing on long-term methyl bromide replacement strategies, this program will focus on short-and intermediate-term solutions. How much of the funding proposed for this program will be for research? Why not expand or reorient the ARS program rather than begin a new research program?

Answer. The new funding in the proposed Methyl Bromide Transitions Program would be available to research projects, research and extension combined projects, and extension projects through a competitive grants program that would be made available to land-grant and other universities, extension programs, and other research facilities that normally compete through the USDA-CSREES competitive grants programs. Each category—research , research and extension, and extension-would receive approximately one-third of the funding. Much of the pre-plant methyl bromide alternative research in ARS has focused on fresh market tomato and strawberries. The CSREES competitive grants program would focus on integrated approaches that include: 1) increased support for minor use chemicals on commodities, such as lettuce, pepper, other vegetables; 2) increased integrated research and extension activities on alternatives for ornamentals; 3) increase opportunities for field testing of integrated approaches for strawberry and fresh market tomato; 4) extension activities on implementation of alternatives; and 5) increased technology trans-

fer of results to growers through education programs. The use of the competitive process would assure that new research activities were complementary to ARS and met the needs of industry.

Question. The budget justification indicates that technology transfer of research into practical management alternatives for methyl bromide will be done through cooperative extension activities. How much of the request $5 million is for these activities? What research findings will be transferred to users?

Answer. Cooperative Extension and Education activities would receive approximately one-third of the proposed funding. These activities would more rapidly promote technology transfer from ARS and support new alternative programs by expanding field testing of integrated approaches, implementation of successful alternatives now available, and provide more demonstration of alternatives to growers. This would include tomato and strawberry but focus on other vegetables and ornamentals that are dependent on methyl bromide. ARS sponsors field-scale validations of the most promising alternatives identified in experimental plots. Parallel programs are proceeding in Florida and California ($250,000 each annually) with emphasis on tomatoes in Florida and strawberries in California. Research teams that include ARS and university scientists, extension personnel, and grower representatives meet periodically to evaluate research results and plan future trails. To help transfer the technology to growers, many of the field-scale validations are done with active grower participation on commercial farms. Such alternatives are being tested at seven strawberry sites in California, scattered from just north of San Diego to Watsonsville and with one site in the Central Valley, to test alternatives under a range of growing conditions. There are five sites devoted to perennials, in Florida, there are five sites each for tomatoes and strawberries. $50,000 of the Florida funds supports extension efforts to facilitate adoption of alternatives.

SMALL FARMS

Question. Please explain in more detail the need for the small farms programs proposed in the budget and why these needs aren't being met through the Department's existing rural development; natural resources and environment; farm assistance programs; and research, education and extension programs.

Answer. The National Commission on Smalls 1998 Report, A Time to Act, provides an excellent description of the plight of the Nation's small farmers and makes a compelling case for immediate, effective action on the part of USDA, its Land Grant partners, and other public and private sector organizations and groups who work with farmers. There are many reasons why the Cooperative State Research, Education, and Extension Service (CSREES) and its Land Grant partners need to develop and deliver programs that will stop the erosion of the Nation's small farms. A few of the most important are: (1) Small farms often lead the way in new product development, (2) Small farms enhance the quality of life for all Americans and protect natural resources for the entire Nation, (3) Small farms also enhance the quality of life for urban communities, and (4) Small farms protect resources that serve all Americans.

Small farmers also have special and varied needs and the National Small Farm Program must address those needs. Small farms are highly varied in size, mix of animal and plant enterprises, gate receipts and gender and cultural background of the farm operator. A few examples will illustrate the complexity of the small farm population and its needs.

Small farms produce an enormous range of products and many of them are products for which the existing research base is not well developed. Organic production provides one example. Relatively little research-based information is available for organic producers.

Small farms are not unsuccessful large farms. Small farmers are resourceful entrepreneurs who produce valuable agricultural products using more limited fiscal, human and land resources that their larger scale neighbors. They have special research, education and extension needs because they have fewer resources available to them than larger farms.

Small farms differ widely from state to state and even within the same state. Small farmers include many different cultural and social groups. For example, language can be a barrier for some, and these groups need information available to them in their own languages. Some small farmers have limited educational backgrounds. They also have special information needs. Education and extension programs must address these multiple groups of clients.

In general, the special and varied needs of small farmers have not been met because the majority of resources of the Nation's agricultural system have for several decades been increasingly devoted to research, development, assistance, and edu-

cation/extension programs which have led to greater industrialization of the agricultural sector. While industrialization has certainly resulted in enormous gains and benefits for our food and fiber system, the small farmers, now representing 94 percent of all farms and receiving 41 percent of all agricultural receipts, contribute immensely to our Nation's food production and are the foundation of our Nation.

Question. The budget justification indicates that the $4 million requested for the small farms program will enable CSREES to reach the three goals of the National Small Farm Program "much more rapidly". Please explain how these goals are currently being met by CSREES and how the proposed farm program will expedite the agency's ability to meet these goals.

Answer. There are three principal goals for the National Small Farm Program. They are based on the goals for the CSREES National Plan for Small Farms and reflect many of the primary concerns raised in the National Commission on Small Farms report, A Time to Act.

The goals are to enhance the economic viability of small farms, to improve the contribution of small farms to environmental quality, and to enrich the quality of life for small farm families. These goals are currently being addressed through CSREES National Small Farm Program, a program which currently relies on formula funding and programs at the 1862 and 1890 Land Grant Institutions. Programs at these institutions tend to be quite small, usually supporting professionals part-time to meet the needs of the small farmer communities.

The Small Farms Initiative proposed for fiscal year 2000 will substantially improve education and outreach for small farmers. The priority programs that need to be developed are: appropriate production practices, marketing strategies, consumer awareness, entrepreneurial skills, communication and information networks, and helping beginning farmers establish viable farm operations and enterprises.

QUESTIONS SUBMITTED BY SENATOR BURNS

FISCAL YEAR 2000 BUDGET

Question. Funding for Research and Education Activities are vitally important to enhance university curriculums and to increase opportunities for agricultural producers on new cropping methods, marketing methods, new information in the industry and ways to increase efficiency. How will USDA restore the $2.5 million cut in order to give agricultural producers an extra edge with today's depressed prices?

Answer. Following extensive consultation with stakeholders, including the National Agricultural Research, Education, Extension, and Economics Advisory Board, the land-grant university system, and producer representatives, the Administration developed a portfolio of national agricultural research, extension, and education priorities for fiscal year 2000, including food safety, methyl bromide alternatives, small farms, Food Quality Protection Act implementation, and water quality. States and localities may still choose to address issues of immediate state and local concern as identified through their own stakeholder input process. Since States are free to use formula funds in the manner they choose, the impact of the reduction in the CSREES Research and Education Activities account will vary from state to state. Overall, the Administration is proposing an increase of 2.6 percent in the CSREES discretionary budget, and an additional $152,500,000 in mandatory funding, for high priority research, education, and extension programs that will significantly expand and strengthen the knowledge of agriculture in the United States.

Question. Funding for Extension Activities is vitally important for rural areas. Extension agents and programs provided by county extension of flee provide support and education to farming and ranching communities. How will USDA restore the $16.2 million cut from the budget?

Answer. Following extensive consultation with stakeholders, including the National Agricultural Research, Education, Extension, and Economics Advisory Board, the land-grant university system, and producer representatives, the Administration developed a portfolio of national agricultural research, extension, and education priorities for fiscal year 2000, including food safety, methyl bromide alternatives, small farms, Food Quality Protection Act implementation, and water quality. States and localities may still choose to address issues of immediate state and local concern as identified through their own stakeholder input process. Since States are free to use formula funds in the manner they choose, the impact of the reduction in the CSREES Extension Activities account will vary from state to state. Overall, the Administration is proposing an increase of 2.6 percent in the CSREES discretionary budget, and an additional $152,500,000 in mandatory funding, for high priority re-

search, education, and extension programs that will significantly expand and strengthen the knowledge of agriculture in the United States.

FARM CREDIT ADMINISTRATION

QUESTIONS SUBMITTED BY SENATOR COCHRAN

COMPETITION

Question. The Philosophy Statement on Intra-System Competition adopted by the Board last July affirms the Board's belief that competition within the System is beneficial for the customer. Will all of the institutions be able to lend across geographic boundaries on both short-term loans and long-term loans or will there be any regulations from one lending institution to another where the institutions will not be equal in all aspects?

Answer. The Farm Credit Administration (FCA or Agency) Board's philosophy statement expresses support for:

—Farm Credit System (FCS or System) customers being able to choose the System lender with which they want to do business. We call this "customer choice."

—Each System direct lender being able to offer all financial services authorized by the Farm Credit Act (Act). We call this "cross-title lending."

—Each association being able to choose the System bank from which it will be funded. We call this "funding choice."

In November of last year, we published the proposed Customer Choice Rule, which would allow all institutions to lend across geographic boundaries. If the Board adopts that rule substantially as proposed, every association would be able to make a loan to any customer at the customer's choice. In this respect, all associations would be treated the same.

This proposed rule would not change the types of loans an association can make. Federal Land Bank Associations (FLBAs) and Federal Land Credit Associations (FLCAs) could still make only long-term mortgage loans under title I of the Act. Production Credit Associations (PCAs) could still make only short- and intermediate-term loans under title II of the Act. A customer seeking a long-term mortgage loan, for example, could apply to any Agricultural Credit Association (ACA), FLBA, or FLCA. A customer seeking short- or intermediate-term credit could apply to any ACA or PCA.

FCA faces a statutory obstacle to giving customers the opportunity to obtain any type of loan from any association. The FCA Board would have to amend or issue new charters to associations that now have only title I or title II lending authority. The 1992 amendments to the Act prohibit this for FLBAs and PCAs in Louisiana, Mississippi, Alabama, and New Mexico [1]. These same FLBAs and PCAs under existing law could make both long-term and short-term loans if the following actions were taken:

—They merge with the unlike association(s) in their territory; or

—They get permission from each association that now provides the type of credit that they wish to provide in that association's territory. These limits on FCA's chartering authority for associations do not exist elsewhere in the country.

EQUITY-BASED LENDING

Question. Some of the lending banks are now reverting to the 1980's "equity based" lending because crop and livestock projections do not justify writing a loan. Do you see farm credit borrowers significantly hurting from the same actions that took place a decade ago?

Answer. We have found that System institutions learned from the mistakes of the mid 1980's crisis and, as a result, no longer emphasize collateral based lending practices that were referred to as "equity lending" in the 1980s. System institutions shifted to a repayment based lending philosophy, which was further strengthened with a disciplined approach to credit extension, using underwriting standards tailored to the types of commodities financed. In addition, FCA revised regulations addressing System underwriting standards to ensure "an applicant has the oper-

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[1] Section 5.17(a)(2) and (C) applies to the associations in the three southern states in the former Jackson district. FCA cannot overcharter existing associations without the consent of the affected FLBA or PCA and the respective funding bank. Sections 5.17 (a)(13) and (14) contain similar consent requirements before overchartering associations that reaffiliated under section 433 of the Agricultural Credit Act of 1987. Today, these provisions apply only to the associations located in New Mexico.

ational, financial, and management resources necessary to repay the debt from cashflow."

When the agricultural economy is experiencing stress, however, FCS institutions have considerable flexibility under existing regulations to provide appropriate relief. Such relief efforts may include, but are not necessarily limited to, extending the terms of loan repayment or restructuring a borrower's debt obligations. A System institution may consider easing some loan documentation or credit-extension terms for new loans to certain borrowers or requesting FCA to grant relief from specific regulatory requirements. When conducted in a reasonable and prudent manner, the FCA will consider FCS efforts to work with distressed borrowers as consistent with safe and sound business practices.

Over the past 10 years, the majority of FCS institutions have increased substantially the level of capital they maintain. In fact, the level of risk funds (which includes permanent capital and the allowance for losses on loans and other property owned) in relation to loans outstanding and other property owned increased from 10.9 percent at yearend 1989 to 21.1 percent at yearend 1998. The total capital of the System grew from $3.8 billion at the end of 1989 to $12.5 billion at the end of 1998. This indicates that System borrowers contributed substantially to rebuilding the financial strength of their cooperative associations and banks so that the institutions would be better able to withstand a downturn in the agriculture environment should it occur and be better positioned to work with their stockholder borrowers if necessary.

COMPETITIVE INTEREST RATES

Question. Does the Farm Credit Act prohibit Farm Credit institutions from offering interest rates that are below their competitors' rates? If yes, why?

Answer. The Act does not expressly prohibit FCS institutions from offering interest rates that are below their competitors' rates. The Act provides that "it shall be the objective" of System lenders to set interest rates and other charges "at the lowest reasonable cost on a sound business basis," taking into consideration the lender's cost of funds, necessary reserves, and the cost of providing services to its members.

Under Section 1.1(c) of the Act, only System institutions that use regulatory accounting practices (RAP), as provided in the Farm Credit Act Amendments of 1986 and part 624 of FCA regulations, are prohibited from pricing their loans below competitive market rates. Currently, there are no FCS institutions using RAP. For FCS institutions not using RAP, neither the statute nor regulations specifically prohibit them from pricing their loans below their competitors.

Question. There have been a lot of complaints directed towards Farm Credit Services of the Midlands because of special loan programs. Has this issue been taken care of and what actions have been taken to keep these special programs from offering below market rates?

Answer. In early 1998, the FCA did receive several complaints from commercial banks regarding the loan pricing practices of the Farm Credit Services of the Midlands (now the FCS of America). The complaints were directed toward a special loan program promoting 5-year fixed-rate term loans for capital purchases (such as equipment purchases); and 15-year fixed-rate real estate loans. Both had a rate of 7.75 percent with no limit on loan size, no prepayment penalty, and no origination fee. At the time of the complaints, there were numerous advertised rates in the association's four-state trade territory from equipment and farm supply dealers that were similar to the rate offered by the association for similar loan products.

Based on our examination of the association and our review and analysis of its loan pricing practices, including the above noted special program, we found no evidence that the FCS of America was offering interest rates that did not recover costs and earn a profit, or were significantly different than those rates currently offered under its differential pricing program. Further, we found no evidence that the institution's pricing program resulted in any violations of applicable law and regulations or was an unsafe or unsound practice.

In our examinations of System institutions, the FCA evaluates an institution's earnings, including whether the institution obtains and uses competitor rate information in the pricing of its loan portfolio. The documents we reviewed indicated that the association obtained surveys of loan rates offered by banks and non-bank lenders in its territory. Also, the association's advertised loan rates were within the ranges of the rates offered by its competitors.

We issued an informational memorandum to all System institutions on February 11, 1999, restating the statutory and regulatory requirements related to loan pricing, as well as how the FCA examines an institution's loan pricing practices. The memorandum stated that, consistent with the law, regulations, and sound business

practices, System institutions should price loans at a level sufficient to cover all costs, fund provisions to the allowance accounts, and accumulate capital. Specific consideration should be given to the cost of funds, the cost of servicing loans, other costs of operations, interest rate risks, profit and marketing objectives, and the competitive environment. FCA examiners evaluate whether interest rates charged are consistent with established policies and are sufficient to cover costs and adequately capitalize the institution, while maintaining safety and soundness and remaining competitive in the marketplace.

Question. Have there been any other cases of below market pricing in the past four years and what action was taken if there was?

Answer. Over the past four years, our reviews of unfair or below market loan pricing have found no instances where an institution's loan pricing program resulted in below market pricing or was outside of the range of rates offered by competitors.

Question. How does the FCA determine the competitive rate? Are Farm Credit Institutions required to do surveys of their competitors' prices? If yes, how often and why?

Answer. As the System's regulator, FCA does not determine the competitive rate. The rate varies by location, type of lender, type of credit, qualifications of the borrower, and other loan terms. It is difficult to obtain exact information about actual loan rates and terms on loan pricing practices of institutions that are competitors of FCS institutions. While advertised rates provide useful information, the rates charged in individual transactions are often higher or lower than quoted rates. Generally, appropriate loan rates for System institutions are those that are sufficient to cover all costs, including credit risk, and earn a profit to be able to accumulate capital in consideration of the law, regulations, sound business practices and the competitive environment.

No provision of the Act or FCA regulations expressly requires System institutions to conduct market surveys of competitors' loan rates. However, we believe that obtaining timely information of what an institution's competitors are charging for equivalent products is a sound and essential business practice and should be a part of the loan pricing policies and interest rate programs that System banks and associations are required to establish. We have strongly encouraged FCS institutions to conduct competitor interest rate surveys periodically to ensure their pricing practices are comparable to the market.

Competitors now include more than commercial banks and other traditional lenders. There are many non-traditional lenders, such as John Deere and Pioneer Hi-Bred, also competing for agricultural loans. If there are instances of loan pricing by FCS institutions that appear to be outside of prevailing market interest rates, they would be scrutinized closely by our examiners.

GOVERNMENT PERFORMANCE AND RESULTS ACT

Question. What specific steps have you taken as the head of the agency to achieve performance-based management within your agency, as required by the Government Performance and Results Act?

Answer. I, along with my fellow Board members, developed the FCA's vision statement, which serves as the basis for our Strategic Plan. As the CEO, I established performance-based management, through FCA's Leadership Team, focusing on accountability and regular reporting to the FCA Board on goal achievements. We have already begun gathering information to prepare our performance report to Congress and the public for the year ending September 30, 1999, which is due in March 2000.

Question. How are your agency's senior executives and other key managers being held accountable for achieving results?

Answer. Our performance expectations are reflected in the individual merit performance plans of each of our managers and supervisors. Each executive has a performance plan for the Agency performance measures for which they are responsible, individually and collectively. These same performance expectations are the backbone of the quarterly report the FCA Board receives from management. This report describes the progress toward accomplishing our goals and objectives.

Question. How is performance information being used to manage the agency?

Answer. We use Agency plans and performance measures to develop direction, manage expenses, and provide objective feedback on success in meeting our goals. We focus on performance results and initiatives that support our goals and objectives. We are also critiquing activities that do not add value to accomplishing our stated goals. FCA's planning process is driven by customer and mission requirements. These include developing direct input and analysis of markets, identifying emerging needs and risks that dictate internal changes for FCA, and then shifting resources and priorities to meet these needs.

Question. How did program performance factor into decisions about funding requests for fiscal year 2000? Please provide examples.

Answer. We developed office budgets for fiscal year 2000 based on resources needed to accomplish Strategic Plan initiatives that were tied directly to our performance indicators. We also identified initiatives to further enhance our goal of ensuring the continued safety and soundness of the System. These initiatives were included in the performance plans supporting staff requirements and salaries to fund the planned work.

Question. What specific program changes has the agency made to improve performance and achieve the goals established in the strategic and annual plans?

Answer. As a financial regulator, the objectives of our strategic and operating plans focus on ensuring the FCS operates safely and soundly, meets the requirements of the statute and regulations, and benefits farmers, ranchers, agricultural cooperatives, and rural America as Congress intended. To further our success in meeting these goals, we have expanded our outreach and communication efforts to our customer base through a series of meetings and symposiums on topics of mutual interest. Also, our recent Philosophy Statement supports actions that will ensure a relevant FCS for the future. The introduction of a "Best People, Best Products, Best Practices" initiative within the Agency has resulted in a clearer focus on what is important.

Question. How does the agency budget structure link resource amounts to performance goals?

Answer. The cost accounting system within our Financial Management System links expenses by goals and functions. The system was modified in October of this fiscal year to ensure the linkage between these systems.

Question. What, if any, changes to the account and activity structure in the budget justification are needed to improve this linkage?

Answer. Budget justifications to Congress are driven by object classes, such as salaries. Performance is tied to strategies and related activities designed to achieve results. In addition, the budget uses a 2-year horizon, while many worthwhile outcomes take much longer. We are developing 5-year human resource and financial plans to estimate and plan resources through the life cycle and significant milestones of major strategies. It is also clear that plans will necessarily change in order to stay relevant and reflect changes in assumptions. We expect to update plans as we learn from our experiences and sharpen performance measures.

Question. Does the agency fiscal year 2000 Results Act performance plan include performance measures for which reliable data are not likely to be available in time for the first performance report in March 2000? If so, what steps are planned to improve the reliability of these measures?

Answer. Yes. We have reliable data, and the databases are in place for reporting 17 of 20 measures included in our annual performance plan. The databases for two of the measures will be ready in time for the March 2000 report. The final measure includes a new customer survey that will not be completed until after the initial report is prepared.

Question. How will future funding requests take into consideration actual performance compared to expected or target performance?

Answer. Future funding requests will consider actual performance compared to target performance by addressing these outcomes in the budget development and justification process. We are now developing a 5-year financial plan to support the FCA 5-year Strategic Plan. Requests will continue to demand cost-effective performance and direct resources to higher value activities for public and mission goals. One of our performance measures uses the cost of the FCA budget to the customers of FCS institutions to determine customer value.

Question. To what extent do the dollars associated with specific agency performance goals reflect the full costs of all associated activities performed in support of that goal? For example, are overhead costs fully allocated to goals?

Answer. We allocate the full costs of activities in support of a performance goal to that goal, including associated overhead costs.

RESEARCH, EDUCATION, AND ECONOMICS

QUESTIONS SUBMITTED BY SENATOR COCHRAN

STRATEGIC PLANNING TASK FORCE

Question. Please give us a report on the progress being made by the Strategic Planning Task Force on Research Facilities mandated by the Farm Bill.

Answer. The Strategic Planning Task Force on Research Facilities has completed its review of agricultural research facilities and has prepared a draft report which has been widely circulated for review. The task force will meet in early summer to finalize the report in light of the comments that have been received.

Question. Is the report of the Strategic Planning Task Force still scheduled to be released in April of 1999?

Answer. It is anticipated that the final report will be printed and distributed this summer.

Question. Are any of the Strategic Planning Task Force's forthcoming recommendations reflected in the President's fiscal year 2000 Budget?

Answer. Recommendations of the task force are not included in the President's fiscal year 2000 budget.

BIOBASED COORDINATING COUNCIL

An increase of $1,500,000 is proposed for fiscal year 2000 in funding for the Under Secretary for Research, Education and Economics, as Chair of the Biobased Coordinating Council, to develop a list of biobased products. The budget justification indicates that the funds would be used to promote acquisition of biobased products and to help develop a biobased products list, including the development of standards, as well as for facilitating technology transfer to new products and for other purposes.

Question. Under what authority was the Biobased Coordinating Council established? What is the composition and purpose of the Council?

Answer. The Biobased Products Coordination Council (BPCC) was originally created as the New Uses Coordinating Council by Secretary Glickman in a decision memorandum dated September 13, 1995. The council's name was changed in 1996 to be more descriptive of and consistent with current terminology. The BPCC's purpose is to provide strategic planning and policy input on the development of biobased products from agricultural materials, including forestry materials, for commercial and industrial purposes. The BPCC garners input from its USDA members and actively collects economic, product and marketing information from other Federal agencies and non-Federal groups. A major accomplishment of the BPCC was planning and hosting a government-wide conference on the acquisition of value added products from agricultural materials. The conference, the National Marketplace for the Environment, was held in November 1997 in Washington, D.C. The BPCC will continue to be a part of other conferences and forums to further the government's and public's knowledge of biobased products.

The Council's purpose was further strengthened by the Agricultural Research, Extension, and Education Reform Act of 1998 (AREERA). For example, one section of this law authorizes the Secretary of Agriculture to "coordinate the research, technical expertise, economic information, and market information resources and activities of the Department to develop, commercialize, and promote the use of biobased products." Another section of the law identifies new and alternative uses and production of agricultural commodities and products as a priority mission area. The BPCC is carrying out these types of coordination activities on behalf of the Department.

The BPCC is chaired by the Under Secretary for Research, Education and Economics and is composed of representatives from each interested USDA agency and office. Ex officio members include representatives from the Environmental Protection Agency, the Department of Energy, and the Office of the Federal Environmental Executive.

Question. Describe in more detail how the $1,500,000 requested to develop a list of biobased products will be allocated, e.g., for promotion, development of a list, and technology transfer.

Answer. The funds will be allocated to those activities supported in the BPCC strategic plan. Among the major activities that would be carried out or started in fiscal year 2000 are: the development, publication and maintenance of a biobased products list as directed in Executive Order 13101; educational activities, such as training and conferences, to inform the public and government agencies about biobased products; demonstration projects to create awareness of and demand for biobased materials; development of Internet-based information systems to promote biobased products; support for the Office of the Environmental Executive; and support for technology transfer activities through our research agencies with involvement of the private sector and industry partners.

Question. Give examples of the activities which will be undertaken both to promote the acquisition of biobased products and to facilitate the transfer of technology to new products.

Answer. Two activities have been accomplished which are the building blocks for future activities. The National Marketplace for the Environment conference in November, 1997, brought to Washington D.C. a huge showcase for biobased products, processes, and partnerships. Biobased products are a foundation piece for environmentally preferable purchasing by government agencies as directed in Executive Order 13101, Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition. The publication of a Biobased Products List will be a major tool to promote acquisition of biobased products.

Agriculture's leadership and innovation are essential in the development of biobased products. Research conducted under Cooperative Research and Development Agreements (CRADAs) will allow for the transfer of new technology to the private sector and industry. This pathway to technology transfer will be used in the development of biobased products.

Another example that will promote acquisition of biobased products is the "Federal Track" (sponsored by the Office of the Federal Environmental Executive) in the annual National Recycling Coalition's Congress and Exposition. In this event Federal, State, and local governments join with educational institutions and commercial businesses to share information, success stories, and challenges on efforts to reach the goals of the Resource Conservation and Recovery Act of 1976 and related environmental activities.

STAKEHOLDERS

Question. How do the Department's research, education and extension agencies communicate with its stakeholders and customers on a regular basis? Please give specific examples.

Answer. The main method of communication between the REE mission area and its stakeholders is through the National Research, Extension, Education and Economics Advisory Board. This board was established in the 1996 Federal Agricultural Improvement and Reform Act of 1996. The Advisory Board's role is to provide consultation to the Secretary and land grant colleges and universities on long-term and short-term national policies and priorities for agricultural research, extension, education and economics. In fiscal year 1998, for example the board held three public meetings in Washington DC, including the Second National Stakeholder Symposium, to solicit input and comment from those who conduct and use agricultural research, extension, education and economics. The board also held a regional listening session in Utah to hear the specific concerns of stakeholders in the Western region. The board held the Third annual Stakeholder Symposium on March 18 of this year.

The REE agencies also use a variety of other venues, such as meetings, conferences, workshops, and public hearings to discuss with stakeholders and customers specific issues of particular importance to them. While the nature and focus of these activities varies, they are all important in helping the agencies and mission area to understand and therefore be responsive to stakeholders and customers needs.

The Agricultural Research Service (ARS) has a long history of meaningful interactions with its customers and stakeholders. ARS' research scientists know who their customers and stakeholders are and they interact with them, formally and informally, throughout the life of the project. Customer input is important in helping to set the research direction for each project and customers help to evaluate the products and outcomes of that research. Each of ARS' eight Area Offices also conduct aggressive outreach efforts with State and regional customers and stakeholders of ARS research. At the National level ARS senior managers and National Program Leaders are in almost constant contact with the major organizations, associations, and a wide variety of Federal action and regulatory agencies that either use ARS developed knowledge and technology or have a keen interest in the work of the Agency. In developing its new Strategic Plan 1997–2002, ARS solicited customer input by printing the draft plan in the Federal Register and mailing copies to 1,400 customers and stakeholders.

In the early stages of the development of the new National Program structure, the National Program Staff sent copies of various draft program statements to approximately 1,400 customers and stakeholders inviting their review and comments. A critical step in the implementation of the 23 National Programs is a series of planning workshops that bring together customers, stakeholders, partners, and ARS scientists. These workshops help identify specific customer needs, problems, and concerns that feed into the Agency's planning process. By this approach ARS is able to keep its research focused on solving specific problems confronting American agriculture.

The following list of planning workshops (completed and upcoming) demonstrates the comprehensive outreach effort being made by ARS to ensure the relevancy of its research:

—Animal Genomes, Germplasm, Reproduction, and Development, February, 2000
—Animal Production Systems, February, 2000
—Animal Health, September, 1999
—Arthropod Pests of Animals and Humans, May, 1999
—Animal Well-Being & Stress Control Systems, April, 1999
—Aquaculture, September, 2000
—Human Nutrition Requirements, Food Composition, & Intake, March, 2000
—Food Safety (animal & plant products), February, 1999
—Water Quality & Management, December, 1998
—Soil Resource Management, October, 1998
—Air Quality, May, 1999
—Global Change, October, 1999
—Grazing lands Management, February, 1999
—Manure & Byproduct Utilization. April, 1998
—Integrated Farming Systems, November, 1999
—Plant, Microbial & Insect Germplasm Conservation & Development, July, 1999
—Plant Biological & Molecular Processes, February, 1999
—Plant Diseases, August, 1999
—Crop Protection & Quarantine, September, 1999
—Crop Production, September, 1999
—New Uses, Quality, & Marketability of Plant & Animal Products, May, 1999
—Bioenergy & Energy Alternatives, April, 1999
—Methyl Bromide Alternatives, November, 1998

As part of its on-going commitment to be responsive to stakeholders, the Cooperative State Research, Education, and Extension Service coordinated a public forum, "The USDA Solicitation of Input from Stakeholders regarding the Initiative for Future Agriculture and Food Systems" in July 1998. The purpose of this forum was to foster dialogue between USDA and stakeholders on the implementation of the mandatory spending program authorized in Section 401 of Agricultural Research, Extension, and Education Reform Act of 1998 for competitive grants to address critical emerging agricultural issues. CSREES also coordinated a public meeting in December 1998 to solicit input from stakeholders regarding the role of the USDA/HHS Joint Institute for Food Safety Research. Agency personnel are using the input to develop plans for the Institute, which was created to (1) develop a strategic plan for conducting food safety research activities consistent with the President's Food Safety Initiative and (2) efficiently coordinate all Federal food safety research, including research conducted with the private sector and academia, to ultimately reduce the incidence of foodborne illness to the greatest extent feasible.

CSREES has recently published in the Federal Register a proposed rule on stakeholder input requirements for recipients of agricultural research, education and extension formula funds. This proposed rule will implement section 102(c) of the Agricultural Research, Extension and Education Reform Act of 1996, and will require land grant and extension partners to report annually on the actions taken to encourage stakeholder input, and a brief statement of the process used by a recipient institution to identify individuals or groups as stakeholders and to collect input from them. The Department believes that these formal channels, as well as our continuing involvement with land grant and extension policy committees and farmer representatives will ensure that USDA's research, extension and education portfolio addresses the highest priority needs of American agriculture.

ERS uses conferences, workshops, and briefings to seek stakeholder input on proposed studies. These activities are developed in conjunction with the scientific associations, cooperating universities, and other organizations concerned with research on agriculture. Recent examples include:

—A workshop on economic analysis of long-term field trials of organic farming systems in Washington, DC, in April 1999. The workshop brought together economists associated with the long-term projects, the Organic Farming Research Foundation, the Rodale Institute, the Wallace Institute for Alternative Agriculture, the Leopold Center, and representatives of USDA extension and research programs.
—Two workshops on the issue of phasing out methyl bromide in Gainesville, Florida in March, 1998, and in Sacramento, California in June 1998. The participants included growers, environmentalists, researchers, input suppliers, and State and Federal administrators. Input from these meetings formed the basis for an inventory of methyl bromide alternatives and the information was used

to produce economic models of the potential impact of the methyl bromide phaseout.

—A March 1999 workshop that brought together representatives of the private sector, universities, the National Research Council, the Congressional Research Service, and other USDA and federal agencies to discuss economic research needs on transportation issues and their impact on U.S. agricultural export performance.

—A Fall 1998 conference of experts on the economic and public health consequences of achieving USDA's dietary guidelines, and a follow-up conference in the spring of 1998 on the impacts of possible changes to those guidelines.

ERS also regularly attends industry meetings attended by its stakeholders. For example, its researchers attend the Fertilizer Institute's Economics and Information Committee meeting each Spring, the International Poultry Waste Management Conference, the International Conference on Methyl Bromide Alternatives, and numerous annual conferences sponsored by commodity groups. ERS also meets directly with specific stakeholders and customers to discuss issues of particular importance to them to obtain their individual opinions and perspectives. For example, ERS leadership met with seven organizations in the fresh produce industry to discuss their desire to see more research on concentration in their industry. The Agency plans to expand its repertoire of communication channels by developing a series of round tables with a broad range of commodity and industry groups. The first of these round tables is being planned for mid-1999.

One of the primary ways that NASS regularly communicates with its stakeholders, customers, and data providers is through the grassroots contacts maintained by the 45 field offices. These State offices work directly with State cooperators, usually State departments of agriculture, and keep in touch with the agricultural leaders in farm organizations and producers across their States. All NASS field offices have toll-free numbers. Each field office has a Home Page in addition to NASS's main Home Page. NASS Headquarters staff also attend a number of national agricultural commodity meetings, exhibitions, conferences, and meetings of the National Association of State Departments of Agriculture. In addition, NASS hosts many visitors each year for its crop and livestock report "lock-up" briefings.

Another major source of feedback for NASS are data users meetings held at least twice per year. Input gathered at these meetings help NASS keep its statistical program responsive to the current needs of the agricultural sector.

RESPONSE TO STAKEHOLDER CONCERNS

Question. Name changes that have been made in the Department's research program over the past year to respond to the concerns and needs of its stakeholders and customers?

Answer. The REE agencies regularly make adjustments in its programs in response to stakeholder and customer concerns and needs. Many are adjustments within programs based on new understandings of stakeholders problems or concerns.

At the laboratory, Area Office, and headquarters levels, ARS maintains continual contact with a wide range of customers and stakeholders. The purpose of this dialogue is to keep our research program relevant to its mission of solving critical national problems that confront American agriculture. In the last 18 months, ARS has made a number of changes in its research activities in response to customer and stakeholder input.

One of the most important changes to occur is the initial implementation of the aggregation of 1100+ research projects into 23 National Programs. This process has had active input from ARS' customers, stakeholders, and partners since its inception. Draft program statements were submitted to our customers for review and comment. Planning workshops have been or will be held for each program or major program components. These workshops bring together customers, stakeholders, partners, and ARS scientists to help focus the Agency's research program on meeting the highest priority needs of American agriculture. ARS is also strengthening it peer review processes to ensure the quality of research programs. By mid-summer, the National Program Staff will make an Annual Report on each of the 23 National Programs available to its customers, stakeholders, and partners on the ARS home page. The Agency intends to send a notice to all interested parties when these reports are available, inviting their review and comments.

In response to stakeholder input, in fiscal year 1999 CSREES added the following National Research Initiative programs: Epidemiological Approaches for Food Safety; and The United States Rice Genome Sequencing Project.

ERS continually appraises and adjusts research plans to address stakeholder and customer needs. As an example, a new research project was formulated based on perceived concerns about the role of agriculture in emerging water quality problems of coastal areas. Initial plans for the project have been based on a host of specific situations, such as the hypoxia problem in the northern Gulf of Mexico, pfiesteria piscida eruptions in North Carolina's Albemarle Sound and the Chesapeake Bay, red tides in Florida, and salinity and nutrient problems in the San Francisco Delta and Puget Sound, all characterized as harmful algal blooms attributed to excessive nutrient enrichment of coastal waters.

Other priority studies designed to respond to issues presented to it by key stakeholder and customers include: An ERS-wide study of concentration in the food system; an analysis of the changing global meat market and its implications for US trade; a multi-division research activity on the economic impacts of biotechnology; a major initiative on risk management; and analyzing the impact of the financial crisis on US agricultural exports. In addition, the Agency has responded to stakeholder and customer requests by reinstating a full complement of its commodity analysis reports, and making them available in concise form on the Internet. Following a meeting with seven representatives of the fresh product industry, ERS initiated a study of retail trade practices and market structure in the produce industry.

On an on-going basis, NASS modifies and enhances the content and access to the vast array of data it provides customers. For example, the Advanced Very High Resolution Radiometer (AVHRR) instrument contained on the NOAA–14 weather satellite continues to be used to monitor changing vegetative conditions throughout the growing season. The NASS Internet web page allows Agency and external users to reference the following 1995–1999 map products on a real time basis: vegetative index maps, ratio comparisons to the previous year, within-year thumbnail time series, and frost danger. In response to customer requests, a new product was created to compare the current period's data to that of a 4-year median (1995–1998). In addition to GIF (Graphic Interchange Format) images, ftp (file transfer protocal) users now have access to postscript files allowing high resolution printing of the AVHRR products from the web.

Research also produces Landsat images categorized by specific crops, which is helping to meet the demand for spatial information on crops. A new initiative has been launched to develop external partnerships that will increase remote sensing capabilities for State Statistical Offices.

Research into the graphical display of data, which will allow users a better understanding of inherent patterns and structure, and a better ability to visualize and analyze data, has begun. The long-term goal of this research is to allow the users to dynamically generate graphical displays through the web. Historically, access to the data have been in tabular form only.

RESEARCH PORTFOLIO

Question. Dr. Gonzalez, you indicate in the testimony you have submitted to the Committee that "we must find ways to balance the research portfolio in helping colleges and universities enhance their future capacity with base funding" to strengthen their ability to compete successfully for research funding. Would you please describe the imbalances which have been identified by the Department and what the Administration is doing to correct these problems.

Answer. When I refer to balances in the research portfolio, I am thinking mainly of imbalances between the various categories of land grant colleges and universities that we have across the nation. Specifically, I refer to the vast differences in funding between our 1862 land grants and our minority-serving institutions, namely the 1890's and the 1994's and some Hispanic Serving Institutions. For these institutions to compete for funds in a competitive environment, the system must identify ways for these institutions to use their formula funds to leverage additional capacity building resources. Very soon, the Cooperative State Research, Education and Extension Service will publish in the Federal Register a proposed rule to implement Section 226 of the Agricultural Research, Extension and Education Reform Act of 1998 which requires increased non-federal matching funds for 1890 institutions. The Reform Act also allows the 1994 institutions to conduct research and extension programs under cooperative agreements with other land grant institutions. Both of these provisions will allow these institutions to use their existing formula fund resources to improve their research capacity, make them more competitive for state and private sector resources, and add diversity in approach to the solution of agricultural problems.

INTEGRATED PEST MANAGEMENT

Question. Will the Administration achieve its goal for the adoption of Integrated Pest Management (IPM) practices on 75 percent of U.S. cropland by the year 2000? Where are you currently in meeting this goal?

Answer. Consensus has emerged that Integrated Pest Management—IPM—systems should be measured along a continuum, ranging from no integration of management tactics to high levels of IPM adoption. The Department's 1994 report, Adoption of Integrated Pest Management in the United States, measured adoption along a continuum, and this approach was refined by Consumers Union in its 1996 report, Pest Management at the Crossroads. This report estimates that in the year 1996, 70 percent of crop acreage was managed with pest management systems at the low end of the IPM continuum. Our goal is to develop and help growers implement IPM strategies that will enable them to move from the low to the high end of the continuum. This will involve incrementally-enhancing biologically-based IPM systems within each production system.

The overall percentage of U.S. crop acres under IPM in 1998 remains at the 70 percent level, and will likely remain constant in 1999. However, we remain convinced that the increased investments proposed in the President's budget request for fiscal year 2000 will permit us to reach the 75 percent adoption goal by 2000. More importantly, we believe that these investments will accelerate the adoption of IPM systems at the medium and high end of the continuum. We believe that increased adoption of pest management systems at the high end of the IPM continuum will benefit all Americans by increasing profitability, protecting water quality and farm worker safety, and enhancing the wholesome quality of our Nation's food supply. We believe that an accelerated effort is warranted to develop IPM strategies and to assist growers to implement pest management strategies through educational programs that will help them reduce reliance on high-risk pesticides and enhance sustainability of their operations.

AGRICULTURAL PROBLEMS

Question. Please describe the Department's response to acute agricultural problems, such as the wheat and barley scab crisis and to the avian influenza.

Answer. The U. S. Department of Agriculture (USDA) recognizes the seriousness of acute agricultural problems, such as wheat and barley scab, and avian influenza.

The USDA-Agricultural Research Service (ARS) is expanding its research program on Fusarium Head Blight, and is working closely with the U.S. Wheat and Barley Scab Initiative to increase collaboration between Federal and State laboratories. The Cereal Rust Laboratory and the wheat genetic improvement project at St. Paul, Minnesota, have focused efforts on improved varieties with enhanced resistance to scab. In fact, a wheat line with significant resistance has been released from that program. In Peoria, Illinois, emphasis has been on the importance of the toxin in virulence and upon biocontrol approaches. $1,000,000 was appropriated to ARS for scab research in Minnesota in fiscal year 98. In fiscal year 99, Congress appropriated an additional $3,000,000 for cooperative research between ARS and the U.S. Wheat and Barley Scab Initiative. ARS is allocating the $3,000,000 to in-house research and grants to scientists in 20 States participating in the Initiative.

The Southeast Poultry Research Laboratory (SEPRL) located in Athens, Georgia, has been intimately involved in the eradication, control, and prevention of the highly infectious and lethal avian influenza virus. The research program will assist the U.S. poultry industry and other countries in influenza control. Assisting other countries with information and collaborative research is an effective strategy to prevent highly pathogenic Avian Influenza from being introduced into the U.S.

SEPRL has been particularly active in research on H5N1 avian influenza, which occurred in Hong Kong in 1997. The H5N1 outbreak began as a problem in chickens and spread to infect at least 18 people. SEPRL has collaborated with the Agriculture and Fisheries Department in Hong Kong and the Hong Kong Zoo on the agricultural aspects of the disease outbreak. This includes providing expert advice and research collaboration on currently available and new serologic tests to detect the virus and diagnose the disease and delivery of a new vaccine to protect poultry. SEPRL collaborated with the Centers for Disease Control (CDC) in Atlanta, Georgia, on the characterization of isolates of the H5N1 viruses. The CDC conducts, as required by law, all aspects on diagnosis of the H5N1 influenza in humans and handles all human clinical specimens. The SEPRL provided collaborative research support on molecular epidemiology of the viruses and testing the human isolates for ability to infect and cause disease in poultry and other bird species.

INFORMATION TO FARMERS AND PRODUCERS

Question. How does the Department currently ensure that information for the Department's research and analyses reaches farmers and producers? What improvements are being proposed for 2000?

Answer. The Department uses a variety of avenues to ensure that information and technology from its research and analysis program reaches farmers.

ARS scientists work directly with farmers and producers by involving them in field trials, research workshops, and other informal and formal outreach. For example, the Area-Wide Integrated Pest Management Project in the Pacific Northwest directly involves dozens of farmers. Once results began to be analyzed, the program also became a demonstration to inform many other growers of ways to reduce their use of chemical pesticides.

ARS produces a number of technical and semi-technical publications that provide important research results and analyses to small and large farmers and producers. For example, ARS recently published a series of manuals for crop residue management to reduce erosion and improve soil quality for farmers bringing their land out of the Conservation Reserve Program. ARS also publishes information such as the Cotton Ginner's Handbook, which provides new research information to the industry. ARS also distributes research information written for broad public audiences including farmers and producers through such Agency publications as Agricultural Research Magazine and the Quarterly Report of Research Results.

In order to make efficient use of resources, ARS disseminates research results through information multipliers such as commodity and trade associations, farm and general media, and educational and service organizations and agencies such as Cooperative Extension offices and State Agricultural Experiment Stations. ARS also distributes information through appropriate USDA farm service and regulatory agencies. For example, ARS supplied extensive amounts of research information for the Grasshopper IPM User Handbook, which is available to farmers through USDA Animal and Plant Health Inspection Service.

Tremendous amounts of ARS information are being made accessible through the Internet. All technical and semi-technical publications are now also published electronically, providing wider access to the information. Individual labs as well as Agency programs maintain web sites that include new research results and analyses. ARS maintains a searchable web site that provides extensive resources to farmers and other stakeholders at http://www.ars.usda.gov. Information about ARS's research initiatives in 23 National Programs and ongoing workshops is available at this site and also at http://www.nps.ars.usda.gov.

The many resources of the National Agricultural Library (NAL) are also Web-accessible. From the home page at http://www.nal.usda.gov farmers and producers can search the bibliographic database, AGRICOLA, with more than 3,500,000 citations to the literature of agriculture, a significant portion of which are USDA publications. Specific Information Centers at NAL support such diverse communities as small farms (Sustainable Agriculture Information Center), mayors and rural communities (Rural Information Center), and those concerned about water quality (Water Quality Information Center). The Food and Nutrition Information Center covers the range of nutrition interests of farmers and producers and provides information relevant to the school lunch program, WIC program participants, dieticians and the general public.

ARS improvements proposed for 2000:

—A systematic effort will be made to provide direct access to ARS research publications in electronic form on the Web.

—Continuation of outreach to farmers and producers through National Program workshops and reviews across the country.

The Cooperative Extension Service is the premier system for disseminating information from Federal and land grant research programs to farmers and producers. The Agricultural Research, Extension and Education Reform Act of 1996 gives the Cooperative State Research, Education, and Extension Service new authority to link research, extension and education programs in Section 406. The fiscal year 2000 budget takes full advantage of this new authority by proposing integrated research projects in the areas of FQPA Implementation, Methyl Bromide Transitions, Food Safety and Water Quality, among others. These topics represent immediate concerns where research results must be translated to on-the ground impacts as soon as possible. The Department believes that linking research and extension from the beginning will ensure the most efficient transfer of new knowledge to farmers and ranchers.

ERS has a comprehensive dissemination program to ensure that its information, research and analyses reach the widest possible audience. This program includes

(with no charge to users): electronic copies of all agency reports on the Internet; e-mail subscriptions for time-sensitive crop, livestock, and agricultural trade reports; and documents available through a fax-on-demand system. It also includes wide distribution of printed reports and summaries to the news media and other information services, to State cooperative extension programs, and to farmer and producer groups for use in their communications. Additionally, all ERS reports are available (for the cost of distribution) from the USDA Order Desk, 1–800–999–6779, which is a service operated by the National Technical Information Service of the Department of Commerce.

In addition to the release of each research and market analysis report, a broader publication program has been designed to generate articles and features in ERS and USDA periodicals, and in popular, widely-read outlets such as Choices, and the Journal of Soil and Water Conservation, and peer-reviewed journals. ERS regularly publishes a variety of monographs targeting a diverse clientele and stakeholder constituency, and designed to communicate complex issues and research findings in a straightforward and useful manner:

—Agricultural Outlook is the Agency's main outlet for summarizing the situation and outlook for agricultural commodities, and for communicating in an easily readable manner the findings of analyses and research on a broad range of commodity market, trade, and natural resource policy issues.

—Rural Development Perspectives publishes the results of new research on rural economic and social changes. Articles are especially targeted toward areas with policy relevance.

—Rural Conditions and Trends provides yearly updates of current economic, social, and policy developments affecting rural America.

—Food Review, ERS' magazine of food economics, provides public and private decision makers with data and analyses of the economic issues surrounding domestic and foreign food consumption, food prices, export opportunities, food safety, nutrition, marketing, and the impacts of Federal food regulations and policy reforms.

ERS has recently made a number of investments in improved electronic information dissemination which will continue in 2000. Through these investments ERS has improved its capacity to access information from the U.S. trade database and share it more easily with other users. The Agency is now developing a prototype of a web-based interactive data base, which would make our data directly and easily accessible to policy makers and the general public. The Agency is also reviewing our system for disseminating printed information to assure that we are reaching key individuals and groups, including organizations which can further disseminate our work to farmers and producers. ERS has developed new products—country, commodity and issue briefing rooms—which are updated regularly. These provide users with focused and timely information from both our data bases and published work.

Annually NASS publishes over 400 national reports which cover more than 120 crop and 45 livestock items. These basic and unbiased data are necessary to maintain an orderly association between the consumption, supply, marketing, and input sectors of agriculture. The popularity of accessing NASS information through Internet continues to grow. During a recent month, the USDA Web Server was accessed an average of 1,600,000 times a week, of which inquiries to NASS accounted for nearly 254,000. The NASS crops and livestock reports were first in popularity among USDA agencies, with 11,000 to 14,300 hits per week. E-mail subscriptions to NASS reports increased over 30 percent in the last year and electronic subscriptions for all reports total nearly 13,000. NASS continues to work with ERS, WAOB, and Cornell University to enhance the USDA Economics and Statistics System Internet site at Cornell University. The Mann Library at Cornell University archives reports and provides an e-mail subscription service for NASS, ERS, and WAOB under a cooperative agreement. The new USDA Economics and Statistics System Home Page improves navigation from any page. The e-mail subscription process was upgraded to enable customers to click on the desired reports in order to subscribe.

FEDERAL ADMINISTRATION AND SPECIAL RESEARCH GRANTS

QUESTIONS SUBMITTED BY SENATOR COCHRAN

AFLATOXIN RESEARCH, ILLINOIS

Question. Please provide a description of the research that has been conducted under the Aflatoxin Research, Illinois grant.

Answer. This research is focused on development of strains of corn which will be highly resistant to infection with Aspergillus flavus and the production of aflatoxin under field conditions. After identification of resistant strains through field testing, transfer of genetic material into usable corn inbred strains will be performed.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for the research?

Answer. There is much national concern about the role of aflatoxins as carcinogens in the human population. The aflatoxin material is also toxic to animals and humans. The presence of the fungus in corn results in a lower value for the crop and the possible rejection of the corn. Aflatoxin contamination continues to be a serious problem in the southern and southeastern United States, although outbreaks can and have occurred during severe drought conditions in the upper mid-west and other areas during the past few years.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of the research was the reduction of infestation of corn with Aspergillus flavus and the consequent reduction of aflatoxin in the corn produced. The researchers have produced strains with resistance genes for both prevention of infection with A. flavus as well as the production of the aflatoxin itself. Field trials have been in progress to determine effectiveness of these resistance factors under normal growing conditions when exposed to the fungus.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal year 1990, $87,000; fiscal year 1991, $131,000; fiscal years 1992–1993, $134,000 per year; fiscal year 1994, $126,000; and fiscal years 1995 through 1999, $113,000 per year. A total of $1,177,000 has been appropriated.

Question. What is the source and amount of non-federal funds by fiscal year?

Answer. The non-federal funds have been from state appropriated dollars in the form of principal investigator and technical salaries, equipment usage, and experimental plot expenses. These have been at the level of $130,000 for fiscal years 1997 and 1998.

Question. Where is this work being carried out?

Answer. The research is being performed in the Department of Crop Sciences at the University of Illinois.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The anticipated completion date for the original objectives was 1995, but the project was revised last year to continue to fiscal year 2002. The primary reason for the extension of the work is that there appear to be multiple resistance genes which are necessary to prevent both the infection with the fungus and the synthesis of the aflatoxin compound. The investigators are very optimistic about the future success of this approach and this work will be discussed at a meeting of Multi-State Research Project NC–129 on January 25–26, in New Orleans.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The last evaluation by the agency was in 1996 at which time the project was considered to be progressing well and had a high probability of success in meeting its original objectives. The project also receives a form of peer review as it is discussed each year during the annual meeting of NC–129, a project focused on mycotoxin production and toxicity of the toxins in animals and humans.

AG-BASED INDUSTRIAL LUBRICANTS RESEARCH PROGRAM, IOWA

Question. Please provide a description of the research that has been funded under the Ag-Based Industrial Lubricants Research Program grant.

Answer. This project is a continuation of eight years of activity conducted to target specific applications, establish baseline performance data, develop formulations of additives and chemical modifications, administer laboratory and field tests, characterize, and build relationships for commercialization of industrial lubricants derived from U.S. grown vegetable base oils. Baseline performance data will be compiled to establish fatty acid compositions, guide genetic modifications, additive development, establish standards relative to toxicity and biodegradability, and characterize compatibility with specific metallic and non-metallic components. The grant has been peer reviewed internally at the University of Northern Iowa.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. Primary local and regional need is related to expanding value-added applications of agricultural commodities in order to stimulate increased demand and raise crop prices paid to farmers. On a national level, the need is to provide renewable, safer, more environmentally-sound alternatives to petroleum based industrial lubricants. The principal investigator believes this research to be of local, regional, and national importance.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of the program was sponsored by non-federal funding to develop a soybean-based hydraulic oil which was introduced to market in July of 1997, marketed by AGRI Industries of West Des Moines, Iowa as BioSOY hydraulic fluid. In part as a result of the product's availability, Iowa law SF2185 was unanimously passed that requires users of state owned equipment to demonstrate a preference for purchasing soybean-based hydraulic fluid when applicable. As of January 1999, and with the consensus of AGRI Industries, the original license was transferred to West Central Cooperative of Ralston, Iowa, which is in a better position than AGRI to market the product. Field testing of two grease formulations and a dielectric transformer coolant has begun, as well as development of a two-cycle engine lubricant and bar and chain oil. A large volume of technical data has been compiled specific to crop-based oil and lubricants. This program has identified and has begun servicing a broad array of market development requirements, including demonstrating specific performance features, expanding awareness, and supporting government purchase initiatives.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Federal funding for this project began with a 1998 appropriation of $200,000. The fiscal year 1999 appropriation is $250,000 for a total of $450,000 appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Since 1992 this research program has received cash grants from the Iowa Soybean Promotion Board, Carver Scientific Research Initiatives, in addition to several in-kind donations from industry to develop and coordinate commercialization of what has since become BioSOY hydraulic oil. Beginning in 1995, the state of Iowa began to support the program through its Wallace Technology Transfer Foundation. Beginning in 1996, state funding was provided by legislative appropriation through the Iowa Department of Economic Development. Additional funding has been provided by the Iowa Department of Agriculture and Land Stewardship. In fiscal year 1998, $150,000 was appropriated through the Iowa Department of Economic Development, $50,000 from the Iowa Soybean Promotion Board, $25,000 from Iowa Department of Agriculture and Land Stewardship, $32,500 from John Deere, and other awards and service revenues totaling approximately $60,000. State funding for the program in the amount of $250,000 has been requested through direct appropriation to the university.

Question. Where is the work being carried out?

Answer. Laboratory and literature studies are being carried out primarily at the Ag-based Industrial Lubricants Research Program facility in Waverly, Iowa, with minor portions of activity being conducted on the campus of the University of Northern Iowa in Cedar Falls, Iowa and the laboratories of various industrial affiliates located throughout the state and country. Field tests are being conducted at Sandia National Laboratories, U.S. Department of Army test sites, some municipalities, and in industrial equipment located throughout the nation.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. Data collection, additive and modification research, characterization, and supplier development objective of the first year are ongoing. The development of the dielectric transformer coolant is an added objective and has been expedited through to field testing. Activities to expand public awareness and support government purchase initiatives have been added to the original objectives. This activity will be significant in implementing the lubricants section of Executive Order 13101. Field testing of some products is expected to be completed within a year, and additional lubricant applications are anticipated to be targeted within a year for development in subsequent periods.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The cognizant staff scientist reviews quarterly reports and has determined that this research is conducted in accordance with the mission of the agency.

AGRICULTURAL DIVERSIFICATION AND SPECIALTY CROPS, HAWAII

Question. Please provide a description of the research that has been funded under the Agricultural Diversification and Specialty Crops grant.

Answer. With the resurgence of interest in Hawaiian culture and corresponding increased prevalence of Hawaiian dances, there is increased pressure on plant materials found in State and Federal forests in Hawaii. To this end, the University of Hawaii College of Tropical Agriculture and Human Resources has been working on the "lei project", involving about 20 members from the College and different organizations in the state working together to develop a handbook for the production and business of materials for Hawaiian lei. Efforts continue to find entrepreneurs to grow and process taro on a large scale for hypoallergenic products. Work is continuing with Maui onion growers who are potentially interested in obtaining a Federal Marketing Order for their unique onions. This effort has focused on researching market potential and giving informational talks. Work continues on kava, a root crop used as a non-addictive natural relaxant. Work continues on high pressure food processing of pineapple and other tropical fruits to eliminate quarantine problems and utilize cull fruits. This project is merit reviewed by the university.

Question. According to the research proposal, or the principal investigator, what is the national, regional or local need for this research?

Answer. Unfortunately, Hawaii's economy is not sharing the current growth and prosperity of the other states on the U.S. mainland. The small projects that are being undertaken under the umbrella of the Diversified Agriculture project are just one attempt to provide to some current and would-be entrepreneurs the tools they need to make business decisions about agricultural opportunities. The principal investigator believes this research to be of local and Pacific regional need, and, in some cases, national need.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal of the original proposal was to screen potential food and non-food crops for commercial development in Hawaii and then make earnest attempts to work with willing and able entrepreneurs to move the results of research into the private sector. As mentioned above, the lei project has been working with the people who know how to produce the 85 plants most likely to be made into a lei. That knowledge will be transferred to willing entrepreneurs so that they can take advantage of the opportunity created by the increased awareness of the Hawaiian culture. The taro project struggles with the reality of a tight economy and a lack of risk-taking, mass production-oriented entrepreneurs. The lessons learned from this work and the written outputs have been serving and will continue to serve as templates for other crops and opportunities in Hawaii. 'This Hawaii Product Went to Market' will continue to serve agricultural entrepreneurs needs for years past the end of this project. Expanding the market for Hawaii's agriculture, in this case Maui onions, is a goal that will be met if the growers decide they want to make the effort to self-regulate their industry with a Federal marketing order.

Question. How long has this work been underway and how much has been appropriated, by fiscal year, through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal years 1988–1989, $156,000 per year; fiscal years 1990–1993, $154,000 per year; fiscal year 1994, $145,000; and fiscal years 1995–1999, $131,000 per year. A total of $1,728,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The University of Hawaii provides in-kind support in the form of laboratory and office facilities, equipment and equipment maintenance, and administrative support services: $68,503 in fiscal year 1992; $75,165 in fiscal year 1993; and $74,663 in each fiscal year 1994–1998. In addition, nearly $50,000 of in-kind support has come from private sector and state partners, $8,000 from the Office of Hawaiian Affairs, and $30,000 from the private sector on the high pressure minimal processing project.

Question. Where is this work being carried out?

Answer. Research is being conducted at the University of Hawaii's College of Tropical Agriculture and Human Resources on the island of Oahu, and on the islands of Maui and Hawaii.

Question. What is the anticipated completion date for the original objectives of this project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. All taro work is complete. Work on the marketing book is also complete. Work continues on kava, high pressure processing, and other projects consistent

with the original goal. Work on kava agronomics is expected to continue through fiscal year 1999. High pressure processing for pineapple, papaya, and banana is expected to continue for another 1–2 years.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The agency representative to this project meets with the investigators at least twice each year to review progress and plan subsequent activities. This close interaction has led the project though a progression of steps from research discovery to near-term commercialization of various products, and, in the case of high pressure processing, back to testing and development of a new technology for possible commercial use.

AGRICULTURAL DIVERSITY/RED RIVER, MN AND ND

Question. Please provide a description of the research that has been funded under the Agricultural Diversity/Red River Grant.

Answer. This multi-year, multi-phase project will have six specific components. They are:

—vegetable growing research, especially field and glasshouse-related research;

—vegetable collection and storage research and/or related storage or distribution business development;

—development of processing industries for the fresh market or research related to the fresh products for market; development of marketing and/or supply associations among vegetable producers; development of processing industries for the ready-to-eat salad market or research related to ready-to-eat products; and development of processing industries for the frozen vegetable products market or research related to frozen products. The first phase of this multi-phase project will concentrate its industry development and research activities in three areas: vegetable growing research, especially field and glasshouse-related research, development of marketing and/or supply associations among vegetable producers, and development of processing industries for the ready-to-eat salad market or research related to ready-to-eat products. The second phase of this multi-phase project will concentrate its activities in four areas: continued research on vegetable production, including commercial greenhouse production and field production using Missouri River water for irrigation; development of markets for fresh product; preparation of a business plan for a ready-to-eat delicatessen salad processing facility in the region; and analysis of the potential for adding higher value complementary crops to the rotation mix in vegetable producing areas.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. Initially the growing of vegetables in the region was driven by an opportunity to meet increasing consumer demand for fresh vegetables and concerns over both the cost of water and the environmental impacts of the use of chemicals in the traditional vegetable-producing regions of the southern United States. This industry currently raises three crops of vegetables a year. This requires extensive irrigation in the hot summer months. Population growth and increased domestic and industrial demands for water have created significant pressures to shift water usage away from agriculture and toward other domestic and industrial needs. Additionally, use of chemicals to fight soil bacteria has raised environmental concerns in these states. These issues created a need to identify other regions to produce vegetables, especially in the summer months. The northern plains states of Minnesota, North Dakota, and South Dakota have been identified as one area that could meet this need. In addition, the opportunity to add a high-value crop to the rotation cycle for northern Great Plains farmers can help to decrease their dependence upon program crops. The shift in cropping patterns can have a positive effect on farm income and lessen the need for outside or Federal financial assistance. Interest in the potential for adding higher value crop to the rotation cycle, including vegetables, has increased significantly in the past year due to the poor farm economy. Research on the potential for adding new crops to the region's production base could help stabilize the farm economy in the region and lessen the need for outside financial assistance to farmers.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The project objectives include: (1) conduct three replicated field trials on growing of carrots; (2) continue study of vegetable growing techniques in Europe, and continue negotiations with vegetable growing research facilities/laboratories in Europe to transfer growing knowledge to the region; (3) review current and future

market opportunities for further development of the industry and identify strategies and partners for pursuing these opportunities and take appropriate organizing steps; (4) develop and maintain a WWW Webpage for this vegetable industry project; (5) conduct market research for establishment of a ready-to-eat delicatessen salad processing facility in the region; (6) conduct market research for establishment of a ready-to-eat fresh-bagged salad processing facility in the region; (7) continue business development planning for establishment of a ready-to-eat delicatessen salad processing facility in the region; and (8) continue business development planning for establishment of a ready-to-eat fresh-bagged salad processing facility in the region. Funding for this project was received July 1, 1998 at which time work on the project began. Accomplishments to date include: Establishment of an advisory task force of producers, researchers, and economic developers. Completion of a comprehensive search of the published literature in the northern Great Plains region regarding vegetable production. The data are now being catalogued by specific category, including vegetable types and type of research—i.e. production, processing, storage, etc. Maps are being prepared that will show soil types, precipitation, climate, and ground water. Overlays of these data are also being prepared in order to identify specific high potential areas for growing vegetables. A public information brochure titled "Growing and Processing Vegetables on the Northern Great Plains: Options and Opportunities" has been prepared. The USDA provided funding to prepare the report, and the Ford Foundation funds were used to print the report.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. This work supported by this grant began in fiscal year 1998 with appropriations for fiscal year 1998 and 1999 for $250,000 per year for a total of $500,000 appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Non-federal support will come from private growers, state agri-development project funds, the Ford Foundation, and other local foundations. The amount of non-federal support since July 1, 1998 has been approximately $50,000.

Question. Where is the work being carried out?

Answer. The work is being carried out in Minnesota, North Dakota, and South Dakota.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. Since this is a new project and has not yet started, any original objectives have not been met. It is expected that this will be a multi-year, multi-phase project. Work is expected to continue until June 30, 2001.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The project will be evaluated by review of the proposal and the annual project reports.

AGRICULTURE WATER USAGE, GA

Question. Please provide a description of the research that has been funded under the Agriculture Water Usage, GA grant.

Answer. The Cooperative State Research, Education, and Extension Service has requested the university to submit a grant proposal that has not been completed to date, but it will be written to cover the period from June 1999 to June 2002.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. Water has become a major issue in the southeast. The tri-state water "issue" between Florida, Georgia, and Alabama is seeking to allocate interstate waters in the primary river basins which begin in the Atlanta area. These allocation formulas were to be completed by December of 1998, but an extension has been granted to complete the development of the allocation formulas by December of 1999. The salt water intrusion problem associated with coastal Georgia and South Carolina is also a major issue. Both these problems suffer from the lack of data on agricultural water use across the state. This program seeks to develop a monitoring and modeling strategy to determine how much water is used by agricultural irrigation. The program is designed to begin with Georgia and then allow expansion into neighboring states for a better estimate of agricultural water use.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. This is the first year of this particular grant program. However, the project has begun by hiring of strategic personnel for the monitoring program, and development of the equipment and the data base to be used for obtaining volunteers for the monitoring phase. This integrated project will involve the development of computer based models to take a monitoring sample and extrapolate that information for the entire state.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant begins in fiscal year 1999 and the appropriation for fiscal year 1999 is $300,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The scope of the project is of such magnitude and importance in Georgia that this appropriation is not sufficient to support the entire project effort. The state of Georgia through the Georgia Department of Natural Resources, Environmental Protection Division has appropriated $289,000 for fiscal year 1998–1999 and is expected to appropriate $250,000 per year for an additional four years to help support this project.

Question. Where is the work being carried out?

Answer. Research will be conducted from the University of Georgia, College of Agricultural and Environmental Sciences. The primary coordination of the program will be centered in the Biological and Agricultural Engineering Unit at Tifton, Georgia, but the program will involve input from personnel in Griffin and Athens, and researchers outside the University of Georgia.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. This project, within the overall agricultural water use program, is anticipated to be completed within the original five-year time frame. Since this project is new, objectives have not been completed to date.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The project is new and has not been through an agency evaluation.

ALLIANCE FOR FOOD PROTECTION, NE, GA

Question. Please provide a description of the research that has been funded under the Alliance for Food Protection grant.

Answer. The fiscal year 1999 appropriation supports the continuation of a collaborative alliance between the University of Georgia Center for Food Safety and Quality Enhancement and the University of Nebraska Department of Food Science and Technology. Fiscal Year 1998 funds supported research at the University of Nebraska on the detection, identification, and characterization of food allergens, the effects of processing on peanut allergens, and investigation of the efficacy of using various types of thermal processes to reduce or destroy the toxicity and mutagenicity of certain Fusarium metabolites in corn and corn products. Research at the University of Georgia was directed toward determining the foodborne significance of Helicobacter pylori, determining the effect of antimicrobials to eliminate Arcobacter from pork, determining the survival of E. coli O157:H7 at reduced water activity, and using extrusion cooking to destroy peanut allergens. CSREES has requested, but has not yet received, proposals from the University of Georgia and the University of Nebraska in support of the fiscal year 1999 appropriation.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher believes the proposed research addresses emerging issues in food safety which have national, regional, and local significance. Specifically, research will address bacterial pathogens that can cause ulcers, cancer, and diarrheal illness, toxic fungal metabolites in corn products, and allergens in foods that cause serious reactions, including death, in sensitive people. These emerging issues affect consumers, the food industry, and food producers at all levels, national, state, and local.

Question. What was the original goal of the research and what has been accomplished to date?

Answer. The original goal of this research was to first, facilitate the development and modification of food processing and preservation technologies to enhance the microbiological and chemical safety of products as they reach the consumer; and second, develop new rapid and sensitive techniques for detecting pathogens and their toxins as well as toxic chemicals and allergens in foods. The University of Nebraska

developed assays for detection of peanut, milk, egg, and almond residues in processed foods, produced high-quality antibodies for these assays, identified a soybean allergen and two sunflower seed allergens, discovered clues as to the reason why Brazil nuts cause severe allergic reactions, discovered that certain types of Fusarium fungi do not produce mutagenic substances, developed a simple liquid chromatographic procedure for determination of moniliformin toxin, found that the corn flake manufacturing process can reduce levels of fungal toxins such as aflatoxin and fumonisins, and also found that low levels of carcinogenic aflatoxins in corn grits might be reduced to less than regulatory actions levels by the corn flake manufacturing process. The University of Georgia developed methods to culture Helicobacter pylori, and detect the pathogen in foods, the effect of antibiotics on the fate of E. coli O157:H7 in reduced water activity conditions, and found that extrusion cooking can greatly reduce allergens in peanuts.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1996, and $300,000 was appropriated in fiscal years 1996 through 1999, for a total appropriation of $1,200,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant were $117,000 state funds and $250,000 industry and miscellaneous in fiscal year 1996 and were estimated to be a minimum of $111,000 state funds and $305,000 industry and miscellaneous in fiscal year 1997; $70,000 state funds and $295,000 industry and miscellaneous funds in fiscal year 1998; and are estimated to be a minimum of $25,000 state funds and $25,000 industry funds in fiscal year 1999.

Question. Where is this work being carried out?

Answer. Research is being conducted at the University of Georgia Center for Food Safety and Quality Enhancement in Griffin, Georgia and at the University of Nebraska Department of Food Science and Technology in Lincoln, Nebraska.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original objectives have not yet been met. The researchers anticipate that work will be completed on the original objectives in 1999.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. An agency science specialist conducts a merit review of the proposals submitted in support of the appropriation on an annual basis. A review of the proposal from the University of Nebraska was conducted on January 16, 1998, and good progress was demonstrated on the objectives undertaken in 1997. A review of the proposal from the University of Georgia was conducted on January 21, 1998, and good progress was demonstrated on the objectives undertaken in 1997. In both cases, a CSREES scientist reviewed annual reports submitted by the cooperating institutions. These annual reports include the Principal Investigators' synopsis of their results, as well as listing public presentations of the funded research as scientific meetings and in peer-reviewed journals, which are other independent indicators of the progress made in the research.

ALTERNATIVE CROPS, NORTH DAKOTA

Question. Please provide a description of the research that has been funded under the Alternative Crops, North Dakota program.

Answer. The alternative crops project has two main thrusts—development and utilization of alternative or novel crops and utilization of traditional crops. The goals of the project are to diversify income at the farm gate, reduce reliance on monoculture to help alleviate pest problems, while providing new agricultural and industrial products to society. Some of the new areas under investigation include feeding of co-products to livestock, development of white wheat as an alternative crop, production of certified dried bean seed, and borage—a perennial herb. Previous work continues with oilseed crops such as crambe, rapeseed, and safflower as a renewable supply of industrial oil, products from food crops for novel new uses in paints, coatings, food ingredients, and the development of new biochemical and enzymatic processes to refine oils for industrial uses. The projects funded in this appropriation are evaluated by a peer-panel chosen by the Associate Dean of Research at North Dakota State University. The internal peer review was conducted on the following criteria: (1) probability and extent of generating value-added agricultural

products, (2) technical and financial feasibility, (3) scientific merit, (4) innovation, (5) probability of rapid commercialization, and (6) interdisciplinary research efforts.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher believes that nationally, developing new crops and new markets for agricultural products is critical for both environmental and economic reasons. Enhanced biodiversity that comes from the successful commercialization of new crops aids farmers in dealing with pests and reducing the dependency upon pesticides. New markets are needed to provide more economic stability for agricultural products, especially as Federal price supports are gradually withdrawn. Regionally, the temperate areas of the Midwest have the potential to grow a great number of different crops but are in need of publicly-sponsored research efforts to reveal the most practical, efficient, and economical crops and products to pursue. Potential national need for this research project could possibly be funded by the competitive grants provided under the Initiative for Future Food and Agricultural Systems or the National Research Initiative competitive grants.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this research was and still is to introduce, evaluate, and test new crops which will broaden the economic diversity of crops grown in North Dakota. The primary emphasis is to find new crops, new uses, and create value added products, such as crambe, lupin, canola, safflower, cool-season grain legumes, buckwheat, amaranth, field pea production and utilization, transgenic sugar beets to produce levan, utilization and processing lupin flower, confectionery sunflower production, growing and marketing of carrots, crop-derived red food dye and high quality pectin as food ingredients, innovative biochemical means of splitting crop oils, and other new uses of oilseed crops, development of markets for new crops as livestock and fish feeds. These efforts have forged a strong link with the private sector, and successfully spawned several crops and products into profitable private sector businesses

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Appropriations by fiscal year are as follows: 1990, $494,000; 1991, $497,000; 1992 and 1993, $700,000 per year; 1994, $658,000; 1995, $592,000; and in 1996 through 1999, $550,000 per year. A total of $5,841,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. In fiscal year 1991, $10,170 was provided by state appropriations. In fiscal year 1992, $29,158, was also provided by state appropriations and self-generated funds. In fiscal year 1993, $30,084, was provided by state appropriations. In fiscal year 1994, $161,628 was provided by state funds, $3,189 provided by industry and $9,020 provided by other sources, totaling $173,837. In fiscal year 1995, $370,618 was provided by state appropriations, $1,496 provided by self-generated funds, $1,581 provided by industry, and $5,970 was provided in other non-federal funds, totaling $379,665 for fiscal year 1995. In fiscal year 1996, $285,042 was provided by state appropriation, $4,742 provided by industry, $14,247 provided from other non-federal funds totaling $304,031 for 1996. In fiscal year 1997, $462,012 was provided by state appropriations, $8,080 was provided by self-generated funds, $8,217 was provided by industry, and $103,063 was provided from other non-federal funds totaling $581,372 for fiscal year 1997.

Question. Where is this work being carried out?

Answer. The work is conducted on the campus of North Dakota State University and at the Carrington Research and Extension Center, Carrington, North Dakota, and the Williston Research Center, which are both in North Dakota. Work is also done in eastern Montana.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. Fiscal year 1999 is the tenth year of activity under this grant. The primary emphasis has been to find new crops with non-food uses and create value added products. The original objectives have been met and continue to expand.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The cognizant staff scientist annually reviews the project and has determined that the research is conducted in accordance with the mission of this agency.

ALTERNATIVE CROPS FOR ARID LANDS, TEXAS

Question. Please provide a description of the research that has been funded under the Alternative Crops for Arid Lands, Texas grant.

Answer. This grant is to develop the two most abundant plants in southwestern United States, i.e. mesquite and cactus, into commercial crops through a combination of applied research and market development. In Texas, New Mexico, Arizona, and California, these plants occupy 72,000,000 acres. This grant is peer reviewed internally and external reviewers include a private sector cactus breeder, the Texas Agricultural Extension Service, and a specialist in wood products marketing.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this goal?

Answer. The semi-arid regions of the United States that border with Mexico in Texas, New Mexico, Arizona, and California have some of the highest unemployment rates, lowest economic returns per acre, and lowest incomes in the United States. The two most abundant plant species in this region are prickly pear cactus and mesquite. By working with Mexican researchers, this grant will help to stabilize the economic situation of rural poor in Mexico and the United States. There are few crops capable of being grown sustainably in these regions. Due to the nitrogen fixing capability, and thus soil improving properties of mesquite and high water use efficiency of cactus, these plants contribute to sustainable agriculture and will diversify southwestern agriculture. This research group is the only center in the United States developing these plants as crops.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal is to dramatically improve the economic returns and year-to-year economic stability in the southwestern United States from arid and semi-aid lands. For cactus, the goal has been to provide improved varieties that can be harvested and processed into food and forage. Accomplishments include: established collection of 130 varieties; established procedures for improving breeding; establishment of a new cactus plantation in the Rio Grande Valley; retail sales of a new vegetable cactus variety through largest retail grocery in Texas. Mesquite accomplishments include: presentations to architects in all major cities in Texas; demonstrations of mesquite products at the World Trade Fair in Chicago, which resulted in a new manufacturing facility in Texas; a potential one hundred dollars per acre annual return from a ten-year field study of mesquite growth. Recent research has suggested that a sustainable system for mesquite management can avoid land clearing by bulldozers and aerial herbicides in fragile and sensitive semi-arid landscapes by creating markets for mesquite products and using the tree's natural drought tolerance and nitrogen fixing properties.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1994 and the appropriation for fiscal year 1994 was $94,000. For fiscal years 1995 through 1997 the appropriation was $85,000 per year and for fiscal year 1999 is $100,000. A total of $449,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. In fiscal year 1994, $43,215 was provided by the Texas legislature.

Question. Where is the work being carried out?

Answer. The work is being conducted by Texas A&M University, Kingsville, Texas.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. Significant but small Texas cactus and mesquite industries now exist. Transformation of these small industries into medium industries and transfer of the arid technologies to low rainfall areas of the Midwestern and southeastern United States will continue 10 years into the next century.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. Evaluation of this project is conducted annually based on the annual progress report and discussions with the principal investigator, as appropriate. The review is conducted by the cognizant staff scientist who has determined that this research is in accordance with the mission of the agency.

ALTERNATIVE MARINE AND FRESHWATER SPECIES, MISSISSIPPI

Question. Please provide a description of the research that has been funded under the alternative marine and freshwater species grant.

Answer. The research has focused on the culture of hybrid striped bass, freshwater prawns, hybrid crappie, and crawfish. Nutritional and water quality requirements and alternative management and harvest strategies for these species have been evaluated and field tested. Applied knowledge from this research will improve production efficiency and facilitate commercialization of these alternative species and provide alternative management strategies. The project undergoes peer review by the university and is also reviewed by the CSREES Program Leader on an annual basis.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher indicates that it is essential that alternative species and production strategies be considered to help the industry diversify and expand while taking advantage of existing infrastructure. Diversification will benefit both the producer and consumer of aquaculture products. Research generated from this grant should lead to alternative production systems that can have national, regional, and local impact.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this research was to develop and evaluate aquaculture production technologies that would lead to the use of alternative species and management strategies in commercial aquaculture production. Research evaluating stocking rates, feeding regimens, nutritional requirements, and methods to reduce stress in hybrid striped bass production systems has led to the development of improved production efficiency in these systems. Recent research has led to improved feed formulation and feeding strategies for hybrid striped bass. The effects of feeding frequency and temperature on growth have been evaluated. Researchers have also researched management strategies to improve production efficiency and cost effectiveness in non-forage based crawfish production systems.

Question. How long has the work been underway and how much has been appropriated through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1991 and the appropriation for fiscal years 1991–1993 has been $275,000 per year, $258,000 in 1994, and $308,000 each year in fiscal years 1995–1999. A total of $2,623,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The university reports a total of $332,091 of non-federal funding to support research carried out under this program for fiscal years 1991–1994, $70,636 in fiscal year 1995, $79,935 in fiscal year 1996, $124,893 in fiscal year 1997, and $328,023 in fiscal year 1998. The primary source of the non-federal funding was from the state. Additional funding is provided from product sales, industry contributions, and other miscellaneous sources

Question. Where is the work being carried out?

Answer. Research is being conducted at Mississippi State University.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original specific research objectives were to be completed in 1994. These specific research objectives have been met, however, the broader research objectives of the program are still being addressed. The specific research outlined in the current proposal will be completed in fiscal year 2000.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The agency evaluates the progress of this project on an annual basis. The university is required to submit an accomplishment report when the new grant proposal is submitted to CSREES for funding. The 1998 review indicated that the research addresses an important opportunity in the aquaculture industry, that research objectives were met, that progress on previous research was well documented, and that the proposed research builds on the previous work funded through this program. The research on hybrid striped bass and crawfish funded through this program complements research conducted through other USDA programs.

ALTERNATIVE SALMON PRODUCTS, AK

Question. Please provide a description of the research that has been funded under the Alternative Salmon Products grant.

Answer. This was a new grant in fiscal year 1998. Research was aimed at developing a commercial pin-bone removal machine to reduce production costs of salmon fillets and thus open markets for salmon fillet shatter packs. CSREES has requested, but has not yet received a proposal in support of the fiscal year 1999 appropriation.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The Alaska salmon industry has lost considerable market share worldwide to farmed salmon production. In 1994, the farmed salmon market share surpassed Alaska's market share of the world's salmon supply and has continued to climb every year since. In 1997, Norwegian farmed salmon production exceeded Alaska wild stock harvests. Also in 1997, Chilean coho salmon exports to Japan exceeded North American sockeye salmon exports to Japan. Japan has traditionally been Alaska's strongest and most lucrative export market. The current situation is an example of foreign competition undermining a traditional American industry. Federal support of product development in this area has dropped from $17,300,000 to $3,000,000 nationwide, largely through a significant reduction in Saltonstall-Kennedy funds. USDA traditionally has supported fish food research primarily from aquacultured fish. The Alaska salmon industry is a multi-state industry. Though the product is harvested in Alaska, the benefits are shared with fishermen residents in Washington state, Oregon, California and throughout the nation.

Question. What was the original goal of the research and what has been accomplished to date?

Answer. The research goal is the development of market-desired salmon products using wild-caught salmon. In 1998, researchers addressed the problem of deboning wild-caught fish so that they can be marketed frozen rather than canned, and thus compete effectively with pen-reared salmon. Researchers designed, built, and tested three prototype pinbone removal machines, making sequential improvements in design.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1998, with appropriations in fiscal years 1998 and 1999 of $400,000 per year for a total of $800,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Industry will contribute approximately $200,000, based on an estimated cost of $50,000 per plant, times four plants, for commercial testing of the beta prototypes during the summer 1998 salmon season in Alaska.

Question. Where is this work being carried out?

Answer. The work with be conducted at the University of Alaska Fairbanks—Fishery Industrial Technology Center in Kodiak, Alaska, and at the Geophysical Institute of the University of Alaska Fairbanks, in Fairbanks, Alaska.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional related objectives?

Answer. The anticipated completion of the full objectives of this research area, including original and related objectives, will require about five years.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The proposal received in support of the fiscal year 1998 appropriation was reviewed for merit by a CSREES specialist on January 21, 1998. At that time, the agency science specialist believed that the projects addressed needs and interests of the Alaskan salmon industry.

ANIMAL SCIENCE FOOD SAFETY CONSORTIUM

Question. Please provide a description of the research that has been funded under the animal science food safety consortium program.

Answer. The research goal of the Food Safety Consortium is to improve the safety of foods, specifically poultry and red meat products, consumed by humans. In order to accomplish this, the Consortium consists of three Universities that specialize in beef, poultry, and pork. In coordination, they have focused on accomplishing six objectives: (1) to develop techniques for rapid detection of infectious agents and toxins in meat and poultry; (2) to develop a statistical approach for evaluating potential health risks; (3) to identify effective intervention points to control microbiological or

chemical hazards; (4) to develop monitoring methodologies to detect these hazards in the distribution chain; (5) to develop technologies to complement the development of Hazard Analysis and Critical Control Point—HACCP—programs by USDA; and (6) to estimate costs and benefits associated with intervention alternatives.

Question. According to the research proposal, or the principal researchers, what is the national, regional, or local need for this research?

Answer. A safer meat product food supply would reduce the economic losses related to days away from work, medical treatment, and even human suffering and death as a result of foodborne illnesses. The costs are estimated at over $5,000,000,000 a year. The Consortium's participation in technology transfer to health departments and trade associations are helping on a regional and local level to help educate consumers and food handlers on safe handling procedures. Scientific-based testing that is being developed will help provide food that will be accepted in international markets and increase exports and sustainable rural economies at home. On a regional and local level, each of the institutions are involved in HACCP program training for industry and are holding seminars for industry to discuss food safety research findings. In addition, the University of Arkansas is teaching food safety programs to children in state elementary schools. Potential national need for this research project could possibly be funded by the competitive grants provided under the Initiative for Future Food and Agricultural Systems or the National Research Initiative competitive grants.

Question. What was the original goal of this research, and what has been accomplished to date?

Answer. The original goal was to bring together research and expertise of institutions in three states in order to best address the areas of poultry, beef, and pork meat production from the farm to the consumer's table. In coordination with each other, they seek to develop detection, monitoring, and prevention techniques to control or prevent the presence of infectious agents and chemical toxins in the food supply. Each year advisory and technical committees provide guidance and expertise in research planning. Major accomplishments occurred in 1998. Research at the University of Arkansas emphasized risk assessment and analysis, chemical interventions for raw poultry, control measures for cooked poultry, and rapid detection methods. Major projects included tests that showed up to 30 percent of surveyed households with Salmonella-infected children had significant levels of Salmonella traced to non-food sources in the homes. Risk assessment models were developed to predict the relative reductions in the incidence of Salmonella-positive poultry carcasses. Control of pathogens in poultry also centered on thermal processing and use of bacteriocins. Three new bacteriocins with the ability to inhibit foodborne pathogens were produced. Nucleic acid probes and polymerase chain reaction assays were developed to detect Arcobacter and Campylobacter jejuni. At Iowa State University, research concentrated on swine production, swine processing, irradiation, methodologies of detecting bacteria, and risk assessment. Projects included a study of the impact of modern livestock production practices on the incidence of Salmonella, the use of hot water rinses as a method of carcass decontamination, the effect of irradiation on lipid oxidation and off-flavor development in cooked pork, and the effects of HACCP procedures on the economic costs of pathogens in pork production. Work performed at Kansas State University emphasized sampling and testing for microorganisms and intervention strategies for pathogen control in beef. Research with sponge sampling of carcasses provided information required for microbiological testing at large and small plants and enabled the offering of hands-on training for processors and inspectors. Studies of steam pasteurization found that the process is a viable intervention technique for reducing bacteria on freshly slaughtered beef carcasses. The Kansas State investigators also continued refining and enhancing sampling and testing procedures for Hazard Analysis Critical Control Point implementation and verification.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal year 1989, $1,400,000; fiscal year 1990, $1,678,000; fiscal year 1991, $1,845,000; fiscal years 1992–1993, $1,942,000; fiscal year 1994, $1,825,000; fiscal years 1995–1996, $1,743,000 each year; fiscal year 1997, $1,690,000; fiscal years 1998–1999, $1,521,000 each year. A total of $18,850,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant are as follows: $1,313,653 State appropriations, $2,959 product sales, $35,600 industry, and $259,735 miscellaneous for a total of $1,611,947 in 1991; $1,270,835 State appropriations, $10,129 product sales, $90,505 industry, and $267,590 miscellaneous for

a total of $1,639,050 in 1992; $1,334,680 State appropriations, $1,365 product sales, $33,800 industry, and $356,308 miscellaneous for a total of $1,726,153 in 1993; $1,911,389 State appropriations, $192,834 industry, and $200,000 miscellaneous for a total of $2,304,223 in 1994; $1,761,290 State appropriations, $221,970 industry, and $91,885 miscellaneous for a total of $2,075,145 in 1995; $2,643,666 State appropriations and $152,431 industry, for a total of $2,796,097 in 1996; and $1,776,167 State appropriations and $824,378 industry, for a total of $2,600,545 in 1997; $612,000 State appropriations and $1,238,899 industry, for a total of $1,850,899 in 1998. Thus, from 1991 through 1998 a total of $16,604,068 in non-federal funds was provided.

Question. Where is this work being carried out?

Answer. Research is being conducted at Iowa State University, Kansas State University, and University of Arkansas at Fayetteville, University of Arkansas for Medical Sciences at Little Rock, and Arkansas Children's Hospital.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The research projects from the Consortium continue to evolve and build on the original objectives first set out in 1989. Additional objectives are revised on an annual basis to enhance the original six objectives. For example, one of the original objectives was to look at risk assessment in the safety of animal food products. In 1998, the Consortium sent a principal investigator to work in USDA's Office of Risk Assessment and Cost Benefit Analysis. Another objective was the detection and surveillance of foodborne pathogens. Recently, the Consortium has participated in research projects that have made significant contributions to the establishment of scientific parameters used in HACCP programs. The principal investigators have developed patented tests that have significantly reduced the time necessary to detect pathogens in the processing plants. The Food Safety Consortium continues to use peer evaluated projects to address priority issues.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. There has never been a formal evaluation of the Food Safety Consortium but instead, a annual conference is organized where a designated representative from CSREES attends. The annual conference was held in October, 1998. Along with other invited agency representatives such as FSIS, ARS, and ERS, CSREES participates in a steering committee meeting which critiques projects and discusses research priorities. CSREES representatives were considered part of the Technical Advisory Committee as well as members of the Food Safety Consortium Steering Committee and fully participated in meetings and conference calls. The individual projects are also peer reviewed. The peer review results, by expert scientists who are not members of the Consortium, determine those projects selected for funding.

APPLE FIRE BLIGHT, MICHIGAN AND NEW YORK

Question. Please provide a description of the research that has been funded under the Controlling Fire Blight Disease of Apple Trees, Michigan and New York, grant.

Answer. This project studies fire blight in apple trees, which is a bacterial disease that can kill spurs, branches, and whole trees. The management of this disease is difficult because only one antibiotic treatment is available. The objectives of this research are to develop fire blight resistance varieties, evaluate biological and chemical control methodologies for disease management, and develop an education and extension component for disease management.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. Fire blight is a destructive disease of apple trees that can kill the trees. This disease is caused by bacteria and effects apple trees in all apple growing areas of the nation. In the northeast, the disease is more prevalent because of humid weather conditions. The principal researcher believes this research to be of national, regional, and local need.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goals of this research are to develop transgenic apple trees through various molecular technologies, to develop new approaches to antibiotic treatments of disease, to develop an early screening technique for tree sensitivity to the disease, to evaluate biological and cultural controls, and to develop and improve education and extension components of disease management. The last objective involves using disease prediction models.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. fiscal year 1997 was the first year funds were appropriated for this grant at $325,000. For fiscal year 1998–1999, $500,000 was appropriated per year. A total of $1,325,000 has been appropriated.

Question. What are the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds for 1997 were $40,127 for Michigan and $104,166 for New York State. The funds for 1998 are state appropriated at $25,071, and $15,000 in funds from the Michigan Apple Research Committee for a total of $40,071 from Michigan whereas New York is estimating state appropriated funds at $104,166 for 1998. The state appropriated funds for 1999 are $49,771 for Michigan, and New York is estimating state appropriated funds at $106,689 for 1999.

Question. Where is this work being carried out?

Answer. Research is being conducted at Michigan State University and Cornell University, New York Experiment Station.

Question. What is the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The anticipated date of completion for the original objectives was 1998. The objectives have not been met. It is estimated by the researchers that three to five years is need to complete this project.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The last merit review of this project was in January, 1998. In summary, the evaluation indicated that progress was demonstrated in all the objectives. In New York, rootstock transformation was successful in two commercially-important apple varieties and another transgenic line preformed well in field trails. The use of the hrpN gene for resistance to fire blight was used to produce transgenic lines in apple. Biological control agents, systemic acquired resistance inducers, and bactericides were evaluated for their use in integrated pest management of fire blight. Commercial orchards were mapped for tree loss due to fire blight rootstock infection, and the internal movement of fire blight through healthy apple scion tissue was investigated. In Michigan, bacteriophages were used as potential biological control agents for fire blight control on apple trees under field conditions. Management of fire blight was evaluated using chemical growth regulation and induced resistance strategies. The effects of hrpA genese on elicitation of the HR and causation of the fire blight was studied using Arabidopsis and immature pear as a model.

AQUACULTURE, LOUISIANA

Question. Please provide a description of the research that has been funded under the Aquaculture, Louisiana grant.

Answer. Research has focused on catfish, crawfish, and hybrid striped bass in commercial aquaculture. Research has included basic and applied research in the areas of production systems, genetics, aquatic animal health, nutrition, off flavor, water quality, and germplasm preservation. Grants are awarded to scientists within the university on a competitive peer review basis. The entire proposal is also reviewed by the CSREES Program Manager on an annual basis.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher indicates that improved production efficiency and product safety and quality for a number of important aquaculture species will enhance the profitability and sustainability of the aquaculture industry in the region. The research funded through this program focuses on the production of a number of important aquaculture species such as catfish, crawfish, and hybrid striped bass. Aquaculture research at national centers is supported through Regional Aquaculture Center grants.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of the research was to provide science-based information through a basic and applied research base that specifically addressed the needs of the aquaculture industry in Louisiana and the southern states. The university has completed studies in the area of fish nutrition, fish health, fish genetics, production management strategies, alternative species, seafood processing, product quality, and broodstock development. Research has led to improved channel catfish and hybrid striped bass feed formulations, production of new channel catfish vaccines, improved extraction and detection methods for the off-flavor compounds, production of

genetically-improved channel catfish with increased resistance to bacterial infection, developed procedures for production of gene maps for channel catfish, improved harvesting and production strategies for crawfish, and improved processing technologies for crawfish and other aquaculture products. Research continues to be directed at important opportunities to enhance production efficiency and the commercial viability of sustainable aquaculture systems in the region.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. Research to be conducted under this program will continue as initiated under the Aquaculture General program in fiscal years 1988 through 1991. The work supported by this new grant category began in fiscal year 1992 and the appropriation for fiscal years 1992–1993 was $390,000 per year, $367,000 in fiscal year 1994, and $330,000 each year in fiscal years 1995–1999, for a total of $2,797,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The university estimates that non-federal funding for this program is as follows: in fiscal year 1991, $310,051; in fiscal year 1992, $266,857; in fiscal year 1993, $249,320; in fiscal year 1994, $188,816; in fiscal year 1995, $159,810; in fiscal year 1996, $150,104; in fiscal year 1997, $158,808; and in fiscal year 1998, $110,101. The primary source of this funding was from state sources and self-generated funds with minor contributions from industry and other non-federal sources.

Question. Where is this work being carried out?

Answer. Research is being conducted at Louisiana State University.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original specific objectives were to be completed in 1990. These specific research objectives have been met, however, the broader objectives of the research program are still being addressed. The specific research outlined in the current proposal will be completed in fiscal year 2002.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The agency evaluates the progress of this project on an annual basis. The university is required to provide an accomplishment report each year when the new grant proposal is submitted to CSREES for funding. In addition, the CSREES program manager conducted site visits in 1996 and 1997 to meet with the scientists involved in the project and review the progress of the research. The 1998 review of the project indicated that the research is addressing important research needs of the aquaculture industry, that the facilities are excellent, that the principal investigators are well qualified, that the experimental design is sound, that the proposed research represented a logical progression of research previously funded through this program, and that the progress on previous research funded under this program is well documented. The 1999 CSREES review will be completed within three weeks of submission of the proposal. The researchers are asked to the develop a research proposal consistent with the National Science and Technology Council's Strategic Plans for Aquaculture Research and Development. Research results from this program have had a significant impact on the aquaculture industry in Louisiana and the region.

AQUACULTURE PRODUCT AND MARKETING DEVELOPMENT, WEST VIRGINIA

Question. Please provide a description of the research that has been funded under the Aquaculture Product and Marketing Development, West Virginia.

Answer. The proposed study is aimed at developing a viable and competitive aquaculture industry in West Virginia and Appalachia. Specific research strategies include the development of marketing strategies for trout producers and processors, increasing the economic efficiency and profitability of trout-based enterprises, improving the consistency and quality of fresh trout fillets, and of value-added smoked trout products. The proposal also contains a technology transfer component to disseminate information generated by the project. The proposal represents a significant investment for a new initiative under the Special Research Grants Authority. CSREES did not approve the original proposal and has requested a revised proposal.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The researchers indicate that there is a regional and national need to evaluate marketing and product development for small scale aquaculture systems in rural communities. In addition there is a need to improve the efficiency and sus-

tainability of these systems. The researchers also indicate that the proposed research is consistent with the National Science and Technology Council's Strategic Plan for Aquaculture Research and Development.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The proposed research represents a new initiative aimed at developing sound marketing strategies for aquaculture products in the region, improving the economic efficiency of aquaculture production systems, and improving the quality, and variety of aquaculture products in the region. CSREES has conducted an in-depth peer review of the proposal and has recommended that the university submit a revised proposal that addresses concern expressed by the reviewers and the CSREES Program manager.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. A grant has been awarded from funds appropriated as follows: fiscal year 1998, $600,000 and fiscal year 1999, $750,000. A total of $1,350,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The university estimates that significant non-federal funding will be provided in fiscal year 1998 primarily from state sources to cover the salaries of the principal investigators. As the program develops, additional non-federal funding is expected.

Question. Where is this work being carried out?

Answer. The research would be conducted at the University of West Virginia in Morgantown and at off campus sites with a variety of potential cooperators.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The anticipated completion date for the original objectives is fiscal year 2000. The project was initiated in fiscal year 1998.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. CSREES conducted an external and internal peer review of the original proposal. The proposal was peer reviewed by 10 external reviewers and the CSREES National Program leaders for Aquaculture, and the CSREES Aquaculture Program Specialist. Although the proposal was aimed at important issues facing the aquaculture industry in the region, a number of significant concerns were expressed by the reviewers and CSREES Program Leaders. These concerns with recommendations were presented to the University, and a revised proposal was requested. CSREES has withheld authority of the University to utilize funds until an acceptable proposal has been submitted and approved by the agency. CSREES is currently awaiting receipt of the revised proposal.

AQUACULTURE RESEARCH, STONEVILLE, MISSISSIPPI

Question. Please provide a description of the research funded under the aquaculture research Stoneville, Mississippi grant.

Answer. The primary objectives of this research have been to improve practical feeds and feeding strategies that enhance fish health and production efficiency in channel catfish ponds. Additionally, scientists are evaluating the application of acoustical instrumentation in commercial aquaculture. The project undergoes peer review by the university and by the CSREES Program Leader on an annual basis.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. The principal researcher indicates that the research findings from this project have a direct impact on the profitability and sustainability of a significant segment of the domestic aquaculture industry. The farmed-raised catfish industry accounts for over 55 percent of the total U.S. aquaculture industry. Research funded by this program is directed towards improved feeds and feeding strategies. In addition, research is directed towards acoustical monitoring and inventory of catfish in pond production systems.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this research was to address the research needs of the catfish industry in the areas of water quality and nutrition. The research has led to improved water quality management practices in commercial catfish ponds. Research in the area of catfish nutrition has led to improved diet formulation and

feeding strategies that have been widely adopted by the industry. Scientists are currently evaluating vitamin supplementation in catfish feed formulations using conditions that closely reflect commercial production ponds. Research findings from this program have had a direct impact on least-cost feed formulations utilized by commercial feed mills resulting in reduced cost of commercial feeds without reducing performance and productivity. Scientists are also evaluating feed delivery techniques to improve feed conversion efficiency. Studies evaluating acoustical instrumentation have demonstrated possible applications in commercial aquaculture. Researchers are developing sonar electronics hardware and computer-generated graphics communications interface software for the application of monitoring count and size of channel catfish in the pond.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal years 1980–1981, $150,000 per year; fiscal year 1982, $240,000; fiscal years 1983–1984, $270,000 per year; fiscal year 1985, $420,000; fiscal years 1986–1987, $400,000 per year; fiscal year 1988, $500,000; fiscal year 1989, $588,000; fiscal year 1990, $581,000; fiscal year 1991, $600,000; fiscal years 1992–1993, $700,000 per year; fiscal year 1994, $658,000; fiscal years 1995–1997, $592,000 each year; $642,000 in fiscal year 1998; and $592,000 in fiscal year 1999. A total of $9,637,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The university estimates a total of $2,101,508 in non-federal funding to support this research for fiscal years 1991–1994; $1,128,451 in fiscal year 1995; $601,473 in fiscal year 1996; $463,990 in fiscal year 1997; and $464,266 in fiscal year 1998. The primary source of non-federal funding is from the state. Additional funding is provided from product sales, industry contributions, and other miscellaneous sources.

Question. Where is this work being carried out?

Answer. The grants have been awarded to the Mississippi Agricultural Experiment Station. All research is conducted at the Delta Branch Experiment Station, Stoneville, Mississippi. The acoustical research in aquaculture is conducted in cooperation with the National Center for Physical Acoustics at the University of Mississippi.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The anticipated completion date for the specific original research objectives was 1984. These specific research objectives have been met, however, the broader research objectives of the program are still being addressed. The specific research outlined in the current proposal will be completed in 2000.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The agency evaluates the progress of this project on an annual basis. The university is required to provide an accomplishment report when the new proposal is submitted to CSREES for funding. CSREES Program manager conducted a site visit in 1998. The 1998 review indicated that the research targets important opportunities in the farm-raised catfish industry. Significant progress has been reported on past research and the experimental and scientific design of the new project are sound. Scientists involved in the project are leading authorities in this area of research and linkages between the researchers and the catfish industry has lead to accelerated adoption of research findings. Adoption of improved feeds and feeding strategies developed through this program by the catfish industry has led to improved production efficiency in commercial catfish operations. CSREES is planning a comprehensive review of the catfish research program at Mississippi State University in late 1999.

AQUACULTURE, VIRGINIA

Question. Please provide a description of the research that has been funded under the Aquaculture, Virginia grant.

Answer. The proposal research will document and develop fish production parameters and culture methods, analyze management economics, and provide information on industry marketing and economic development of a recirculating aquaculture system-based industry.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The investigators indicate that there is a need to develop a highly competitive, sustainable aquaculture industry to meet consumer demand for cultivated aquatic foods that are of high quality, safe, competitively priced, nutritious, and are produced in an environmentally-responsible manner with maximum opportunity for profitability in all sectors of the industry.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. Program objectives include research to identify commercially-viable aquaculture species utilizing recirculating aquaculture system technology, verify production and culture management protocols utilizing this technology, analyze production budgets providing information to build business plans, investigate marketing development strategies, and prepare scientific, technical, and popular publications to disseminate the results of this research. This is a new research initiative and the year one proposal is currently under review by CSREES.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. This is a new research initiative and the appropriation for fiscal year 1999 is $100,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The university estimates a minimum of $90,000 of non-federal funding in fiscal year 1999 primarily from state sources. As the program develops, additional non-federal funding is expected.

Question. Where is this work being carried out?

Answer. The research will be conducted through the Virginia Agricultural Experiment Station, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, and in collaboration with private aquaculture firms in Virginia.

Question. What was the anticipated completion date for the original objective of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. This proposal seeks funding for year one of a proposed three year project. The anticipated completion date for the fiscal year 1999 component of the project is July 2000.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. This is a new research initiative and the year one proposal is currently under review by CSREES. The agency will evaluate the progress of this project on an annual basis. The university will be required to submit an accomplishment report each year when the new proposal is submitted to CSREES for funding.

BABCOCK INSTITUTE FOR INTERNATIONAL DAIRY RESEARCH AND DEVELOPMENT

Question. Please provide a description of the research that has been funded under the Babcock Institute grant.

Answer. The Babcock Institute for International Dairy Research and Development was established with participation of the University of Wisconsin-Madison College of Agriculture and Life Sciences, School of Veterinary Medicine, and the Cooperative Extension Division. The objective of the Babcock Institute is to link the U.S. dairy industry with the rest of the world through degree training, continuing education, technology transfer, adaptive research, scientific collaboration, and market analysis.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher believes the need is to strengthen dairy industries around the world, to enhance international commercial and scientific collaborative opportunities for the U.S. dairy industry, and to draw upon global perspectives to build insight into the strategic planning of the U.S. dairy industry.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal of the Institute remains the linkage of the U.S. dairy industry with the rest of the world through training, continuing education and outreach, technology transfer, adaptive research, scientific collaboration and market analysis. Initial efforts were focused on planning and staffing. An initial activity was, and continues to be, the development of multi-language extension materials about basic management techniques essential to optimize performance of U.S. dairy cattle overseas. This activity has grown to include manuals on Breeding and Genetics, Lactation and Milking, and Basic Dairy Farm Financial Management published in English, Spanish, French, Russian, and Chinese. Research on potential implications of NAFTA and GATT on the U.S. dairy industry was completed. A technical work-

shop on dairy grazing in New Zealand and the mid-west was organized and held in Madison during the fall of 1993. A technical workshop on Nutrient Management, Manure, and the Dairy Industry: European Perspectives and Wisconsin's Challenges was held in Madison, Wisconsin during September, 1994. A round table was held in January, 1995 addressing "World Dairy Markets in the Post-GATT Era". Sponsored the Great Lakes Dairy Sheep Symposium in 1995 and 1996. Created a World Wide Web site in 1996 for distribution of Babcock Institute technical dairy fact sheets in four languages. The first International Dairy Short Course for a group of producers and technicians from Argentina has been organized on the University of Wisconsin Campus. Scientist's are being supported in collaborative research with New Zealand primarily to gain a better understanding of grazing systems as related to dairy management. An analysis of the impact of changes in European dairy policies has been completed. The Institute sponsored a Minnesota-Wisconsin Dairy Policy Conference to provide insights into current agricultural programs and policy issues in the dairy sector of the U.S. economy.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal years 1992 and 1993, $75,000 per year; fiscal year 1994, $250,000; fiscal years 1995–1998, $312,000 per year, and fiscal year 1999, $400,000. A total of $2,048,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. During fiscal year 1992, $13,145 of State funds were used to support this program and $19,745 of State funds in fiscal year 1993 for a total of $32,890 during the first two years of this research. Information is not available for fiscal years 1994–1998.

Question. Where is this work being carried out?

Answer. Research is being conducted at the University of Wisconsin-Madison College of Agriculture and Life Sciences.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The Babcock Institute's overarching mission has been to link the U.S. dairy industry and its trade potential with overseas dairy industries and markets. The original objectives of this project have remained consistent over the years. However, each year specific objectives were proposed to further the mission of the Institute and to build on previous accomplishments. The Institute has accomplished specific objectives each year in a timely manner. The Babcock Institute has remained true to its original objective of linking Wisconsin and the U.S. to dairy industries around the world. This objective remains of increasing importance with continued development of international markets for dairy products and technologies. The University researchers anticipate that work currently in progress will be completed by September, 1999.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The Babcock Institute undergoes two independent review processes each year. The first is done by a committee of university and industry representatives who review the annual research proposal and amend it prior to submission to the agency. The annual proposal is reviewed by agency technical staff prior to approval for fund release. In addition, the institute was included in a comprehensive review of the programs of the Department of Dairy Science at the University of Wisconsin in May, 1995. The agency project officer has conducted two on site reviews of the institute since it's formation in 1992. The most recent review has found that the approach proposed by the researchers is appropriate and that the researchers are well qualified to perform the objectives as stated. The objectives of the proposal are within the mission of the USDA and the Cooperative State Research, Education, and Extension Service.

BINATIONAL AGRICULTURAL RESEARCH AND DEVELOPMENT PROGRAM

Question. Please provide a description of the research that has been funded under the Binational Agricultural Research and Development Program—BARD—grant.

Answer. The Binational Agricultural Research and Development Program is a competitive grants program that supports agricultural research of importance to both the United States and Israel. The areas of research supported by the BARD program include plant and animal sciences, water and soil science, aquaculture, agricultural economics, and agricultural engineering. Research projects submitted for

funding must involve collaboration between U.S. scientists and Israeli scientists. The funds available through the BARD Special Research Grants Program are used to support Land-Grant university scientists in the U.S. portion of projects receiving BARD awards.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. All proposals receiving awards through the BARD Program have national, regional, and/or local significance to agriculture in both the United States and Israel. Thus, applicants must convince the review panel of the global significance of the proposed work in order to receive funding. The fundamental research supported by the BARD program provides the knowledge base needed to solve important agricultural problems in the U.S. and Israel as they arise.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal of the BARD program is to support fundamental research that is important to agriculture in both the U.S. and Israel. Many fundamental discoveries and accomplishments have been made in the research areas supported by BARD. These discoveries and accomplishments will lead to reduction of livestock diseases, increased livestock production, improved production of plants under harsh environmental conditions, and improved resistance of plants to disease. The scientific quality of BARD-supported research is reflected in its publication record. During the past decade, nearly 2,000 papers were published in more than 200 refereed scientific journals. More than 38 percent appeared in "high impact" journals, including prestigious scientific journals and another 30 percent appeared in the top agricultural research journals. On average, each project produced five refereed publications. In addition, there was an even larger number of presentations at the professional conferences, congresses, symposia, and workshops. In the period 1979 through 1998, a total of 820 grants were awarded, over 1,000 scientific articles were published, and 8 patents awarded.

Several examples of BARD projects include:

—Work supported by the BARD program at the University of Florida resulted in the DNA sequencing of the citrus tristeza virus. This virus has caused major economic losses to the citrus industry in both the U.S. and Israel. The sequencing information can now be used to develop effective methods to protect citrus trees by creating safe strains of the virus that project the trees from disease-causing strains.

—Bovine Genetics. Innovative statistical methods were developed to analyze variation and heritable traits in dairy cattle and to improve classical dairy breeding programs. In addition, continuation projects have initiated a shift from statistical analyses of heritability to genome mapping. This has directly contributed to the international bovine genome mapping program.

—Control of Fungal Diseases. Molecular approaches were employed to produce new commercial tomato varieties with resistance to several important fungal diseases. These new varieties are used commercially worldwide. The study helped explain the genetic diversity of the widespread pathogenic strains of the Fusarium fungus and identified unique DNA sequences that led to the development of diagnostic probes that enable precise identification of the virulent forms of the fungus.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. In 1977, an agreement was signed between the U.S. and Israeli governments which established BARD. An initial endowment fund of $80,000,000 was established through equal contributions from each country. Subsequently, that endowment was increased by $30,000,000 for a total of $110,000,000. Funds for BARD are available from the interest earned on that endowment. In the early part of this decade, a reduction in interest rates, combined with increased research costs, impeded the ability of the BARD program to adequately meet the agricultural research needs of each country's producers and consumers. In fiscal year 1994, the Department directed that $2,500,000 of funding, which had been appropriated for CSREES's National Research Initiative Competitive Grants Program, be used for the BARD Program to supplement the interest earned from the endowment. The supplementary funds were matched by Israel. In fiscal year 1995, Congressional language directed that CSREES again use $2,500,000 of the National Research Initiative's appropriation for BARD, and in fiscal year 1996, the Department directed that a third $2,500,000 increment of the National Research Initiative's appropriation be used for BARD. CSREES received a direct appropriation in the amount of $2,000,000 for BARD in fiscal year 1997, $500,000 in fiscal year 1998, and $400,000 in fiscal year 1999.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The supplemental funds provided by CSREES are matched each year by the Israeli government. Each BARD grant funded by CSREES is for supporting Land-Grant university scientists in the U.S. portion of a collaborative project between U.S. and Israeli scientists. The Israeli portion of the project is supported by supplemental funds from Israel or from interest on the endowment. Therefore, half of each project is supported by non-federal funds.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The objective of BARD is to support fundamental science of importance to agriculture in the U.S. and Israel. The generation of knowledge and the need for scientific research was seen as an ongoing process. The trust fund was established to provide a long-term source of funding to conduct research of high priority to both the U.S. and Israel. The creators of the BARD program determined that a 10-year review should be conducted to ensure its relevance and impact. The 10-year external review panel strongly endorsed the success of BARD and recommended its continuance and enhancement. Due to the ongoing nature of scientific research, the annual funding of grant awards is focused on development and application of state-of-the-art science. Each grant project is funded for two or three years, and the results feed into the greater scientific body of knowledge generated by these and other scientists.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The USDA and the Israeli Ministry of Agriculture conducted a 10-year External Review of the BARD program and published the report in September of 1988. The objective of that external review was to evaluate the effectiveness of BARD and the suitability of its concept for bi-national collaborative research. The report concluded that the BARD program had achieved its objectives. The Report of the Review Committee concluded that "BARD is working very well, with extremely high efficiency." "Its organization is robust and its scientific, technological, and economical achievements are outstanding." "The project evaluation and management infrastructure has been paramount in allowing BARD's programs to evolve and flourish." The Report made recommendations relative to operational procedures for managing the grant proposals and emphasized the need for increasing the corpus of the endowment. BARD is now undergoing a 20-year external review. The review will evaluate the scientific and economic impact of the program's funded research as well as its general operations.

BIODIESEL RESEARCH, MISSOURI

Question. Please provide a description of the research that has been funded under the biodiesel research grant.

Answer. Research on biodiesel involves examining the feasibility of producing biodiesel and other higher value products from oilseed crops including soybeans, canola, sunflower, and industrial rapeseed. The project is also evaluating local processing plants whereby farmers could produce crops and process the crops locally and use the fuel and high protein feed coproducts on their farms or locally. This project undergoes merit review at the College of Agriculture.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. The initial work is being conducted in Missouri. The results may provide the agricultural community with alternative crops and more diverse markets, additional marketable products, and a locally grown source of fuel. This will result in increased investment in local communities, additional jobs, and increased value added in the farm and rural community sectors.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goals were to examine the feasibility of producing biodiesel and other higher value products from oilseed crops, plus to increase the value of coproducts. Results indicate that biodiesel can be produced most economically from soybeans, primarily because of the high value of soybean meal. Since small quantities of biodiesel regularly sell for at least $4.00 per gallon, the structure of the production, marketing, and transportation is currently under evaluation to identify more efficient and less costly ways to produce and market biodiesel. Also, a study of which markets might provide the best opportunity to use increased levels of biodiesel is underway. Such markets might include underground mining and the marine industry in addition to urban mass transit systems and cities having problems meeting

more stringent air quality mandates. Research results indicate that for each one million gallons of biodiesel used by the Kansas City, Missouri, transit fleet in a B20 blend consisting of 20 percent biodiesel and 80 percent petroleum-based diesel, the estimated impacts would be: almost 100 additional jobs; increased investment of $500,000; net increase in personal income of $3,200,000; and increase in total economic activity in the region of $9,600,000. Research has also identified that rapeseed meal compares favorably to soybean meal and blood meal as an animal feed. It has a higher escape protein value than soybean meal. This research is carried out in close cooperation and coordination with other state and Federal agencies, plus trade associations such as the National Biodiesel Board, the United Soybean Board, American Soybean Association, and others.

Question. How long has this work been underway, and how much has been appropriated by fiscal year, through fiscal year 1999?

Answer. The work for this program began in fiscal 1993, and the appropriation for that year was $50,000. The appropriation for fiscal year 1994 was $141,000; and for fiscal years 1995 through 1999, $152,000 annually. A total of $951,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The source of non-federal funds is state appropriated funds. The level in 1994 was $7,310. The funding level for 1995 was $74,854. Cost sharing by the University of Missouri each year for fiscal year 96 and fiscal year 97 was $80,000 and $86,000, respectively. Total cost sharing for the project by the University of Missouri has been $242,224. Additionally, some work funded by this grant has been conducted in cooperation with the National Biodiesel Board, plus the Missouri Soybean Merchandising Council.

Question. Where is this work being carried out?

Answer. The work is being carried out at the University of Missouri-Columbia.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The principals estimate that the work with biodiesel will require an additional two years to complete. Additionally, the work on higher value products, such as solvents from biodiesel, is expected to be ongoing. Successes with the higher value products will result in more value added opportunities for farmers and rural communities. Also, much of the work in commercializing biodiesel has been with the B20, 20 percent blend, with petroleum-based diesel. This biodiesel research is evaluating the use of biodiesel in much smaller blends, such as one percent or one-half percent. At this use level, biodiesel would be considered an additive rather than as a fuel extender. With this scenario, the primary benefit would be a cost-competitive lubricant with superior performance characteristics, thereby making the product more valuable as a lubricant that as a fuel.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The evaluation of using biodiesel as a complete fuel and in a blend has been met. This project is evaluated on an annual basis based on the annual progress report, discussions with the principal investigator as appropriate, and agency participation in collaborative activities related to this project. The review is conducted by the cognizant staff scientist, and it has been determined that the research is performed in accordance with the mission of this agency.

BRUCELLOSIS VACCINE, MONTANA

Question. Please provide a description of the research that has been conducted under the Brucellosis Vaccines, Montana grant.

Answer. This project will study the immune response of bison to Brucella abortus bacteria and then develop a vaccine that will be effective in stimulating an immune response in bison. The second part of the project will be to incorporate the appropriate antigens in a novel delivery system utilizing the binding of bacteria carrying these antigens to forage type grasses.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for the research?

Answer. The research project is intended to develop a strategy for vaccinating or immunizing cattle against brucellosis by incorporation of Brucella abortus genes into forage plants. The cattle eat the plants containing the bacterial proteins and then develop an immunity against the bacteria, thus preventing any infection following exposure to the bacteria.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of the project will be to accomplish incorporation of Brucella genes which code for specific antigens into forage plants and have the genes expressed so that the desired proteins are produced. The project is expected to be funded and started in May, 1999.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work is just being initiated in fiscal year 1999 and the appropriation for fiscal year 1999 is $150,000.

Question. What is the source and amount of non-federal funds by fiscal year?

Answer. The source and amount of non-federal funds for fiscal year 1999 can not be determined until after the end of the fiscal year.

Question. Where is this work being performed?

Answer. The work is being performed at Montana State University.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The anticipated completion date for the original objectives was May, 2002 or three years from the initiation of the project.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. As the project is just being started, there has been no evaluation as yet.

CENTER FOR ANIMAL HEALTH AND PRODUCTIVITY, PENNSYLVANIA

Question. Please provide a description of the research that has been funded under the Center for Animal Health and Productivity grant.

Answer. This research is designed to reduce nutrient transfer to the environment surrounding dairy farms in the Chesapeake Bay watershed. Progress to date includes the development of an individual dairy cow model which will predict absorbed amino acids and the loss of nitrogen in manure. This model has been developed into user friendly software so that trained farm advisors can evaluate herd nutrient management status while on a farm site. A whole farm model has been developed which integrates feeding and agronomic practices to predict utilization of nitrogen and farm surpluses. Using these tools, a survey of dairy farms in the region has been done to assess nitrogen status on dairy farms and potential management practices to reduce nitrogen excesses on dairy farms. Refinement of the model tools and research to refine estimates of the environmental fate of excess nitrogen from dairy farms is in progress. Two on-site reviews of the program have been conducted by the CSREES Project Officer and a third is planned during 1999. The animal and farm models have been published in peer reviewed scientific journals.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher believes that reducing non-point pollution of ground and surface water by nitrogen from intensive livestock production units is of concern nationally, and especially in sensitive ecosystems like the Chesapeake Bay. This research is designed to find alternative feeding and cropping systems which will reduce net nutrient flux on Pennsylvania dairy farms to near zero.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this research remains the development of whole farm management systems which will reduce nutrient losses to the external environment to near zero. To date the researchers have developed their own models to more accurately formulate rations for individual dairy cows which permit the comparison of alternative feeding programs based upon both maximal animal performance and minimal nutrient losses in animal waste. This model is being tested on select commercial dairy farms to evaluate the extent to which total nitrogen losses in manure can be reduced without impacting economic performance of the farm. At the same time, whole farm nutrient models have been developed to evaluate alternative cropping systems which will make maximum use of nutrients from animal waste and minimize nutrient flux from the total farm system. These tools are currently being used to survey the current status of nutrient balance on farms in the area and efforts to fine tune the tools are in progress.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. A grant has been awarded from funds appropriated in fiscal year 1993 for $134,000 and in fiscal year 1994 for $126,000. In fiscal years 1995–1999,

$113,000 has been appropriated each year. A total of $825,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. This information is not available at the present time.

Question. Where is this work being carried out?

Answer. Research is being conducted at the University of Pennsylvania, College of Veterinary Medicine.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The University researchers anticipate that work currently underway will be completed by September, 1999. This will complete the original objectives of the research. The principal researcher indicates that consideration has been given to the broadening of objectives to include additional nutrients in the model system, but this has been dropped because technical expertise required is currently not readily available.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The Center for Animal Health and Productivity project was last reviewed in June, 1997. An on-site review by agency technical staff was conducted in June, 1995. It was concluded that project objectives are within the goals of the program, are within the mission of both the USDA and CSREES, and the institution is well equipped and qualified to carry out the research project. The institution has made excellent progress towards the completion of the original goals of the project, but still must evaluate the effectiveness of the use of the new tools developed in reducing nutrient runoff from commercial dairy farms in the watershed of the Chesapeake Bay.

CENTER FOR INNOVATIVE FOOD TECHNOLOGY, OHIO

Question. Please provide a description of the research that has been funded under the Center for Innovative Food Technology grant.

Answer. Funds from the fiscal year 1998 grant are supporting research projects on using neural network/fuzzy logic tools to develop a model of a growing and processing cycle for canning tomatoes, using electrostatic coating for snack foods and baked goods, combining several non-thermal processing techniques to sterilize low acid liquid foods, using Near Infrared reflectance systems to measure protein and ash content in wheat flour, using membrane separation systems to produce extended shelf life milk products, and developing a protocol for testing the microbial load of ingredients in meat processing facilities. fiscal year 1998 funds are supporting research from March 1, 1998, through February 28, 1999. CSREES has requested, but not yet received, a proposal in support of the fiscal year 1999 appropriation.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher believes the value-added food processing industry is the largest industry in Midwestern states, including Ohio where the industry contributes over $17,000,000,000 to the annual economy. From an economic development point of view, processing and adding value to crops grown within a region is the largest possible stimulus to that region's total economic product. This program aims to partner with and encourage small and medium-sized companies to undertake innovative research that might otherwise not be undertaken due to risk aversion and limited financial resources for research and development in these companies. The principal researcher believes that, although the initial impact of this research will be regional, the recipient organization of this grant is part of a technology transfer network and proactively seeks opportunities to deploy technologies developed through this research to the food industry on a national basis. Research on value added products of national significance could potentially be supported by competitive grants awarded under the National Research Initiative or under the Initiative for Food and Agricultural Systems.

Question. What was the original goal of the research and what has been accomplished to date?

Answer. The original goal of the research was to develop innovative processing techniques to increase food safety and quality or reduce processing costs. The neural network project has developed a model for predicting the harvesting time that will optimize product quality and economic return to the grower, processor, and consumer. The coating project has demonstrated the shelf life, sanitation, and product cost advantages available through the use of this technology. The filtration project

will allow fluid milk processors to lower their costs and increase water quality by removing high Biological Oxygen Demand materials from municipal treatment systems. The sterilization project will lower processing costs by increasing the shelf life of liquid products. The extended shelf life project has resulted in the marketing of single serving, long shelf life milk products, and the Near Infrared project will allow flour millers to develop improved process control systems.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1995. The project received appropriations of $181,000 in fiscal years 1995 through 1997, $281,000 in fiscal year 1998, and $381,000 in fiscal year 1999. A total of $1,205,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. In fiscal year 1995, non-federal funds included $26,000 from state funds and $70,000 from industry memberships. In fiscal year 1996, non-federal funds included $26,000 in state funds and $80,000 in industry funds. In fiscal year 1997, non-federal funds included $35,000 in state funds and $95,000 in industry memberships. In 1998, $35,000 in state funds and $105,000 in private industry memberships contributed to the support of the project.

Question. Where is this work being carried out?

Answer. Research is being conducted in the laboratories of the Ohio State University and at various participating companies in Ohio, Illinois, and Pennsylvania.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The principal investigator anticipates that some projects supported by the fiscal year 1996 grant will be completed by February 28, 1998. At the current funding level, it is anticipated that funding will be required through fiscal year 2000 to achieve the goal of self-sufficiency.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. An agency science specialist conducts a merit review of the proposal submitted in support of the appropriation on an annual basis. The last review of the proposal was conducted on January 28, 1998. At that time, the agency science specialist believed that the projects addressed issues relevant to food manufacturing, were scientifically sound, and that satisfactory progress was being demonstrated using previously awarded grant funds.

CENTER FOR RURAL STUDIES, VERMONT

Question. Please provide a description of the program that has been funded under the Center for Rural Studies Project in Vermont.

Answer. The Center for Rural Studies Project involves applied research focused on developing and refining social and economic indicators used to evaluate the impact of economic development programming and activities. They are perfecting a delivery format for technical assistance for community and small business development. A major component of current research relates to utilization of the world wide web as a delivery vehicle. Project proposal undergoes a merit review within the agency.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. This is an on-going pilot to demonstrate the effective development and implementation of applied research, training, education, and technical assistance related to rural development. The grant has addressed methodology and strategies for assessing rural development program impacts.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal was to create a database and analytical capability for rural development programming in Vermont. Examples of past accomplishments include maps presented to target child hunger programs, targeted areas for other types of rural development program intervention, analytical reports to guide the development of retail shopping areas, an "Economic Handbook for Vermont Counties", and strategies for using the world wide web to disseminate information.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. The grant was initiated in fiscal year 1992. Appropriated amounts are: fiscal years 1992–93, $37,000 per year; fiscal year 1994, $35,000; fiscal years 1995–98, $32,000 per year; fiscal year 1999, $200,000 for total appropriations of $437,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Fiscal year 1991 included $91,130 in state matching funds. fiscal years 1993, $143,124; 1994–96, $3,547 state matching funds. fiscal years 1997–98 state dollars were $2,931 plus researcher's salary. 1999 dollars are not known at this time.

Question. Where is this work being carried out?

Answer. Applied research and outreach is being carried out through the University of Vermont.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original completion date was September 30, 1993. The original objectives of this research have been met. The additional objectives being presented for the current year will be completed by September 30, 2000. Proposal for current has not been received to date.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The agency evaluates the merit of research proposals as they are submitted. No formal evaluation of this project has been conducted. The principal investigators and project managers submit annual reports to the agency to document impact of the project. Agency evaluation of the project includes peer review of accomplishments and proposal objectives and targeted outcomes.

CHESAPEAKE BAY AGROECOLOGY, MD

Question. Please provide a description of the research that has been funded under the Chesapeake Bay Agroecology, Maryland, special grant.

Answer. The Chesapeake Bay Agroecology grant focuses on increasing our understanding of nutrient cycling, retention, and utilization by vital agricultural industries located within vulnerable Chesapeake Bay watershed ecosystems that have been impacted by outbreaks of the toxic microorganisms Pfiesteria. There is a specific focus on Maryland's Eastern Shore. This research focus has been identified as a priority by the State of Maryland's Blue Ribbon Pfiesteria Action Commission Report—1997—and by a Research, Education, and Economics—REE—strategic plan emphasis—Greater Harmony Between Agriculture and the Environment—that calls for "a better understanding of the linkages between agricultural production, water and soil quality, range and forest land health, and habitat protection." Requested funds in fiscal year 1999 will support interdisciplinary projects that bring together the expertise of numerous scientists located at institutions throughout the University System of Maryland. These scientists continue to generate technical and scientific advances that guide Federal, state, and local policy responses to Pfiesteria outbreaks.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. The continued viability of Maryland's important coastal agricultural economy, and the protection of Chesapeake Bay and Atlantic Coastal aquatic and agricultural resources from future Pfiesteria outbreaks, depends upon our ability to prevent future toxic algal blooms by stemming the flow of nitrogen, phosphorus, and other agricultural nutrients into estuarine waterways.

Maryland is an acknowledged leader in implementing agricultural nutrient management, soil conservation, conservation reserve, Chesapeake Bay tributary team, and other cooperative planning strategies. However, non-point sources of nutrients remain a major source of pollution into Atlantic Coastal waterways, and farmland remains the largest controllable source of non-point nutrient loading into Chesapeake Bay. Thus, its essential that we continue to increase our efforts to stem nutrient losses into waterways while preserving and enhancing important agricultural industries.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal of this research is to increase our understanding of nutrient—nitrogen and phosphorus—cycling, retention, and utilization by vital agricultural industries located in coastal regions of Chesapeake Bay, and to develop new technologies and strategies that limit nutrient losses while enhancing vital agricultural industries. This project was initiated in fiscal year 1999.

Question. How long has this work been underway and how much as been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant begins in fiscal year 1999 and the appropriation for fiscal year 1999 is $150,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The project is in its first year. The state of Maryland has pledged to match 100 percent of the Federal funds provided in fiscal year 1999 and in future years for the Chesapeake Bay Agroecology Project.

Question. Where is the work being carried out?

Answer. This research will be conducted at University System of Maryland institutions and field research stations located throughout the state, with an emphasis on the Eastern Shore of Maryland which experienced significant Pfiesteria outbreaks.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. This project begins in fiscal year 1999. There will be a need for additional Federal, state, and private investment in research to develop new approaches for agricultural nutrient control in estuarine systems for the foreseeable future.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The project begins in fiscal year 1999. The projects supported by this special grant will be peer reviewed by an independent, external scientific panel and will be competitively awarded to qualified scientists located throughout the University System of Maryland.

CHESAPEAKE BAY AQUACULTURE, MARYLAND

Question. Please provide a description of the research funded under the Chesapeake Bay Aquaculture grant.

Answer. The objective of this research is to improve the culture of striped bass and its hybrids through genetic improvement, reproductive biology, nutrition, health management, waste management, and product quality. The research provides a good balance between basic and applied research. The university awards grants based on an internal competitive peer review, and the CSREES Program Manager reviews the proposal each year.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher believes the Mid-Atlantic region of the country has significant opportunities to contribute to the overall development of the domestic aquaculture industry. Research supported through this program should have broad application and enhance production efficiency and the sustainability of aquaculture as a form of production agriculture.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original research goal was to generate new knowledge that can be utilized by the aquaculture industry to address serious problems limiting the expansion of the industry in Maryland and the Mid-Atlantic region. The program focuses on closing the life cycle of the striped bass and its hybrids, enhancing production efficiency, decreasing effluents, and improving product quality under aquaculture conditions. Research is conducted in the areas of growth, reproduction and development, aquacultural systems, product quality, and aquatic animal health. Progress has been made in developing controlled artificial spawning techniques and refining the nutritional requirements of striped bass. Scientists continue studies to optimize water quality in closed systems. Water calcium levels above 250 ppm were shown to increase survival in striped bass. Researchers indicate that increased environmental calcium may improve survival and that intermediate salinity levels may improve the feed conversion efficiency in juvenile striped bass. Researchers have developed improved techniques for storing striped bass sperm. Growth hormone administration was shown to increase body length in striped bass. The aquatic animal health component of the research is aimed at the prediction and management of dinoflagellate blooms in estuarine hybrid striped bass ponds

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. The work supported under this grant began in fiscal year 1990 and the appropriation for fiscal year 1990 was $370,000. The appropriation for fiscal years 1991–1993 was $437,000 per year; fiscal year 1994, $411,000; fiscal years 1995–

1998, $370,000 each year; and fiscal year 1999, $385,000. A total of $3,957,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The university reports the amount of non-federal funding for this program is as follows: in fiscal years 1991 and 1992, $200,000; in fiscal years 1993 and 1994, $175,000; in fiscal year 1995, $400,000; in fiscal year 1996 $536,000; in fiscal year 1997 approximately $400,000; in fiscal year 1998, $360,000. The university reports that these funds are from direct state appropriations and other non-federal funding sources.

Question. Where is the work being carried out?

Answer. Research is being conducted at the University of Maryland.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original specific research objectives were to completed in 1993. These specific research objectives have been met, however, the broader research objectives of the program are still being addressed. The specific research outlined in the current proposal will be completed in fiscal year 2001.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The agency evaluates the progress of this project on an annual basis. The university is required to submit an accomplishment report when the new proposal is submitted to CSREES for funding. The 1998 review indicated the proposal was well written with objectives clearly stated; that excellent progress is reported on previous work; that scientific and technical expertise is excellent; and that the proposal addresses high priority research needs. The 1999 CSREES review will be completed within three weeks of submission of the proposal. The researchers are asked to the develop a research proposal consistent with the National Science and Technology Council's Strategic Plans for Aquaculture Research and Development. The proposal does address high priority research needs for the aquaculture industry at the state, regional, and national level.

CITRUS TRISTEZA

Question. Please provide a description of the research that has been funded under the citrus tristeza research program grant.

Answer. CSREES has developed a RCA with input from industry and researchers for a competitive grant program for this program.

Question. According to this research proposal, or the principal investigator, what is the national, regional, or local need for this research?

Answer. Citrus Tristeza virus is a problem in all citrus growing areas of the United States. The recent introduction of a new vector, the brown citrus aphid, into Florida has allowed for another pathotype of the virus to be introduced. This is a more destructive pathotype of the virus that is more devasting that than those already in the citrus producing areas.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal of this research is to reduce losses in citrus through research, characterization, and detection of citrus tristeza virus strains, biology, and control of the brown citrus aphid; host plant resistance; epidemiology and crop loss assessment; development of cross-protecting citrus tristeza virus strains; and research to enhance virus free budwood programs.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant begins in fiscal year 1999 and the appropriation for fiscal year 1999 is $500,000.

Question. What is the source and amount of nonfederal funds provided by fiscal year?

Answer. There are no non-federal funds provided for this grant.

Question. Where is this work being carried out?

Answer. Research is being carried out at land grant universities and research centers in the United States, primarily Florida, Texas, California, and Arizona.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. Since this is a new program, the original objectives have not yet been met.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The project will under peer review at the University level and agency merit review.

COMPETITIVENESS OF AGRICULTURE PRODUCTS, WASHINGTON

Question. Please provide a description of the research that has been done under the Competitiveness of Agriculture Products research grant?

Answer. This research improves opportunities for Northwest firms to export forest products and food products.

Question. According to the research proposal, or the principal researchers, what is the national, regional, or local need for this research?

Answer. Shipping forest products from the Pacific Northwest to Asian markets costs less than shipping them to the eastern population centers in the United States. Research has focused on opening Asian markets including the more complete transfer of U.S. light frame construction building technology primarily to Japan in direct support of the efforts to deregulate the Japanese housing sector, thereby providing large opportunities to export higher valued secondary manufactured products to Japan. The Asian economic crisis has temporarily lowered demand requiring market research on how to protect the export gains that have been made. Research has also been focused on forest management alternatives that can better satisfy environmental goals with less negative impacts on timber-dependent communities. Priorities are set by an outside Executive Board, and they review progress quarterly. Faculty review the technical merits of each project proposal.

Export of foods—specifically produced to meet Asian tastes—improves the global competitiveness of the Pacific Northwest. Research focuses on foreign market assessments, product development, and policy and trade barriers. The focus is on technology that can add value to U.S. agricultural products while meeting changes brought by international trade agreements. This grant is awarded competitively at the state level.

There is a very large opportunity to increase the export of materials and building systems to Asian markets. Northwest companies that could export are generally small and are not able to provide their own research. Construction technologies used in Asian markets are inferior to U.S. technology, yet there is a long history of use and cultural appreciation of traditional methods. Deregulation and change in these markets has required extensive research on comparability of alternative product and building standards, quality and service needs, training in the U.S. technology, and customization to foreign consumer values. The Pacific Northwest can grow more wood with higher quality using more advanced technologies while reducing the impact on timber-dependent communities from harvest constraints to protect certain species. The Northwest agricultural economy is highly dependent upon being able to export given that food production in the region greatly exceeds food consumption.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal of the research in both wood products and food is to provide the information on markets and product technologies that can open higher-valued international markets to U.S. exporters. Foreign purchasers need information on the advantages of U.S. products and U.S. exporters need information on the substantially different quality and service requirements for serving foreign markets. Value added wood product exports had increased over 200 percent prior to the Asian crisis, but still remain 100 percent above earlier levels. If the United States can remain competitive and retain its presence in these markets in the face of a stronger dollar, exports should return to a high growth path once their economies begin to recover.

The food production research has focused on finding new market opportunities for Pacific Northwest producers, solving technical impediments to exports and developing new products and new processes that will enhance exports. It has pinpointed emerging market opportunities in Southeast Asia, China, Mexico, and Latin America. It has improved the export quality of diverse products such as asparagus, apples, grass-seed, and wheat, and it has helped commercialize high-value products such as Wagyu beef, azuki beans, wasabi radish, and burdock and pioneered new food processing technologies that produce fresh-like, shelf-stable products and save energy and reduce waste.

Question. How long has the work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work began in fiscal year 1992. The appropriation for fiscal years 1992–1993 was $800,000 each year; fiscal year 1994, $752,000; fiscal years 1995–

1998, $677,000 each year; and $680,000 in fiscal year 1999. A total of $5,740,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant are as follows: $716,986 State appropriations, $209,622 product sales, $114,000 industry, and $661,119 miscellaneous, for a total of $1,701,727 in 1991; $727,345 State appropriations, $114,581 product sales, $299,000 industry, and $347,425 miscellaneous for a total of $1,488,351 in 1992; $1,259,437 State appropriations, $55,089 product sales, $131,000 industry, and $3,000 miscellaneous, for a total of $1,448,526 in 1993; $801,000 State appropriations, $1,055,000 product sales, $1,040,000 industry, and $244,000 miscellaneous, for a total of $3,140,000 in 1994; $810,000 State appropriations, $42,970 product sales, $785,000 industry, and $2,000,000 gift of a ranch due to the International Marketing Program for Agricultural commodities and Trade Center's research on Wagyu cattle, for a total of $3,637,970 in 1995; $844,000 State appropriations, $45,000 product sales $900,000 industry, and $45,000 miscellaneous, for a total of $1,834,000 in 1996; $876,000 State appropriations, $1,606,000 industry, for a total of $2,482,000 in 1997, and $1,180,000 State appropriations, $604,000 industry, for a total of $1,784,000 in 1998.

Question. Where is the work being carried out?

Answer. The food research is being carried out by the International Marketing Program for Agricultural Commodities and Trade at Washington State University, Pullman, and the forest products research is carried out at the Center for International Trade in Forest Products at the University of Washington, Seattle.

Question. What was the anticipated completion date of the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The project was projected for 3 years duration to be completed following fiscal year 2000.

Question. When was the last agency evaluation of this project? Provide the summary of the last evaluation conducted.

Answer. Two evaluations of the Washington State University component of the project were conducted in 1992 by the U.S. Department of Agriculture. The State of Washington Legislative Budget Committee gave the Washington State Center exemplary marks for meeting its objectives. On-site reviews are conducted annually of the University of Washington component of the project through annual meetings of the project's executive board attended by the agency's staff. Both components are reviewed annually by the agency. The project is meeting the key objective of trade expansion through innovative research. The University of Washington project was formally reviewed by the agency in 1991. State reviews were completed in 1992 and 1994. A formal review by the University was completed in 1997. A broad survey of constituents impacted by the research was completed, resulting in a very favorable review of the Center's activities and a recommendation to continue this research. In 1998, State of Washington legislation eliminated the requirement for state reviews of the center, including one scheduled for 1999, based on hearings that focused on the other favorable reviews and the continuous oversight by the Executive Board.

CONTAGIOUS EQUINE METRITIS, KENTUCKY

Question. Please provide a description of the research that has been conducted under the Contagious Equine Metritis, Kentucky grant.

Answer. The research being conducted is focusing on a new variant of the original equine metritis agent, and CSREES has requested the university to submit a grant proposal that has not yet been received.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for the research?

Answer. The need for this research is national in scope. Several years ago, contagious equine metritis caused serious problems and caused embargoes on importation of horses from other countries. The original organism is currently being controlled, but a new variant has caused concern that it may not respond to current control measures.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal is planned to be a study of the economic impact that this may have on the equine industry, including both racing and performance horses. Also, work will be done to ensure that adequate control measures are in place to prevent widespread infection with this new variant.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. This work will be initiated in fiscal year 1999 and the appropriation for fiscal year 1999 is $250,000.

Question. What is the source and amount of non-federal funds by fiscal year?

Answer. No information is presently available as to the probable amounts or sources of non-federal fund in fiscal year 1999 for this project.

Question. Where is this work being performed?

Answer. The research is being performed at the Department of Veterinary Science, University of Kentucky.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The anticipated completion date for the original project will be about one year after initiation of the project or May, 2000.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. As the project is just being started, no agency evaluation has been done at this time.

COOL SEASON LEGUME RESEARCH

Question. Please provide a description of the research that has been funded under the Cool Season Legume Research grant.

Answer. The Cool Season Legume Research Program involves projects to improve efficiency and sustainability of pea, lentil, chickpea, and fava bean cropping systems collaborative research. Scientist from seven states where these crops are grown have developed cooperative research projects directed toward crop improvement, crop protection, crop management, and human nutrition/product development. CSREES has requested the universities to sub grant proposals for 1999 funding.

Question. According to the research proposal, or principal researcher, what is the national, regional or local need for this research?

Answer. The multi-state region covered by this program represents most of the nation's production of cool season food legumes. These minor crops are very important economically to the region, are the primary source of these important food items, and contribute significantly to U.S. agricultural exports. The growers face a number of production problems that need research if this industry is to compete with international competition. In addition, use of these crops in rotation with wheat is critical to the production of wheat, the major cash crop for the region. National research in the area of crop genetics could potentially be supported by competitive grants awarded under the National Research Initiative and the Initiative for Food and Agricultural Systems.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The principal researcher believes the original goal of this project was to improve efficiency and sustainability of cool season food legumes through an integrated collaborative research program and genetic resistance to important virus diseases in peas and lentils. Evaluation studies of biocontrol agents for root disease organisms on peas are underway. Other studies are evaluating integration of genetic resistance and chemical control. Considerable progress has been made using biotechnology to facilitate gene identification and transfer. Management system studies have addressed tillage and weed control issues.

Question. How long has the work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1991 with appropriations for fiscal year 1991 of $375,000; fiscal year 1992 and 1993 $387,000 per year; fiscal year 1994, $364,000; fiscal year 1995, $103,000; fiscal years 1996 and 1999, $329,000 per year. A total of $2,932,000 has been appropriated.

Question. What is the source and amount of nonfederal funds provided by fiscal year?

Answer. The non-federal funds provided for this grant were as follows: 1991. $304,761 state appropriations, $14,000 industry, and $18,071 other nonfederal; 1992, $364,851 state appropriations, $15,000 industry, and $14,000 other non-federal; 1993, $400,191 state appropriations, $19,725 industry, and $10,063, other nonfederal; and 1994, $147,607 non-federal support. Non-federal support for 1995 was $150,607; for 1996 it was $386,887; for 1997 $384,628; and for 1998, $392,000.

Question. Where is this work being carried out?

Answer. Research has been conducted at agricultural experiment stations in Idaho, Oregon, Washington, Wisconsin, Minnesota, New York, and New Hampshire. The funds have been awarded competitively among participating states and not all states receive funds each year.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The projected duration of the initial project was five years. Revised objectives are expected to be completed in 2002.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation?

Answer. The project is evaluated annually by a university/industry advisory panel. Proposals are peer reviewed at the universities and by CSREES National Program Leaders. This research has provided vital information which is already being used to improve production management. However, a number of critical issues related to insect and disease control as well as crop quality remain to be addressed. Breeding for insect and disease resistance is given the highest priority, while crop management alternatives to help reduce disease and insect pest problems will continue to be studied.

COTTON RESEARCH, TEXAS

Question. Please provide a description of the research that has been funded under the Cotton Research, Texas, grant.

Answer. CSREES has requested the university to submit a grant proposal for fiscal year 1999, that has not yet been received. Texas A&M and Texas Tech Universities have developed an integrated research effort to address cotton production issues using a comprehensive approach in order to strengthen the cotton industry in the high plains. Priority productions and marketing issues will be studied.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The proposed project is expected to help support a broad based program to address priority research needs of cotton grown on the Texas high plain. The specific issues will include production, processing, marketing, and utilization.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal of this project is to improve cotton production in West Texas and expand the demand for cotton grown in the area.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1998. The appropriation for fiscal years 1998–1999 was $200,000. A total of $400,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds supporting the project were $156,000 in fiscal year 1998.

Question. Where is this work being carried out?

Answer. The work will be conducted at the Texas A&M University Research and Extension Center, Lubbock and Texas Technical University Campus.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The principal investigators anticipate the developmental phase of this project which will establish priorities and provide planning for a long-term comprehensive program should be completed in fiscal year 2000.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The project received a comprehensive review and evaluation at its inseption by Texas A&M and Texas Tech Universities and the CSREES National Program Leader. It will be evaluated annually throughout its lifetime.

CRANBERRY-BLUEBERRY DISEASE AND BREEDING, NEW JERSEY

Question. Please provide a description of the research that has been funded under the Cranberry-Blueberry Disease and Breeding, New Jersey grant.

Answer. The work has focused on identification and monitoring of insect pests on blueberries and cranberries; the identification, breeding, and incorporation of superior germplasm into horticulturally-desirable genotypes; identification and deter-

mination of several fungal fruit-rotting species; and identification of root-rot resistant cranberry genotypes. Overall, research has focused on the attainment of cultural management methods that are environmentally compatible, while reducing blueberry and cranberry crop losses. This project was not awarded competitively but has undergone peer review at the university level and merit review at CSREES.

Question. According to the research proposal, or the principal investigator, what is the national, regional, or local need for this research?

Answer. This project involves diseases having major impacts on New Jersey's cranberry and blueberry industries, but the findings here are being shared with experts in Wisconsin, Michigan, and New England.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal was the development of cranberry and blueberry cultivars compatible with new disease and production management strategies. Over 75 blueberry selections with wild blueberry accessions resistant to secondary mummy berry infections have been moved into advanced testing identified. The biology and seasonal life history of spotted fireworm on cranberries has been determined. A pheromone trap-based monitoring system for cranberry fruitworm was developed and further refined for commercialization in 1997. Blueberry fruit volatiles attractive to blueberry maggots were identified and tested in the field. Seven major fungal fruit-rotting species were identified, and their incidence in 10 major cultivars of blueberry and cranberry were determined. It is likely that resistance to fruit rot is specific to fungal species. Researchers have planted over 4,500 cranberry progeny for evaluation.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal year 1985, $100,000; fiscal years 1986–1987, $95,000 per year; fiscal years 1988–1989, $260,000 per year; fiscal year 1990, $275,000; fiscal years 1991–1993, $260,000 per year; fiscal year 1994, $244,000; and fiscal years 1995–1999, $220,000 each year. A total of $3,209,000 has been appropriated

Question. What is the source and amount of non-federal funds provided by fiscal?

Answer. State and non-federal sources are providing funds in the amount of 250,000 each year.

Question. Where is this work being carried out?

Answer. This research is being conducted at the New Jersey Agricultural Experiment Station.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The completion date for the original objectives was 1995. Those objectives have not been met. To complete the breeding, disease, and insect management and provision of new management guidelines for extension and crop consultants, it estimated that an additional five to nine years will be required.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted?

Answer. The last agency evaluation of this project occurred in January, 1998. In summary, the evaluation stated that the effort has continued to be highly productive, with various improved management strategies, plant materials, and environmentally-balanced pesticides being areas of major impact. Some specific accomplishments included continued evaluation of blueberry and cranberry germplasm for yield, color, fruit rot, and flavor; and development of an efficient plant regeneration system for cranberry for genetic transformation. Other research includes trap and lure development for monitoring the cranberry fruitworm and evaluation of several aphicides in blueberries. The discovery of an antisporulant in a registered fungicide provide for a novel use patent for blueberry anthracnose control.

CRANBERRY AND BLUEBERRY, MASSACHUSETTS

Question. Please provide a description of the research that has been funded under the cranberry/blueberry research program grant.

Answer. This is a new research project that will aid in the reduction of pesticide dependence in cranberry and blueberry production in Massachusetts. The main target pests are dodder, weeds, and fungi. This research will provide an integrated pest management approach to cranberry and blueberry production. This project was not awarded competitively but has undergone peer review at the university level and merit review at CSREES.

Question. According to this research proposal, or the principal investigator, what is the national, regional, or local need for this research?

Answer. The research is a new approach to managing pests associated with cranberries and blueberries in Massachusetts. The program will focus on the use of molecular genetics to reduce pesticide dependency in cranberry production. The research will be applicable to all cranberry research in states where cranberries are produced. Ongoing regional research in this area is supported by grants awarded under the Minor Crop Pest Management Program.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goals of this research are to determine whether early emerging and late emerging dodder populations can be differentiated using molecular markers; to determine the relationships among several isolates of a fungus which might be used in biological control; to screen various plant pathogen fungi isolates for infectivity and virulence and determine the presence of genes in these isolates; and develop an in vitro assay system for root rot and induce resistance in cranberry plants caused by different isotypes of the fungus.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant begins in fiscal year 1999 and the appropriation for fiscal year 1999 is $150,000.

Question. What is the source and amount of nonfederal funds provided by fiscal year?

Answer. There are no non-federal funds provided for this grant in 1999.

Question. Where is this work being carried out?

Answer. Research is being carried out at the University of Massachusetts Cranberry Experiment Station.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. Since this is a new program, the original objectives have not yet been met.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The project will under peer review at the University level and agency merit review.

CRITICAL ISSUES

Question. Please provide a description of the research that has been funded under the Critical Issues grant.

Answer. These funds support research on critical issues related to new or emerging pests and diseases of animals and plants. The program is expected to initiate research in a short time period until other resources can be secured to address the issue. The program began in fiscal year 1996 when potato late blight and vesicular stomatitis in animals were the two targeted emerging problems chosen for funding. Funding for vesicular stomatitis research was continued through fiscal year 1997 in an effort to identify either insect carriers of the virus that could transmit the disease among animals or the wildlife reservoirs of the virus which could contribute to initiation of future outbreaks. In fiscal year 1997, the critical issues funding continued to support research on potato late blight so that growers will be able to manage disease outbreaks more effectively with integrated pest management programs. During fiscal year 1998, these funds were used for support of a project on a newly emerging corona virus strain that is considered to be a probable cause of severe outbreaks of shipping fever or pneumonia in shipped beef cattle. For plant diseases, fiscal year 1998 funds were used to support two major research projects on a new disease of sorghum, Sorghum Ergot. The two projects were Epidemiology and Life History of Ergot and Development of Integrated Control of Sorghum Ergot.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. Vesicular stomatitis was of national impact due to its similarity to foot and mouth disease and the negative effect on movement of horses, cattle, and swine during an outbreak. Since 1992 new, highly virulent strains of the potato late blight fungus Phytophthora infestans caused severe losses in potato and tomato production throughout the United States, resulting in what some experts term a national crisis. From 1993 to 1995, a series of meetings involving growers, consultants, industry, academia, and government assessed the growing problem, and participants concluded that extraordinary steps were needed to mobilize research efforts that would

help address the problem in the near term. Bovine shipping fever causes heavy economic losses to the beef industry in cattle being shipped to feedlots and vaccines for currently recognized viruses seem to be ineffective in certain settings in preventing outbreaks. The isolation of a probable new virus, bovine respiratory corona virus, represents an opportunity to contribute to the reduction of this disease complex in cattle. Sorghum Ergot is a serious disease of sorghum which was first detected in Texas in March, 1997. It rapidly spread to almost all sorghum growing regions of the U.S. by September 1997. Decisions on specific research needs and focus of research projects is decided after consultation with a variety of commodity stakeholders, other USDA agencies, especially the Animal and Plant Health Inspection Service, scientists in land grant system, and other public input.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. In animals, the goal was to discover natural reservoirs of the vesicular stomatitis virus and insects which are capable of transmitting the disease among animals. At this time, we have been unable to find significant wild life hosts which could serve as a reservoir for the virus during periods between outbreaks nor have the researchers been able to isolate the virus from insects in areas affected during the most recent outbreak. The bovine respiratory disease work on the apparently new respiratory corona virus is expected to validate the role of this virus in outbreaks of pneumonia in cattle vaccinated for other known causes of shipping fever. Confirmation of such a fact will provide a basis for development of control measures including vaccine development. Research was initiated to provide growers with the knowledge and technologies they need to reduce economic losses resulting from potato late blight with less reliance on pesticides. Research initiated with fiscal year 1996 funds is making progress in developing modeling tools and management approaches that are an important step towards reducing the devastating effects of late blight. The National Late Blight Fungicide Trial provided important information on the efficacy of an array of fungicide programs. A World Wide Web site was established to provide growers, researchers and industry with the latest information on management of potato late blight. The research projects on Sorghum Ergot were intended to develop information about the history and epidemiology of the disease which would lead to studies on development of integrated control programs for this fungus.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. $200,000 per year were appropriated in fiscal years 1996–1999 for a total appropriation of $800,000 to date.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. This information is not currently available.

Question. Where is this work being carried out?

Answer. The vesicular stomatitis work was conducted at the University of Arizona and Colorado State University. The potato late blight work has been conducted at Washington State University, Oregon State University, University of Idaho, University of Wisconsin, Pennsylvania State University, and North Carolina State University. The bovine respiratory disease work is being performed at Louisiana State University. The Sorghum Ergot work is being done at the University of Nebraska and Texas A&M University.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The Critical Issues funds are intended to support the initiation of research on issues requiring immediate attention until other, longer-term resources are available. The objectives of the projects are short-term and are expected to be completed within a 1–2 year period. This has been true for the vesicular stomatitis and potato late blight work. These projects have been reviewed to ensure compliance with the original goals during fiscal year 1997. The subsequent project grants for potato blight in 1997 and for Sorghum Ergot and bovine respiratory disease in 1998 have short term goals and are expected to be completed by the end of their project years which will occur in late spring 1999.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. All projects were reviewed for scientific merit before funding decisions were made. Also, scientists being supported with these funds are in close contact with CSREES' National Program Leaders in these areas so that the agency is kept abreast of developments as they occur. In addition, site visits are arranged when convenient to include as part of other official travel to that state. The vesicular sto-

matitis research has received one site visit review in early 1998 and will be reviewed as a completed project in March, 1999. It is expected that the final results of the bovine respiratory work will be reviewed during early July, 1999. The plant related projects have received similar reviews as the projects have moved forward, and the results are being reported at regional and national meetings.

DAIRY AND MEAT GOAT RESEARCH, PRAIRIE VIEW A&M, TEXAS

Question. Please provide a description of the research that has been funded under the dairy goat research grant?

Answer. The program has addressed a range of issues associated with goat production. Research by scientists at the International Dairy Goat Center, Prairie View A&M University, focuses on problems affecting goat production in the United States. Issues included are the study of nutritional requirements of goats, disease problems, methods to improve reproductive efficiency in the doe, the use of gene transfer to improve caprine genetics, and the evaluation of breeding schemes to improve meat and milk production. Currently, research is in progress to assess the economics of alternative breeding and rearing systems for goats in the southeastern region of the U.S., to study the incidence and impact of intestinal parasites, and to develop least-cost health management strategies for parasite control.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher believes that nationally, most of the farm enterprises that include goats are diverse and maintain a relatively small number of animals. Responding to disease, nutrition, breeding, and management problems will improve efficiency of production and economic returns to the enterprise.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this research was to conduct research that will lead to improvement in goat production among the many small producers in the United States. Research has been conducted to develop and improve nutritional standards, improve genetic lines for meat and milk production, and to define mechanisms that impede reproductive efficiency in goats. Current efforts focus on the development of enterprise budget management tools for goat producers in the Texas gulf coast region.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. Grants have been awarded through appropriated funds as follows: $100,000 per year for fiscal years 1983–1985; $95,000 per year for fiscal years 1986–1988; no funds were appropriated in fiscal year 1989; $74,000 for fiscal year 1990; $75,000 per year for fiscal years 1991–1993; $70,000 for fiscal year 1994; and $63,000 per year for fiscal years 1995–1999. A total of $1,269,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The University reports no non-federal funds expended on this program.

Question. Where is this work being carried out?

Answer. Research is being conducted at Prairie View A&M University in Texas.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The overall objective of this research is to support the needs of small farms engaged in the production of meat and milk from goats along the Texas Gulf Coast. The university researchers continue to address those needs on an annual basis and anticipate that work currently in progress will be completed by the end of fiscal year 2000.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The Dairy/Meat Goat Research grant was reviewed last in June, 1997. The project objectives are within the goals of the program, are within the mission of both USDA and CSREES, and the institution is well equipped and qualified to carry out the research project.

DELTA RURAL REVITALIZATION, MISSISSIPPI

Question. Please provide a description of the program that has been funded under the Delta Rural Revitalization, Mississippi Project?

Answer. The Delta Rural Revitalization, Mississippi Project involves applied research and outreach focused on creating new and expanded economic development

opportunities for the Mississippi Delta region. The project has gone through several phases in the delineation of a strategy for long range development within the region. Phase I was completed with the delivery of a baseline assessment of the economic, social, and political factors that enhance or impede the advancement of the region. Phase II of the project evaluated the potential for entrepreneurship and small business creation as mechanisms to improve economic conditions. Phase III is now focusing on technical assistance to Delta region manufacturing firms to strengthen their ability to provide employment and incomes and includes to development and refinement of data bases and development statistics. The proposals are submitted for internal review and evaluation within the agency. Recommendations are presented to enhance impact on regional and national agendas and provide greater impact on targeted region.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. This is an on-going pilot to demonstrate the effective development and implementation of applied research, training, education, and technical assistance related to job and business development as a development strategy. The principal researcher believes that the databases, technical assistance, and analytical capability will increase the effectiveness of economic development and entrepreneurial activity in the region.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The applied research and outreach project was designed to increase ability to strategically guide economic development through target industry attraction. They developed an analytical baseline for the Delta region to benchmark economic development progress and to profile potential arenas of opportunity. An entrepreneurial forum was established to help new business ventures with start-up advice and assistance. A venture capital association was formed to help both inventors and businessmen find capital resources to carry out development initiatives. The emphasis of the project is now shifted to technical assistance for existing industries.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. Grants have been awarded from appropriated funds in the following amounts per year: fiscal year 1989, $175,000; fiscal year 1990, $173,000; fiscal years 1991–93, $175,000 per year; fiscal year 1994, $164,000; fiscal years 1995–99, $148,000 per year. A total of $1,777,000 has been appropriated and awarded.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Total non-federal funds directed to this project, as reported by Mississippi State University, are: fiscal year 1991, $117,866; fiscal year 1992, $84,402; fiscal year 1993, $68,961; fiscal year 1998, $57,404. Reports for other years are incomplete at this time.

Question. Where is this work being carried out?

Answer. Applied research and outreach is being carried out through Mississippi State University and sub-contractors.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original completion date was September 30, 1990. The original objectives of this research have been met. The additional objectives being presented for the current year should be completed by September 30, 2000.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The agency evaluates the merit of research proposals as they are submitted. No formal evaluation of this project has been conducted. The principal investigators and project managers submit periodic reports to the agency to document impact of the project. Significant suggestions have been offered to improve the relevance and impact of this project. Time lines tend to lag on targeted accomplishments. An assessment of the project was conducted by the Social Science Research Center at Mississippi State University and a report compiled in November, 1996.

DESIGNING FOODS FOR HEALTH, TEXAS

Question. Please provide a description of the research that has been funded under the Designing Foods for Health, Texas grant.

Answer. Designing fruits and vegetables for improved health and nutrition will be the over all goal. Health scientists have documented that naturally-occurring compounds such as flavonoids, carotenoids, and antioxidants, have health benefits

to prevent heart disease, stroke, and some forms of cancer. The goal of Texas A&M researchers is to develop fruits and vegetables that have uniform, high levels of these compounds so all consumers can prevent disease through their diet. CSREES has requested the university to submit a grant proposal that has not yet been received.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The need for this research is to improve the quality of fruits and vegetables. Fruits and vegetables have naturally-occurring compounds that promote health and prevent disease. Health scientists have documented these compounds and have evidence that they do prevent certain diseases. The medical community is stating that preventing disease is more advantageous than trying to cure it.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this research will be to design fruits and vegetables that assist in preventing diseases through diet.

Question. How long has this work been underway and how much has been appropriated by fiscal year 1999?

Answer. The work supported by this grant begins in fiscal year 1999 and the appropriation for fiscal year 1999 is $250,000.

Question. What are the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant are estimated to be as follows: $146,449 state appropriations and $200,000 miscellaneous in fiscal year 1999.

Question. Where is this work being carried out?

Answer. Research will be conducted at the Vegetable and Fruit Improvement Center and other locations within the Texas A&M University System.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The anticipated completion date for the original objectives is projected to be 2003. This research is a long-term project and must be continued as health scientists continue to document the compounds in foods that promote disease prevention.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. Texas A&M researchers will conduct a peer review prior to submitting the proposal for fiscal year 1999.

DROUGHT MITIGATION, NEBRASKA

Question. Please provide a description of the research that has been funded under the Drought Mitigation grant.

Answer. The National Drought Mitigation Center in the School of Natural Resource Sciences at the University of Nebraska has a comprehensive program aimed at lessening societal vulnerability to drought by promoting and conducting research on drought mitigation and preparedness technologies, improving coordination of drought-related activities and actions within and between levels of government, and assisting in the development, dissemination, and implementation of appropriate mitigation and preparedness technologies in the public and private sectors. Emphasis is directed toward research and outreach projects and mitigation/management strategies and programs that stress risk minimization measures rather than reactive actions.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The Federal Emergency Management Agency has recently estimated that annual losses attributable to drought in the United States are between $6,000,000,000–8,000,000,000. Drought impacts are escalating in response to increasing demands for water and other natural resources, increasing and shifting population, new technologies, and social behavior. These impacts are diverse and affect the economic, environmental, and social sectors of society. This fact was reinforced dramatically in 1996 in the Southwestern United States. Impacts in Texas alone were estimated to be more than $5,000,000,000.

The Center is receiving non-federal funds in support of this research from the University of Nebraska. In addition, the Center is attracting support for specific projects that are an integral part of its mission from federal and state sources.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this research was to create a National Drought Mitigation Center and develop a comprehensive program aimed at lessening societal vulnerability to drought. The Center has created an information clearinghouse and is delivering information to a diverse audience of users through its home page. Over 50,000 users now access the Center's home page each month. The Center's award winning home page was used extensively by state and federal agencies during the 1996 drought to assist in the evaluation and response process. This home page networks users of drought-related information in the United States and elsewhere with information that would otherwise be unavailable or inaccessible to users.

The National Drought Mitigation Center played an important role in the response of federal and state government to the 1996 severe drought in the Southwest and southern Great Plains states. In addition to providing timely and relevant information on drought severity and alternative response, mitigation, and planning measures, the Center participated in the Multi-state Drought Task Force workshop organized at the request of President Clinton and helped formulate long-term recommendations to improve the way this Nation prepares for and responds to drought. The Center is also a member of the Western Governors' Association Drought Task Force. This Task Force made recommendations to reduce the risks associated with drought in the western United States.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant received an appropriation of $200,000 in fiscal years 1995 through 1999, for a total appropriation of $1,000,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The University of Nebraska contributed $75,737 of non-federal funds in support of this research in fiscal year 1995, $58,977 in fiscal year 1996, and $61,545 in fiscal year 1997. The University of Nebraska contributed $67,819 in fiscal year 1998.

Question. Where is this work being carried out?

Answer. The research will be conducted at the University of Nebraska-Lincoln.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The research conducted under this project is being undertaken under a series of nine tasks. Significant progress on each of these tasks has been made, but these activities are ongoing. The information clearinghouse has been created, but new information and documents are continuously added to the home page in response to users' needs and requests. In addition, the drought watch section is updated monthly to assist users in evaluating current climate and water supply conditions. Research on new climatic indices to monitor drought and water supply conditions are being tested and mitigation technologies and existing state drought plans are continuously evaluated. New activities are also being initiated in response to the growing interest and awareness in drought mitigation in the United States and elsewhere. For example, the activities of the Western Drought Coordination Council provides the Center with a broadening range of activities on an annual basis.

Question. When was the last evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The project was peer-reviewed at the time the proposal was prepared in 1998. Each year when the new proposal is prepared, it is reviewed at the university and again at CSREES. The project is evaluated for progress toward completion of objectives, new activities proposed, and accomplishments.

ECOSYSTEMS, ALABAMA

Question. Please provide a description of the research that has been funded under the Ecosystems, Alabama, grant.

Answer. In 1998, CSREES approved a proposal from Auburn University to support projects at two Community Colleges in Alabama—Faulkner State Community College and Alabama Southern Community College. The Faulkner State Community College's project is intended to (1) fund the development of distance education classrooms for estuarine-and marine-related education, and (2) to establish an aquaculture-related veterinary technician education program. The Alabama Southern Community College project will purchase and install laboratory equipment to further the educational capacity of the Center for Excellence in Forestry, Paper, and Chemical Technology.

Question. According to the research proposal, or the principal researcher, what is the local, regional, or national need for this project?

Answer. Faulkner State Community College asserts that their veterinary technician program will be the only such program in the country, providing the first two years of the degree program leading to an A.A. degree at Faulkner State, and the second two years leading to a bachelor's degree at Auburn University. The distance education capacity is intended to better integrate marine and estuary research into educational activities.

The Center for Excellence in Forestry, Paper, and Chemical Technology at Alabama Southern Community College is believed to be a unique educational opportunity in the Southeastern United States due to the merging of four individual technology training programs. These programs are: (1) Industrial Maintenance, (2) Electronics and Instrumentation, (3) Paper Process, and (4) Chemical Process training.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goals for these projects include the development of a veterinary technician training program and integration of marine and estuary research into classrooms at Faulkner State Community College; and to establish a state-of-the-art wood paper process and chemical process laboratory at Alabama Southern Community College.

These projects were initiated during the late summer of 1998, and no progress has yet been reported.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. These projects were initiated September 1, 1998, and have received a total of $1,000,000 to date with $500,000 appropriated per year in fiscal years 1998 and 1999.

Question. What is the source and amount of non-federal funds provided to support this project?

Answer. No non-federal funds have been identified to support this project.

Question. Where is this work to be carried out?

Answer. The project will be conducted at the Faulkner State Community College Aquaculture Center in Alabama and at the Alabama Southern Community College Center for Forestry, Paper, and Chemical Technology.

Question. What is the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The Alabama Southern Community College project proposal indicates a two year budget for project completion. The Faulkner State Community College proposal was for one year only. The objectives have not yet been met but are well underway.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The project began in fiscal year 1998 and has not had a formal, onsite review to date. It received a merit review at the time the project proposal was submitted.

ENVIRONMENTAL RESEARCH, NEW YORK

Question. Please provide a description of the research that has been funded under the environmental research grant.

Answer. The environmental research in New York has several major goals. These are: (1) to better understand the impacts of nutrient flows, principally nitrogen, from agriculture on non-agricultural ecosystems, forests, wetlands, and water resources in mixed ecosystem landscapes; (2) to improve knowledge of agricultural contributions to greenhouse gas emissions and effects of projected climate change on crop production; and (3) to develop innovative approaches and technologies for improving the efficiency of agricultural production and/or reducing environmental impacts of agriculture. New thrusts for the coming year include: 1) to improve understanding of the impacts of land application of biosolids on the sustainability of New York agriculture and on water quality, and to develop management practices and guidelines for sustainable use of biosolids in New York agriculture; and 2) to evaluate spatial and temporal variability of crop yields within fields and to develop management practices that increase productivity, increase the efficiency of use of inputs, and reduce environmental impacts of agriculture.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. Interactions between agriculture and the environment are many and complex and require multi-disciplinary efforts to both understand the interactions and to develop effective management strategies. Programs supported by the special grant are multi-disciplinary in nature, involving technical scientists from a range of disciplines, together with social scientists and economists. Additionally, translation of knowledge from plot or field studies to larger scales, such as landscape to regional and global, is needed to provide information that is useful to policy makers.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. One goal of the program is to identify impacts of nitrogen flows from agricultural lands on adjacent natural ecosystems, forests and wetlands, and water resources, and to devise management strategies to minimize these impacts.

Nitrogen leaching from maize-based cropping systems has been shown to be higher when organic sources of nitrogen, manures, and plow-down alfalfa are used as nitrogen sources for crop growth compared to use of inorganic fertilizers. Attempts to use an interseeded cover crop to capture and recycle excess nitrogen left over after the cropping season were only marginally successful due to limited growth of the cover crop following maize harvest in New York's climate. A computer-based nitrogen decision support system to improve recommendations for on-farm nitrogen management was developed and implemented in New York.

A second goal of the program is to investigate several interactions between agriculture and climate change. Studies of methane fluxes to/from soils showed that northern hardwood forests are both a source and a sink for this powerful greenhouse gas and overall may be a net source of methane. In contrast, upland agricultural systems were consistently found to be a sink for methane. Use of legume green manures to supply nitrogen in an organic production system increased methane emissions two-fold, creating a conflict between a sustainable agriculture practice and the environment.

No-tillage agriculture was shown to increase preservation of existing soil organic carbon, but accumulation of carbon derived from crop inputs was higher with conventional tillage. Inputs of carbon to soils from root exudates and residues were found to be more important to carbon sequestration in soils than were residues from the tops of plants.

A third goal of developing innovative approaches to management systems and technologies has the following components:

—Whole farm analysis and planning

—Soil quality changes in the Chesapeake farms sustainable agriculture project

—Use of constructed wetlands to mitigate phosphorus run-off from barnyards Assessments of nutrient use and management on farms have been carried out in Cayuga County, New York and in Pennsylvania, in conjunction with Rodale Institute. In New York, mass nutrient balance data on dairy farms has shown that, because of nutrient imports in feed and inadequate cropland area, nutrients excreted in manure exceed crop requirements. Coupling of models for nutrient management and animal diets was used to develop improved management practices. On one farm, production of nitrogen in manure was reduced 25 percent by more accurate balancing of animal diets and on a second farm modification of the cropping pattern reduced the imported nitrogen in feed by 13 percent.

Soil quality assessments at the Chesapeake farms sustainable agriculture project on Maryland's Eastern shore, where various cropping systems are being compared with the conventional corn-soybean rotation, have shown that soil quality improves as the cropping system becomes more complex, involves less tillage, and has more organic inputs.

Mitigation of phosphorus in runoff from barnlots by a constructed wetland system is being evaluated on a 500 head dairy farm in New York. Different substrates in the wetland beds are being evaluated, including soil, limestone, norlite, and wollastonite. To date, the soil and norlite materials are proving to be the most effective at phosphorus removal.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1991 with an appropriation of $297,000. The fiscal years 1992–1993 appropriation was $575,000 per year; $540,000 in fiscal year 1994; and fiscal years 1995 through 1999, $486,000 each year. A total of $4,417,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. In fiscal year 1991, Cornell University provided $27,893 and the State of New York provided $118,014. In fiscal year 1992, Cornell University provided

$37,476 and the State of New York $188,915. In fiscal year 1993, Cornell University provided $13,650 and the State of New York $243,251. In fiscal year 1994, the State of New York provided $214,989. In fiscal year 1995, the State of New York provided $233,085. In fiscal year 1996, the State of New York provided $388,301.

Question. Where is this work being carried out?

Answer. This research is being conducted at Cornell University.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original estimate was for a five-year program, and many of the initial objectives in the nitrogen and climate change areas have been met. New objectives evolved from the original, work and the program was also oriented to consider broader dimensions of environmental management, particularly strategies for community-based watershed management, involving linkage of technical knowledge with social and local governmental perspectives and needs. Estimated completion dates for current program elements are:

1998–1999 program year:

—Nutrient processing in wetlands

—Use of weather forecasts in weed management

—Use of constructed wetlands to remediate barnyard run-off

—Effect of climate variability on crop production

—Carbon storage in soils

Completion beyond 1999:

—Watershed science and management

—Effects of elevated CO_2 on crop yield potential

—Remington farms sustainable agriculture project—a 10-year project

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The project was peer reviewed in 1997 and 1998. Overall, the project was rated very high. Specific ratings included the following:

—Outstanding scientific merit.

—Appropriate methodology.

—Excellent previous accomplishments.

—The project has potential for significant impact concerning the relationship of agriculture to global change.

—The proposal is well conceived and well written.

ENVIRONMENTAL RISK FACTORS/CANCER, NEW YORK

Question. Please provide a description of the work that has been funded under the Environmental Risk Factors/Cancer, New York, grant.

Answer. The agency has requested the University to submit a renewal grant proposal that is currently being reviewed.

Question. According to the research proposal, or the principal researcher, what is the national, regional, and local need for this research?

Answer. The American Cancer Society estimated that over 178,000 women in the United States were diagnosed with breast cancer in 1998. The role of environmental risk factors, such as pesticides, is of concern to women, the agricultural community, and policymakers. This project, emphasizing risk reduction prevention information, will work at filling that void.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original and continuing goals of this research are:

—To establish and maintain a database of critical evaluations on the current scientific evidence of breast carcinogenicity and effects on breast cancer risk for selected pesticides.

—To effectively communicate database information to the scientific community, federal agencies, pubic health professionals, the agricultural community, and the general public using innovative electronic methods of communication, in-service training sessions, printed materials, and exhibits.

—To further develop the Breast Cancer Environmental Risk Factors—BCERF—World Wide Web to improve ease of use, add informational materials and hyperlinks, and determine the feasibility of developing an online, searchable bibliography on pesticides and breast cancer risk accessible through this Web site.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1997, and appropriations were as follow: fiscal years 1997, 1998, and 1999, $100,000 per year for a total of $300,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant were as follows: $150,000 state appropriations for fiscal year 1996; $250,000 per year in state funds—New York—were requested for fiscal years 1997, 1998, and 1999.

Question. Where is this work being carried out?

Answer. This research is conducted at the Cornell University, Ithaca, New York.

Question. What was the anticipated completion date for the original objective of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. This was a new project which began in April 1997. The anticipated completion date is March 31, 1999.

Objectives met: Database was established during year one and is updated and expanded each year. It currently has over 2,400 entries with over 200 added each quarter. Also, it includes full bibliographies of all pesticide and dietary/lifestyle scientific critical reviews. Scientific Critical Evaluation of seven pesticides—four in fiscal year 1997; three in fiscal year 1998—have been completed or are nearing completion. Two pesticides and/or non-pesticide agrochemical will be developed in fiscal year 1999. Science-based information material—fact sheets—have been developed not only for the seven pesticides, but also for four diet/lifestyle breast cancer risk factors, plus two on water contaminants and cancer, two on food safety, and two general fact sheets on breast cancer. Nine additional fact sheets are to be developed in fiscal year 1999. Two video teleconferences and an in-service have been held and evaluated. Followup telephone surveys of 1997 facilitators at BCERF satellite video conference downlink sites and participants at the June 1997 on-campus training program was completed, and an analysis of response data was initiated. The Farm Exhibit is expected to be completed in Spring 1999 and evaluated during Summer 1999. The BCERF website was revamped in 1997–1998 and relaunched in September 1998. The number of browsers accessing the BCERF home page has risen from 380 to 450 hits per month during the summer of 1998 to 1,053 hits in November and 3,490 hits in December.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. As a relatively new project, a complete evaluation has not been conducted, although the proposal is currently under review. Periodic progress reports have been made throughout the year. The project is moving towards achieving its desired goals. A final evaluation will be made after March 31, 2000.

BCERF has done an evaluation of the video teleconferences and in-service and have had the pesticide fact sheets reviewed by several focus groups—breast cancer survivors and women not having breast cancer.

The participants brought a variety of perspectives to the discussion, providing BCERF with a wealth of important feedback on our fact sheets and educational approach. Some of the conclusions we have drawn from this evaluation have already resulted in simple changes made in the preparation of current fact sheets. Other feedback from this evaluation will inform our planning efforts for the education component in general.

EXPANDED WHEAT PASTURE, OKLAHOMA

Question. Please provide a description of the research that has been funded under the Expanded Wheat Pasture, Oklahoma grant.

Answer. This project was designed to develop improved supplementation programs and new systems for technology delivery to reduce production risk of raising cattle on wheat pasture. The work involves evaluation of grazing termination date on grain and beef production, assess the impact of wheat cultural practices, and develop an economic model to evaluate alternative decisions on grain/beef production. Additional effort is directed toward development of cool season perennial forage grasses to complement wheat pasture. The proposal for fiscal year 1999 has been requested.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher believes that this work addresses the needs of wheat/cattle producers of Oklahoma as a primary focus. However, it would appear to have application regionally in adjacent wheat growing states.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this research was to develop economically-viable management systems for use of wheat for supplemental pasture for beef cattle before the crop starts making grain. This work has already shown how the use of feed supplements can increase net profit from cattle grazing on wheat pasture. The study has identified management practices, e.g. date of planting, cultivar selection, grazing intensity, and date of cattle removal that produce the optimum grain yield and cattle gain. A Wheat/Stocker Management Model has been developed as a decision aid to help producers assess income risk in the operation. Work is underway on a Wheat Grazing Systems simulation model.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1989 and appropriations were as follows: fiscal year 1989, $400,000; fiscal year 1990, $148,000; fiscal year 1991, $275,000; fiscal years 1992–1993, $337,000 per year; fiscal year 1994, $317,000; and fiscal years 1995–1999, $285,000 each year. A total of $3,239,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant were as follows: $175,796 state appropriations in 1991; $174,074 state appropriations in 1992; and $236,584 state appropriations in 1993. The non-federal support for 1994 was $238,058 for state appropriations. Funds for fiscal year 1995 were $275,426, for 1996 were $120,000, for 1997 were $190,510, and for 1998 $224,500.

Question. Where is this work being carried out?

Answer. The research is being done at Oklahoma State University.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. This project started in 1989 with a projection of 10 years to complete the research objectives. Some objectives are nearing completion while others will require further study. A number of wheat cultivars have been identified which will tolerate grazing and still produce economic grain yields. The grazing cut off date for grain production has been established. However, year to year variation need additional study in order to develop a reliable decision support system.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. This program is reviewed annually. Each year's funding cycle is peer reviewed internally and by CSREES National Program Leaders for scientific merit and relevance. Results from this project are currently being used by ranchers to help with management decisions concerning stocker cattle grazed on wheat that will be harvested for grain. Current work is designed to refine the current information and identify wheat cultivars and grazing management for optimum economic return.

EXPERT IPM DECISION SUPPORT SYSTEM

Question. Please provide a description of the research that has been funded under the Expert IPM Decision Support System grant.

Answer. A prototype information and decision support system was developed in collaboration with Purdue University and the Department of Energy's Argonne National Laboratory that integrates and manages information from multiple data sources. Development of this system now continues with the collaboration of the Office of Pest Management Policy—OPMP—and the National Science Foundation Center for Integrated Pest Management—CIPM—at North Carolina State University—NCSU. Components of the Pest Management Information Decision Support System—PMIDSS—include information on the U.S. Environmental Protection Agency—EPA—review status of pesticides, crop losses caused by pests, status of minor use registrations—IR–4—current research in progress, and priorities of IPM implementation teams. The PMIDSS data, along with OPMP/Pesticide Impact Assessment Program—PIAP—crop profiles, provide the background information that is critical to the development of commodity-specific transition strategies in response to the Food Quality Protection Act—FQPA—driven regulatory decisions.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. When fully operational, the PMIDSS will serve national, regional, and local needs for research and extension activities. At the national level, the system supports the USDA/EPA Memorandum of Understanding—MOU—to identify crop

protection gaps and to find alternatives to pesticides either under FQPA regulatory review or those being lost due to pest resistance. The system will assist in the identification of priorities for the Pest Management Alternatives Program and regional IPM Special Grants and Special Projects. It will provide a mechanism for decision transparency and for all stakeholders to interact with the priority setting process. The ultimate result will be to help insure that farmers have adequate alternatives for managing pests at the specific local level.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal of the PMIDSS was to refine the process of identification for IPM needs of USDA, EPA, and the states. This goal reinforces the state and Federal partnerships to disseminate important pest management information for improved decision making and environmental quality, and to address future needs. In 1996 and 1997, the program addressed priority commodity pest management needs resulting from voluntary pesticide cancellations and regulatory cancellations, responding to the MOU and a supplemental MOU between EPA and USDA. The supplemental MOU was signed in April 1996, at which time there were 58 pesticides and 374 uses identified and prioritized. The process included information on cancellations furnished by EPA. Selected uses were sent to the states' PIAP and IPM networks. Impacts of cancellations affecting individual states were reported for inclusion in the decision support system. Twenty-five minor use crops on which 40 specific pests were identified in the 1997 Request For Proposals. Results were also used by the regional IPM grants program Request For Proposals. The Pest Management Alternatives Program WorkBench prototype—a major component of PMIDSS—was made accessible on a test basis through a web-based server maintained by the CIPM at North Carolina State University and the software has been delivered. A web-based pest management information system that allows concurrent multiple database searches of four key databases—Crop Profiles, National Council for Food and Agricultural Policy—NCFAP—Pesticide Use Data, OPMP Pipeline, and the Reregistration Notification Network—is presently available through a secure web server maintained by CIPM.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. This work began in 1994 with development of the concept and design, and has proceeded through steps including database identification and specific development of a prototype and software. Current development is to bring the product to the web and provide multiple database search capabilities for ease of data access. In fiscal year 1994, we expended $40,000 of CSREES administrative funds and $90,000 from Science and Education Evaluation Funds to initiate collaborative work with the Argonne National Laboratory. In fiscal year 1995, we expended $172,000 as a Cooperative Agreement with Purdue University and Argonne National Laboratory from the Pest Management Alternative Special Grant Funds and $5,000 from PIAP funds. In fiscal year 1996, we expended $177,000 in a cooperative agreement with Purdue University and Argonne National Laboratory from Pest Management Alternative Special Grant Funds, $21,000 from Research, Extension, and Education Evaluation Funds, and $40,000 from PIAP funds—for development of PIAP data fields. In fiscal years 1997 and 1998, we expended $165,425 and $177,000 to Purdue University and Argonne National Laboratory. In fiscal year 1999 we are expending $177,000 to NCSU–CIPM, to make the system web-based and provide access to multiple databases.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. It is difficult for us to estimate the amount of non-federal funds supporting the PMIDSS. Purdue University, Cornell University, and NCSU have contributed non-federal resources in the form of dollars and personnel time. The CIPM at NCSU is supported in large part by corporate funds, part of which have underwritten Center personnel salaries. A number of states have provided information that is part of the information base. Many program areas are contributing databases that are part of the Pest Management Information Decision Support System.

Question. Where is this work being carried out?

Answer. Presently, the bulk of the work is carried out in Washington, D.C. and in Raleigh, North Carolina. CSREES has National Program Leaders in IPM, PIAP, and IR–4 program areas working on PMIDSS. The CIPM at NCSU manages the web server where the prototype and a pest management information system is located and is developing the multiple concurrent database search and decision support capability. Interaction and information is provided by every state in our system. We are in the process of strengthening the role of Land Grant partners in this

program and additional database access is being developed through CIPM at NCSU and through a sub-contract with George Mason University.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. Our original estimate was two to three years with adequate resources to complete the developmental work. However, the design considerations became more complex with the 1996 passage of the FQPA. Program needs dictated an expansion and change in information bases. In addition, technology that was unavailable in 1994—the web—is now a major and needed part of the program strategy. We feel we are reasonably addressing FQPA objectives with available resources to become an ongoing activity of the USDA. Utility of the system to the Agency, Land Grant partners, and the private sector stakeholders will increase as additional databases are added to both the data access and decision support aspects of the project. It is critical that the data sources be maintained as part of an interconnected system. Toward that end, the PMIDSS team is now working directly with many data providers—IR–4, NASS, NCFAP—and users—CSREES, OPMP, EPA, commodity groups, and agribusiness—to assure that needed data are available, consistent, current, and searchable. The PMIDSS program is a key component for transparent data access and decision support for FQPA responses by OPMP and CSREES.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation.

Answer. PMIDSS underwent a formal review in June 1997, and a major piece of the system, the Pest Management Alternatives Program WorkBench, was reviewed by regionally-selected land grant scientists and others in November 1997. In August 1998, a progress review evaluated the engineered software product and determined the need for a web-accessible multiple database search and look-up function for the system. A concept review held in September 1998 demonstrated the functionality of a web-based decision support system. The June review recommendations included: focus the system on the needs of the Pest Management Alternatives Program, timely delivery of the software product to USDA, and development of a plan to sustain the system in a user-friendly, widely available format. The November evaluation of the WorkBench brought the following comments and recommendations: the WorkBench provides good linkages to relevant databases and brings together essential information on pest management issues; the system should be placed on the World Wide Web for greater access and utility; tell potential users that it is available; and invest in high quality databases to support and enhance data integrity of the WorkBench. Development now focuses on the needs of the Pest Management Alternatives Program, the requirements of FQPA, and an easy-to-use interface for data search and access. Data access is focused on current and transparent databases to address critical FQPA needs.

FARM AND RURAL BUSINESS FINANCE: ILLINOIS AND ARKANSAS

Question. Please provide a description of the research that has been funded under the farm and rural business finance program.

Answer. Federal funding for this project provides partial support for the Center for Farm and Rural Business Finance which conducts a program of research and information on the financing of farms and rural businesses in the United States. The plan of work focuses on the financial management performance of farm and rural businesses, evaluation of financial markets and credit institutions serving rural America, and the impacts of public policies and regulations on the structure and performance of rural financial markets. This project addresses some of the same issues included in the RRF Project NC–221, Financing Agriculture and Rural America: Issues of Policy, Structure, and Technical Change. Professional staff at the two institutions are engaged in both projects. Proposals for the grant funds for this special project are peer reviewed at the performing institutions and are reviewed for merit within the CSREES when received. Additional peer review occurs with the Hatch project included in NC–221.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. The need is national in scope in that the shifting policy environment, the changing structure within the agricultural sector, and managerial responses to technical change and changes in tax regulations have nationwide impacts. Regional and local needs vary with the commodity mix in the agricultural sector and the availability of financial institutions and services to meet local needs. The new agricultural policies that have altered the "safety net" significantly increase the financial risk for farmers, ranchers, and agribusinesses. Changes to the Federal income tax,

capital gains tax, and estate tax provisions can have significant impacts on owners of agricultural assets. Consolidations are occurring within the Farm Credit System, and increased integration and coordination at the farm level within hog and other concentrated enterprises are providing access to additional sources of capital.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal is to assist farmers, ranchers, and rural businesses with research-based information on financial management as they face increasingly complex financial markets. The project is completing projects on the post-acquisition performance of banks resulting from recent mergers, levels and trends in small farm and small business lending across different types of commercial banks, and the measurement and classification of the financial performance of agribusiness firms. Additional projects have developed a model of working capital management applicable to a wide variety of selected agribusiness firms and have identified primary risks associated with lending to integrated farm production units. Other projects are measuring the longer term impacts of changes in the Federal tax laws on the financial performance of Illinois farms, evaluating the financial characteristics of rural banks and assessing their competitiveness in rural financial markets, and identifying the financial characteristics of high performing agricultural banks. A project at the University of Arkansas is analyzing the effects of financing in accelerating the cattle cycle.

Question. How long has the work been underway, and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work has been underway since 1992. Appropriations were $125,000 in fiscal year 1992, $125,000 in fiscal year 1993, $118,000 in fiscal year 1994, $106,000 per year in fiscal year 1995 through fiscal year 1997, $87,000 per year in fiscal year 1998 and fiscal year 1999. Appropriations through fiscal year 1999 total $860,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal sources and funds provided for this program in fiscal year 1992 totaled $259,427 with $58,427 in State appropriations, $189,000 from industry and $12,000 from miscellaneous sources. In fiscal year 1993, the total was $287,890 with $94,588 in State appropriations, $133,000 from industry, and $25,000 from miscellaneous sources. In fiscal year 1994, the total was $391,000 with $221,000 coming from State appropriations, $45,000 from industry, and $125,000 from the National Research Initiative competitive grants programs. In fiscal year 1995 the total was $185,000 where $46,000 came from State appropriations, $62,500 from industry and $76,500 from miscellaneous sources. In fiscal year 1996, the total was $344,000 where $294,000 was appropriated from State sources and $50,000 from private sources. In fiscal year 1997, $125,000 was appropriated from State sources, $103,000 was received through a National Research Initiative grant, and $130,876 was received from the Council on Food and Agricultural Research. In fiscal year 1998, $176,250 was received from a Fund for Rural America grant, $65,000 from a CSREES Special Research Grant, and $20,000 from miscellaneous sources. Non-federal support for fiscal year 1999 has not been identified.

Question. Where is the work being carried out?

Answer. Researchers and professional staff conducting this program are located at the University of Illinois and the University of Arkansas.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original objectives of the program, as amended with additional funding and new termination dates, now extend to fiscal year 1999. Although initial objectives have been met, new developments in the rural finance environment call for continuing work to address new dimensions of the objectives. Anticipated completion dates of these amended objectives extend through fiscal year 1999.

Question. When was the last agency evaluation of this project? Provide a summary of the latest evaluation conducted.

Answer. The project is evaluated periodically during the year through direct contact with the Director of the Center and the project leaders, as reports are received, and annually when proposals are submitted. Internal agency criteria are used to evaluate the program in terms of whether objectives are being met, appropriate methods are being used, and timelines are being met to a reasonable extent. The general objectives of this program continue to be met and results from specific projects are evaluated as they evolve. The latest evaluation shows 16 separate projects underway that have or are nearing completion. Results are applicable to issues within the rural finance community. A National Symposium for Agricultural

Finance Executives provides a valuable service and visibility for the Center. The program has led to an impressive number of publications by the Project Director and the project leaders. Articles have been published in leading U.S. agricultural and finance journals and in international journals addressing the same topics.

FEED BARLEY FOR RANGELAND CATTLE, MONTANA

Question. Please provide a description of the research that has been funded under the Feed Barley for Rangeland Cattle, Montana grant.

Answer. This project will support research on the nutritional value of barley cultivars as feed for beef cattle. This effort will assist with the breeding and selection of superior types that can be more competitive with other feed grains and improve farmer income from barley crops grown in rotational systems in the Northern Great Plains. The project was subjected to a merit review.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. Barley as a feed grain is grown extensively in the United States. Based on chemical analyses and the experience of some cattle feeders, the principal researcher believes it should have a feed value on par with corn and wheat. However, it is listed as inferior to both in feeds hand books and is, therefore, discounted in the market. Comprehensive feeding studies of various barley types will be conducted to document the value as a feed grain for beef cattle.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this research was to determine the true feed value of barley for feeder cattle, and thereby improve the economic return to barley production.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1996 and the appropriation for fiscal year 1996 was $250,000, for fiscal year 1997, $500,000, and in fiscal years 1998 and 1999, $600,000 per year. The total appropriation is $1,950,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Non-federal funds for this project were $160,000 in 1996, $174,500 in 1997, and $168,000 in 1998.

Question. Where is this work being carried out?

Answer. Research will be conducted at Montana State University.

Question. When was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The anticipated completion of the original objective is fiscal year 2001. Integrating of findings into management systems is expected by 2005 with outreach and information dissemination completed by 2010.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted?

Answer. The project is evaluated annually. It undergoes a scientific merit review by two Department Heads and three peer faculty members. It is reviewed again by a CSREES scientist upon submission.

FLORICULTURE, HAWAII

Question. Please provide a description of the research that has been funded under the floriculture program grant.

Answer. The research carried out with these funds involves wholesale and retail U.S. and Japan market research, development of new varieties for aesthetic values and pest resistance, and pest management strategies to meet quarantine needs and consumer expectations.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The researcher believes the tropical cut flower and foliage industry in Hawaii, which includes anthurium, orchids, flowering gingers, bird of paradise, heliconia, protea, and cut foliage is worth over $50,000,000 primarily in out-of-state sales. Development of disease resistant cultivars and quarantine pest management strategies that reduce pesticide usage are high priority issues at the national level.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of the research was to develop superior Hawaii anthuriums, orchids, protea, and exotic tropical flower varieties with disease resistance, particularly to anthurium blight which devastated the Hawaii anthurium industry through the mid-1980's and reduced Hawaii's market share. Additionally, research focused on development of post-harvest handling practices and quarantine pest control. To date, a new anthurium cultivar has been patented and released. Additional blight resistant cultivars are being propagated and tested by the anthurium industry. Disease resistant protea germplasm has been obtained from South Africa and is being used in the protea breeding program. A post-harvest hot water dip treatment has been developed and is being used commercially on tolerant cutflower species to meet quarantine requirements.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal year 1989, $300,000; fiscal years 1990–1993, $296,000 per year; fiscal year 1994, $278,000; and fiscal years 1995–1999, $250,000 each year. A total of $3,012,000 has been appropriated since 1989.

Question. What is the source and amount of nonfederal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant were as follows: State appropriations of $87,937 in 1995, $56,680 in 1997, and $62,600 in 1998 for a total of $207,217 since 1995.

Question. Where is this work being carried out?

Answer. Research is being conducted by the University of Hawaii at Manoa and Hilo.

Question. When was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The objectives in the original project were to maintain Hawaii floricultural industry competitive. This objective continues to be the principal direction for the projects. Because the industry and the markets are changing pests are becoming either resistant or newer strains. And quarantines are changing with technology the objective remains valid.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The individual projects funded under this Special Research Grant are evaluated through merit review to ensure that good science is being used. This evaluation is the major tool used to award funds to the projects.

FOOD AND AGRICULTURE POLICY INSTITUTE, IOWA AND MISSOURI

Question. Please provide a description of the research that has been done at the food and agriculture policy institute program.

Answer. The Food and Agriculture Policy Research Institute—FAPRI—was established by Iowa State University and the University of Missouri, Columbia, in 1984. The purpose of the institute is to conduct comprehensive analyses and disseminate results about the economic impacts of U.S. food, farm, and trade policies to agricultural producers, agribusinessmen, and public policymakers. Iowa State conducts research on the economic interrelationships within and between domestic and foreign food and agricultural markets from the farm gate to market destinations; develops and maintains databases and analytical support systems to facilitate the analysis of agricultural and trade policy issues; and evaluates the impacts of U.S. and foreign commodity supply, demand, and public policy programs on agricultural trade. The University of Missouri maintains models of the domestic agricultural economy and directs its efforts primarily to the analysis of domestic policy issues. The two universities maintain linkages with a number of other universities who provide data and analytical support to the system.

The universities maintain a comprehensive analytical modeling system of the U.S. and international food and agricultural sectors to evaluate near-and long-term economic implications of alternative farm policies for the basic commodities. Each year, and more often if conditions require, the system is used to provide economic information on potential impacts out to 10 years in the future of farm policies on farm prices, income, output, government program cost and means to enhance the management of farm programs at the national level.

Question. According to the research proposal, or the principal researchers, what is the national, regional, or local need for this research?

Answer. The Nation's agricultural sector and its components are subject to numerous Federal policies and programs. FAPRI is the only publicly-supported, non-fed-

eral organization with the analytical capability to assess and evaluate the numerous public policies and programs affecting the agricultural sector and report results to a broad constituency including farmers, agribusinessmen, and Federal and State policymakers.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal was to develop the analytical capability to assess and evaluate U.S. farm policies on the U.S. agricultural sector and disseminate this information to farmers, farm and other agricultural organizations, and public policymakers. The mission has been expanded to include assessment of trade and environmental policy impacts and their interaction with the agricultural sector at national, regional, and farm levels. The models in place are also used to assess fiscal and monetary policy implications and impacts of new technologies such as biotechnological innovations on the agricultural sector.

Both institutions maintain large econometric models and data sets which are regularly updated to analyze farm and trade policy alternatives and the impacts of various programs on the several sub sectors of the agricultural economy. This update was especially valuable for conducting analyses to assess policy options for the 1996 farm bill. During the past year, the FAPRI completed 35–40 studies addressing policy issues such as assessments of the 1996 Farm Bill, alternative ethanol programs, USDA's proposed milk market order reform, U.S.-Canada agricultural trade, the importance of fast track to U.S. agriculture of economic recession in the Middle East and the economic meltdown in Russia. Numerous studies were completed addressing improvements made to the empirical modeling system to improve domestic and international policy capabilities. The FAPRI staff has made numerous public appearances throughout the U.S. to agricultural groups and Congressional committees and Executive branch groups addressing policy issues.

Question. How long has the work been underway and how much has been appropriated through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal years 1984–1985, $450,000 per year; fiscal years 1986–1987, $357,000 per year; fiscal year 1988, $425,000; fiscal year 1989, $463,000; fiscal year 1990, $714,000; fiscal years 1991–1993, $750,000 per year; fiscal year 1994, $705,000; fiscal years 1995–1996, $850,000 each year; and fiscal years 1997–1999, $800,000 each year. The total amount appropriated is $10,271,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant are as follows: $260,355 State appropriations, $113,565 industry, and $37,913 miscellaneous for a total of $411,833 in 1991; $321,074 State appropriations, $51,500 industry, and $35,100 miscellaneous for a total of $407,674 in 1992; $234,796 State appropriations and $70,378 industry for a total of $305,174 in 1993; $78,286 State appropriations, $43,925 industry, and $29,750 miscellaneous in 1994 for a total of $151,961 in 1994; $80,155 State appropriations, $37,128 industry, and $42,236 miscellaneous for a total of $159,519 for 1995; $124,123 in State appropriations with no other funding for 1996; and $79,000 in State appropriations, $50,000 industry, and $25,000 miscellaneous for a total of $154,000 in 1997; and $88,800 State appropriations, $75,200 industry, and $34,687 miscellaneous for a total of $198,687 in 1998.

Question. Where is this work being carried out?

Answer. The program is carried out at the Center for Agriculture and Rural Development, Iowa State University and the Center for National Food and Agricultural Policy, University of Missouri.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. This is a continuing program of research and analysis for the purpose of assessing farm and related policy actions and proposed actions likely to affect the agricultural sector and its components.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The annual proposal is carefully reviewed for adherence to stated objectives and progress before the special research grant in awarded. It is also peer reviewed prior to its submission. No formal evaluation of this program has been conducted.

FOOD IRRADIATION, IOWA

Question. Please provide a description of the research that has been funded under the food irradiation grant.

Answer. Since the Linear Accelerator Facility was placed in operation in March 1993, studies on the effect of irradiation on shelf-life extension, safety, and quality of ground beef, beef steaks, ham, pork chops from loins, chicken breasts, and turkey have been conducted. Studies combining irradiation with high hydrostatic pressure and cooking, using whole chicken breasts, turkey, and ham, have been conducted to determine the combination of these treatments that will yield a shelf-stable product while maintaining high eating quality. Several studies were conducted to determine whether consumers can detect a difference between irradiated and non-irradiated ground beef patties. Experiments were also conducted to investigate consumer acceptance of pork products irradiated to prevent trichinosis. Test markets of irradiated chicken breasts were conducted to determine consumers' willingness to pay for irradiated products. Research on the effect of packaging materials on quality of irradiated meat is in progress. The fiscal year 1998 funds are supporting research from May 1, 1998 through June 30, 1999. CSREES has requested, but not yet received, a proposal in support of the fiscal year 1999 appropriation.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher believes consumers' attention and concern about the safety of fresh meat and poultry has increased with recent outbreaks of foodborne illness from E. coli 0157:H7. The meat industry has also expressed interest regarding the quality of irradiated products and how this process can be used to yield high quality fresh meats that are free of pathogens. The recent massive recall of over 25,000,000 pounds of ground beef due to illness caused by E. coli 0157:H7 contamination has resulted in huge economic losses. With the recent Food and Drug Administration—FDA—clearance of irradiation of red meat, research needs leading to commercialization of this technology have been enhanced. Additionally, researchers from eight other research institutes have used the irradiation facility for research projects. Thus, the principal researcher believes this research to be of national, regional, and local need.

Question. What was the original goal of the research and what has been accomplished to date?

Answer. The original goal of the research was to generate knowledge necessary to develop a research and technology transfer program leading to commercial use of irradiation of foods, whereby consumers would be provided with food products with enhanced safety. The effectiveness of irradiation, using an electron beam accelerator, in destroying known pathogenic bacteria in pork and beef has been determined. Mathematical models have been developed to predict the growth of bacteria in low-dose irradiated ground pork. Demonstration of irradiation technology has been presented to some commercial firms, and plans are being developed for some large scale test markets.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1991 when $100,000 was appropriated for this project. The appropriations for fiscal years 1992 and 1993 were $237,000 per year; fiscal year 1994, $223,000; fiscal years 1995–1997, $201,000 each year; and fiscal years 1998 and 1999, $200,000 per year. A total of $1,800,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The project received $1,037,270 in State of Iowa funds—$1,000,000 of which was for capital construction—in fiscal year 1991; $37,942 in state funds and $67,800 in industry grants in fiscal year 1992; $68,897 in state funds, $78,300 in industry grants, and $9,666 in user fees in fiscal year 1993; $70,652 in state funds, $35,420 in industry grants, and $47,788 in user fees in fiscal year 1994; $72,772 in state funds, $100,000 in industry grants, and $55,211 in user fees in fiscal year 1995; $81,540 in state funds, $115,300 in industry grants, and $50,963 in user fees in fiscal year 1996; $77,963 in state funds, $253,450 in industry grants, and $46,550 in user fees in fiscal year 1997; and $100,200 in state funds, $205,900 in industry grants, and $36,200 in user fees in fiscal year 1998.

Question. Where is this work being carried out?

Answer. Research is being conducted at Iowa State University.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The principal investigator anticipates that the project's original objectives will be met within a few years after the USDA final rules are issued.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. A review of the proposal supporting the fiscal year 1998 appropriation was conducted on January 16, 1998. Previous studies funded under this project have provided useful information toward understanding how irradiation can be useful in eliminating or reducing foodborne pathogens in meat products. It is anticipated that the proposed research will continue to further the understanding of how irradiation can be used to improve shelf-life and enhance safety of meats and meat products.

FOOD MARKETING POLICY CENTER, CONNECTICUT

Question. Please provide a description of the research done under the Food Marketing Policy Center grant.

Answer. The Food Marketing Policy Center was established in 1988 at the University of Connecticut at Storrs. The Center conducts research on food and agricultural marketing and related policy questions. The intent is to provide information that contributes to improved performance of the food production and marketing system. The Policy Center is primarily an economic research organization, but it conducts interdisciplinary research as appropriate and it communicates results to the public. Key users include farm and consumer organizations, agricultural business firms, public agencies, state legislatures, and the U.S. Congress. The Center facilitates research at cooperating institutions by organizing research workshops twice annually, furnishing common data bases, preparing research publications, and providing leadership for joint research efforts including the sponsorship of research conferences.

This grant is not competitively awarded at the state or regional level, but the proposal is reviewed by the Experiment Station Director and the Department Head, and is subject to internal merit review.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. The research proposal identifies an ongoing national need to continually improve the economic efficiency and operation of the U.S. food marketing system to benefit farmers, merchants, processors, and consumers.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The ongoing research goal is to identify marketing problems and assess alternatives that improve economic performance of the U.S. agricultural and food marketing sector. The Center serves as a core research group for Regional Research Project NE–165, Private Strategies, Public Policies, and Food System Performance. The research agenda includes industrial organization, strategic marketing, economics of food safety, cooperatives, and public policy including antitrust and regulation. The Food Marketing Policy Center conducts economic research on food marketing, including descriptions of food quality issues and enhancement policies, private label branding, advertising strategies for cooperatives, assessment of food retail mergers and competition, evaluation of dairy regulations, branded product marketing, supermarket chain entry, oligopsony in agricultural markets, and impacts of cooperatives on food market performance.

The Center has prepared and distributed over 45 working papers, 35 policy research reports, 16 policy issue papers, 8 books, and it has reprinted and distributed over 65 important journal articles to researchers, industry, and Federal and State legislators, and decision makers.

This grant will support work on nine projects with two targeted research problem areas: impacts of changes in strategies, technologies, consumer behavior and policies on the economic performance of the food system, and economic analysis of private and public strategies to assess their impacts on improvements in food safety and quality. Projects include competitive strategy analysis of cooperatives and investor-owned firms; firm dominance in food manufacturing; advertising; mergers, product relatedness and performance outcomes; effects of market structure and concentration on promotional activity; testing theories of oligopoly conduct; relationships between market structure, firm position, and price levels; strategic responses to food safety and nutritional regulation; and trade agreement effects on food quality and trade.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal year 1988, $150,000; fiscal year 1989, $285,000; fiscal year 1990, $373,000; fiscal years

1991–1993, $393,000 per year; fiscal year 1994, $369,000; fiscal years 1995–1998, $332,000 each year; and fiscal year 1999, $400,000. A total of $4,084,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant are State appropriations as follows: $234,259 in fiscal year 1991; $231,741 in fiscal year 1992; $201,288 in fiscal year 1993; $234,557 in fiscal year 1994; $219,380 in fiscal year 1995; $134,399 in fiscal year 1996; $135,490 in fiscal year 1997; and in fiscal year 1998, $164,772 at the University of Connecticut and $30,000 at the University of Massachusetts. The decline reflects a change in reporting only salary and related fringe benefits and excludes overhead for facilities and utilities.

Question. Where is the work being carried out?

Answer. The research is being carried out by the Agricultural Experiment Station at Storrs and at the University of Massachusetts.

Question. What was the anticipated completion date for the original objectives of the projects? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original proposal in 1987 was for 24 months. According to the principal researcher, the objective of conducting policy-oriented research on food manufacturing and distribution industries to assist state and Federal policy makers in improving the performance of the food system is still an ongoing public concern, given increasing levels of concentration in food processing. The current phase, initially funded in fiscal year 1997, will be completed in 2001.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. CSREES annually reviews project reports, succeeding annual project proposals, research studies, and educational programs. A merit review of the fiscal year 1998 proposal was conducted in February 1998, and a similar review of the fiscal year 1999 proposal will be conducted. A comprehensive outside review was conducted in April 1998. Assessment criteria include peer review of results and publications, administrative review and approval of proposals, and reports by external sources.

FOOD PROCESSING CENTER, NEBRASKA

Question. Please provide a description of the research that has been funded under the food processing center grant.

Answer. The University of Nebraska Food Processing Center has been conducting short-term, highly-applied research projects to assist small and mid-sized food processing companies and entrepreneurs to develop or improve processes and products and to develop new food processing enterprises. Projects were selected based on the estimated economic impact of the technical assistance or the criticality of the technical assistance to the future of the firm or venture. Priorities were placed on projects relating to the safety of the food product or process and to the fulfillment of regulatory mandates such as nutrition labeling, use of approved and effective ingredients, and adherence to regulations imposed by foreign governments. In addition, several research projects were conducted to improve or assess the quality, extend the shelf-life, or assess or improve the processing efficiency of specialty food products which impacted several processors or used alternative agricultural products. fiscal year 1998 funds are supporting research from July 1, 1998 through June 30, 1999. CSREES has requested, but not yet received, a proposal in support of the fiscal year 1999 appropriation.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher believes the primary impact of this project will be statewide. Small and mid-sized food processing companies and entrepreneurs have limited technological capabilities for addressing issues related to product development, process development, product and process evaluation, food safety, quality assurance, and regulatory mandates. The short-term research and technology transfer projects conducted as part of this overall project will aid these companies in appropriately addressing these oftentimes complicated issues.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal of the research, as stated previously, is to assist small and mid-sized food processing companies and entrepreneurs to develop or improve processes and products and to develop new food processing enterprises. Technological evaluations were conducted for 120 individuals or companies interested in developing new

food processing businesses. These evaluations included formulations, processes, processing equipment, packaging, shelf-life, sensory, nutritional attributes, microbiological quality, regulatory considerations, and other factors. Additionally, microbiological analyses, shelf-life assessments, sanitation audits, and nutritional analyses were conducted for numerous Nebraska food companies.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1992. The appropriations were $50,000 per year for fiscal years 1992–1993 ; $47,000 for fiscal year 1994; and $42,000 per year for fiscal years 1995–1999. A total of $357,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The Food Processing Center received $402,389 in State funds and $1,771,856 in food industry grants and miscellaneous sources from 1992 through 1998.

Question. Where is this work being carried out?

Answer. Research is being conducted at the University of Nebraska.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. Because this project supports ongoing technical assistance to clients, the objectives are ongoing.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. An agency science specialist conducts a merit review of the proposal submitted in support of the appropriation on an annual basis. A review of the proposal was conducted on January 12, 1998. Progress under previous grants for this project appears to be satisfactory, with numerous examples of assistance cited and summaries of short-term projects provided by the principal investigator.

FOOD QUALITY, AK

Question. Please provide a description of the research that has been funded under the Food Quality, Alaska grant.

Answer. This is a new grant in fiscal year 1999. Research will be aimed at establishing the Salmon Quality Implementation Project. The project has two parts. The first part is the evaluation, design, and implementation of a voluntary quality seal that can be attached to salmon that meet the existing standards for premium and number one grade. The second part is a series of workshops and training sessions on salmon quality handling and maintenance for workers at all levels of the industry, from harvesting to retail.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The seafood industry is Alaska's largest employer and main source of revenue in many communities along its 38,000 miles of coastline. The salmon fishery is second only to groundfish in providing the most value in the industry. It is the mainstay of many traditional, family-owned businesses. The salmon industry is regional, involving thousands of fishermen and processing workers from Washington State, Oregon, California, and throughout the nation that come to Alaska to participate in the fishery. In recent years, the Alaska salmon industry has suffered economically from increased competition from international salmon farmers, mainly in Norway and Chile. They have made great inroads in many traditional markets, surpassed Alaska in salmon production, and now set the product standard in the marketplace. One key for American businesses to recapture and strengthen their salmon markets is to guarantee and promote the quality of wild Alaska salmon. This project will provide the industry with the research and information needed to accomplish this.

Question. What was the original goal of the research and what has been accomplished to date?

Answer. The original goal of this research was to ensure a consistent and predictable level of handling and quality for Alaska seafood. In doing so, the project will help Alaska seafood processors strengthen or maintain their place in domestic and international markets. Because this is a new grant, no progress has yet been reported.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant begins in fiscal year 1999 and the appropriation for fiscal year 1999 is $350,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The State of Alaska, the Alaska Seafood Marketing Institute, and the industry will contribute considerable personnel hours to perform the work described in the application. The state will contribute the time of several staff people to research and help establish the voluntary quality seal program. Staff time would account for approximately $10,000. The Alaska Seafood Marketing Institute will have a staff person set up training workshops throughout Alaska.

Question. Where is this work being carried out?

Answer. The work will be administered at the University of Alaska Fairbanks. Field work will be carried out in numerous Alaska fishing communities.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The anticipated completion date for the quality and handling training portion of the project is July 1, 2000. The anticipated completion date for the voluntary quality seal portion of the project is December 31, 2000. The project managers will able to report at that time on their success at meeting project objectives.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. It is anticipated that the proposal received in support of the fiscal year 1999 appropriation will be reviewed for merit by a CSREES specialist shortly after it is received by the agency.

FOOD SAFETY

Question. Please provide a description of the research that has been funded under the Food Safety grant.

Answer. This program is to provide funding for competitively-awarded research grants. The focus of the program is on very high priority issues each year and it reflects areas of major importance under the Food Safety Initiative. The request for proposals for fiscal year 1998 focused on major issues related to the safety of fresh and minimally processed fruits and vegetable which is an area of concern to the public. For fiscal year 1999, we will request proposals that again address the safety of fresh fruits and vegetables, and request proposals in two additional areas of food safety of major importance: the scientific basis for critical control points in food processing and handling and risk assessments on bacterial pathogens in foods. For fiscal year 2000, the focus will continue to be on current and emerging National issues in food safety. The input of stakeholders and other Federal agencies will again be used to determine the focus. It is expected that risk assessments related to foodborne pathogens, the scientific basis for critical control points and critical limits, and the development of safe and efficacious techniques to enhance or ensure microbiological safety will continue to be important. The specific food groups targeted will be chosen to respond to high priority issues, and it is also anticipated that minimally-processed and ready to eat foods—which can include fruits, vegetables, meat, and dairy products—will continue to be viewed as important.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. As part of the needed research effort under the President's Food Safety Initiative, this program addresses gaps in information available to support control measures in food safety in food production, processing, handling, and regulation. Several agencies and stakeholder meetings have combined to establish priorities for research for consumer protection and in support of regulatory actions in food safety. The request for proposals reflects these priorities.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal of this grant program is to support problem-solving food safety research that addresses current and emerging National issues in food safety. It is intended to respond to high-priority issues with information and interventions that will have applications in the near term. For this reason, the program stresses established or documented linkage with industry partner(s), and clear and effective plans for technology transfer to end users.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1998. The appropriation for fiscal year 1998 was $2,000,000 and for fiscal year 1999 is $5,000,000.

A total of $7,000,000 has been appropriated for this program. The fiscal year 2000 budget proposes $15,000,000 for an integrated program for food safety research and education.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Because this is a new program with the first awards being made in fiscal year 1998, we are unable to report contributions to this work from other funding sources.

Question. Where is the work being carried out?

Answer. Research funded through this program is being conducted at Cornell University, Rutgers University, North Dakota State University, Purdue University, Ag Innovations LLC, Pennsylvania State University, University of Delaware, University of Arkansas, University of Tennessee, Oregon State University, University of Florida, and Auburn University in 1998. All institutions will be able to compete for funding in 1999.

Question. What was the anticipated date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. This program first received funding for fiscal year 1998 and again in fiscal year 1999. Current and evolving concerns about food safety are expected to prompt continued funding of this program.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The research proposals for this program were evaluated by a peer panel of 13 scientists from universities, government, and industry. Of 40 proposals submitted to the peer review panel, 12 were selected for funding. The criteria used in evaluating the soundness of the proposed research were: conceptual adequacy of the hypothesis or approach as related to the program objectives; clarity and delineation of proposed project objectives as related to National issues and objectives; adequacy of the description of the proposed work; suitability and feasibility of the methodology for conducting the work; probability of success of the project; novelty, uniqueness, and originality; qualifications of the proposed project personnel, partnerships, and adequacy of the facilities; established or documented linkage with industry partner(s); and a clear and effective plan for educational outreach and technology transfer to end users.

FOOD SAFETY, ALABAMA

Question. Please provide a description of the research that has been funded under the Food Safety, Alabama, grant.

Answer. CSREES has requested the university to submit a grant proposal that has not yet been received. Auburn Research Center's Food Safety Program will develop a method of food inspection that involves the placement of a sensor chip on food items. The goal is for these chips to automatically inventory and assess the safety at any point from source to consumption on every food product sold in the U.S.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. Most food-borne illness can be attributed to bacteria. The sensor chips developed at Auburn University will target the bacteria that causes most of these illnesses. This technology could result in financial savings nationally, regionally, and locally through the prevention of food-borne illness and its related costs.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this project will be to reduce the incidence of food-borne illness through the use of a sensor chip that will assess the safety of food items as they move through the food chain. Since a grant proposal from Auburn University has not yet been received, there are no accomplishments to report to date.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant will begin in fiscal year 1999 and the appropriation for fiscal year 1999 is $300,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Since a grant proposal from Auburn University has not yet been received, the source and amount of non-federal funds for this research is not yet known.

Question. Where is the work being carried out?

Answer. Research will be conducted at Auburn University, in Auburn Research Center's Food Safety Program.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The anticipated completion date for the original objectives will be one year following the date of the award. The anticipated award date will be in April or May of fiscal year 1999. Since a grant proposal from Auburn University has not yet been received, related additional objectives are not yet known.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. Since a grant proposal from Auburn University has not yet been received, this research has not yet been evaluated by the agency.

FOOD SYSTEMS RESEARCH GROUP, WISCONSIN

Question. Please provide a description of the research that has been done under the Food Systems Research Group program.

Answer. The Group conducts research on contemporary issues affecting the organization and competitiveness of the U.S. food system in domestic and international markets. The issues include new technologies, market structure, and government policies and programs. Studies have been completed on pricing of cheddar cheese, fed cattle, and hogs; changes in private label product markets; causes of structural change in the flour milling, soybean oil milling, wet corn milling, cottonseed milling, beef packing, and broiler processing industries; competition in U.S. food markets; and the relationship between U.S. food market structure and the industry's performance in global markets. The research proposal was subject to an administrative review and a peer review by the university prior to submission to CSREES.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. The principal researcher believes that the U.S. food system is changing rapidly in response to a large number of global economic, social, and technological changes. Research is needed to determine the effects of these changes on the system's organization and performance, and to ascertain needed adjustments in public policies based upon sound research. There is a national need to assess and evaluate the organization and performance of the Nation's food industry to ensure that it continues to satisfy performance expectations of farmers and consumers and adheres to acceptable standards of conduct. In spite of the growing concentration in food production-processing and increasing public policy questions concerning the performance of this industry, few organizations like the Food Systems Research Group are providing research needed for public and private decision making.

Question. What was the original goal of this research, and what has been accomplished to date?

Answer. The original goal was to assess and evaluate the organization and performance of the U.S. food industry and provide recommendations for improvements. Recent work in the broiler industry shows that increased productivity and reduced real feed costs have significantly increased the competitiveness of the sector and stimulated market growth. Other empirical studies show that strong antitrust policies result in improved international competitiveness of U.S. firms, and that competition is essential for achieving greater efficiency and technological progress. A few years ago the Group completed a study of the National Cheese Exchange which resulted in a major public report, Congressional hearings, and a Wisconsin task force. Alternative pricing mechanisms were developed to avoid the problems of a very thin market which is used to price a large volume of off-market sales. The Group has completed numerous studies on economic structure and performance issues of the U.S. food manufacturing and distribution system. Basic research is conducted on market theories; effects of mergers, new technologies, and firm conduct on industry structure and organization; factors affecting industry prices, profits, efficiency, and progressiveness; and impact of public policies and regulations on food system organization and performance.

Question. How long has this work been underway, and how much has been appropriated through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal years 1976–1981, $150,000 per year; fiscal years 1982–1985, $156,000 per year; fiscal years 1986–1989, $148,000 per year; fiscal year 1990, $219,000; fiscal years 1991–1993, $261,000 per year; fiscal year 1994, $245,000; fiscal years 1995–1998, $221,000 per year; and fiscal year 1999, $225,000. A total of $4,472,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant are as follows: State appropriations of $120,304 in 1991; $119,448 in 1992; $85,188 in 1993; $96,838 in 1994; $59,435 in 1995; $50,636 in 1996; $56,421 in 1997; and $64,004 in 1998.

Question. Where is the work being carried out?

Answer. The grant supports research at the University of Wisconsin, Madison.

Question. What was the anticipated completion date for the original objectives of the project? Have these objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original proposal in 1976 was for a period of 36 months. The current phase of the program will be completed in 2002.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. CSREES performed a merit review of the project in February 1998, as it evaluated the 1998 project proposal, and concluded that the Food Systems Research Group at the University of Wisconsin does excellent research on structure, conduct, and performance of selected segments of the food industry, and has won many professional awards. Much of the work provides empirical tests of competing theories. In spite of the growing concentration in food production-processing and increasing public policy questions concerning the performance of this industry, few organizations like the Food Systems Research Group are providing research needed for public and private decision making. Research results appear in several peer reviewed professional journals and the popular press, and researchers have ongoing dialog with private and public decision makers.

FORESTRY RESEARCH, ARKANSAS

Question. Please provide a description of the research that has been done under the Forestry Research grant.

Answer. The Arkansas Forest Resources Center offers programs of research, education, and outreach to the landowners of Arkansas and the surrounding region. This has been accomplished through continuing education events for landowners, the development of a series of distance-learning tutorials, and the funding of 20 assistantships for the first two classes of graduate students in the new forest resources master's program. A partial list of workshops includes: Uneven-aged Silviculture of Loblolly and Shortleaf Pine Forest Types, Environmental Law & Policy, Timber Income Tax Update, Thinning Methods and Operations, Introduction to ArcView 3.0, Estate Planning, Forest Finance Applications: Basic Tools for Daily Practice, and Opportunities in Forest Regeneration. The educational thrust has combined Center and private dollars to establish one of only three of the country's ArcView Learning Centers for natural resources. To better provide the highly educated professionals needed in the natural resources professions, educational tutorials are being developed in dendrology—tree ID, plant morphology, silvics—that aid in the (1) transfer of students in community colleges to institutions with forest resources offerings, and (2) forest resources education of non-majors at institutions without forest resources faculty. Furthermore, the University of Arkansas activated a new Master of Science program in the Fall 1998.

Research projects address issues of species diversity, richness, redundance, and the resilience of disturbed and undisturbed hardwood stands of the Mississippi River floodplain. Furthermore, research has indicated that neotropical migratory birds are indicators of ecosystem health. Factors influencing their breeding range include habitat destruction/alteration and forest fragmentation. Thus, issues of reestablishment and structure of hardwood stands are important for timber, non-timber values, and the quality of life enjoyed regionally, nationally, and internationally. Also, other projects are contributing to the development of (1) a biological control agent for the southern pine beetle, (2) alternative forest crops for the economically-depressed Delta region, and (3) technologies for enhanced fiber and wood production from nonindustrial and industrial lands. Newer projects include an important regional social science study of the ethical values held by people of the southern United States. These issues will grow in importance as southern forests assume greater proportions of the national demand for fiber and wood.

Question. According to the research proposal, or the principal researchers, what is the national, regional, and local need for this research?

Answer. With the reduced levels of production of wood products from the Northwest, southern forests are increasingly having to produce a major portion of wood products for the United States. This increased demand and production make it crit-

ical that the forestry community understand the possible environment effects of forestry practice. Social implications of the conflicts between forest production and environmental quality will become more and more important.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The thrust of goal one is developing alternative forest management strategies of achieving multi-resource objectives; i.e., production of timber, wildlife, recreation and other values of the forest on private industrial and non-industrial forest lands and pubic lands. Significant progress has been made in several areas. Some examples include: developing intensive fiber farming systems as alternatives to soybeans for Mississippi Delta farmers, taking the first step toward biological control of the southern pine beetle by discovering the nutrient needs of predators of the beetle so predators can be grown and studied in artificial cultures. The first survey of nonindustrial landowners in Arkansas for 15 years has been conducted. The survey shows that because of the average age of landowners—60+ years—there will be a massive change in ownership in the next 10–20 years. Landowners continue to not be aware of assistance programs. The survey also indicated a concern about government programs and possible intervention on private land. This information will be useful in understanding future timber supply trends from private holdings and in the design of assistance and educational programs.

Ongoing projects include a broad array of topics, competitively awarded within the Center. These include best management practices, ecological characteristics, effects of different forest management regimes, stream-sided buffer zone effectiveness, effects of winter logging, and secondary processing efficiency.

Question. How long has the work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows:

Fiscal year	*Funds Appropriated*
1994	$470,000
1995	523,000
1996	523,000
1997	523,000
1998	523,000
1999	523,000
Total	3,085,000

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funding and its source provided to this grant in 1994 was $411,726 State appropriations and $380,000 industry for a total of $791,726; $491,301 State appropriations and $785,262 industry for a total of $1,276,563 for 1995; a total of $695,204 from State and industry sources for 1996; a total of $1,115,341 from these sources in 1997; and an estimated total of $1,000,000 for 1998. For 1999, the State legislature appropriated approximately $850,000 above the 1998 level.

Question. Where is this work being carried out?

Answer. The Arkansas Forest Resources Center is administered from the School of Forest Resources on the campus of the University of Arkansas at Monticello. Individual studies are being conducted at the University of Arkansas at Fayetteville and several locations across the State.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. Grants were received in 1994–1999 with funds distributed for use over the 3 to 5 years following the activation year. Projects are on schedule; work from 1994 funding is nearing completion. Forestry research is long term. Center objectives and selected projects will be continued beyond the life of individual grants, using the infrastructure and capacity developed with these Special Research Grants.

Question. When was the last agency evaluation of the project? Provide a summary of the last evaluation conducted.

Answer. In 1991, an agency team visited Monticello and reviewed faculty qualifications, supporting sources, and the feasibility of the proposal. The team exit report indicated the faculty was highly capable, the infrastructure needed strengthening, and the proposal concepts were feasible. Since 1991, there has not been a formal program review; however, a review is planned for the year 2000, pending fund availability.

FRUIT AND VEGETABLE MARKET ANALYSIS, ARIZONA AND MISSOURI

Question. Please provide a description of the research that has been funded under the fruit and vegetable market analysis program.

Answer. The purpose is to provide timely knowledge and analysis of the impacts of trade, environmental, monetary, and other public policies and programs upon the Nation's fruit and vegetable industry to farmers, agribusinessmen, and policymakers through a program of empirical assessment and evaluation.

Question. According to the research proposal, or the principal researchers, what is the national, regional or local need for this research?

Answer. The U.S. fruit and vegetable sector is experiencing increased growth from greater domestic and export demand. However, the growth of this sector depends upon its ability to compete domestically and internationally and to conform with the regulatory environment in which it operates. This program of research provides increasingly critical information to farmers and policymakers on the implications and impacts of various policies and programs such as environmental, trade, labor, and food safety. It is the only such program providing analysis of the total U.S. sector.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal is to develop the analytical capability to assess and evaluate public policies and programs impacting the U.S. fruit and vegetable industry and disseminate the results to policy makers, industry organizations, producers, and other users. Proposals have been submitted that outline long-range plans and specific projects for funding. Models have been developed for 18 major, as measured in production, consumption, and trade, U.S. fruits and vegetables representing 80 percent of the farm value of the U.S. fruit and vegetable industry. Trade models for those commodities with a significant import and/or export sector will also be developed. These models feed into a larger food and agricultural sector model to support analyses of cross commodity and policy effects.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1994. The appropriation for fiscal year 1994 was $329,000; for fiscal years 1995–1998, $296,000 each year; and for fiscal year 1999, $320,000. A total of $1,833,000, has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funding and its source provided to this grant in 1994 was $50,073 State appropriations and $11,000 industry for a total of $61,073; $21,876 State appropriations and $36,624 industry for a total of $58,500 for 1995; a total of $62,400 from State and industry sources expected for 1996; and $50,000 each year from these sources in 1997 and 1998.

Question. Where is the work being carried out?

Answer. The work is being carried out at Arizona State University and the University of Missouri.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The university researchers anticipate that work is an ongoing project to look at the impact of various public policy proposals on the U.S. fruit and vegetable industry.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. We have conducted no formal evaluation. However annual proposals are peer reviewed for scientific merit and relevance; also each annual budget proposal is carefully reviewed and work progress is compared with prior year's objectives. Informal discussions with congressional staff indicate that analyses are extremely useful.

GENERIC COMMODITY PROMOTION, NEW YORK

Question. Please provide a description of the research that has been done under the generic commodity promotion program.

Answer. The grant supports, in part, the National Institute on Commodity Promotion Research and Evaluation which provides objective analyses of national and state commodity checkoff programs designed to enhance domestic and export demand. The overall project proposal was merit reviewed at the university level. A competitive peer review process is used to select specific research projects.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. The principal researcher states that producers are contributing about $1,000,000 annually to commodity research and promotion funds designed to expand the domestic and export markets for their products. The number of commodity groups participating and the size of the funds available could continue to grow. The 1996 Federal Agriculture Improvement and Reform Act—FAIR—requires all Federally-constituted research and promotion boards to evaluate their programs at least every five years. Accurate evaluations require the development of sophisticated techniques that differentiate the impact of research and promotion expenditures from several other market influencing factors.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal is to determine the economic effectiveness of generic promotion programs designed to increase the sales of agricultural commodities in domestic and international markets. Recent accomplishments of this project include: access to a commodity advertising database for researchers; methodologies for using retail scanner data, estimating advertising wearout, and testing sensitivity of results based on various estimating procedures; relative effectiveness of advertising versus other kinds of promotion activities; and understanding of factors affecting producer attitudes toward checkoff programs. In addition, the Institute has sponsored educational workshops and conferences for directors and Chief Executive Officers of commodity research and promotion boards to help them comply with the FAIR Act requirements for evaluating promotion and research activities.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by the grant began in fiscal year 1994. The appropriation for fiscal year 1994 was $235,000 and for fiscal years 1995–1999, $212,000 each year. A total of $1,295,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal matching funds and sources allocated to this grant by Cornell University are as follows: $97,333 a year in State appropriations for 1994–96; $125,650 for 1997; and $130,430 for 1998. Collaborating institutions performing work under subcontract also contribute non-federal matching funds.

Question. Where is this work being carried out?

Answer. The work is being carried out at Cornell University in collaboration with eight other land-grant universities.

Question. What was the anticipated completion date for the original objectives of the project? Have these objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original proposal in 1994 was for a period of 21 months, however, the need to evaluate the benefits of commodity promotion and research programs is a growing regional and national concern as producers take on greater responsibility for marketing their products. An increasing number of promotion and research programs are being evaluated. The current phase of the program will be completed in 2001.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. CSREES performed a merit review of the project in February 1998, as it evaluated the 1998 project proposal, and determined that "the project has sound objectives and procedures that are helping private and public decision makers effectively expand markets for U.S. agricultural products leading to a highly competitive agricultural production system and enhanced economic opportunity for Americans." The principal investigator is well recognized for his leadership in this area of research. Research results appear in several peer reviewed professional journals and popular press, and researchers have ongoing dialog with private and public decision makers.

GLOBAL CHANGE

Question. Please provide a description of the research that has been funded under the global change grant.

Answer. Radiation from the sun occurs in a spectrum of wavelengths with a majority of wavelengths being beneficial to humans and other living organisms. A small portion of the short wavelength radiation, what is known as the Ultraviolet or UV–B Region of the spectrum, is harmful to many biological organisms. Fortunately, most of the UV–B radiation from the sun is absorbed by ozone located in

the stratosphere and does not reach the surface of the earth. The discovery of a deterioration of the stratospheric ozone layer and the ozone hole over polar regions has raised concern about the real potential for increased UV–B irradiance reaching the surface of the earth and the significant negative impact this could have on all biological systems including man, animals, and plants of agricultural importance. There is an urgent need to determine the amount of UV–B radiation reaching the earth's surface and to learn more about the effect of this changing environmental force. The Cooperative State Research, Education and Extension Service, CSREES, is in the process of establishing a network for monitoring surface UV–B radiation which will meet the needs of the science community of the United States, and which will be compatible with similar networks being developed throughout the world. The fiscal year 1998 grant supports work through September, 1999.

This grant is part of a government-wide initiative. The research is closely coordinated with other Federal agencies involved in the U. S. Global Change Research Program Inter-agency UV-Monitoring Network Plan.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. The principal researcher believes destruction of the stratospheric ozone layer, our shield from the full intensity of solar radiation, continues to increase. This creates a high priority need for information to document not only the levels of UV–B radiation reaching the earth's surface, but the climatology of that radiation. The United States, and the rest of the world, needs to know the strength of the UV–B radiation reaching the earth and the potential impact on all forms of life, especially animal and plant life of agriculturally-important species. The principal researcher believes this research to be of national as well as regional and local importance.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The USDA UV–B Network is to provide accurate, geographically-dispersed data on UV–B radiation reaching the surface of the earth and to detect trends over time in this type of radiation. A primary problem which had to be overcome in order to reach this goal is the development of instrumentation adequate to make the measurements required for the monitoring network. A major advance occurred during 1996 with the availability to the network of a new multi-band instrument which will provide the spectral information needed to support both biological and atmospheric science research and to serve as ground-truth for satellite measurements. These instruments have been deployed and are currently in operation at twenty-six monitoring sites across the United States, including Hawaii. The researchers plan to have additional sites in Alaska, Puerto Rico, Oregon, North Carolina, and Oklahoma operational by the summer of 1999.

Two grants to design and build advanced spectroradiometers have been awarded under the National Research Initiative Competitive Grants Program. These instruments are to be used in a research network to make precise measurements of the total UV–B spectra at selected sites. The first of these instruments failed to meet spectral performance standards when tested and calibrated by the National Institute of Science and Technology. An alternative design which resulted in a much larger and more difficult instrument to deploy has been developed. The first of two advanced instruments was deployed at Table Mountain near Boulder, Colorado during the fall of 1998. The second will be installed at Beltsville, Maryland during the spring of 1999.

To gain experience in network operation, broadband instruments along with ancillary instruments were installed at ten sites and have been in operation for the last 52–60 months. These sites are now equipped with a full compliment of instruments including the new multi-band instrument. Additional sites developed during the last 12 months are similarly equipped with broadband and the new multi-band UV instrument. Data from each site is transmitted daily to Colorado State University for preliminary analysis, distribution, and archiving. These data are available, within 24 hours of collection, on the Internet via a World Wide Web Site located in the Natural Resources Research Laboratory at Colorado State University. The Department of Agriculture is also a participant in the development of a central calibration facility at Department of Commerce facilities in Boulder, Colorado. The purpose of the central calibration facility is to ensure uniform and acceptable calibration and characterization of all instruments used in interagency UV–B monitoring programs.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1992, and the appropriation for fiscal years 1992–1993 was $2,000,000 per year; fiscal year 1994 was $1,175,000; fiscal year 1995 was $1,625,000; fiscal year 1996 was $1,615,000; fiscal

year 1997 was $1,567,000; and fiscal years 1998 and 1999 was $1,000,000 per year. A total of $11,982,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant are as follows: $162,000 state appropriations in 1993; $183,106 state appropriations in 1994; and $285,430 provided by Colorado State University in 1995.

Question. Where is this work being carried out?

Answer. Colorado State University is managing the operating network, which when completed will include all regions of the country. At least 30 sites are planned for the climatological network including sites in Hawaii, Alaska, and Puerto Rico in order to provide broad geographic coverage. Ten sites have been operational with broad band instruments for up to five years and 26 sites are now operational with new generation instruments. The research level network began with the first instrument installed at the Table Mountain, Colorado instrument intercomparison site and the second to be installed at the Department of Agriculture Plant Stress Laboratory at Beltsville, Maryland. Negotiations are underway with the Department of Energy Solar Radiation site near Ponca City, Oklahoma as part of the Atmospheric Radiation Measurements field network as a potential site for the third instrument to be deployed later in 1999.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. As with other weather and climate observations, this network will be an ongoing need for the predictable future. These measurements will provide information on the nature and seriousness of UV–B radiation in the United States and will provide ground truth validation to other predictions of UV–B irradiance. The project has now met it's first objective of the establishment of a climatological network to monitor UV–B radiation at the surface of the earth. Years of operation will be required to measure trends in UV–B radiation and to develop models to predict the climatology of UV–B radiation.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The agency has assigned two technical staff to continuously monitor activities in the global change research program. A team of three experts in UV–B radiation measurement technology reviewed specifications for the development of the advanced spectroradiometers in July, 1996 prior to the procurement of major components of the instrument. A panel of radiation spectra scientists was brought in to review data derived from the new multi-band instruments in December, 1996 to advise on the interpretation and analysis of data derived from these instruments. Agency staff is in contact with program management on a weekly basis and has visited the program headquarters six times during the last year. A review of the UV–B Monitoring Program by a panel of technical experts from outside the Department is planned for 1999.

GLOBAL MARKETING SUPPORT SERVICES, ARKANSAS

Question. Please provide a description of the research that has been done under the global marketing support services program.

Answer. This grant supports the University of Arkansas Global Marketing Support Services program to provide research and service to agribusinesses. The objective of the university research is to identify potential foreign markets for Arkansas products and to conduct and disseminate foreign market assessment and evaluation studies to agribusiness firms. The research proposal received a merit review at the university prior to submission to CSREES.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. The principal researcher believes the emerging importance of global trade to the nation's economy and the reduction of trade barriers world-wide present unprecedented opportunities for cooperative public-private-university research to develop expertise in world markets.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal is to develop a university research and service organization to support international trade development activities by local area businesses. Research is conducted to determine the demand for specific Arkansas products in selected countries. In the past year, four export training workshops were held. Twelve Industry Opportunity Reports were completed and, as a result of these reports and

one-on-one technical assistance, six firms entered the export market for the first time. Seven factsheets were completed and distributed and a peer-reviewed publication on international joint ventures was published. An Internet website has been established to distribute information, and an Internet international market is being developed. Case studies of firms engaged in international market development are being developed as an educational tool. A new market analysis of Slovakia is underway.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1994. The appropriation for fiscal year 1994 was $47,000; for fiscal years 1995 through 1997, $92,000 per year; and for fiscal years 1998 and 1999, $127,000 per year. A total of $577,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant were $90,000 per year in State appropriations for 1994 through 1996; $51,700 for 1997; and $80,000 for 1998.

Question. Where is this work being carried out?

Answer. This research is being conducted at the University of Arkansas, Fayetteville.

Question. What was the anticipated completion date for the original objectives of the project? Have these objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original proposal in 1994 was for a period of 12 months, but the objective of expanding the export capacity of small to medium-sized agribusiness firms will not be met until 2001.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. CSREES performed a merit review of the project in February 1998, as it evaluated the 1998 proposal and determined that the "Global Marketing Support project provides leadership for a comprehensive program to integrate Arkansas into the global economy. It provides workshops, educational materials, technical assistance that help mostly small and moderate-size businesses understand and enter the export market. It provides market analyses and other research to back-up its educational programs."

GRAIN SORGHUM

Question. Please provide a description of the research that has been funded under the Grain Sorghum grant.

Answer. This project was designed to improve the yield improvement of grain sorghum cultivars by developing early maturing hybrids with a longer grain filling period. The research focuses on identification of sorghum germplasm, which have a longer grain filling period or earlier maturation date. These traits may be used to shift more of the production to grain and less to vegetative growth, thus enabling more efficient use of the limited water supply. These funds are awarded to scientists working on sorghum at Kansas State University.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The focus of this research is toward the non-irrigated lands of Kansas where sorghum can produce a grain crop under conditions that would not be possible with corn and is, therefore, very important in the rotation with wheat. While the research is directed toward Kansas conditions, it would also apply to adjoining states. Germplasm research of national significance could potentially be supported by the competitive grants awarded under the National Research Initiative or the Initiative for Future Food and Agricultural Systems.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this research is to identify germplasm and use it to develop grain sorghum cultivars that mature earlier and produce more grain. Initial studies have identified genetic characteristics controlling grain yield under a range of climatic conditions. Researchers have identified several sorghum lines, which have a grain-filling period as much as one-third longer than U.S. adapted parent lines. Analyses show that variability exists, the trait is genetically controlled, and incorporation into adapted germplasm can be accomplished. Simulation of expected production gains has been initiated.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1997 and the appropriation for fiscal years 1997 through 1999 was $106,000 per year for a total of $318,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. In 1998, Kansas State provided support via salaries and associated fringe benefits of $31,852, associated indirect costs of $14,652, and in-kind costs of $45,580, for a total of $92,084.

Question. Where is this work being carried out?

Answer. These funds are awarded to Kansas State University, which allocates the money to Kansas State University scientists working on sorghum.

Question. When was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The objectives of this project, which began in 1997, are to develop sorghum parental lines with genetically longer grain fill duration and identify changes in management necessary to optimize grain production in these lines. Five years or more are required to accomplish the objectives. The first objective has been completed. The researchers expect to complete the next three original objectives by 2004 and subsequent objectives by 2006. Preliminary results have contributed toward the understanding of factors controlling grain yield and the development of higher yielding sorghum cultivars for Kansas.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The project is subjected to the institutional review and approval process, as well as review by a CSREES scientist. In addition, stakeholder input was obtained through formal and informal methods. The institutional review of the project confirmed that high priority issues of the sorghum industry in Kansas and other sorghum producing states were being addressed.

GRASS SEED CROPPING SYSTEMS FOR SUSTAINABLE AGRICULTURE

Question. Please provide a description of the research that has been funded under the Grass Seed Cropping Systems for Sustainable Agriculture grant.

Answer. This program was developed to provide management systems for sustainable grass seed production without field burning of the straw residue following harvest which results in adverse air quality problems. Grass seed yields are often significantly reduced the following season if the residue is not burned. The fiscal year 1999 grant proposal has been requested.

Funds from this grant are awarded competitively to scientists at Oregon State University, the University of Idaho, and Washington State University engaged in research on grass seed production. Each award is been passed a merit review by peer scientist.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher believes that according to information provided by technical committees representing researchers and the grass seed industry, the need for this research is to develop sustainable systems of seed production that do not depend on field burning of straw residue. Much of the grass seed for the United States, including lawn grasses, is produced in the area. Field burning of straw residue creates unacceptable levels of air pollution and yields of some cultivar decline without burning.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal for this project is to develop grass seed production systems that do not depend on field burning of straw residue. To date, joint planning by state experiment station administrators and researchers from the three states with industry input have developed an integrated regional research effort to solve the problem.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1994. The appropriation for fiscal year 1994 was $470,000, and for fiscal years 1995–1999, $423,000 each year. A total of $2,585,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal support for this project in fiscal year 1994 was $266,055, $298,052 for fiscal year 1995, $282,053 in 1996, $301,650 in 1997, and 310,700 in 1998.

Question. Where is this work being carried out?

Answer. The research will be conducted by the three state agricultural experiment stations in Idaho, Oregon, and Washington.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. Completion of the initial objectives was anticipated to take five years and, therefore, should be completed in 1999. Revised goals leading to application of new management systems will require additional time.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The entire project is reviewed annually by a steering committee for focus and relevance. The combined proposal is reviewed by CSREES before funds are awarded.

Considerable progress has been made toward identifying the consequences of phased out field burning of straw residue on grass seed production. Current and future effort are directed toward development of sustainable systems without field burning. This program is subject to annual comprehensive evaluation by a team of peer scientist, industry representatives, and farmers. The results are used to guide research for the next year. Each proposal is subjected to the institution project approval process and reviewed by the CSREES National Program Leader.

HUMAN NUTRITION, IOWA

Question. Please provide a description of the work that has been funded under the Human Nutrition, Iowa grant.

Answer. This research aims to develop animal and plant foods with nutritionally-optimal fat content and to improve utilization of foods containing non-nutrient health protectants, components that may reduce health risks. The research includes human and animal nutrient utilization, consumer food choices, and economic impacts of designed food to support optimal nutrition. The fiscal year 1998 grant supports research efforts of 35 investigators from six disciplines through June 1999. CSREES requested that the university submit a grant proposal for fiscal year 1999 which is now under CSREES merit review.

Question. Cipal researcher, what is the national, regional or local need for this research?

Answer. The research addresses food quality, nutrition, and optimal health. Much of the research focuses on improving the nutritional quality of foods important to the economy of the Midwest, while making those improvements economically feasible. Ongoing research focuses on increasing health protective lipids and plant chemicals in human foods. Such foods have recently been called functional foods and the development of functional foods is of high priority to the food industry.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal of the Center for Designing Foods to Improve Nutrition, the administrative unit for this grant, is to improve human nutrition and health maintenance by determining how to improve animal and plant food fat content and how to increase availability of health-protectant factors in the human food supply. The research includes food production, processing, consumer choices, biological utilization, and economic impacts.

The researchers have developed milk, eggs, and pork enriched in the fatty acid called conjugated linoleic acid. This compound has unique cancer preventive properties derived from animal fats. Studies suggest that pork enriched with conjugated linoleic acid may be highly acceptable to consumers. Several studies have demonstrated the modifying key enzymes that are important for lipid synthesis in plants impact oil accumulation in the seeds. The Center's research group on soybean health effects assessed the ability of soybean isoflavones during menopause to maintain bone density and reduce menopausal symptoms. They found that soybean isolate with isoflavones reduced bone loss in postmenopausal women. Several studies have demonstrated that research with cultured cells showed that oxidants can cause damage to a gene that is important in the development of many cancers and that antioxidants, including glutathione, may be able to prevent this damage. Additional research was aimed at identification and characterization of novel iron compounds from milk that will improve iron absorption and utilization. Researchers observed

that low molecular weight proteins found in human milk are responsible for high iron bioavailability.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1991 with an appropriation of $300,000. The fiscal years 1992–1993 appropriation was $500,000 per year; $470,000 in fiscal year 1994; $473,000 per year in fiscal years 1995 through 1999. A total of $4,135,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant were as follows: $293,000 university, $312,869 industry, and $14,000 miscellaneous in 1991; $90,000 state appropriations, $473,608 university, $131,160 industry, and $116,560 miscellaneous in 1992; $307,500 state appropriations, $472,081 university, and $222,267 industry in 1993; $486,000 university and $254,000 private in 1994; $210,000 university and $200,000 private in 1995; $613,770 university and $207,811 private in 1996; $690,736 university and $458,000 private in 1997; and $502,124 university and $700,000 private in 1998.

Question. Where is this work being carried out?

Answer. Research is being conducted at the Center for Designing Foods to Improve Nutrition, Iowa State University.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original overall objective to design foods to improve nutrition is continuing to be addressed. A new set of related objectives will be completed in 2000.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The grant proposals for fiscal years 1998 and 1999 have undergone extensive scientific peer review by the grantee. Progress and objectives will be further reviewed by the Center's newly formed External Advisory Council.

HUMAN NUTRITION, LOUISIANA

Question. Please provide a description of the work that has been funded under the Human Nutrition, Louisiana grant.

Answer. Obesity is a growing problem in the United States and world wide. This grant entitled, Dietary Fat and Obesity, will help answer three issues about this important problem. First, is there a mechanism for tasting fat which can be used to reduce its preference? Second, does exercise enhance the ability to use fat? And third, are there genetic factors which can influence the response to dietary fats? The fiscal year 1998 grant supports research through July 2000. The University has submitted a revised comprehensive proposal for fiscal year 1999.

Question. According to the principal researcher, what is the national, regional or local need for this research?

Answer. Obesity is an epidemic in the United States and the role of dietary fat as a cause of this epidemic is hotly debated. This grant is currently supporting a project which is studying the preventive effects of a sugar and soybean oil commodity-derived fat substitute on the development of obesity and associated problems. It is also partly funded by industry.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The overall goal of this grant is to identify the basis for the susceptibility to obesity of some people who eat high fat diets and to understand how they differ from those people who are resistant to becoming obese when eating a high fat diet. The researchers have identified that some people can taste selected polyunsaturated fatty acids but others cannot. The relation of this taste to other tastes, and its influence on food preferences are the current line of study in this project. In a second project, they have shown marked differences between individuals in their response to an increase in dietary fat intake. When exercise is added, the adaptation to a high fat diet is much more rapid, suggesting the importance for public policy of increasing efforts to encourage Americans to become more active. In a third project they found that the dietary intakes of total fat, saturated and monounsaturated fats were associated with insulin resistance. A single circulating fatty acid—20 carbons long with three cis double bonds—was the strongest independent predicator of fasting insulin. Surprisingly, and contrary to this hypothesis, trans fatty acids in the serum were not markers of insulin resistance.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1991 and the appropriation for fiscal years 1991–1993 was $800,000 per year; for fiscal years 1994–1999 was $752,000 per year. A total of $6,912,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant were as follows: $523,100 state appropriations in 1991; $515,100 state appropriations and $2,216,606 private in 1992; $536,100 state appropriations and $940,000 private in 1993; $627,000 state appropriations and $3,775,000 private in 1994; $546,100 state appropriations and $3,100,000 private in 1995; $1,471,000 state appropriations and $2,488,000 private in 1996; $1,998,000 state appropriations and $2,104,000 private in 1997; and $987,000 state appropriations and $1,892,000 private in 1998.

Question. Where is this work being carried out?

Answer. Research will be conducted at the Pennington Biomedical Research Center, Louisiana State University.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The anticipated completion date for the original objectives is fiscal 2000. The objectives to be completed over the remaining time of the grant will be reviewed by an external advisory team.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. In March 1999 an on-site panel of researchers evaluated the proposed objectives and experimental protocols. On the basis of the critiques from the reviewers, the proposal for fiscal year 1999 was revised. Another review will be conducted in March 1999, allowing for implementation of the research projects to fulfill these objectives.

HUMAN NUTRITION, NEW YORK

Question. Please provide a description of the work that has been funded under the Human Nutrition, New York grant.

Answer. The focus of this work remained unchanged during the last fiscal year. The general objective was improving the knowledge base needed to evaluate and, when appropriate, implement the increased reliance on plant-based foods that is at the core of current Federal dietary guidelines. Current dietary guidelines use this approach as a principal strategy to control energy consumption, reduce fat intake, modify the composition of ingested lipids, enhance the consumption of foods associated with reduced cancer risk, and simultaneously insure that macro-and micronutrient needs are met. The grant has brought together investigators whose expertise ranges from basic nutritional molecular biology to the behavioral sciences that are key in enabling consumers to adopt newly discovered knowledge easily and effectively. The fiscal year 1998 grant supports research through September 1999.

CSREES has requested that the university submit a comprehensive grant proposal for the next grant period. The university plans to change the focus to basic, human, and social science food and nutrition issues that complement the university's initiative in genomics. Opportunities exist on those aspects of mammalian and plant genomics that relate most directly to dietary guidelines and to the international acceptance of genetically-engineered foods.

Question. According to the principal researcher, what is the national, regional or local need for this research?

Answer. Inappropriate diets and physical activity patterns are the second leading etiology of preventable morbidity and mortality in this country. As greater emphasis is given to strategies that permit individuals to take increasing responsibility for their health and identify genetic and environmental risk factors, the knowledge gained by research sponsored by this grant becomes increasingly valuable. This knowledge is used by consumers in making informed food choices, by food producers and processors in anticipating consumer demands, and by public health professionals in designing health promotion and disease prevention strategies.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The newly revised dietary guidelines reemphasize expected health benefits from the increased consumption of fruits, vegetables, and grain products. As pointed out in the response to the first question, investigations are carried out at the molecular, behavioral and community levels.

Changes in fat levels and composition of the American diet are expected to alter lipid metabolism. Lipoprotein lipase is a pivotal enzyme that regulates lipid metabolism. A novel technique to tag an immunologically portion of the enzyme was developed. The researchers expect that this will enable the identification of key domains of this enzyme and thus lead to a better understanding of the handling of dietary fat. Other work focusing on fat led to the development of the first system for high precision analysis of stable isotope ratios from organic compounds separated by gas chromatography. This methodology has led to improved detection of lipid metabolites in human blood.

Scientific and public health understanding of the role of preformed vitamin A and its precursors in health has grown markedly in the last few years. Researchers discovered a novel regulatory mechanism of one of the nuclear receptors that is responsive to vitamin A or its metabolites. Related work has led to the development of methodology to assess the vitamin A content of plant foods and better methods for assessing the absorption and conversion of vitamin A precursors to active metabolites.

Selenium's role in the prevention of selected cancers is receiving national attention. Forty accessions from the brassica collection in Plant Genetic Resources Laboratory were raised under field and greenhouse conditions. A ten-fold range in selenium content was discovered which was related to the sulfur content, but not the total protein content of the material. It is expected that this work will enhance future plant breeding techniques that have enhanced nutritional outcome as a major goal.

The university's community work included an assessment of the opportunities and constraints for increasing plant food consumption in five counties with findings indicating the need for closer links between producers and consumers. This led to a descriptive analysis which documented the major features of a county area that contains a metropolitan concentration surrounded with highly productive and varied agriculture production. In a separate effort, a community decision-making approach for improving food and nutrition was developed and subsequently implemented in six counties. A university community partnership model for integrating nutrition research and intervention was also developed and tested by community stakeholders.

In addition, researchers completed studies on the consumption of low-fat foods by children. Detailed food records of children attending day-care centers were collected. They observed that the majority of the children's calories were consumed in the centers, the majority of calories were consumed from snacks, and that carbohydrates were the major determinant of total caloric intake. In another study dietary risk factors among Hispanic/Latino families were assessed in a sample of 575 households. Major findings suggested that consumption of calories from saturated fat and the degree of obesity were significantly higher among migrant Hispanic women compared to non-migrants.

Question. How long has this work been underway, and how much has been appropriated through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal year 1989, $450,000; fiscal years 1990–1991, $556,000 per year; fiscal years 1992–1993, $735,000 per year; fiscal year 1994, $691,000; fiscal years 1995–1999, $622,000 each year. A total of $6,833,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant were as follows: $154,056 state appropriations and $2,456 private in 1991; $238,430 state appropriations and $60,746 private in 1992; $19,401 state appropriations and $22,083 private in 1993; $202,441 state appropriations and $1,175 private in 1994; $296,794 state appropriations in 1995; $348,127 in state appropriations and $39,593 private in 1996; $133,162 state appropriations in 1997; and $8,185 university appropriations, $166,752 state appropriations, and $7,905 private in 1998.

Question. Where is this work being carried out?

Answer. Research is being conducted at Cornell University, New York.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original overall objective to integrate nutrition goals and food systems is continuing to be addressed. A set of new related objectives was submitted in 1997 and will be the research focus through 1999. The university plans to change the focus to basic, human and social science food and nutrition issues that complement the university's initiative in genomics.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The grant proposal for fiscal year 1997 was subjected to extensive peer review, and the recommendations were incorporated into the ensuing experimental designs.

HYDROPONIC TOMATO PRODUCTION, OH

Question. Please provide a description of the research that has been funded under the Hydroponic Tomato Production, OH grant.

Answer. CSREES has requested the university to submit a grant proposal that has been not yet been received. Cultural practices, greenhouse design, and economics will be evaluated for the areas. Tomato production will be evaluated as an alternative enterprise.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The research is needed to develop and evaluate management protocols for economical production of greenhouse tomatoes as an alternative crop for that area.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goals of the research is to provide recommendations for management systems for successful operation of greenhouse tomatoes as an alterative crop.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1998 and the appropriation for fiscal year 1998 was $140,000, and for fiscal year 1999 is $200,000. A total of $340,000, has been appropriated.

Question. What is the source and amount of non-federal provided by fiscal year?

Answer. The non-federal funds provided for support of the project are from State funds totaling $19,400 for fiscal year 1998.

Question. Where is this work being carried out?

Answer. The research will be conducted by the Ohio State Agricultural Experiment Station at selected locations in Ohio.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The principal investigator for this project anticipates completion of the original objectives in fiscal year 2002.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The project was subjected to a peer review in the institution and again reviewed by the CSREES National Program Leader when initiated in 1998.

ILLINOIS-MISSOURI ALLIANCE FOR BIOTECHNOLOGY

Question. Please provide a description of the research that has been funded under the Illinois-Missouri Alliance grant.

Answer. The Illinois-Missouri Alliance has initiated a competitive grants program in agricultural biotechnology for research in targeted priority areas of need related to corn and soybeans. The scope of interest includes production, processing, marketing, utilization, inputs, and support services, along with economic, social, environmental, and natural resource concerns. The Alliance has solicited research project proposals from scientists at Illinois and Missouri and other midwestern institutions, and has conducted peer reviews for science quality, commercial feasibility and potential economic impact to select the proposals that will be funded. In 1998 the Alliance awarded four research grants at four institutions totaling $1,013,000.

In 1998 the Alliance also started an on-line magazine called AgBioForum devoted to the economics and management of agricultural biotechnology. The purpose of AgBioForum is to provide unbiased timely information and new ideas leading to socially-responsible and economically-efficient decisions in science, public policy, and private strategies pertaining to agricultural biotechnology. In its first four months, AgBioForum experienced over 23,000 hits from individuals in universities, industry, government, and international organizations.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal investigator has indicated that the goal of the Alliance is the pre-commercial development of emerging biotechnology discoveries for agriculture. The midwestern region produces more than half of the nation's output of corn and soybean crops, and is critical to domestic food security and United States

competitiveness in global agricultural markets. Alliance grants are awarded on a regional basis to advance corn and soybean production in the Midwest. The Alliance is implementing a research strategy that it hopes will generate important biotechnological developments that are rapidly adaptable to unique local soil, climatic, and socioeconomic conditions of the region. Alliance grants are awarded to projects with a clearly defined marketable product or service derived from biotechnology research. Biotechnology research of national significance could potentially be supported by competitive grants awarded under the National Research Initiative or the Initiative for Future Food and Agricultural Systems.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. fiscal year 1998 was the fourth year of funding for the Alliance. The research program focuses on the two major commodity crops, corn and soybeans, as produced, processed, and marketed in the midwest. The goal of this biotechnology program is to fund integrated research and development projects that will lead to specifically-defined practical technologies for commercialization. The projects funded in fiscal year 1998 include efforts to: (1) engineer maize to produce genistein, a possible anti-cancer agent, (2) detect and select superior resistance to soybean sudden death syndrome, (3) isolation of specialized seed-forming genes in grassy relatives of maize, and (4) development of high oil maize hybrids.

Question. How long has this work been underway and how much has been appropriated by fiscal year through 1999?

Answer. The work supported by this grant began in fiscal year 1995. The appropriations for fiscal years 1995 and 1996 were $1,357,000 each year, for fiscal year 1997, $1,316,000, and for fiscal years 1998 and 1999, $1,184,000 per year, bringing the total appropriations to date to $6,398,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The Alliance has not specified a required amount of matching funds, but it is expected that most projects will have commitments for significant direct and in-kind non-federal support. Since Alliance projects are still underway, the exact amount of the non-federal contribution is still unknown. The non-federal contribution is expected to be substantial, and a system for accounting for future non-federal contributions is in place.

Question. Where is this work being carried out?

Answer. The research projects identified for funding in fiscal years 1995 through 1998 are being conducted at the University of Illinois, the University of Missouri, Iowa State University, Northwestern University, Southern Illinois University, and the Agricultural Research Service.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. Each project proposal for Alliance funding has a target date for completion. The four initial projects were three-year studies with anticipated completions at the end of fiscal year 1998. Most of the second and third rounds of projects are also three-year studies with anticipated completions at the end of fiscal years 1999 and 2000, respectively.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The Illinois-Missouri Biotechnology Alliance was evaluated for scientific merit by an agency peer review panel on January 29, 1998. The panel recommended approval of the project pending receipt of supplemental information on administrative aspects of the project. The supplemental information was received, and we are satisfied that the program is being administered in compliance with the purpose of the grant. A peer review panel of scientists was scheduled to re-evaluate the project for scientific merit on February 9, 1999.

IMPROVED DAIRY MANAGEMENT PRACTICES, PENNSYLVANIA

Question. Please provide a description of the research that has been funded under the Improved Dairy Management Practices grant.

Answer. The research focuses on developing methods to help dairy farmers in the adoption of new technology and management practices which lead to improved dairy farm profitability. Individual research projects funded by the grant are determined by a competitive peer review process administered by the Institution using peers from other Institutions located primarily in other States.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher believes the local need is the identification and implementation of profit enhancing management strategies for Pennsylvania dairy farms in response to changing market conditions and emerging technologies. The current focus is to develop economically-viable solutions to issues confronting Pennsylvania dairy farmers such as dealing with animal waste in an environmentally-friendly manner, reducing the cost of forage production systems, including grazing systems, and to develop a better understanding of decision processes by dairy farmers.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this research remains the same, which is the development of methods to help dairy farmers in the adoption of new technology and management practices which lead to improved dairy farm profitability. A farm management survey is complete and analysis of results is in progress. Farm financial models have been developed and are undergoing field tests on selected farms. Workshops to teach elements of business management to dairy farmers have been conducted, and survey instruments are in place to monitor effectiveness of workshops. Research is currently underway to develop improved models for nutrient management on northeastern dairy farms, to evaluate the potential role of intensive grazing systems to replace harvested forage, and to better understand how decisions are made by dairy farm families. Refinements of an expert computer based system to assist dairy farmers in controlling the udder disease, mastitis, is underway. A study to evaluate the induction of lactation on dairy profitability is underway. An additional study to evaluate the impact of improved protein nutrition during late gestation on dairy cow performance has been initiated.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1992 and the appropriation for fiscal years 1992 and 1993 was $335,000 per year. The fiscal year 1994 appropriation was $329,000 and $296,000 each year in fiscal years 1995–1999. A total of $2,479,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. During fiscal year 1992, $354,917 were from State funds, and $16,000 from Industry, for a total of $370,417. During fiscal year 1993, $360,374 were from State funds and $16,000 from Industry for a total of $376,374. Information is not available for fiscal years 1994–1998.

Question. Where is this work being carried out?

Answer. Research is being conducted at Pennsylvania State University.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The principal researcher anticipated completion of the original objectives by March, 1994. The original objectives were met. Availability of continued funding has permitted the institution to develop a competitively awarded grant program within the institution to address priority issues related to management of dairy farms. Proposals are reviewed and ranked by peers in other institutions prior to award. It is anticipated that awards from the fiscal year 1999 appropriation will be complete in September, 2001.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The agency accepts technical review of specific proposals funded by this grant on an annual basis. The overall proposal is review by the agency on an annual basis. In addition, technical staff has conducted on-site review of the program in 1993 and in 1995. The overall objectives of the work funded by this grant has direct relationship to the development of Integrated Management System as well as to aspects of animal production systems on animal well-being and impact on the environment.

IMPROVED FRUIT PRACTICES, MICHIGAN

Question. Please provide a description of the work that has been done under the improved fruit practices grant.

Answer. The request for proposal for fiscal year 1999 has been issued. Funds from this grant will be awarded competitively to scientists at Michigan State University working with these crops. This research will involve a multidisciplinary approach to reduce chemical use on apple, blueberry, and sour cherry, three important Michigan fruit crops, and improve the management of dry edible beans and sugar beets.

Research will be conducted on crop management techniques and reduced chemical use.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher believes Michigan's need for this research is to develop and maintain/expand their tree fruit and small fruits industry. There is a need to improve the culture and management of dry edible beans and sugar beets.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The planned objectives of the research are to reduce the chemical contamination of the environment from fruit production and improve production practices for beans and beets through multidisciplinary research, including pesticides, and the development of new nonchemical production methods.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1994. The appropriation for fiscal year 1994 was $494,000, and for fiscal years 1995–1999, $445,000 each year. A total of $2,719,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant in fiscal year 1994 were $437,338 from state appropriations and $135,000 from industry, for fiscal year 1995 were $574,494 from state appropriations and $127,000 from industry, and a total of $908,969 for 1996. The non-federal funds for 1997 totaled $752,500. The non-federal funds for 1998 total $729,145.

Question. Where is this work being carried out?

Answer. Research will be conducted at Michigan State University.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The Principal Investigators have reported significant progress toward improved cultural practices for these speciality crops which is expected to reduce the need for chemical pesticides, and expect to complete the original objective by the end of fiscal year 1999. Long-term goals are expected to take an additional five years.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. This project has not been subjected to a comprehensive review. The annual proposals including all of its sub projects are subjected to peer review before submission to CSREES before they are approved. The project has progress toward the objective of developing management practices and strategies for economical production of specialty crops in Michigan with reduced chemical pesticide use. This program is evaluated at the end of each research cycle and priorities adjusted for the next years funding. The evaluation is performed by scientists at Michigan State University.

INFECTIOUS DISEASE RESEARCH, COLORADO

Question. Please provide a description of the research that has been conducted under the Infectious Disease Research, Colorado grant.

Answer. This center will be focused on the development of a multidisciplinary structure to address such diseases and disseminate critical information on trade issues. The Center will utilize a network of related research and services programs at collaborating universities and state and Federal agencies. All activities will be reviewed and evaluated by an interdisciplinary group which will include scientists and livestock commodity representatives. Finally, a core laboratory facility will be established to provide diagnostic support of the program.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for the research?

Answer. The need for this research is to provide valid risk assessment models for diseases which affect international trade and animal and public health. Livestock producers and the industry need this type of information to enable them to make correct disease management decisions.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal is to establish a regional center that will foster interactive work on risk assessment, disease control, and minimize the economic impact of disease outbreaks in livestock.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant will begin in fiscal year 1999 and the appropriation for fiscal year 1999 is $250,000.

Question. What is the source and amount of non-federal funds by fiscal year?

Answer. Currently there is no information on non-federal contributions to the project.

Question. Where is this work being performed?

Answer. The research will be conducted at the College of Veterinary Medicine, Colorado State University.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The anticipated completion date is 2003.

Question. When was the last agency evaluation of this project? Provide a summary of it.

Answer. Because the project is just being initiated, no evaluation has been done.

INSTITUTE FOR FOOD SCIENCE AND ENGINEERING, ARKANSAS

Question. Please provide a description of the research that has been funded under the Institute for Food Science and Engineering grant.

Answer. As the flagship center for the Institute of Food Science and Engineering, the Center for Food Processing and Engineering has as its objectives to facilitate and encourage value-added research and improve the processing of agricultural products. The Center requires researchers to obtain matching funds from industry to support their research. Research projects have been funded by 39 different companies from 17 states and 4 countries. The next request for proposals to the Institute will be issued in February 1999. The Center for Food Safety and Quality, with a mission to conduct research on the safety and quality of foods relative to microbiological and chemical hazards, was activated on January 1, 1997. Center researchers are presently receiving funding through the Food Safety Consortium. The Institute has also received funding from the United Nations Food and Agriculture Organization to establish a Center of Excellence for Food Quality and Safety. fiscal year 1998 funds are supporting research from March 1, 1998, through February 28, 1999. CSREES has requested, but not yet received, a proposal in support of the fiscal year 1999 appropriation.

Question. According to the research proposal, or the principal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher believes the Institute will provide technical support and expertise to small and mid-sized food processors that usually do not possess adequate expertise in-house. The economy of the southern region will be improved through the creation of new jobs and a high multiplier effect from the research. The Institute will develop and disseminate scientific information and provide educational programs related to value-added further processing, storage, and marketing of food products. These efforts will assure food safety, improve the sensory and nutritional quality of food, and meet the nutritional requirements and food preferences of a changing society. Value added research of national significance could potentially be supported by competitive grants awarded under the Initiative for Future Food and Agricultural Systems.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this research is to establish an Institute of Food Science and Engineering at the University of Arkansas-Fayetteville. The Institute for Food Science and Engineering and the Center for Food Processing and Engineering are operating. Research projects at the Center include: postharvest management practices for rice, such as studies of physicochemical properties, bacterial load of rice products, and milling systems, and development of methods to improve the texture and dill flavor of pickles, and the color of acidified pickled vegetables, with estimated impact to the pickle industry of $500,000 annually. Researchers have developed 12 mechanized systems for total vineyard mechanization which maintain or improve juice and wine quality. Research on physicochemical properties of potatoes and bitterness in carrots and have had estimated economic impacts of several million dollars. Research on elecrochemical flow-through systems for chicken processing water and near infrared, mid-infrared imaging for large scale fruit processing have important applications in industry. Institute staff, including the Descriptive Sensory Panel, have assisted both national food processing companies and small commercial kitchens in process development, with an impact of up to 2,000,000 annually on the

Arkansas vegetable processing industry. The Institute's FAO Center of Excellence presents workshops in the United States as well as planning train the trainer courses in Mexico and Central America to improve the safety of imported fresh fruit and vegetables. To date, 70 publications, two IMPACT reports, and a quarterly newsletter have served to keep the industry and fellow scientists informed of research and technology transfer activities.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1996. The appropriation for fiscal years 1996 and 1997 was $750,000 each year, $950,000 for fiscal year 1998, and $1,250,000 for fiscal year 1999. A total of $3,700,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant include $184,700 in state funds and $93,000 from industry in fiscal year 1996, and $187,357 in state funds and $320,403 in industry funds in fiscal year 1997. Thus far in fiscal year 1998, industry has provided $93,599, with firm commitments of an additional $55,000. The state has also provided facilities and administrative and clerical support estimated at $303,694 through June 30, 1998. The Institute has also received $48,000 to establish the FAO Center of Excellence.

Question. Where is this work being carried out?

Answer. Research will be conducted at the University of Arkansas at Fayetteville.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The principal researcher anticipates that work will be completed on the original goals in fiscal year 2002. The goals of this project related to establishing the centers of the Institute have not been fully met. The Center for Food Processing and Engineering and the Center for Food Safety and Quality are in operation; activation of the Center for Human Nutrition is scheduled for 1999. The objectives related to research and service to industry, food entrepreneurs, and the general public would continue to be ongoing.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. An agency science specialist conducts a merit review of the proposal submitted in support of the appropriation on an annual basis. In a review of the proposal on January 8, 1998, the assessment was that satisfactory progress was demonstrated in meeting the goals of the Institute.

INTEGRATED PEST MANAGEMENT

Question. Please provide a description of the research that has been funded under the Integrated Pest Management special grant.

Answer. This special research grant develops new pest management tools to address critical pest problems identified by farmers and others in a crop production region. Funds are distributed though the Regional Integrated Pest Management—IPM—Grants Program, which provides competitively awarded grants to develop new pest management tactics to replace management tools lost to the Food Quality Protection Act—FQPA—issues, validate the effectiveness of new tactics in a production setting, and help producers implement these tactics by providing educational training programs. Proposals submitted to the Regional IPM Grants program undergo technical and merit review at the regional levels.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. The ability of the Nation's agricultural production system to keep pace with domestic and global demand for food and fiber is dependant on access to safe, profitable, and reliable pest management systems. For a variety of reasons, many of the chemical control alternatives that farmers and other pest managers have relied on for many years are no longer available. The loss of these important tools is likely to continue at an accelerated rate over the next several years. The FQPA will have significant impacts on pest management systems in the United States over the next decade, and the "minor use"—high value crops grown on relatively few acres—will be particularly hard hit. Regulatory decisions under FQPA are focused on organophosphate insecticides, which are widely used tools in IPM and Resistance Management programs. For these reasons and others, it is essential that farmers be provided with new pest management tools and better information so they can remain competitive in today's global marketplace. These special IPM research grant

funds address important issues via a request for proposals distributed to applied agricultural scientists throughout the United States. This request for proposals focuses on the development and testing of practical alternatives for IPM and Resistance Management Systems to replace organophosphate insecticides which likely will be lost due to FQPA.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal of this research is to provide farmers with new pest management options that allow them to reduce dependence on chemical pesticides, improve their profitability, and protect vital natural resources. The research supported by this special grant has made an important contribution to increasing knowledge about new approaches to pest management, but the need for continued investment in this area of research is greater than ever.

Question. How long has this work been underway and how much as been appropriated by fiscal year through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal year 1981, $1,500,000; fiscal years 1982 through 1985, $3,091,000 per year; fiscal years 1986 through 1989, $2,940,000; fiscal year 1990, $2,903,000; fiscal year 1991, $4,000,000; fiscal years 1992 and 1993, $4,457,000 per year, fiscal year 1994, $3,034,000; and fiscal years 1995–1999, $2,731,000 each year. A total of $58,130,000 has been appropriated since fiscal year 1981.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. A study of the sources of non-federal funds which contribute to this research effort was conducted in 1993 and 1994 and the results are as follows. In fiscal year 1993, state appropriations, $841,017, product sales, $33,987, industry grants, $17,081, and other, $31,737, which totaled $923,822. For fiscal year 1994, state appropriations, $2,303,458, product sales, $77,157, industry grants, $210,110, and other, $216,552 which totaled $2,807,277. These studies, which have not been repeated since 1994, have demonstrated a trend toward greater annual state investments in Integrated Pest Management research.

Question. Where is the work being carried out?

Answer. Scientists in all states are eligible to compete for this funding on a competitive basis. This research is currently being carried out by State Agricultural Experiment Stations in more than 40 states.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. Due to the passage of FQPA in 1996, the economic and environmental pressures facing U.S. agriculture today are greater than they were in 1981 when Federal funds were first appropriated for this special research grant. It is important for government to address agricultural producers' needs by participation in the development and implementation of new approaches to pest management with the emergence or introduction of new pests, as existing pests become resistant to current control methods, as new pesticide regulations are implemented, and as national and international markets shift.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. Evaluation of this project is a continuous process. Projects funded by this research grant are awarded through a competitive process that includes relevance, technical, and merit reviews by multi-disciplinary panels of peers. Progress reports are reviewed to evaluate accomplishments, and special scrutiny and interest is given to studies involving new control strategies relating to at-risk sites with pest management usage patterns impacted by FQPA implementation.

INTEGRATED PRODUCTION SYSTEMS, OKLAHOMA

Question. Please provide a description of the research that has been funded under the Integrated Production Systems, Oklahoma grant.

Answer. This grant focuses on the development of efficient management systems for production of watermelons and blackberries under intensively-managed conditions. The work will address biotic and abiotic production components under Southeastern Oklahoma conditions for use in production guidelines. This will include planting densities, fertilizer studies, weed management and insect and disease control. The request for the fiscal year 1999 proposal has been issued, the grant will be competitively awarded to scientists working at the West Watkins Agricultural Research Center—WWAR—based on a merit review conducted by Oklahoma State University personnel.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for the research.

Answer. The principal researcher believes the need for this research is focused on the local area of Southeastern Oklahoma, an area that is economically-depressed and in need of alternative crops to diversify the dominant cow/calf livestock production.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this research was to develop new and alternative crops to supplement and diversify the cow/calf livestock agriculture of Southeastern Oklahoma with emphasis on horticultural crops. Work to date has shown promise for strawberries, blackberries, cabbage, melons, and blueberries. CD–ROM technology transfer to research results to support an expert system will be developed for grower use.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Work supported by this grant started in fiscal year 1984 and the appropriations were: fiscal year 1984, $200,000; fiscal year 1985, $250,000; fiscal year 1986, $238,000; fiscal years 1987–1989, $188,000 per year; fiscal years 1990–1991, $186,000 per year; fiscal year 1992, $193,000; fiscal year 1993, $190,000; fiscal year 1994, $179,000; fiscal years 1995–1998, $161,000 each year; and fiscal year 1999, $180,000. A total of $3,010,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year through fiscal year 1999?

Answer. The non-federal funds and sources provided for this grant were as follows: $165,989 state appropriations in 1991; $160,421 state appropriations in 1992; and $164,278 state appropriations in 1993. Non-federal support for 1994 was $141,850 for state appropriations. Funds for fiscal year 1995 were $129,552; for 1996, $146,000; for 1997, $152,000; and for 1998, $148,000.

Question. Where is this work being carried out?

Answer. This research is being done at the West Watkins Agricultural Research and Extension Center at Lane, Oklahoma, a branch of the Oklahoma State Agricultural Experiment Station.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original objectives of this project were to develop production systems for alternative crops with economic potential for southeastern Oklahoma. Each year's funding cycle has addressed specific crop and management objectives to be completed over two years time. These short term objectives have been met for each of the completed two year projects. However the original objective of developing alternative cropping systems is very long term and have not been completed.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. Each of the annual project proposals has been put through the institutions review and is reviewed by a CSREES scientist before approval. In addition to the annual review of individual proposals, a comprehensive review of the Lane Agricultural Center, where this research is conducted, was conducted in 1993. This review reviled that work supported by this grant is central to the mission of that station and represents an important contribution to the agriculture of the area. This work has provided practical management information for farmers of southeastern Oklahoma that has improved their ability to economically-produce small fruit and vegetable crops. This project is evaluated internally at the end of each year in order to set priorities for the next year.

INTERNATIONAL AGRICULTURAL MARKET STRUCTURES AND INSTITUTIONS, KENTUCKY

Question. Please provide a description of the research that has been done under the international agricultural market structures and institutions program.

Answer. This is a new project and the University of Kentucky is submitting its first grant proposal in fiscal year 1999. The research will identify a variety of market factors that affect the success of American firms in international agricultural markets, estimate the impact of such factors, and make recommendations to policy makers and business firms.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. U.S. firms need to become more aggressive in international markets, but these markets are unfamiliar to many firms. The structure of international markets

and the institutions that serve them are often different than in domestic markets. Furthermore, the structures and institutions are continuously changing.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal is to increase the international marketing success of American farmers and agribusinesses by increasing their understanding of how international markets work.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by the grant begins in fiscal year 1999 and the appropriation is $250,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal matching funds and sources will be identified in the grant proposal when it is completed.

Question. Where is this work being carried out?

Answer. The work will be carried out at University of Kentucky in Lexington.

Question. What was the anticipated completion date for the original objectives of the project? Have these objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The objectives and duration of the project will be specified in the grant proposal.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. This is a new project. CSREES will carefully review the proposal when it is received.

INTERNATIONAL ARID LANDS CONSORTIUM

Question. Please provide a description of the research that has been funded under the International Arid Lands consortium.

Answer. fiscal year 1998 was the fifth year that Cooperative State Research, Education, and Extension Service funded the International Arid Lands Consortium. The Forest Service supported the program during fiscal year 1993 to develop an ecological approach to multiple-use management and sustainable use of arid and semi-arid lands. Projects that began in 1994–1997 will continue to be funded to address issues of land reclamation, land use, water resources development and conservation, water quality, and inventory technology and remote sensing. All proposals are peer reviewed and awarded competitively, whereby the principal investigator must be from a Consortium member institution.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher believes the consortium is devoted to the development, management, and reclamation of arid and semi-arid lands in the United States, Israel, and elsewhere in the world. The International Arid Lands Consortium will work to achieve research and development, educational and training initiatives, and demonstration projects. The current member institutions are the University of Arizona, The University of Illinois, Jewish National Fund, New Mexico State University, South Dakota State University, Texas A&M University, Kingsville, and Nevada's Desert Research Institute. The United States Department of Agriculture's Forest Service works very closely with The International Arid Lands Consortium through a service-wide memorandum of understanding. The Consortium's affiliate members include Egypt's Ministry of Agriculture and Land Reclamation Undersecretarial for Afforestation and Jordan's Higher Council for Science and Technology.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of the Consortium was and continues to be acknowledged as the leading international organization supporting ecological sustainability of arid and semi-arid lands. To date, 56 projects have been funded, 37 of which are to conduct research and development, 14 for demonstration projects, and 5 for international workshops. Funds approximating $3,390,000 have been used to fund these projects.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The International Arid Lands Consortium was incorporated in 1991. Funds were appropriated to the Forest Service in 1993. Additional funds were received during each of the years that followed. $329,000 has been appropriated from

CSREES for fiscal years 1994 through 1998, and $400,000 for fiscal year 1999 for total appropriations of $2,045,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Members of the International Arid Lands Consortium have provided funds to support the Consortium office in Tucson, Arizona, and for printed materials as needed. Each member has provided travel and operations support for semi-annual meetings, teleconferences, and other related activities. In fiscal years 1993–1996, $60,000 in state appropriations were provided. Industry provided $84,083 and $100,000 in fiscal years 1993 and 1995, respectively. Additional funds of $34,000 were received during 1996 from the Egyptian affiliate member to enhance future collaboration. Funds of $25,000 from industry were received in 1998.

Question. Where is this work being carried out?

Answer. Research is currently being conducted at the University of Arizona, South Dakota State University, Texas A&M University, Kingsville, New Mexico State University, University of Illinois, and several research and education institutions in Israel.

Question. What was the anticipated completion date for the original objectives of the projects? Have those objectives been met? What is the anticipated completion date of additional or related objectives.

Answer. Almost all research and demonstration projects that started during 1993 and 1994 have been completed. The projects started in 1995–1997 are expected to be completed within 15 months depending upon the nature of the project. Projects started during 1998 will be completed within 2 years. Several demonstration projects were completed and 5 international workshops were held during 1994 through 1998. The International Arid Lands Consortium is an organization with long-term goals.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The cognizant staff scientist reviews the project semi-annually and has determined that the research is conducted is in accordance with the mission of the agency.

IOWA BIOTECHNOLOGY CONSORTIUM

Question. Please provide a description of the work that has been funded under the Iowa Biotechnology Consortium grant.

Answer. This Consortium formed between Iowa State University, the University of Iowa, and the City of Cedar Rapids, Iowa, has served as the focal point for cooperative biotechnology research studies to recover and utilize byproduct materials arising from new and emerging industries in biotechnology with an emphasis on fermentation wastes and agribusiness. Both fundamental and applied research studies are being conducted to reduce the burden of agricultural bioprocessing wastes on municipal waste management systems and to transform components of these agricultural wastes into commercially-viable products. The overall project involves a coordinated approach by a diverse group of investigators, and funding decisions for individual studies within each participating institution are based on a competitive process with a peer panel review and evaluation. The overall project proposal submitted to us, which combines the selected individual studies, is also peer reviewed for scientific merit by a biotechnology panel designated by our agency.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. Developments in biotechnology have added to the national need for improved management systems that increase the capacity and sophistication of agricultural waste processing. These researchers believe that technological breakthroughs are possible to deal effectively with the increasing burden of agricultural wastes and that useful byproduct materials can be recovered and recycled through the bioprocessing of wastes. The principal investigators consider this research to be of national, regional, and local importance. While they are working with wastes that are generated in and problematic for the State of Iowa, these waste streams are similar to those generated by agricultural industries across the United States.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goals of this project were aimed at enhancing the recovery and utilization of by-product materials arising from industries using biotechnology. Recycling agricultural wastes, isolating useful byproducts, and developing value added processing remain the primary thrusts of the project. The Consortium has utilized a multi-disciplinary, multi-faceted research approach and has brought to-

gether a cadre of active scientists to assist in finding uses for the by-product waste streams generated by agricultural processing. The Consortium is making significant scientific progress related to the bioconversion, biocatalysis, membrane concentration, and bioseparation of by-products. Recent new studies have been initiated on value-added products related to culture of polysaccharide-producing bacteria, screening of agricultural seed processing fractions for biocatalysts, conversion of lignocellulose to lactic acid, the use of waste by-products as feeds for livestock and aquacultural species, composting strategies for waste streams, and exploitation of micro-organisms that colonize extreme environments found in food processing plants..

Question. How long has this work been under way and how much has been appropriated through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal year 1989, $1,225,000; fiscal year 1990, $1,593,000; fiscal year 1991, $1,756,000; fiscal year 1992, $1,953,000; fiscal year 1993, $2,000,000; fiscal year 1994, $1,880,000; fiscal years 1995–1996 $1,792,000 each year; fiscal year 1997, $1,738,000; and $1,564,000 per year in fiscal years 1998 and 1999. A total of $18,857,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Non-federal funds and sources provided for this grant were as follows: $623,803 from the State of Iowa and $42,813 from the city of Cedar Rapids in 1991; $768,287 from the State of Iowa and $365,813 from the city of Cedar Rapids in 1992; $858,113 from the State of Iowa and $170,000 from the city of Cedar Rapids in 1993; $841,689 from the State of Iowa and $36,000 from the City of Cedar Rapids in 1994; $1,016,505 from the State of Iowa and $36,000 from the city of Cedar Rapids in 1995; $862,558 from the State of Iowa and $40,000 from the City of Cedar Rapids in 1996; $1,044,864 from the State of Iowa and $50,000 from the City of Cedar Rapids in 1997; and $303,549 from the State of Iowa and $50,000 from the City of Cedar Rapids in 1998.

In addition, leveraging of Federal grant monies has been obtained in the form of industrial matching funds or contracts for related projects. Some of the more noteworthy awards are as follows: $20,000 from Archer Daniels Midland; $342,720 from Ajinomoto; $40,000 from BASF; $18,000 from Bluestem Solid Waste Agency; $1,748,975 from Cargill; $177,200 from Heartland Lysine, Inc.; $48,000 from Horizon Technology, Inc.; $75,274 from Iowa Corn Promotion Board; $65,200 from Iowa Energy Center; $80,273 from National Corn Growers Association, $25,000 from National Pork Producers Council; and $11,500 from PathoGenesis Corporation.

Question. Where is this work being carried out?

Answer. Research is being conducted at Iowa State University and the University of Iowa, in collaboration with the City of Cedar Rapids.

Question. What was the anticipated completion date for the original objectives of the project? Have these objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The Consortium was originally formed between the City of Cedar Rapids and the participating universities to assist the City in dealing with wastes associated with corn and oat processing and milling, biocatalysis to produce high-fructose syrups, and one of the largest fermentation facilities in the world. More recently, the diversified economic base of the Cedar Rapids area has attracted new biotechnology industries, which have added greatly to the volume of industrial waste streams. Since its inception, the Consortium has worked closely with the City and the industries producing these agricultural wastes. Because the studies continue to make progress in analyzing waste streams and in devising laboratory procedures for extracting useful products, no date has been established for the completion of this research. The City of Cedar Rapids is investing funds from other sources in special waste treatment facilities to conduct large scale tests of new treatment methods. Several years will be required to complete these tests and to refine separation technologies.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The fiscal year 1998 project proposal was evaluated for scientific merit on January 29,1998, by an agency peer panel that recommended its approval for the award. The Iowa Biotechnology Consortium proposal for fiscal year 1999 will be evaluated for scientific merit by a biotechnology peer review panel designated by the agency on February 9, 1999. The panel will review and evaluate the future studies that are proposed in the grant application and will make recommendations regarding overall approval of the project. In addition, the peer panel will assess past progress as a part of the approval process and of post-award management. A visit

by the Program Manager to the research facilities of the cooperating institutions to conduct an on-site assessment is scheduled to occur during October, 1999.

IR–4 MINOR CROP PEST MANAGEMENT

Question. Please provide a description of the research that has been funded under the IR–4 Minor Crop Pest Management grant.

Answer. The Minor Crop Pest Management Program—IR–4—formerly the IR–4 Pesticide Clearance Program, is a joint effort between the State Agricultural Experiment Stations, CSREES, and the Agricultural Research Service—ARS. IR–4 provides the national leadership, coordination, and focal point for obtaining data to support the regulatory clearance through the U.S. Environmental Protection Agency—EPA—for pesticides and biological control agents for specialty food crops such as fruits and vegetables as well as non-food crops like turf and ornamentals. In many cases, the agricultural chemical industry cannot economically justify the time and expense required to conduct the necessary research for products with limited market potential. With assistance from IR–4, registration-related costs are manageable, and producers of a large number of small acreage crops such as vegetables, fruits, nuts, herbs, and other specialized crops have access to necessary pest control products. In order to accomplish the above, a four-step process has been developed. Step one involves research prioritization. Because of limited resources, IR–4 requests and receives input from stakeholders on potential research projects. Yearly workshops are conducted that involve growers, commodity organizations, university research and extension specialists, EPA staff, and industry representatives to determine which projects are the most critical to minor crop agriculture. Step two is research planning. Research protocols are written after careful review and comments from stakeholders. Step three is research implementation. A typical IR–4 program consists of both field and laboratory phases. For the field work, researchers apply the crop protection chemical to the target crop per directions from the protocol. The crop is harvested and transferred to the laboratories where the amount of chemical remaining, if any, in the crop is determined. All field and laboratory research is conducted under EPA Good Laboratory Practices—GLP's. Step four is data submission and approval. The data are critically reviewed and formatted into a regulatory package and submitted to the EPA for their review. If appropriate, the EPA will approve the submission and grant a tolerance to use the chemical on the target minor crop.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The basic mission of IR–4 is to aid producers of minor food crops and ornamentals in obtaining needed crop protection products. IR–4 is the principal public effort supporting the registration of pesticides and biological pest control agents for the $35,000,000,000 plus minor crop industry. This is a national effort which identifies needs by a network of users, commodity groups and state university and Federal researchers. This research is highly significant to national and regional as well as local needs.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal is to obtain minor use and specialty use pesticide registrations, assist in the maintenance of current registrations and to assist with the development and registration of biopesticides and safer or Reduced Risk chemicals useful in Integrated Pest Management—IPM—systems for minor crops. During the past two years, over 650 new minor food use clearance requests were submitted to IR–4 from growers, state, and Federal scientists and extension specialists. After evaluation and prioritization, over 300 studies consisting of over 1,100 field trials throughout the U.S. have been conducted in 1997 and 1998 alone. Accomplishments included the recent clearance of the herbicide pyridate on the ultra-minor crop garbanzo beans—chick pea—grown on only 15,000 acres in the Pacific Northwest, which will have an estimated economic impact of increasing net revenue by over $3,300,000. This crop has become an important rotational crop due to changes in the government farm programs in that region. In 1998, EPA approved 55 new uses based on IR–4 data. In addition, EPA approved 43 Section 18 Emergency Exemptions which were supported with IR–4 data. IR–4 has recently developed and submitted data to EPA for the insect growth regulator tebufenozide on blueberry, caneberries, canola, cranberry, mint and turnip. IR–4 expects EPA to register these reduced risk uses in early 1999. This chemical is extremely effective, and it has the potential to replace many high risk organophosphate and carbamate insecticides. The Cranberry Institute has estimated the use of tebufenozide can provide economic benefits from $17,000,000 to $35,000,000 annually depending on the severity of the target pest infestations. Because of its unique ability to control problem pests with-

out damaging non-target pests and the environment, tebufenozide received the 1998 EPA Green Chemistry award. IR–4 has also worked with the vegetable herbicide clomazone to develop data that supported 24C registrations in Delaware, Virginia, and Maryland providing over $4,000,000 in benefits to snapbean, summer squash, and cucumber growers in those states.

IR–4 provided residue data to support the FIFRA 88-mandated reregistration of more than 700 minor uses identified by growers as critical needs. Without IR–4, these uses would have been cancelled and not allowed for crop protection by minor crop growers. One of these IR–4 defenses was streptomycin for the treatment of edible dry beans grown for seed on 15,000 acres in California and valued at $4,000,000 annually. California seed is sold to growers in Colorado, Nebraska, Minnesota, the Dakotas, Wisconsin, Michigan, and New York where a disease known as halo blight can devastate untreated bean plantings. For this reason, growers will not purchase seed that is not treated with streptomycin.

Registrations for the control of insect, disease and weed pests of commercially grown ornamental crops continues to be an important objective of the IR–4 Project. Since 1977, IR–4 has assisted with the registration of over 5,100 pesticides and biological pest control agents on woody nursery stock, flowers, and turf grass. Recently, IR–4 developed data to allow the use of a herbicide for the control of yellow nutsedge and other grassy weeds in woody and perennial ornamental crops. In California alone, over 100,000 acres are treated with this herbicide, thereby saving growers $1,600,000 compared to hand weeding. IR–4 also continues to work closely with nurserymen and growers to develop pesticides such as azadiractin, a naturally-occurring insecticide, for IPM programs.

Biopesticides have been an important IR–4 thrust since 1982. IR–4 conducts a competitive grants program to develop research data to support the registration of microbial and biochemical pest control products on minor crops. Equally important, IR–4 interacts with public guidance on EPA registration procedures. EPA granted 65 IR–4 supported biopesticide clearances in 1998 including one for Kaolin for insect, fungal, and bacteria control on 48 crops.

The Food Use part of the IR–4 Program continues to have a high productivity which, according to EPA, supports 40 percent of all EPA pesticide registrations. Since the programs inception in 1963, IR–4 has been granted over 4,700 food use clearances—over 1,400 since 1984.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Grants have been awarded from appropriated funds as follows: Program redirection in fiscal year 1975, $250,000; fiscal year 1976, $500,000; fiscal years 1977–1980, $1,000,000 per year; fiscal year 1981, $1,250,000; fiscal years 1982–1985, $1,400,000 per year; fiscal years 1986–1989, $1,369,000 per year; fiscal year 1990, $1,975,000; fiscal year 1991, $3,000,000; fiscal years 1992–1993, $3,500,000; fiscal year 1994, $6,345,000; fiscal year 1995 through 1997, $5,711,000 per year; and fiscal years 1998 and 1999, $8,990,000. A total of $70,509,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant were as follows: $891,856 state appropriations and $65,402 industry in 1991; $1,002,834 state appropriations and $104,292 industry in 1992; $1,086,876 state appropriations and $310,133 industry in 1993; $550,160 state appropriations, $408,600 industry, and $924,169 miscellaneous in 1994; $775,432 state appropriations, $266,714 industry, and $751,375 miscellaneous in 1995; and an estimated $800,000 state appropriations, $250,000 industry, and $800,000 miscellaneous in each year of 1996, 1997, 1998, and 1999.

Question. Where is this work being carried out?

Answer. Field work is performed at the State and Territorial Experiment Stations. Laboratory analysis is conducted primarily at the California, New York, Florida, and Michigan Agricultural Experiment Stations with assistance by the Oregon, Hawaii, North Dakota, North Carolina, Washington, Virginia, and Idaho Agricultural Experiment Stations. Field Research Centers located in Hawaii, Oregon, Washington, California, Wisconsin, Michigan, North Dakota, South Dakota, North Carolina, Florida, Tennessee, Texas, New Jersey, New York, Maryland, and New Hampshire conduct the field residue program. Protocol development, data assimilation, writing petitions, and registration processing are coordinated through the New Jersey Agricultural Experiment Station. ARS is conducting minor use pesticide studies at field locations in California, Georgia, Ohio, South Carolina, Texas, and Washington. ARS laboratories in Georgia, Maryland, and Washington are cooperating with analyzes.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. Selected categories of the Special Research Grants Program address important national and regional research initiatives. IR–4 is involved in research on biological systems that by their nature are ever changing and presenting new challenges to agriculture. The IR–4 workload is anticipated to be long term because of the sensitivities about food safety and the environment, and the eventual loss of a large number of conventional pesticide registrations for minor crops because of the 1996 Food Quality Protection Act—FQPA. The FQPA presents a serious challenge to minor crop pest management. It is estimated that there will be significant loss of conventional pesticide registrations for minor crops. IR–4 has developed a strategy to minimize the impact of loss of the critical pest control tools needed by our domestic minor crop growers. The IR–4 strategy involves the following factors: first, facilitating regulatory clearance of "Reduced Risk" pesticides for minor crops; second, when appropriate, develop risk mitigation measures for existing minor use registrations; third, assist with the registration of biologically-based pest control products for minor crops; and fourth, register and maintain pesticides essential to IPM systems

This strategy has been in place since April 1997 and has helped IR–4 achieve significant accomplishments. Since 1996, IR–4 has expedited research efforts on over 150 studies relating to reduced risk pesticides, biopesticides, and conventional pesticides critical to IPM programs. Several of these uses are referenced as "Reduced Risk" or "BioBased" alternatives in the Consumer Union's "Worse First" report. For example, IR–4 has developed and submitted data to EPA for the biobased pesticide Spinosad on potato. This use has the potential to replace or reduce many of the high risk organophosphate and carbamate insecticide uses on potato. The FQPA program thrust will be carried out along with the traditional minor crop pesticide clearance program. Since FQPA requires that the EPA review all of the almost 10,000 tolerances by 2006, it is anticipated that the IR–4 program will have a significant challenge to help bring new crop protection solutions to minor crop growers well into the next century.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. Each year the program is peer reviewed and reviewed by CSREES' senior scientific staff. A summary of those reviews indicate excellent progress in achieving the objective of providing safe pest controls for minor uses. In December 1997, CSREES sponsored a Peer Review of the Project by a panel of representatives from USDA, EPA, commodity groups, the food processing industry, the crop protection industry, and the land grant university system with a final report issued January 1998. The report covered the areas of response to FQPA, Project operations, accomplishments, good laboratory practices—GLP—the ARS companion program, and future outlook with specific recommendations for each area. Most of those recommendations have been implemented in 1998 programs or will be implemented in 1999. The panel was in unanimous agreement that IR–4 is a very successful program which serves an important need to producers of agricultural products for ultimate consumption by the American public. The program is effectively and efficiently administered by a dedicated professional staff. The goal in 1999 and beyond will be to build on this basis and fully implement the recommendations of the panel. This review and previous reviews have resulted in significant improvement in the IR–4 programs productivity and quality of research. Additionally, the customers served by IR–4 have provided input to the program to enhance its effectiveness.

JOINTED GOATGRASS

Question. Please provide a description of the research that has been funded under the Jointed Goatgrass grant.

Answer. Research is conducted as sub-projects by more than 30 scientists in 10 western and mid-western states on systems for suppression of jointed goatgrass in winter wheat production systems. Research includes integrated cultural management, reduction of seed in the soil, identification of more competitive wheat varieties and crop rotations, and modeling to predict economic outcomes of changing management practices. The premier research projects continue to be four regional, long-term integrated management studies conducted across nine states. In these studies, various cultural control practices such as seeding rates, row spacing, planting dates, seed size, competitive varieties, fertilizer placement, crop rotations, and tillage practices are being evaluated as an integrated management system for the suppression of jointed goatgrass. Research is also being conducted on genetic diversity in the

jointed goatgrass population, soil conditions responsible for persistence of jointed goatgrass seedbank, timing and intensity of tillage on seed persistence in the soil, gene flow between wheat and jointed goatgrass, identification of crop traits that make wheat more competitive against jointed goatgrass, and making the bioeconomic model more user friendly. All funded projects have a technology transfer component, and a national extension coordinator insures that growers and extension personnel are fully informed about all options for the managing this devastating weed. The National Extension Coordinator is housed at Colorado State University.

Question. According to the research proposal or the principal researcher, what is the national, regional, or local need for this research?

Answer. Jointed goatgrass infests nearly 5,000,000 acres of winter wheat lands in the west and mid-west. Through the efforts of the national program, the rate of spread of this weed has decreased significantly in the past 5 years. However, jointed goatgrass still costs U.S. wheat producers an estimated $145,000,000 annually in lost yield, reduced quality, production of less profitable crops, increased management costs, and reduced land values. Control of jointed goatgrass in a standing wheat crop is impossible with currently available technology because seed survives in the soil for five years or more, and because jointed goatgrass is genetically related to wheat. Jointed goatgrass has increased rapidly in the past 25 years in part because of the widespread adoption of conservation tillage systems. Jointed goatgrass proliferated in such systems, and it greatly impedes the universal adoption of such practices. The principal investigator and the National Association of Wheat Growers believe this research is of high national and regional importance.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal of this project is to reduce the devastating effect of jointed goatgrass on winter wheat production and quality, and to prevent the spread of this weed into new, non-infested areas. Numerous individual cultural control practices have been evaluated in several states as to their effectiveness for the suppression of jointed goatgrass and on the growth and yield of wheat. Four regional, long-term integrated management projects have been established where three or more individual cultural control practices have been combined into an integrated management system for the suppression of jointed goatgrass in winter wheat. Early results from these projects show promising results for the management of jointed goatgrass. A bioeconomic model has been constructed that combines jointed goatgrass population biology information, weather data, and responses of jointed goatgrass and wheat to various cultural control practices, and predicts wheat yields, response of jointed goatgrass, and economic outcomes from changing production practices. Six regional symposia have been held to transfer to producers and extension personnel the latest information on the identification, biology and management of jointed goatgrass in winter wheat. A World Wide Web site has been established to further enhance information transfer. Also, a videotape and a slide set have been produced to assist extension personnel in transferring information on jointed goatgrass biology and management.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1994. The appropriation for fiscal year 1994 was $329,000; for fiscal years 1995–1997, $296,000, each year; $346,000 for fiscal year 1998; and $360,000 in fiscal year 1999 bringing the total appropriations to $1,923,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant were as follows: for 1994, $82,198 state appropriations, $82,256 from industry, and $14,871 miscellaneous; for fiscal year 1995, $67,442 state appropriations, $38,496 from industry, and $13,304 miscellaneous; for each fiscal year 1996–1997, an estimated $70,000 state appropriations, $50,000 from industry, and $14,000 miscellaneous; and for 1998, $231,335 state appropriations and $42,570 from State wheat commissions.

Question. Where is this work being carried out?

Answer. The research is being conducted by University scientists in the states with serious infestations including Washington State University, who are the principal coordinating institution and receive the grant, Colorado, Kansas, Nebraska, Oklahoma, Utah, Oregon, Idaho, Montana, Wyoming, and South Dakota.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The project was initiated to accomplish significant results in five years, and significant accomplishments have been made. However, the jointed goatgrass problem will require an additional five more years to accomplish all of the objectives and to have effective management practices available for producers to control jointed goatgrass in winter wheat.

Question. When was the agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. Each year the grant is peer reviewed and reviewed by CSREES's senior scientific staff. Grants are awarded on a competitive basis using a peer review process by Washington State University.

LIVESTOCK AND DAIRY POLICY, NEW YORK AND TEXAS

Question. Please provide a description of the research that has been done under the livestock and dairy policy program grant?

Answer. The purpose of this grant is to assess the possible economic impacts on the U.S. livestock and dairy sectors from various macroeconomic, farm, environmental, and trade policies and new technologies. Both Cornell University and Texas A&M University conduct analyses of these policies and disseminate the information to policymakers, farmers, and agribusinessmen. Cornell focuses on sector-level dairy policies, and Texas A&M focuses on policies affecting livestock and dairy at the farm level.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. Information on the implications of new and alternative farm, trade, and macroeconomic policies affecting the livestock and dairy sectors is of special interest to policy-making officials, farmers, and others. Such information enables farmers and agribusinessmen to make necessary adjustments to their operations to enhance profitability and for national public officials to consider alternatives to sustain adequate supplies and minimize costs. The principal researchers believe this research to be of national, regional, and local significance.

Question. What was the original goal of this research and what has been done to date?

Answer. The original goal was to establish a specialized research program that could provide timely and comprehensive analyses of numerous policy and technological changes affecting livestock and dairy farmers and agribusinessmen and advise them and policymakers promptly of possible outcomes. This goal has been achieved and the program continues to provide timely assessments and evaluations of provisions and proposed changes in agricultural policies, the General Agreement on Tariffs and Trade, and the North American Free Trade Agreement; various income and excise tax measures; and alternative pricing measures for milk. The institutions were integrally involved in several current studies relating to dairy provisions in the 1996 farm legislation. These studies contributed significantly to the development of proposed regulations called for in this legislation. Both institutions maintain extension outreach programs to disseminate results of their analyses throughout the United States. They have organized a national Dairy Markets and Policy Extension committee to advise and assist them in this effort. This latter committee was especially helpful to USDA in educating farmers about proposed milk marketing order changes last year.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal year 1989, $450,000; fiscal year 1990, $518,000; fiscal years 1991–1993, $525,000 per year; fiscal year 1994, $494,000; fiscal years 1995–1998, $445,000 each year; and fiscal year 1999, $475,000. A total of $5,292,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant are as follows: $37,420 State appropriations in 1991; $162,086 State appropriations and $133,278 product sales for a total of $295,364 in 1992; and $301,817 State appropriations, $1,412 industry, and $7,121 miscellaneous for a total of $310,350 in 1993; $24,702 State appropriations and $5,961 industry for a total of $30,663 in 1994; $235,526 State appropriations for 1995; $250,000 in State appropriations for 1996; and approximately $245,000 in State funding for 1997 and 1998.

Question. Where is this work being carried out?

Answer. The research is being conducted at Cornell University and Texas A&M University.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. This program is of a continuing nature for the purpose of assessing existing issues and proposed policy changes affecting the livestock and dairy industries.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. We have conducted no formal evaluations of this project. Annual proposals for funding, however, are peer reviewed for relevance and scientific merit. Our agency contact is also in regular contact with principal researchers at each institution to discuss progress toward project objectives. Discussions with congressional staff and USDA policy makers support the usefulness of policy analyses provided by this project.

LOWBUSH BLUEBERRY RESEARCH, MAINE

Question. Please provide a description of the research that has been funded under the lowbush blueberry research program grant.

Answer. Interdisciplinary research is being conducted on many aspects of lowbush blueberry culture and processing including investigations into factors affecting processing quality, biological control of insect pest, sustainable pollination, weed, disease, and fertility management, cold heartiness, and group water protection.

Question. According to this research proposal, or the principal investigator, what is the national, regional, or local need for this research?

Answer. Maine produces 99 percent of all lowbush blueberries or 33 percent of all blueberries in the United States. This work is of major local interest and helps maintain the continued availability and high quality of the native fruit commodity.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original research goal was to provide answers to unique lowbush blueberry production, pest, and processing problems. Research to date indicates that the field sanitizer was able to use heat to control insect pests without adversely affecting plant growth, while providing a non-chemical alternative for pest management. Biological control agents were sued to control fireworms. Lowbush blueberry yields were increased by use of native leafcutter and alfalfa leafcutter bees. Mechanical harvesting was found to be effective and had yields and fruit quality comparable to hand harvest, providing growers with a more efficient tool to harvest blueberries. Productes for the use in food industry are being extracted from cull berries, therefore, improving utilization and reducing waste.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal year 1990, $170,000; fiscal year 1991, $202,000; fiscal years 1992–1993, $185,000 per year; fiscal year 1994, $208,000; and fiscal years 1995–1999, $220,000 per year. A total of $2,050,000 has been appropriated to date.

Question. What is the source and amount of nonfederal funds provided by fiscal year?

Answer. Direct industry support was about $65,000 from 1996–1998, per year. The 1999 nonfederal support is $205,832 from industry.

Question. Where is this work being carried out?

Answer. Research is being carried out at the University of Maine.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original objectives have not yet been met. The University of Maine researchers estimate that the project will be concluded at the end of fiscal year 2001.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The last agency merit review of this project was January, 1998. Research accomplishments included investigations of post emergence, grass-specific herbicides to control weeds rather than the use of broad spectrum; timing of fertilization treatments; and comparisons of various fertilizer combinations have indicated that fertilizers containing nitrogen increase yields. Other research accomplishments include the insect management of blueberry maggots through behavioral control and the use of less toxic chemicals from control of blueberry flea beetles.

MAPLE RESEARCH, VERMONT

Question. Please provide a description of the research that has been funded under the Maple Research grant?

Answer. The research is designed to increase understanding of the sources of heavy metal contamination in maple sap and syrup and explore methods of reducing or eliminating lead and other heavy metal contaminant levels in the finished product through alteration of manufacturing equipment and processes. The project is annually subjected to the University's merit review process.

Question. According to the research proposal, or the principal researchers, what is the national, regional, or local focus for this research?

Answer. Maple products are an important cultural heritage, and a source of seasonal income in maple growing areas of rural America. Identifying sources of heavy metal contaminants during processing and methods to remove contaminants from products is important in assuring consumers that these food products are not harmful.

Question. What was the original goal of this research and what has been accomplished?

Answer. The goal of this research is to conduct research on maple tree physiology, management of maple stands, and related aspects of the maple syrup industry in Vermont and the Northeast. The primary goal of this work has been to identify and eliminate sources of lead and other heavy metal contaminants in maple syrup.

Question. How long has the work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Work under this project began in fiscal year 1985. Annual appropriations in support of this project are as follows: fiscal year 1985—$100,000; fiscal years 1986 and 1987—$95,000 per year; fiscal years 1988 and 1989—$100,000 per year; fiscal years 1990 through 1993—$99,000 per year; fiscal year 1994—$93,000; fiscal years 1995 through 1997—$84,000 each year; and fiscal years 1998 and 1999—$100,000 per year. A total of $1,431,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Non-federal fiscal support for this project is provided by two primary sources and one secondary source. The primary sources are state appropriations and product sales. The secondary source is local support, but that support is not available each year. The total non-federal contribution from these sources provides an average ratio of .86 to 1. The low ratio was .6 to 1 early in the project. More recently the ratio has been 1.1 to 1.

Question. Where is this work being carried out?

Answer. This research is being conducted at the Vermont Agricultural Experiment Station.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The work from this project, relative to maple tree physiology and management of maple stands has been completed. The objective of identifying sources of heavy metals in maple syrup products and, subsequently, reducing them is underway. The anticipated completion date is 1999.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. Project proposals and progress reports are reviewed and evaluated annually by the U.S. Department of Agriculture. Satisfactory progress has been made on tree physiology and maple tree management. Progressive work on identifying sources and controlling maple syrup contaminants is in place and is being monitored by the Department.

MEADOWFOAM, OREGON

Question. Please provide a description of the research that has been funded under the Meadowfoam, Oregon grant.

Answer. This funding will be used to: develop meadowfoam cultivars with increased seed yield, lodging resistance, oil concentration, and insect resistance; increase seed, field test, and deploy several new experimental cultivars; enhance the genome map of meadowfoam; develop DNA markers for molecular breeding and genetic analysis in meadowfoam; and map genes affecting self-pollination, seed yield, oil content, and insect resistance. The proposal will be internally and externally reviewed for scientific merit. This research will be reviewed by state and Federal scientists and administrators for merit and progress.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. This research is needed to increase the productivity of meadowfoam as an edible and industrial oilseed crop. Meadowfoam oil is a basic feedstock for lubricants, cosmetics, and personal care products. Oregon State University has recently developed a food grade meadowfoam oil that should open edible oil markets for this crop. This research is needed to expand the range of production of meadowfoam and to supply U.S. farmers with competitive cultivars—varieties—for commercial production.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this research was to increase the productivity of meadowfoam as an oilseed crop for U.S. farmers. This work continues with the new appropriation in 1999.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant begins in fiscal year 1999 and the appropriation for fiscal year 1999 is $300,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Non-federal funds have not been provided.

Question. Where is this work being carried out?

Answer. The breeding research is being conducted at Corvallis, Oregon. Cultivars are being field tested at four sites in the western United States including Corvallis and Medford, Oregon, Mt. Vernon, Washington, and Davis, California, and three sites in the eastern United States including Blacksburg, Virginia, and two as yet unspecified sites.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The objectives of the project sponsored by Cooperative State Research, Education, Extension Service have not yet been met, however, these objectives are anticipated to be complete within the first year of the project.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. This is the first year of this project.

MICHIGAN BIOTECHNOLOGY CONSORTIUM

Question. Please provide a description of the work that has been funded under the Michigan Biotechnology Consortium grant.

Answer. The objective of the Consortium's research program is to develop bioprocessing technology to manufacture products from agricultural raw materials; to increase the utilization of agricultural raw materials; reduce agricultural surpluses; degrade agricultural and associated wastes, thereby decreasing environmental costs of agricultural products and processes; and to reduce the need to import foreign petroleum. Using the tools of bioprocessing, agricultural resources can be transformed into products equal in function and value to those currently made from petroleum.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher believes results from the research will help to develop bioprocessing technologies to manufacture value-added products from agricultural raw materials, which increases their utilization, reduces commodity surpluses, reduces environmental costs, and decreases the need for foreign petroleum thus contributing significantly to local, regional, and national priorities. Biotechnology research of national significance could potentially be supported by competitive grants awarded under the National Research Initiative or the Initiative for Future Food and Agricultural Systems.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal of this research is to select and develop market-viable technologies that form the basis for new companies, new jobs, and additional tax revenues for local, state, and Federal governments. During the past several years, the Consortium has used funding from the Special Grants program to develop technologies that are now in the marketplace. Examples include: Production of lactic acid using corn as the feedstock resulting in a polymer for biodegradable plastics and a disinfectant. A $200,000,000 plant has been built in Nebraska to produce lactic acid by this process for domestic and foreign markets. Corn was used as a feed-

stock to develop plant growth formulations to enhance plant growth and productivity and to reduce plant stress. Growth promoters are being introduced to the marketplace on a nationwide basis. Biodegradable plastic resins developed from cornstarch were made to produce compostable films for lawn and leaf litter bags, agricultural mulch films, and other soluble films. Biodegradable plastic resins from cornstarch were also developed for moldable products such as disposable cutlery, plastic containers, and toys and toothbrushes. The market for resins is in excess of $2,000,000,000 annually. Corn was also used for the development of all-natural flavors and derivatives including a salty-flavored compound that can replace monosodium glutamate in low sodium foods. Low-cost, readily-available carbohydrates—from whey—were used to produce high-quality, high-value optically-pure chiral intermediates for the pharmaceutical and agrochemical industries.

A sand/manure separation system for dairy farms was developed to cost-effectively separate manure from sand and recycle both components. Biodegradable adhesives have been developed from agricultural resources. Numerous enzymes have been characterized and are now in use to provide value added modifications in the processing of agricultural products. A stabilized phytase enzyme has been developed to improve digestibility of forage-based animal feeds and reduce animal wastes. Improved methods to clean up herbicides, pesticides, and other agriculturally-important materials have been developed. Many of these products have been commercialized through licensing agreements with industrial partners or new company start-ups. Special grant funding in fiscal year 1998 allowed the Consortium to develop several new agri-based products including: paint removers; calcium magnesium acetate deicer; biobased membrane polymers for liquid crystals, metals recovery, and other uses; improved specialty enzymes; and high value animal feed from rice straw. Funding also supported a technology transfer program that brought researchers from almost 30 land grant universities, Federal laboratories, and USDA, together with Consortium researchers to review numerous commercially-promising agriculturally-based technologies. A cooperative research and development agreement was signed with the USDA's Northern Regional Laboratories to develop technology for an oxidant-stable protease for laundry detergents, household cleaners, body cleaners, and dehairing and leather tanning agents.

Question. How long has this work been under way and how much has been appropriated through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal year 1989, $1,750,000; fiscal year 1990, $2,160,000; fiscal year 1991, $2,246,000; fiscal years 1992–1993, $2,358,000 per year; fiscal year 1994, $2,217,000; fiscal year 1995, $1,995,000; fiscal years 1996 and 1997, $750,000 per year; and fiscal years 1998 and 1999, $675,000 per year. A total of $17,934,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant were as follows: $1,750,000 in State of Michigan appropriations, $160,000 from industry, and $1,000,000 from miscellaneous in 1991; $1,750,000 in State of Michigan appropriations, $175,000 from industry, and $1,000,000 from miscellaneous in 1992; $1,750,000 in State of Michigan appropriations and $100,000 from industry in 1993; $1,750,000 in State of Michigan appropriations, $175,000 from industry, and $100,000 from miscellaneous in 1994; $200,000 in State of Michigan appropriations and $2,035,000 from industry in 1995; $1,250,000 in State of Michigan appropriations, $350,000 from industry, and $6,000,000 from miscellaneous in 1996; $402,500 from industry and $10,000,000 from miscellaneous in 1997; and $500,000 in State of Michigan appropriations, $90,000 from the North Central Biotechnical Program, $150,000 from the Illinois Corn Marketing Board, and $820,000 from the California Air Resources Board in 1998. A total of $31,507,500 has been provided to support this work by non-federal sources.

Question. Where is this work being carried out?

Answer. The research is being conducted on the campus of Michigan State University and at the Michigan Biotechnology Institute International. Demonstrations of technology occur throughout the United States.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The Consortium reports specific milestones for technology development over a five year period. Specific milestones for technologies which will be commercialized in fiscal year 1999 were established in fiscal year 1995 and updated annually. The Consortium has been successful in effectively closing the gap between research and commercialization in the five-year period.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The Michigan Biotechnology Institute was evaluated for scientific merit by an agency peer review panel on January 29, 1998. The panel recommended approval of the project pending receipt of supplemental information on administrative aspects of the project. A peer panel of scientists is scheduled to re-evaluate the scientific merit of the project on February 9, 1999.

MIDWEST ADVANCED FOOD MANUFACTURING ALLIANCE, NEBRASKA

Question. Please provide a description of the research that has been funded under the Midwest Advanced Food Manufacturing Alliance grant.

Answer. The stated purpose of the Midwest Advanced Food Manufacturing Alliance is to expedite the development of new manufacturing and processing technologies for food and related products derived from United States produced crops and livestock. The Alliance involves research scientists in food science and technology, food engineering, nutrition, microbiology, computer science, and other relevant areas from 12 leading Midwestern universities and private sector researchers from numerous United States food processing companies. Specific research projects are awarded on a competitive basis to university scientists with matching funds from non-federal sources for research involving the processing, packaging, storage, and transportation of food products. Projects selected for funding are merit reviewed by non-participating university scientists, industry scientists, and scientists from professional organizations. Close cooperation between corporate and university researchers assure that the latest scientific advances are applied to the most relevant problems and that solutions are efficiently transferred and used by the private sector. fiscal year 1998 funds are supporting research from June 1, 1998 through May 31, 1999. CSREES has requested, but not yet received, a proposal in support of the fiscal year 1999 appropriation.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this project?

Answer. The principal researcher believes the food manufacturing industry is the number one manufacturing industry in the Midwestern region and that opportunities for trade in high value processed food products will grow exponentially on a worldwide basis. The Alliance is positioned to fill the void in longer range research and development for the food industry. Though the focus is regional, it is anticipated that impacts may also be local and national.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal, as stated previously, was to expedite the development of new manufacturing and processing technologies for food and related products derived from United States produced crops and livestock. This is accomplished by conducting a research proposal competition among faculty from the 12 participating universities to fund research projects where matching funds are available from industry. Fourteen projects were funded from fiscal year 1994 funds with completion and final reports due by May 1, 1996. Ten projects were funded from fiscal year 1995 funds with anticipated completion and final reports due by August 31, 1997. Ten projects were also funded from fiscal year 1996 funds with anticipated completion and final reports due by May 31, 1998. Eleven projects were funded from fiscal year 1997 funds with anticipated completion and final reports due by May 31, 1999. Nine projects were funded from fiscal year 1998 funds with anticipated completion and final reports due by May 31, 2000. Proposals are reviewed for scientific merit by independent scientists, and final selection of projects includes consideration of industrial interest and commitment on non-Federal matching funds.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1994. The appropriation for fiscal year 1994 was $470,000, and for fiscal years 1995–1999, $423,000 each year. A total of $2,585,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Industry matching funds were $823,148 in fiscal year 1994, $414,164 in fiscal year 1995, $576,600 in fiscal year 1996, $429,579 in fiscal year 1997, and $557,549 in fiscal year 1998.

Question. Where is this work being carried out?

Answer. The work is being coordinated by the Nebraska Agricultural Experiment Station at Lincoln. Specific research projects are also being conducted at 10 other universities that are part of the Alliance.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The overall objectives of the Alliance are ongoing. Funding supports the continuing and evolving needs and opportunities for foods manufactured and processed from United States produced crops and livestock.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. An agency science specialist conducts a merit review of the proposal submitted in support of the appropriation on an annual basis. A review of the proposal was conducted on January 12, 1998. The principal investigator has provided descriptions of projects funded by this grant. Scientifically sound, industry-relevant projects appear to be the basis of the project, with impactful results expected.

MIDWEST AGRICULTURAL PRODUCTS, IOWA

Question. Please provide a description of the research that has been done under the Midwest Agricultural Products program.

Answer. The Midwest Agribusiness Trade Research and Information Center does applied research to improve the global competitiveness and marketability of agricultural products produced in the Midwest and disseminates the results to small and medium-sized agribusinesses. Projects include analyses of potential markets for U.S. agricultural products and equipment/technology in several countries; attitudes of foreign consumers; development of new/improved U.S. products to meet foreign needs. The overall project proposal received a merit review at the university level and individual research activities are reviewed by the principal investigator and other faculty.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. The principal researcher believes that agribusiness firms in the United States, especially small to medium-sized firms, have a large unrealized potential to expand export sales and foreign business ventures. These untapped opportunities exist in the Pacific Rim and in emerging markets such as Mexico, China, and Eastern Europe. The reluctance of small to medium-sized firms to explore these market opportunities is, in part, due to the high cost of market information and analysis and the perceived high risk of doing business in new markets. This project meets the needs of these firms at the local, regional, and national level.

Question. What was the original goal of this research, and what has been accomplished to date?

Answer. The goal is to enhance the exports of agricultural commodities, value-added products, and equipment produced by Midwestern agribusiness firms through research and education programs involving close-working relationships with those firms. Recent results include analyses of the markets in selected countries—Hungary, Poland, Lithuania, Egypt and Morocco—to identify opportunities for U.S. food products, processes, and equipment; Mexican consumer response to U.S. pork products; comparative advantage of U.S. pork in North American markets; impact of the North American Free Trade Agreement on Midwest beef industry; evaluation of 60 varieties of corn for dry milling for the Mexican market; forums that link international leaders visiting Iowa State University with agribusiness leaders; linkages between international and Midwest business interests; and profiles on several overseas companies suitable as trading partners. Several business agreements and a considerable amount of trade has resulted from these activities. The primary audience is small to medium-sized agribusiness firms because they often lack the resources to conduct studies or acquire sufficient marketing information to engage in international trade. As a result of much work to establish trading relationships with China, the Des Moines sister-city of Shijiazhuang, China established a trade office in Des Moines.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1992. The appropriation for fiscal years 1992–1993 was $700,000 per year; fiscal year 1994, $658,000; and fiscal years 1995–1999, $592,000 per year. A total of $5,018,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant are as follows: $185,495 State appropriations and $373,897 industry for a total of $559,392 in 1992; $183,192 State appropriations and $318,966 industry for a total of $502,158 in 1993;

$127,948 State appropriations and $500,394 industry for a total of $628,342 in 1994; $258,053 State appropriations and $389,834 industry for a total of $647,887 for 1995; $165,425 State appropriations for 1996; $162,883 State appropriations for 1997; and $143,850 State appropriations and $51,384 industry for a total of $195,234 in 1998. Industry contributions were not reported for 1996–1997.

Question. Where is the work being carried out?

Answer. The program is carried out by Iowa State University.

Question. What was the anticipated completion date for the original objectives of the project? Have these objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original proposal in 1992 was for a period of 24 months, however, the objective of expanding the export capacity of small to medium-sized agribusiness firms is an ongoing regional and national concern. The current phase of the program will be completed in 2001.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. CSREES performed a merit review of the project in January 1998, as it evaluated the project proposal for 1998, and concluded that "the project has sound objectives and procedures that are helping agribusiness effectively expand markets for U.S. agricultural products leading to a highly competitive agricultural production system and enhanced economic opportunity for Americans". Research results appear in several peer-reviewed professional journals and the popular press.

MILK SAFETY, PENNSYLVANIA

Question. Please provide a description of the research that has been funded under the milk safety grant.

Answer. The overall goal of the milk safety program is to provide insight into factors that help ensure an adequate and safe milk supply. Toward that end, the research has focused on factors that affect milk production, processing, manufacturing, and consumption. Special attention has been given to ways of preventing and/or treating pathogens that enter the milk supply. Projects are selected for funding each year based on competitive, peer reviews by scientists outside the recipient institution. The fiscal year 1999 grant will support research through June 30, 2000. CSREES has requested the University to submit a proposal in support of fiscal year 1999 funds, but the proposal has not yet been received due to the University's merit review process to select projects for funding.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher believes that the question of microbial safety is of paramount interest to the milk/dairy industry at all levels—national, regional and local. Dairy products have been associated with several large outbreaks of staphylococcal food poisoning. Coagulase negative Staphylococcus infections are one of the most common intramammary infections of dairy cattle, and bovine mastitis, the most important infectious disease affecting the quality and quantity of milk produced in the nation, costs producers an average $180 per cow per year. Listeria monocytogenes is present in about 4 percent of raw milk and has the potential to grow to dangerous levels during refrigerated storage making pasteurization critical in preventing foodborne illnesses from this organism. The population of infants, elderly, and immunosuppressed individuals at risk for Listeriosis in the United States continues to grow rapidly. Understanding the growth of Listeria will provide pathways to minimize the occurrence of food poisoning related to milk and dairy products. Pathogenic E. coli species, including E. coli O157:H7, are of public health concern. For products which receive minimal thermal processing or which may be preserved primarily by acidification, development of additional means of controlling the growth of these foodborne pathogens is of critical importance in guaranteeing a safe milk supply. Ensuring safety of dairy products impacts not only consumer health and confidence in the safety of the food supply, but economic viability as well.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The research is aimed at minimizing or eliminating future foodborne disease outbreaks from milk and dairy products. Researchers demonstrated that when subjected to a sublethal heat shock prior to pasteurization, Listeria monocytogenes becomes much more heat-resistant than previously thought, likely requiring the design of new pasteurization guidelines to ensure the safety of dairy products. They also developed a simple, fast, sensitive, specific, and inexpensive method for the detection of Listeria monocytogenes in dairy products that will allow dairy processors to rapidly and easily screen for the presence of this pathogen in their products and

in the processing environment. A computer model of Listeria monocytogenes growth in dairy foods under dynamic refrigeration conditions and during extended storage is under development to provide producers and processors a technology for further enhancing the safety of fluid milk and related products. Researchers have identified potential approaches for enhancing natural defense mechanisms of the bovine mammary gland through vaccination and immunoregulation. Discoveries of factors influencing growth of Staphylococcus aureus could be used to prevent or contain growth of this pathogen in foods. Researchers have identified and sequenced a gene from this bacterium that is essential for growth under stressful conditions. Consumer research has identified characteristics of consumers most likely to have a high general concern about milk and dairy product safety and nutrition.

Question. How long has the work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Grants have been awarded for milk consumption and milk safety from funds appropriated as follows: fiscal years 1986 through 1989, $285,000 per year; fiscal year 1990, $281,000; fiscal year 1991, $283,000; fiscal year 1992, $284,000; fiscal year 1993, $184,000; fiscal years 1994–1998, $268,000 per year; and fiscal year 1999, $250,000. A total of $3,762,000 has been appropriated for milk safety and milk consumption.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The University estimates that non-federal funds contributed to this project include the following costs and salaries: $265,000 for fiscal year 1991; $224,700 for fiscal year 1992; $142,600 for fiscal year 1993; and $252,168 for fiscal year 1995. No data are currently available for other fiscal years.

Question. Where is the work being carried out?

Answer. The research is being conducted at the Pennsylvania State University.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The researchers anticipate that research supported by this grant should be concluded in 1999. Continuing and evolving needs related to the safety of milk and dairy products are expected to reveal new related objectives.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. An agency science specialist conducts a merit review of the proposal submitted in support of the appropriation on an annual basis. The proposal supporting the fiscal year 1998 appropriation was reviewed on April 23, 1998, and the agency science specialist concluded that the projects addressed important issues related to safety of milk and dairy products, were scientifically sound, and that satisfactory progress was being demonstrated using previously awarded grant funds.

MINOR USE ANIMAL DRUGS

Question. Please provide a description of the research that has been funded under the minor use animal drug program grant.

Answer. The National Agricultural Program to Approve Animal Drugs for Minor Species and Uses—NRSP–7—was established to obtain the Food and Drug Administration approval of animal drugs intended for use in minor species and for minor uses in major species. The objectives of the program are to identify the animal drug needs for minor species and minor uses in major species; generate and disseminate data for the safe, effective, and legal use of drugs used primarily in therapy or reproductive management of minor animal species; and facilitate the Food and Drug Administration—FDA—in obtaining approvals for minor uses. Studies are conducted to determine efficacy, target animal safety, human food safety, and environmental safety. The shortage of drugs for minor food animal uses is a concern well recognized by animal producers, veterinarians, animal scientists, and regulators. The funds for the special research grant are divided between the four regional animal drug coordinators and the headquarters at Cornell University for support of the drug approval program. The NRSP–7 funds are being utilized by the State Agricultural Experiment Stations where the regional animal drug coordinators are located as well as by other stations to develop data required for meeting approval requirements. Participants in the research program consist of the regional coordinators, State Agricultural Experiment Stations, USDA's Agricultural Research Service, schools of veterinary medicine, and the pharmaceutical companies. Research priorities are continually updated through workshops and meetings with producer groups representing species categories such as small ruminants, game birds, fur-bearing animals, and aquaculture species. Each request for drug approval is evaluated by

the technical committee according to established criteria which include significance to the animal industry, cost of developing the necessary data, availability of a pharmaceutical sponsor, and food safety implications. The fiscal year 1998 research grants terminate in April 2000. The 1999 grant proposals have been requested by the agency. All grants are reviewed for relevance to industry needs and undergo scientific peer review.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. Animal agriculture throughout the United States has relied on chemical and pharmaceutical companies to provide their industry safe and efficacious drugs to combat diseases and parasites. The high cost incurred to obtain data to approve these drugs, when coupled with limited economic returns, has limited the availability of approved drugs for minor uses and minor species. The economic losses due to the unavailability of drugs to producers for minor species and minor uses threatens the economic viability of some segments of the animal industry. The need for approved drugs to control diseases in minor species and for minor uses in major species has increased with intensified production units and consumer demand for residue-free meat and animal products. The program provides research needed to develop and ultimately culminate in drug approval by FDA for the above purposes. The goals are accomplished through the use of regional animal drug coordinators as well as a national coordinator to prioritize the need, secure investigators at Federal, state and private institutions, and oversee the research and data compilation necessary to meet Federal regulations for approval. All drug approvals are national, although industry use may be regional. For example, certain aquaculture and the game bird industries are concentrated in specific geographic sections of the country. The administration believes this research to be of national, regional, or local need.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original NRSP–7 goal to obtain approval by the Food and Drug Administration for animal drugs intended for use in minor species and for minor uses in major species remains as the dominant goal of the program. In recent years, the research program has expanded or given additional emphasis to aquaculture species, veal calves, and sheep. In addition, several new animal drug requests were recently received for game birds. The importance of environmental assessment, residue withdrawals, and occupational safety have increasingly been given more attention during the approval process to help assure consumer protection. To date, 299 drug requests have been submitted to the Minor Use Animal Drug Program for the development of data in support of the submission of a New Animal Drug Approval. Working in conjunction with many universities, 25 public master files have been published in the Federal Register providing approval for drug use in minor species. Currently, 24 active research projects are being conducted in 15 states involving 18 animal species and 17 different drugs. Whereas a total of 299 animal drug requests have been submitted to the program since 1983, program funding has been available for only about one out of every five requests. In 1998, four FDA reviews were completed and will be published as Public Master Files. They were tilmicosin for the treatment of chronic respiratory disease in sheep; clorsulon for the treatment of hepatic disease caused by Fasciola hepatica; long-acting oxytetracycline in sheep for bacterial pneumonia; and ivermectin injection for the treatment of Ostertagia ostertagia in American bison. Through this safe and efficient process, consumers can be assured that human health is not jeopardized in any way. Moreover, the Minor Use Animal Drug Program has averaged only $200,000 in Federal funding for each of the drugs that have been approved for minor species. The Center for Veterinary Medicine of the Food and Drug Administration is cooperating and supporting this program to the fullest extent. The program is a prime example of Federal interagency cooperation in coordination with academic institutions, pharmaceutical industries, and commodity interests to effectively meet an urgent need.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Grants have been awarded from appropriated funds in the amount of $240,000 per year for fiscal years 1982–1985; $229,000 per year for fiscal years 1986–1989; $226,000 for fiscal year 1990; $450,000 for fiscal year 1991; $464,000 per year for fiscal years 1992 and 1993; $611,000 for fiscal year 1994; and $550,000 per year for fiscal years 1995–1999. A total of $6,841,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant were as follows: $156,099 state appropriations, $29,409 industry contributions and $11,365 miscellaneous in 1991; $265,523 state appropriations, $1,182 product sales, $10,805

industry contributions, and $59 miscellaneous in 1992; $212,004 state appropriations, $315 industry contributions, and $103 miscellaneous in 1993; $157,690 state appropriations and $7,103 miscellaneous in 1994; $84,359 state appropriations in 1995; $191,835 non-federal support in 1996; $357,099 non-federal support in 1997; and $104,596 state appropriations and $97,375 industry contributions in 1998.

Question. Where is this work being carried out?

Answer. The grants have been awarded to the four regional animal drug coordinators located at Cornell University, the University of Florida, Michigan State University, and the University of California-Davis, and to program Headquarters at Cornell University. Research is conducted at these universities and through allocation of these funds for specific experiments at the State Agricultural Experiment Stations, the Agricultural Research Service, the U.S. Department of Interior, and in conjunction with several pharmaceutical companies.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. Selected categories of the Special Research Grants program address important national/regional research initiatives. The overall objectives established cooperatively with FDA and industry remain valid. However, specific objectives continually are met and revised to reflect the changing priorities for FDA, industry, and consumers. Research projects for this program have involved 20 different animal and aquaculture species with emphasis given in recent years to research on drugs for the expanding aquaculture industry and increasing number of requests from the sheep, veal calf, and game bird industries. The program involves research on biological systems that by their nature are ever changing and presenting new challenges and/or threats to agriculture. Especially with the new sensitivities about food safety and environment protection, there is a high priority for continuation of these ongoing projects.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The agency conducted a formal review of the Minor Use Animal Drug Program in 1997. An external review team of experts representing animal drug research and development, the veterinary profession, the pharmaceutical industry, and academia found the program to be very productive. Recommendations from the review included: (a) improve the visibility of the Minor Use Animal Drug Program, (b) improve working relationships with the veterinary and pharmaceutical communities, and (c) acquire additional support for the program by pharmaceutical companies, universities, and the Federal government to meet the identified national needs with emphasis on responsiveness to industry needs and food and environmental safety. Annually, grant proposals are scientifically peer reviewed, and twice a year the agency and program representatives meet with the Food and Drug Administration representatives to evaluate progress and to prioritize research requests. Workshops are held periodically to identify priorities for the program whereby producers, pharmaceutical companies, FDA, and researchers participate.

MOLLUSCAN SHELLFISH, OREGON

Question. Please provide a description of the research that has been funded under the Molluscan Shellfish grant.

Answer. The research under this program was initiated in fiscal year 1995. A germplasm repository for molluscan shellfish was established and is serving as a source of genetic material for genetic improvement of cultured shellfish stocks. A broodstock selection program was implemented in partnership with industry and is currently evaluating selected families for commercial production. This repository was also used to establish a population of tetraploid pacific oysters for use in the production in triploid oysters and has established a population of Kumamoto oysters. The proposal is put though the university's peer review process and is reviewed by the CSREES Program Manager.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The researchers indicate that there is a national need for a molluscan broodstock development program to benefit the commercial industry through conservation, genetic manipulation, and wise management of the genetic resources of molluscan shellfish.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goals of this research program are to establish a repository for molluscan shellfish germplasm, to establish breeding programs for commercial pro-

duction of molluscan shellfish, and to establish a resource center for the industry researchers and other interested parties in the U.S. and abroad. The oyster broodstock selection program was implemented in partnership with industry and performance trials of selected stocks continue at commercial sites. Tetraploid oysters are being produced for use in the production of triploid seedstock to be used in commercial production trials. A temperature-controlled algae culture facility has been constructed to provide adequate nutrition to the oysters used in the studies. Oyster broodstock conditioning systems have been developed. Approximately 150 families have been produced from wild broodstock, and these are currently being evaluated at commercial grow-out sites in Alaska, Oregon, California, and Washington.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1995 with an appropriation of $250,000; fiscal year 1996 was $300,000; and fiscal years 1997 through 1999 was $400,000. A total of $1,750,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The university estimates a total of $135,454 of non-federal funding in fiscal year 1995 primarily from state sources; in fiscal year 1996, 1997, and 1998 no cost sharing was provided.

Question. Where is this work being carried out?

Answer. Research will be conducted at Oregon State University.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. Although the specific research objectives outlined in the original proposal were to be completed in 1996, researchers anticipated that the original broad objectives would be completed in 2002.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. CSREES Program manager evaluates the progress of this project on an annual basis. The university is required to submit an accomplishment report when the new proposal is submitted to CSREES for funding. The 1998 review indicated that the researchers were well qualified to conduct the research and work in close cooperation with the private sector. The research addresses an important opportunity for the industry, and the work complements other research being funded though USDA on molluscan shellfish. The 1999 CSREES review will be completed within three weeks of submission of the proposal. The researchers are asked to the develop a research proposal consistent with the National Science and Technology Council's Strategic Plans for Aquaculture Research and Development.

MULTI-COMMODITY RESEARCH, OREGON

Question. Please provide a description of the research done under the multi-commodity research program?

Answer. This research provides agricultural market research and analysis to support Pacific Northwest producers and agribusiness in penetrating new and expanding Pacific Rim markets for value-added products. It examines the potential for increasing the competitiveness and economic value-added by Pacific Northwest agriculture through improvements in food production, processing, and trade by assisting decision makers in developing economic and business strategies. The grant is not competitively awarded at the state or regional level, but the proposal is merit reviewed at the Experiment Station and the departmental levels.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. The principal researcher states that Oregon and other Pacific Northwest States produce a wide variety of agricultural commodities and products with commercial potential for export to Pacific Rim countries. Research and analysis are necessary to guide agricultural producers and processors in assessing markets and developing market strategies and value-added products, and in developing marketing strategics tailored to specific Pacific Rim markets. The principal researcher believes this research to be of national, regional and local need.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. This research is to gain better specific understanding of the technical, economic, and social relationships that define Oregon's value-added agricultural sector, and examine how these factors affect the economic performance of the sector. This project investigates and develops innovations in value-added agriculture to im-

prove the economic performance of the agricultural and food manufacturing sectors in the Pacific Northwest. The current research plan examines the economic variables that underlie competition in food production, processing, and marketing in the Pacific Rim; addresses technological challenges in transportation, storage, and quality maintenance; assists in testing and evaluating new product ideas; and monitors economic performance of the Oregon value-added agricultural industry. Work in progress has resulted in research output in four topic areas: market research, packaging research, sensory research, and food processing industry strategic planning. Output includes development of a World Wide Web site for Pacific Northwest exports, data bases, survey work, and collaborative research activity with industry and with institute and university researchers in selected Asian countries. Manuscripts, working papers, journal articles, and graduate theses are outputs to date.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. The research began in fiscal year 1993 with an appropriation of $300,000. The fiscal year 1994 appropriation was $282,000, and fiscal years 1995 through 1999 appropriations were $364,000 for each year. The total amount appropriated is $2,402,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Non-federal funding for this grant was $168,824 in State appropriations in fiscal year 1991, $177,574 in State appropriations in 1993, and $162,394 in State appropriations in fiscal year 1994. This project involves the use of Oregon State University administrative personnel, equipment, utilities and facilities that are indirect costs to the project. These costs constitute an Oregon State University contribution to this project which is not allowable as a reimbursable expense. Due to a change in university policy regarding indirect costs, the university has not reported the amount of non-federal funds appropriated for fiscal years 1995–1999.

Question. Where is the work being carried out?

Answer. The research is carried out at Oregon State University in Corvallis and at the Northwest Food Innovation Center in Portland, Oregon.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. This Special Grant is awarded on a year-by-year basis. Oregon State University traditionally requests funds for this project on an annual basis and has budgeted the funds to individual sub-projects on that basis. Progress on the original objectives is as follows: baseline data have been accumulated; an economic growth assessment model is being refined; global competitiveness is being assessed for value-added Pacific Northwest agricultural products; targets for performance are being worked out with agricultural industries; and trade teams have been involved in assessing the ability of U.S. based industries to meet the demands for noodle production for Asian markets. The anticipated completion date is 1999.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. CSREES reviews project reports, succeeding annual project proposals, research studies, and educational programs. A CSREES merit review was dated August 1998. The work was found to be scientifically sound and of high priority to the region.

MULTI-CROPPING STRATEGIES FOR AQUACULTURE, HAWAII

Question. Please provide a description of the research funded under the multi-cropping strategies for aquaculture research grant in Hawaii.

Answer. The original goal of this program was to identify and develop the sustainable and commercial opportunities inherent in the Molokai aquaculture community while maintaining the cultural and physical environment unique to Molokai. In fiscal year 1993, the university redirected this research program to address the opportunities of alternative aquaculture production systems, including the ancient Hawaiian fish ponds on the island of Molokai. A community-based research identification process has been used to identify and develop specific research projects and prioritize objectives in this program. Current research includes work in the area of water quality characterization to accelerate permitting of aquaculture systems. Field testing of alternative species is underway. The proposal is placed through the university's peer review process and is reviewed by the CSREES Program Manager.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. The principal researchers indicate that the primary need for this research is to assist the native Hawaiians in improving the profitability and sustainability of the ancient Hawaiian fish ponds and other appropriate aquaculture systems as part of a total community development program.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this program was to develop technology for the coproduction of shrimp and oysters in aquacultural production systems. Research led to the development of oyster production systems that have been field tested under commercial conditions. The overall goal of the current project is to identify and develop sustainable and commercial opportunities inherent in the Molokai aquaculture community while maintaining the cultural and physical environment unique to Molokai. Multidimensional field testing and evaluation of existing and restored ancient Hawaiian fish ponds is currently underway. Hatchery techniques have been developed for the culture of the Pacific threadfin, Moi, and seaweed. Techniques for the culture of two edible aquatic plants have been refined. Researchers are currently characterizing differences in water quality in fish ponds to establish criteria for fish pond permitting and management. Current studies involve shrimp and ornamental fish production and integration of agriculture and aquaculture systems.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. This research was initiated in fiscal year 1987 and $152,000 per year was appropriated in fiscal years 1987 through 1989. The fiscal year 1990–1993 appropriations were $150,000 per year; $141,000 in fiscal year 1994; and $127,000 per year in fiscal years 1995–1999. A total of $1,832,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The university reports a total of $137,286 of non-federal funding for this program in fiscal years 1991–1994, $318,468 in fiscal years 1995–1996, $116,730 in fiscal year 1997, and $197,000 in fiscal year 1998. The primary source of non-federal funding was from state, county, and private sources.

Question. Where is this work being carried out?

Answer. Research is being conducted through the University of Hawaii on the island of Molokai.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The completion date for the original project was 1993. The original objectives were met. The specific research outlined in the current proposal will be completed in fiscal year 2001.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The agency evaluates the progress of this project on an annual basis. The university is required to provide an accomplishment report when the new grant proposal is submitted to CSREES for funding. The 1998 review indicated that progress has been made in the implementation of the program despite the challenges of developing a community-based program in such a unique social and cultural environment. Progress in the implementation of the program is well documented. The 1999 CSREES review will be completed within two weeks of submission of the proposal. The researchers are asked to the develop a research proposal consistent with the National Science and Technology Council's Strategic Plan for Aquaculture Research and Development.

NATIONAL BIOLOGICAL IMPACT ASSESSMENT PROGRAM

Question. Please provide a description of the work that has been funded under the National Biological Impact Assessment Program grant.

Answer. The National Biological Impact Assessment Program supports the environmentally-responsible use of biotechnology products to benefit agriculture and the environment. This grant supports the Information Systems for Biotechnology which is a national resource in agricultural biotechnology information. This system serves the research community by providing information about biotechnology regulations and the environmental issues associated with small-and large-scale releases of genetically-modified organisms. It provides searchable databases, documents, and resource lists on the internet, a monthly News Report, custom software to assist in risk assessment and risk management, and printed reference materials.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. During the last decade there has been an explosion of new information produced by rapid advances in biotechnology and its beneficial application to agriculture and the environment. This program fulfills an important national need to provide scientists easy access to relevant information that will facilitate conducting research that complies with the oversight and regulatory requirements for testing biotechnology products, and foster the safe application of biotechnology to benefit agriculture and the environment. The Information System for Biotechnology was the first on-line system to address the information needs of the national agricultural biotechnology research community, and it continues to be one of the most comprehensive sources of information on this topic.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of the Program remains in force today: to facilitate and assess the safe application of new techniques for the genetic modification of plants, animals, and microorganisms to benefit agriculture and the environment. Since its inception in 1989, the Program has developed tools and resources to provide scientists, regulators, teachers, administrators, and the interested public with value-added information in a readily-accessible form. It has fostered the development of a computer-based information system that has grown into an internet site serving more than 4,200 requests per month from over 40 countries. The site carries documents pertaining to regulatory oversight of biotechnology products, policy statements, and risk assessment and risk management information. Searchable databases include records of all environmental releases of genetically-engineered organisms conducted under authority of the Department of Agriculture, institutional biosafety committees, state regulatory contacts, and biotechnology research centers and companies. A monthly News Report, covering research, regulatory, legal, and international issues, is distributed to 1,500 e-mail and 500 print subscribers. In previous years, biosafety training workshops were conducted for public and private sector scientists and state regulatory officials. Major activities now underway include a risk assessment workshop on Ecological Effects of Pest Resistance Genes in Managed Ecosystems, to be held January 31-February 3, 1999, and publication of "Greenhouse Research with Transgenic Plants and Microbes: A Common Sense Guide to Containment," a guidebook for safely conducting research in greenhouses.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal year 1989, $125,000; fiscal year 1990, $123,000; fiscal years 1991–1993, $300,000 per year; fiscal year 1994, $282,000; and fiscal years 1995–1999, $254,000 per year. A total of $2,700,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. This program is administered through the Department of Biochemistry at Virginia Polytechnic Institute and State University—VPISU. The university contributes administrative and clerical support which amounts to approximately $5,000 per year.

Question. Where is this work being carried out?

Answer. The grant award is with VPISU. Former and current partners in the program include the Pennsylvania State University, Louisiana State University, North Carolina Biotechnology Center, Michigan State University, Arizona State University, National Agricultural Library, and Institute for Biotechnology Information.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. There remains a continuing critical need to address the safety of genetically-modified organisms to benefit agriculture and the environment. Application of Biotechnology is expanding rapidly. Increasing amounts of new information needs to be properly integrated into the computerized information system each year. This program has been very successful in providing essential, updated information on the conduct of safe field experiments. Thus, the program remains a high priority and needs to be continued.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. An external panel of scientists reviewed this program in 1994. The review report was highly complimentary of this project and recommended continuation of the program. Another external review and site visit is being planned for the year 2000. The current proposal was peer-reviewed at VPISU prior to submission.

NEMATODE RESISTANCE GENETIC ENGINEERING, NEW MEXICO

Question. Please provide a description of the work that has been funded under the Nematode Resistance Genetic Engineering Project grant.

Answer. This research is designed to investigate naturally-occurring compounds from diverse sources that may confer pesticidal resistance if introduced into agronomic plants. The main target pests are plant parasitic nematodes. The work is using molecular biological techniques to incorporate genes into agronomic plants which will shorten the time frame to produce transgenic plants. This project was not awarded competitively but has undergone peer review at the university level and merit review at CSREES.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. The principal researcher believes that the successful development of these techniques and subsequence transfer of nematode resistant genes into agronomic plants will provide an environmentally-sound system for all plants susceptible to plant parasitic nematodes. The principal researcher believes that this project has the potential for both regional and national application.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this research was to provide an alternative approach for the control of plant parasitic nematodes through the use of molecular biological technologies to transfer pesticide resistance to plants. A nematode-stimulated promoter element was engineered for insertion in front of a bacteria toxin. A unique technique utilizing insect intestinal membrane vesicles were used as tools for detection of specific protein binding domains. The synthetic gene, CRY3A Bt, has been successful in field trails on potato and eggplants.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1991 and the appropriations for fiscal years 1991–1993 were $150,000 per year; $141,000 in 1994; and $127,000 per year in fiscal years 1995–1999. A total of $1,226,000 has been appropriated thus far.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant were as follows: $65,000 state appropriations in 1991; $62,000 in state appropriations in 1992; $75,000 in state appropriations in 1994; and $75,000 state appropriations in 1995. For 1996, the University and the Plant Genetic Engineering Laboratory provided matching contributions in faculty and staff salaries, facilities, equipment maintenance and replacement, and administrative support. In 1997, there were no matching non-federal funds. In 1998, $48,000 state appropriated funds were provided. In 1999, $62,747 is being appropriated in non-federal funds.

Question. Where is the work being carried out?

Answer. Research is being conducted at the New Mexico State University, and at collaborating universities in the region.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original objectives have not as yet been met. The estimated completion date for this project is in 2001.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The last evaluation of this project was a merit review conducted in January, 1998. In summary, the overall goal of this project is to use molecular technology to develop pesticide capability in plants of agronomic importance. A plant transformation system was developed to improve the historically difficult transformation efficiently of monocots. In field trails of transformed eggplants and potatoes, high levels of effectiveness against insects have been found. Several potato and alfalfa lines have been transformed and established in field plots and are being tested at this time. Other constructs are being used in many crops to determine resistance to nematodes and other crop pests.

NONFOOD AGRICULTURAL PRODUCTS PROGRAM, NEBRASKA

Question. Please provide a description of the research that has been funded under the Nonfood Agricultural Products Program grant.

Answer. This work focuses on the identification of specific market niches that can be filled by products produced from agricultural materials, developing the needed

technology to produce the product, and working with the private sector to transfer the technology into commercial practice. Major areas of application include starch-based polymers, use of tallow as diesel fuel, improvements in ethanol production, use of vegetable oil as drip oil for irrigation wells, production of levulinic acid, the extraction of wax from grain sorghum, and production of microcrystalline cellulose from crop biomass. The Dean and Director of Agricultural Research has initiated a review process that parallels the process used for Experiment Station projects. Two to three faculty member are asked to critically review the proposal using criteria as described by Cooperative State Research, Education and Extension Service in the letter soliciting proposals for 1999.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher believes our ability to produce agricultural commodities exceeds our needs for food and feed. These commodities are environmentally-friendly feedstocks which can be used in the production of many biochemicals and biomaterials that have traditionally been produced from petroleum. The production of the commodities and the value-added processing of these commodities is regional in scope.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The objectives are to identify niche markets for industrial utilization of agricultural products; improve and develop conversion processes as needed for specific product isolation and utilization; provide technical, marketing, and business assistance to industries; and coordinate agricultural industrial materials research at the University of Nebraska, Lincoln. Accomplishments include commercialization of soybean-based drip oil for irrigation wells. Bruning Grain Co. Is marketing "Soy Bio Drip." MCC Technologies, Inc. continues to refine the processing requirement and develop a business plan for production of microcrystalline cellulose from crop residues such as corn cobs, wheat straw, and cellulose via a reactive extrusion process developed by the university's Industrial Agricultural Products Center. Commercialization activities continue in the area of printable plastics. The Center is currently negotiating a royalty position with a major producer of smart cards. There are continuing activities with the areas of phone cards and credit cards. The Center also is currently negotiating a royalty position with a company for the use of biodegradable loose-fill packaging technology developed at the Center. Various hardness grades of plastic particle media blast using a combination of commercially-available biodegradable polymers have been produced, and two formulations are currently being tested by U.S. Technology Corporation. All of these commercialization projects are the result of research efforts, most of which have been supported by the Nonfood Agricultural Products Program.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The funding levels for this project are $109,000 in 1990; $110,000 per year in fiscal years 1991–1993; $103,000 in fiscal year 1994; $93,000 in fiscal year 1995; and $64,000 in fiscal years 1996–1999 per year. A total of $891,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-Federal funding for this project is: in fiscal year 1992, $315,000; fiscal year 1993, $330,000; fiscal year 1994, $330,000; fiscal year 1995, $309,000; fiscal year 1996, $251,000; fiscal year 1997, $250,000; and fiscal year 1998, $340,000. These funds were from Nebraska Corn, Soybean, Wheat, Sorghum, and Beef Boards, World Wildlife Fund, Nebraska Bankers Association, United Soybean Board and National Corn Growers Association, Bioplastics, Inc., Biofoam, Inc. and M.C.C. Technologies, Inc.

Question. Where is this work being carried out?

Answer. This work is being conducted at the Industrial Agricultural Products Center, L.W. Chase Hall, University of Nebraska, East Campus, Lincoln, Nebraska.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The objectives of the original projects have been completed. Specific objectives have been identified in each renewal request.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. This project is evaluated based on the annual progress report. The cognizant staff scientist has reviewed the project and determined that the research is conducted in accordance with the mission of this agency.

OIL RESOURCES FROM DESERT PLANTS, NEW MEXICO

Question. Please provide a description of the research that has been done under the Oil Resources from Desert Plants, New Mexico.

Answer. The Plant Genetic Engineering Laboratory has been exploring the potential for the production of high value industrial oils from agricultural products. The effort has been focused on transferring the unique oil producing capability of jojoba into oilseed rape and soybean. With the development of technology to both isolate the enzyme components of oil biosynthesis and successfully transform the target plants, significant advances have been made with jojoba. In addition, oil enzymes have been studied in castor, oilseed rape, desert primrose, cyanobacteria, and meadowfoam. A panel of scientists is scheduled to re-evaluate the scientific merit of the project on February 9, 1999.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher believes desert plant sources of valuable oils for industrial applications are typically low yielding and limited in climatic areas for farm production. Genetic engineering offers an opportunity to move genetic capability to high yielding major crops. Many of the oils and their derivative acids, waxes, and others can directly substitute for imports of similar polymer materials, especially petroleum.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal of the research is to transfer the unique oil producing capability of jojoba and other native shrubs into higher yielding crops such as oilseed rape and soybean. This is a form of metabolic engineering, and it requires the transfer of coordinated groups of genes and enzymes into the host plant to catalyze the necessary biochemical reactions. Recent progress includes successful transformation of tobacco and alfalfa plants with oil metabolism genes from the meadowfoam plant and a cyanobacterium.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. This research began in fiscal year 1989 with a $100,000 grant under the Supplemental and Alternative Crops program. Grants have been awarded under the Special Research Grants program as follows: fiscal year 1990, $148,000; fiscal years 1991–1993, $200,000 per year; fiscal year 1994, $188,000; fiscal years 1995–1996, $169,000 each year; and fiscal years 1997 through 1999, $175,000 per year. A total of $1,899,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Matching funds in the amount of $27,747 from State and private sources were used to help fund this project in fiscal year 1998. New Mexico State University and the Plant Genetic Engineering Laboratory also provide $90,000 for in-kind support per year including faculty salaries, graduate student stipends, facilities, equipment maintenance, and administrative support services.

Question. Where is this work being carried out?

Answer. The research is being conducted by the Plant Genetics Engineering Laboratory at New Mexico State University, Las Cruces, New Mexico.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. An estimate of the total time in Federal funds required to complete all phases of the project is 3–4 years. The application of this research for improved management of natural resources will evolve and expand as technology in the area advances .

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The Oil Resources from Desert Plants, New Mexico project was evaluated for scientific merit by an agency peer review panel on January 29, 1998. The panel recommended approval of the project pending receipt of supplemental information on administrative aspects of the project. The Institution conducts an internal peer review of this project by scientists with expertise in this area of research. A panel of scientists is scheduled to re-evaluate the scientific merit of the project for the agency on February 9, 1999.

ORGANIC WASTE UTILIZATION, NEW MEXICO

Question. Please provide a description of the research that has been funded under the Organic Waste Utilization, New Mexico grant.

Answer. Composted dairy waste is utilized as a pretreatment to land application. Composting dairy waste before land application may alleviate many of the potential problems associated with dairy waste use in agronomic production systems. Composting may also add value to the dairy waste as a potential landscape or potting medium. High temperatures maintained in the composting process may be sufficient for killing enteric pathogens and weed seeds in dairy waste. Noxious odors and water content may be reduced via composting. Composted dairy waste may be easier to apply, produce better seed beds, and not increase soil salinity as much as uncomposted dairy waste. Changes in the physical structure of the soil are being monitored for the effects of composted vs uncomposted amendments. This project undergoes annual peer review from academic institutions and experts from government and state agencies, and industrial partners.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher believes the research will address the utilization of dairy waste combined with other high-carbon waste from agriculture and industry, including potash and paper waste, for composting. This approach to waste management will have high impact for states where dairy and agriculture are important industry sectors. This is especially true for New Mexico and the southwest United States where the dairy business is growing rapidly. This research will also provide an additional pollution prevention tool for the industrial sectors dealing with potash and paper waste. The principal investigator believes this research to be of local, regional and national importance.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of the research was and continues to determine the feasibility of simultaneously composting dairy waste from agriculture and industry. The research will determine effects of utilizing composted waste, as opposed to raw waste, as a soil amendment on plant growth, irrigation requirements, and nutrient and heavy metal uptake. Phase I, to determine the feasibility of simultaneous composting dairy waste with available high carbon wastes from agriculture and industry, has been completed. Phase II, to determine the appropriate ratios of waste to carbon substrate for successful composting is completed. Phase III, to determine the kinetics of nutrient release and effects of composted material on heavy metal uptake will be completed this year.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1996 and the appropriation for fiscal year 1996 was $150,000, and for fiscal years 1997 through 1999, $100,000 per year. A total of $450,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds for the duration of this grant from the state appropriation is $75,000. There is another $50,000 in-kind support from the industrial partners. Additionally, a sum of $15,000 from the New Mexico State Highway Department has been leveraged by this project.

Question. Where is this work being carried out?

Answer. This work is being carried out in New Mexico under the direction of the Waste-Management Education and Research Consortium in collaboration with The Composting Council and industrial partners, such as Envio in Ohio, Plains Electric, and McKinley Paper in New Mexico.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. Completion date of the initial phases will be March 2000. Objectives are being met as the project continues. The project has been progressing according to the specified targets. Phases I and II have been completed. Phase IV has been added in order to evaluate the multi-year compost application on parameters such as plant growth, soil water retention, and soil salinity.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. This project has been evaluated based on the semi-annual progress report and research findings presented at conferences. The cognizant staff scientist has reviewed the project and determined that this research is conducted in accordance with the mission of this agency.

PASTURE & FORAGE RESEARCH, UTAH

Question. Please provide a description of the research that has been funded under the Pasture and Forage Research, Utah grant.

Answer. This is a multidisciplinary effort to develop profitable and sustainable pasture and forage management systems. CSREES has requested the university to submit a grant proposal that has not yet been received.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The proposed research under this Special Research Grant will address issues related to forage production and utilization in Utah.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this project is to develop a comprehensive guide for the management of irrigated pastures to assist livestock producers reduce cost and increase net returns.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1997 and the appropriation for fiscal year 1997 was $200,000, and for fiscal years 1998 and 1999, $225,000 per year. A total of $650,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Non-federal funds in support of this project and related activities were $360,200 for 1997 and $356,000 for 1998.

Question. Where is this work being carried out?

Answer. Research will be conducted at the Utah Agricultural Experiment Station.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The principal investigators anticipate the completion date for these objectives to be in 2002.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The grant is peer reviewed annually through the institutions project approval process as well as by CSREES National Program Leader.

PEACH TREE SHORT LIFE IN SOUTH CAROLINA

Question. Please provide a description of the research that has been funded under the Peach Tree Short Life in South Carolina grant.

Answer. Progress continued in 1998 with focus on the evaluation and longevity and productivity of Guardian rootstocks on peach tree short life sites in the southeast and replant sites throughout North America. More fundamental work has involved the biochemical characterization of the egg-kill factor produced by a bacteria on nematode eggs. Other basic studies involved the cloning of genes associated with production and expression of toxins from bacteria. New studies were initiated on the use of solarization to reduce nematode populations for peach tree replant. This project was not awarded competitively but has undergone peer review at the university level and merit review at CSREES.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. According to the principal researcher, the problem of disease on peach, nectarine, and plum trees in the southeastern United States effects is very great. More than 70 percent of peach acreage in the southeast is effected. Research continued on the improvement of rootstocks and the use of the cultivar Guardian BY520–9 which has now been released in 22 states including California, New Jersey, and Michigan where bacterial canker is a problem.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal of this research was the continued evaluation of productivity of peach Guardian BY520–9 rootstocks on peach tree short life and investigations into novel management for ring nematodes by bacteria. Recent accomplishments include the increase in bulk commercial production of Guardian seed while two new Guardian selections have had very good nursery trails. Guardian rootstock continues to be tested in 22 states and is performing well. A marker for a gene for rootstock resistance to two root-knot nematode species was sequenced and successfully use to correctly sort current commercial rootstocks according to their known nematode re-

sistance or susceptibility. A major find is that the egg-kill factor produced by the bacteria kill root-knot nematode eggs as well as ring nematode eggs.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal year 1981, $100,000; fiscal years 1982–1985, $192,000 per year; fiscal years 1986–1988, $183,000 per year; fiscal year 1989, $192,000; fiscal year 1990, $190,000; fiscal years 1991–1993, $192,000 per year; fiscal year 1994, $180,000; fiscal years 1995–1999, $162,000 per year. A total of $3,365,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources for this grant were as follows: $149,281 state appropriations in 1991; $153,276 state appropriations in 1992; $149,918 state appropriations in 1993; $211,090 state appropriations in 1994; $193,976 in state appropriations in 1995; $169,806 in state appropriations in 1996 and 1997; $150,693 in state appropriations in 1998; and $92,099 in state appropriations in 1999.

Question. Where is this work being carried out?

Answer. This research is being conducted at South Carolina Agricultural Experiment Station.

Question. What as the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The researchers anticipate that the work may be completed in fiscal year 2000. Adequate progress has been made to assure that the objectives will be met before the completion date.

Question. What was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The last agency evaluation of this project was a merit review completed January, 1998. In summary, the evaluation of peach rootstocks with resistance to peach tree short life is of continued importance in managing this disease. The use of biological control strategies in suppression of plant parasitic nematodes are a complementary area of research in that it can enhance disease management by protecting the peach rootstocks. Solarization of orchard sites prior to peach tree replanting significantly altered the microbial community and suppressed nematode multiplication in the rhizosphere. Some accomplishments were the increased production and release of commercial Guardian seed and continued evaluation of rootstock in 22 states and provinces. A molecular techniques that separates resistant and susceptible peach rootstocks was validated.

PEST CONTROL ALTERNATIVES, SOUTH CAROLINA

Question. Please provide a description of the research that has been funded under the Pest Control Alternatives grant.

Answer. This grant supports research and technology transfer to provide growers with alternatives for managing pests and to implement the use of new alternatives reducing the sole reliance on chemical pesticides.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. The investigators contributing to the research and technology transfer at South Carolina believe that need for the development of alternatives for managing pests on vegetables is a regional and national problem. Contributions from the South Carolina work are projected by South Carolina to impact vegetable production in the Southern region and consumers of vegetable production from the Southern region. Research on pest management alternatives of national significance could potentially be supported by competitive grants awarded under the Pest Management Alternatives Program.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal of this program is to investigate alternative methods of managing insects, plant diseases, and nematodes in vegetable crops as complements to or as substitutes for conventional chemical sprays. The role of indigenous predators, parasites, and pathogens in controlling insect pests are being evaluated. Technology transfer to conventional and Integrated Pest Management—IPM—systems has resulted in modified thresholds for caterpillar pests in collards and tomatoes which incorporate the impact of beneficial insects in the system and a sampling plan for tomato fruitworm which considers numbers of parasitized eggs used to schedule insecticide sprays. Several vegetable crops have been successfully grown without

chemical insecticides. Refinements in field scouting techniques for insect pests of cole crops has translated into reliable treatment decisions—using microbial materials—with substantial savings in time required for field scouting. Biological control agents have been isolated, identified, and used in tests to demonstrate their potential in reducing dependence on chemical insecticides. The value of indigenous biological control agents has been demonstrated. The impacts of these against target pests have been shown along with the adverse effects of chemical insecticides on these natural control agents—especially predators and parasites. There are now crops—cole crops, for example—for which the use of chemical insecticides is avoided altogether, with no loss in yield and quality. However, other crops—e.g. tomato, peas, beans—still require chemicals for pest control, until alternatives can be found.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. This work supported by this grant began in fiscal year 1992 and the appropriation for fiscal years 1992 and 1993 was $125,000 per year. In fiscal year 1994 the appropriation was $118,000 and in fiscal years 1995 through 1999, $106,000 per year. A total of $898,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. South Carolina has provided approximately $200,000 in personnel support and operating dollars per year from State appropriations based on the Principal Investigator's estimate.

Question. Where is the work being carried out?

Answer. This research and technology transfer program is being conducted at the South Carolina Agricultural Experiment Station, Clemson University at Clemson, Florence, and Charleston, South Carolina.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original objectives of the project were for five years. The project has been revised in 1998. Research on objective A: Develop and evaluate microbial pest control agents for control of plant pathogens and insect pests of vegetables, is defuse and non-conclusive. It would be far superior for continued work in this area to be submitted to competitive peer review programs where the investigators would need to clearly focus specific activities and receive the benefit of the comments of peer scientists. Objective B: Determine the efficacy of innovative cultural practices for vegetable production systems in South Carolina. Objective C: Assess the role of indigenous predators, parasites, and pathogens in controlling insect pests; determine environmental and biological factors that influence the abundance and distribution of these indigenous beneficials; and consider the presence of natural enemies, as well as pests, in management decisions, is the area where the most progress appears evident and has been cited in the accomplishments. We feel that the base of information and orientation of the research in this area is adequate and of quality that the investigators could compete well in competitive grant programs such as sustainable agriculture or regional IPM grant programs, and would benefit from the peer review process. Progress in this area is an ongoing process as explanations are sought for the results being obtained. Objectives D: Evaluate and develop germplasm, breeding lines and cultivars for resistance to major pathogens of commercially important vegetables. Objective E: Transfer new technology to user groups, has not demonstrated any progress that would not be anticipated from ongoing conventional sources of funds.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. We evaluate this project annually when we process the grant and plan to evaluate this project through a site visit during early summer of 1999.

PESTICIDE IMPACT ASSESSMENT PROGRAM

Question. Please provide a description of the research that has been funded under the Pesticide Impact Assessment grant?

Answer. Research funded by the Pesticide Impact Assessment Program—PIAP—discovers, gathers, publishes, and distributes crop and livestock profiles which address the information needs for implementation of the Food Quality Protection Act—FQPA. These data include the use and effectiveness of pest management alternatives which is essential to the maintenance of economically competitive U.S. crops and livestock production systems. This program produces and publishes crop and livestock production profiles which are documents that evaluate the biologic and economic impact, implications and consequences of replacing existing pest management

options with alternatives. By coordinating PIAP data collections in conjunction with the survey activities of the National Agricultural Statistic Service—NASS—and the Agricultural Marketing Service's—AMS—Pesticide Data Program, special pest management information needs of small acreage and minor crop farmers are better served.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. This program provides the U. S. Environmental Protection Agency—EPA—and USDA with information on the use, importance, and effectiveness of pest management alternatives essential to U.S. agricultural crops and livestock production. This program, in responding to the information needs of the EPA, is supporting the national implementation of the FQPA. In recent years, a special focus of the PIAP has been directed into minor crop production systems. To ensure relevance and focus on minor crops, this program solicits pest management needs assessments from producers, gathered by the NASS, Land-Grant University System scientists, and the Department's Office of Pest Management Policy—OPMP. The EPA uses these data in making environmentally-sound regulatory decisions. The USDA uses scientists from the Land-Grant University System to identify commodities where critical pests threaten the production system, for FQPA risk assessments, and for identification of risk management options for specific production systems. Through this cooperative interaction, USDA and EPA receive state-generated agricultural information needed for sound regulatory decisionmaking. The state partner receives Federal funds, participatory input into the regulatory process, and direct access to timely regulatory information.

Question. What was the original and current goal of this research and what has been accomplished to date?

Answer. The PIAP has been an on-going research effort whose original goal in 1977 was to gather data to provide comprehensive assessments documenting the probable impact on agriculture if certain pesticides would no longer be available. A Federally-coordinated network of state scientist contacts has been established in the intervening years as broader and more environmentally-enlightened goals evolved within this program. Today the PIAP goals are defined as: (1) to focus on the collection and delivery of high quality science-based pest management information for use in the regulatory process; and (2) to maintain and enhance a strong partnership between USDA and the Land Grant System in order to continue the positive interactive flow of vital pest management information between USDA, the regulatory community, and production agriculture.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal years 1977–1981, $1,810,000 per year; fiscal years 1982–1985, $2,069,000 per year; fiscal years 1986–1988, $1,968,000 per year; fiscal year 1989, $2,218,000; fiscal year 1990, $2,437,000; fiscal years 1991–1993, $2,968,000 per year; fiscal year 1994, $1,474,000; and fiscal years l995–1999, $1,327,000 per year. A total of $44,898,000 has been appropriated since fiscal year 1977.

Question. What is the source and amount of the non-federal funds provided by fiscal year?

Answer. The majority of the cost of the state scientist and the PIAP program is born by the state partner. The exact contribution of each state is not known, nor has this information been requested to be reported by the states to the Federal partner during the duration of this program. The Federal program funds provided to the states by CSREES have been used by state partners to partially defray their costs of staffing a PIAP State Liaison Representative on their Land Grant campus. The remaining program expenses, above the Federal contribution, are born by each state and include the cost of program participant salaries, facility/clerical expenditures, travel, and supplies. These costs, several times beyond the Federal contribution, are considered the non-federal support for this program. The size of the state contribution varies from state to state, but estimates of matching support for this program range from 3 to 6 times the Federal dollar investment.

Question. Where is this work being carried out?

Answer. Work on the PIAP is underway at State Agricultural Experiment Stations in 50 states and 5 Territories. The distribution of competitively-awarded PIAP Regional Grants is coordinated through the Agricultural Experiment Station in a lead state in each of the four regions of the United States: namely, California in the western region; Michigan in the north central region; Pennsylvania in the northeastern region; and Florida in the southern region.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The PIAP has been an on-going research effort which gathers relevant pest management information necessary for the changing regulatory scene. A Federally-coordinated network of state scientist contacts has been developed to address the information needs of the regulatory community. With leadership from OPMP, this multi-agency program coordinates the gathering of high quality pest management information from our State partners. The combined data needs of FQPA, EPA, and The Government Performance and Results Act—GPRA—have resulted in a growing need for accurate and timely pest management information in 1999. Thus, the original 1977 objectives of the PIAP have been met but the information needs of production agriculture and U. S. citizen's continue to grow with the empowering regulations of new legislation which require the continuation of these activities to demonstrate responsible and responsive federal engagement on pesticide issues.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. A comprehensive evaluation and review of the PIAP was conducted in February 1995. The review panel's report was published in June 1995. The review team was composed of 10 scientists representing EPA, Industry, agricultural commodity groups, the Federal government, and the Land Grant System. This thorough review directed the program to focus on data collection relating to pesticide usage on minor crops, the efficacy of pest management alternatives, and issues responsive to stakeholder's needs. In response to these recommendations, CSREES brought together the programmatic and budgetary components of the program into a single coordinated PIAP effort. During fiscal year 1999, OPMP enhanced it's leadership input to this program focusing on information which supports the timely and rational implementation FQPA.

PEST MANAGEMENT ALTERNATIVES

Question. Please provide a description of the research that has been funded under the Pest Management Alternatives special grant.

Answer. This special research grant supports projects that help farmers respond to the environmental and regulatory issues confronting agriculture. These special grant funds support research that provides farmers with replacement technologies for pesticides that are under consideration for regulatory action by the Environmental Protection Agency—EPA—and for which producers do not have effective alternatives. The passage of the Food Quality Protection Act of 1996—FQPA—makes this special research grant of critical importance to the Nation's farmers.

New pest management tools are being developed to address critical pest problems identified by farmers and others in a crop production region, and to identify new approaches to managing pests without some of the most widely used pesticides. Farmers have identified the lack of effective alternative pest management tactics as a primary reason for not implementing Integrated Pest Management—IPM—on their farms. Where effective alternative tactics have been developed, they are widely and rapidly implemented by farmers. These special research grant funds are distributed on a competitive basis to all eligible research institutions through the Pest Management Alternatives Program or PMAP. Research priorities for PMAP are established with the help of a database analysis system, which draws upon the expertise of the land-grant university system, commodity groups, and others.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. The ability of the Nation's agricultural production system to keep pace with domestic and global demand for food and fiber is dependant on access to safe, profitable and reliable pest management systems. For a variety of factors, farmers and other pest managers have fewer chemical control options available to them than they did at the beginning of the decade, and this trend is likely to continue at an accelerated rate. The FQPA will have significant impacts on pest management systems in the United States over the next decade, and the "minor use"—high value crops grown on relatively few acres—will be particularly hard hit. For these reasons and others, it is essential that farmers be provided with new pest management tools and better information so they can remain competitive in today's global marketplace.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. This research is conducted to help farmers respond to the environmental and regulatory issues confronting agriculture by providing them with new options

for managing pests. The research supported by this special grant is identifying new ways to manage pests without key pesticides that may no longer be available as FQPA is implemented. Some highlights of the research funded through PMAP include progress on surface amendments to reduce air pollution by Telone, a fumigant; latent infection assessment and fungicide mixtures for brown rot control; development of a pesticide use/pesticide recommendation database; implementation of alternatives to carbofuran for control of rice water weevil; substitution of behavioral control for organophosphate sprays against apple maggot; pheromone mating disruption in orchards; application technology; and integration of natural enemy thresholds for greenbug management in wheat. Progress on additional research has been made to collect data on alternatives for pest management in watermelon insects and diseases of cucurbit crops in the South Central States; on developing IPM and monitoring networks in Northeastern vegetation crops; assessment of insecticide and IPM usage in alfalfa and small grains; and alternative management practices for minor tree fruit crops.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal years 1996 through 1999, $1,623,000 each year. A total of $6,492,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Non-federal funds are not required by this grants program.

Question. Where is the work being carried out?

Answer. All State Agricultural Experiment Stations, all colleges and universities, other research institutions and organizations, Federal agencies, private organizations or corporations, and individuals are eligible to compete for this funding. This research is currently being carried out by State Agricultural Experiment Stations and other research organizations located in 20 states.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The economic and environmental pressures facing U.S. agriculture today are greater today than in 1996 when Federal funds were first appropriated for this special research grant. There will be a need for continued investment in research to develop new approaches to managing pests for the foreseeable future as the FQPA is implemented.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. Each new draft of Request for Proposals—RFP—and all project proposals are evaluated annually by multi-disciplinary relevancy and merit review panels. A joint USDA/EPA workshop to evaluate the progress and scope of PMAP is planned for May 1999. The projects supported by this special research grant have consistently provided key knowledge needed in developing new approaches to pest management. The focus on pesticides targeted by FQPA assures that critical pest management alternatives are being addressed. PMAP has supported 57 projects in 25 States since it started four years ago—just enough time for the first cycle of projects to be completed. Promising results could soon be put into practice in the field.

PHYTOPHTHORA ROOT ROT, NEW MEXICO

Question. Please provide a description of the research that has been funded under the Phytophthora Root Rot grant.

Answer. Work has continued to focus in general on the development of strategies for sustainable vegetable production in irrigated lands. Work has continued on the search for Phytophthora root rot resistance in chilies, identification of molecular markers for rot tolerant genes, investigation on irrigation modification as a means to manage root rot, and soil bed temperature control as a means to manage disease. This project was not awarded competitively but has undergone peer review at the university level and merit review at CSREES.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. The principal researcher believes that since Phytophthora disease threatens chili production in west Texas, New Mexico, and Eastern Arizona, this problem is of state-and regional significance.

Question. What is the original goal of this research and what has been accomplished to date?

Answer. The original goal was to improve chile production through genetically-superior cultivars, combined with new improved cultural practices. Researchers have developed a highly effective disease screen that selects resistant seedlings, found that genes for resistance to root rot do not provide protection against Phytophthora foliar blight, that a wild species of Capsicum is immune to the fungus, and that molecular markers are useful to introgress genes for tolerance. They also found that alternate row irrigation and drip irrigation significantly reduce Phytophthora root rot. Control of soil temperature with soil mulches can greatly impede the progression of root rot in the irrigated field.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1991 with an appropriation of $125,000 for that year. The fiscal years 1992–1993 appropriation was $150,000 per year; $141,000 in fiscal year 1994; and $127,000 per year in fiscal years 1995–1999. A total of $1,201,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Non-federal funds from state appropriations and the California Pepper Commission were $255,614 in 1997; $253,614 in 1998; and state appropriations in 1999 are $260,682.

Question. Where is this work being carried out?

Answer. Research is being conducted at New Mexico State University. be to develop educational and outreach material

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The anticipated completion date for the original objectives was 1995. These objectives have not been met. Related programs deal with research and development efforts designed to prevent or manage diseases impacting vegetable production in irrigated areas, and cooperators estimate that the objectives of these programs should be met by 2002.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The last merit review was made in January, 1998. In summary, the development of resistant cultivars and research on interactions of Capsicum and Phytophthora for developing strategies for irrigated crop growers to be competitive in the international economic arena continued. More than 30,050 seedlings were screened for resistance to root rot and/or foliar blight in the greenhouse. This technique allows the resistant plants to be saved and used in the breeding program. Field evaluations of advanced lines continued with 11 green chile lines, 11 red chile lines, 18 advanced paprika lines, and 8 jalapeno lines were evaluated for released by this program.

PLANT, DROUGHT, AND DISEASE RESISTANCE GENE CATALOGING

Question. Please provide a description of the research that has been funded under the Plant, Drought, and Disease Resistance Gene Cataloging grant.

Answer. The purpose of this work is to identify, characterize, and catalog important genes in crop plants that result in the ability to resist stress caused by drought and disease organisms. The specific objectives are: construct, curate, and distribute cDNA libraries for genes that are differentially expressed in response to drought or disease pressure; sequence DNA of these genes; characterize the pattern of expression; and develop databases to share information with other scientists.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The long term goal of this research is to improve plant resistant to drought and disease for New Mexico and U.S. crops. This information has application throughout the nation, especially in the arid/semi-arid regions. The principal researchers believe this research to be of national, regional, and local need. Genetic research of national significance could potentially be supported by competitive grants awarded under the National Research Initiative or the Initiative for Future Food and Agricultural Systems.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The long term goal of this research is to produce better adapted crops for New Mexico and the U.S. In year one, New Mexico State University established the facility, developed a database to catalogue cDNAs, and began the initial work of sequencing and cataloging genes into biologically informative groups. To date,

they have isolated the appropriate DNA to construct libraries of drought-stress induced transcripts from three different chile genotypes, one grass, and one clover. Additionally, they have selected the germplasm to characterize for other species.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1998 and the appropriation for fiscal years 1998 and 1999 is $150,000 per year for a total of $300,000.

Question. What is the source and amount of nonfederal funds provided by fiscal year?

Answer. In fiscal year 1998, New Mexico Agricultural Experiment Station provided $8,444 in nonfederal funds. The funds covered a portion of the salary for the two principle investigators.

Question. Where is this work being carried out?

Answer. The research is primarily conducted at New Mexico State University. Collaborations with Los Alamos National Lab, Los Alamos, New Mexico, and the National Center for Genome Resources, Santa Fe, New Mexico, have been established.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. This project, which began in 1998, was designed to demonstrate significant accomplishments within a five-year time frame. The principle investigators report significant progress on year one objectives.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The project began in fiscal year 1998 and the head of the Department of Agronomy and Horticulture has established a scientific peer review process for this project based on the review tool used for Hatch projects at New Mexico State University.

POSTHARVEST RICE STRAW, CALIFORNIA

Question. Please provide a description of the research that has been funded under the Postharvest Rice Straw, California grant.

Answer. The postharvest rice straw special grant was initiated in May 1997 and has two main objectives: first, characterize current capabilities, costs, and constraints in harvesting and handling rice straw as a renewable material for commercial products; and second, investigate alternative harvest and handling systems and evaluate their specialized equipment and system designs.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. California legislation mandates reduction in the amount of open rice straw burning, the principal method of rice straw disposal. Efficient harvest and handling may make rice straw a suitable raw material for user businesses while meeting straw burning regulations and improving air quality. The principal researcher believes this research to be of regional and local need.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal is to demonstrate efficient and economic rice straw harvest and handling, thereby establishing rice straw as a feedstock for value-added manufacturing and other uses. This project is only recently initiated and is fully organized, including outreach to the rice industry.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1997. The appropriation for fiscal year 1997 was $100,000 and in fiscal years 1998 and 1999 was $300,000 per year. A total of $700,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The California Rice Industry Association and the California Rice Research Board are potential supporters. The University of California at Davis is cost sharing on salary of the investigators.

Question. Where is this work being carried out?

Answer. Research will be conducted at the Department of Biological and Agricultural Engineering, University of California-Davis, California and at field sites in the rice growing region

Question. What was the anticipated date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. It is anticipated by the University of California-Davis that the postharvest rice straw project will be complete in 2002. The project is on track for the objectives pertaining to current equipment assessment, economic and systems modeling including geographical information systems, and environmental issues.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The evaluation of the projected was completed at the end of January 1999 based on the 1998 summary of accomplishments.

POTATO RESEARCH

Question. Please provide a description of the research that has been funded under the Potato Research grant.

Answer. Scientists at several of the State Agricultural Experiment Stations in the Northeast, Northwest, and North Central States are breeding new potato varieties, high yielding, disease and insect resistant potato cultivars adapted to the growing conditions in their particular areas, both for the fresh market and processing. Research is being conducted in such areas as protoplast regeneration, somoclonal variation, storage, propagation, germplasm preservation, and cultural practices. Congressional language for fiscal years 1997, 1998, and 1999 has directed CSREES to award these funds on a competitive basis. In 1997 and 1998, CSREES published a request for proposals in the Federal Register and awarded grants competitively based on a scientific peer review; the number of grants were eight in 1997 and ten in 1998.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher believes this research effort addresses needs of the potato producers and processors. Research areas being studied include storage and postharvest handling of potatoes and their effect on potato quality. Potato producer and processor needs are breeding and genetics, culture factors, and pest control on potato production.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal was to improve potato production through genetics and cultural practices as well as improve storage for quality potatoes for processing and fresh market. This research has resulted in a number of new high yielding, good quality, disease and insect resistant cultivars, which are now being used in the processing industry and in the fresh market. Regional comprehensive breeding programs have been developed to produce cultivars targeted to the specific growing conditions of that region. A number of the new cultivars have also been adaptable to other regions. These programs have also had success in identifying resistance to pests and pathogens in wild germplasm and are developing expertise to incorporate genetic engineering approaches as traditional components of the program.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal year 1983, $200,000; fiscal year 1984, $400,000; fiscal year 1985, $600,000; fiscal years 1986–1987, $761,000 per year; fiscal year 1988, $997,000; fiscal year 1989, $1,177,000; fiscal year 1990, $1,310,000; fiscal year 1991, $1,371,000; fiscal years 1992 and 1993, $1,435,000 per year; fiscal year 1994, $1,349,000; fiscal years 1995 through 1998, $1,214,000; and fiscal year 1999, $1,300,000. A total of $17,952,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant were as follows: $401,424 state appropriations, $4,897 product sales, $249,830 industry, and $30,092 miscellaneous in 1991; $567,626 state appropriations, $6,182 product sales, $334,478 industry, and $44,323 miscellaneous in 1992; $556,291 state appropriations, $9,341 product sales, $409,541 industry, and $44,859 miscellaneous in 1993; $696,079 state appropriations, $21,467 product sales, $321,214 industry, and $226,363 miscellaneous in 1994; $935,702 state appropriations, $35,376 product sales, $494,891 industry, and $230,080 miscellaneous in 1995; and an estimated $900,000 state appropriations, $10,000 product sales, $400,000 industry, and $200,000 miscellaneous in each of 1996, 1997 and 1998.

Question. Where is this work being carried out?

Answer. The research work is being carried out at the Cornell, Idaho, Maine, Maryland, Michigan, North Dakota, Oregon, Pennsylvania, and Washington State Agricultural Experiment Stations.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The project was initiated to accomplish significant results in about five years. Because the research is based on genetic varietal development, progress is developing new potato varieties takes from 5 to 10 years.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. Beginning in fiscal year 1997, these funds have been awarded on a competitive basis using a scientific peer review. In addition, the agency conducts a formal meeting with representatives from the potato industry to review research needs and provide input to the agency on the merits of the proposals.

PRECISION AGRICULTURE, KENTUCKY

Question. Please provide a description of the research that has been funded under the Precision Agriculture, KY grant.

Answer. CSREES has requested the university to submit a grant proposal that has not yet been received. Research will evaluate site-specific practices for production of corn and soy beans under field conditions. The work will compare various combinations of management practices using site-specific technology and evaluate economics of its application.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The need for this research is to provide objective information about precision agriculture technologies to assist farmers in the development of management systems that are productive, economical, and environmentally benign.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this research is to evaluate site specified technologies and develop recommendations for their use in crop management systems.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The supported by this grant begins in fiscal year 1999 and the appropriation for fiscal year 1999 is $500,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. This is a new project which has not yet begun and, therefore, no non-federal funds have been used.

Question. Where is this work being carried out?

Answer. The research will be conducted at the Kentucky Agricultural Experiment Station.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The anticipated completion date for this project is 2003.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The project will be evaluated upon receipt of the required grant proposal.

PRECISION AGRICULTURE, MISSISSIPPI

Question. Please provide a description of the research that has been funded under the Precision Agriculture, MS grant.

Answer. CSREES has requested the university to submit a grant proposal that has not yet been received. This research will evaluate the use of site-specific technology and assess the economics of its application. Cultural practices will be studied and integrated into a management system using site-specific technology to monitor yield and variable rate application. This project will expand on work conducted under the Special Technology Special Research Grant funded at $350,000 in fiscal year 1997 and $600,000 in 1998.

Question. According to the research proposal, or the principal researcher, why national, regional or local need for this research?

Answer. The need for this research is to provide farmers with unbiased information on the application and economics of site specific technologies for cotton production in the mid-south.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this research was to evaluate site specific technologies and develop recommendations for management decisions related to fertilization, pest control, and other cultural practices.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant begins in fiscal year 1999 and the appropriation for fiscal year 1999 is $1,000,000.

Question. What is the source and amount of nonfederal funds provided by fiscal year?

Answer. The non-federal funds provided for this grant are $620,300.

Question. Where is this work being carried out?

Answer. The research will be conducted on various Mississippi Agricultural Experiment Station branch locations around the state.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The Principle Investigators anticipated the completion date for the original objective to be in fiscal year 2004.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The project was subject to an initial evaluation at its start in fiscal year 1998.

PRE-HARVEST FOOD SAFETY, KANSAS

Question. Please provide a description of the research that has been conducted under the Pre-Harvest Food Safety, Kansas grant.

Answer. Longitudinal studies on the fecal shedding of Escherichia coli 0157:H7 by cattle on beef cow-calf ranches are being done to determine the impact of various routine management practices on the shedding rate. The purpose of the research is to develop an understanding of the management factors that contribute to the incidence of E. coli 0157:H7 in beef cattle. The project also allows for a comparison of large vs small cow-calf operations.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for the research?

Answer. The presence of E. coli in beef animals sent to slaughter can contribute to the contamination of meat products produced from such animals. This has increased the need for control measures that could reduce the incidence of such foodborne human pathogens in food animals during the production cycle. This type of research has been identified as critical by all food animal commodity groups as well as public health officials and consumers.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal was to determine the incidence of E. coli 0157:H7 in large vs small beef cow-calf operations and describe the management factors that contribute to or affect the rate of shedding of organisms in the feces of such animals. E. coli 0157:H7 has been detected in 3.11 percent of monthly fecal samples—n=3152—, with 4.57 percent of the 2,058 animals having at least one positive sample. Fecal shedding was normally transient; only one animal was positive on more than one sampling date. In addition, there was a difference in prevalence between farms. Sources of drinking water were also examined and 3.5 percent of 199 water samples were positive. Management practices on the ten farms are being examined to determine if there are specific risk factors that can be identified.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1996. The appropriations for fiscal years 1996 through 1999 was $212,000 per year. A total of $848,000 has been appropriated.

Question. What is the source and amount of non-federal funds by fiscal year?

Answer. Non-Federal funds have been contributed to this project as follows: In fiscal year 1996 non-federal funds provided to this project were $150,000 in state appropriations and $91,450 in contributed indirect costs; 1997 non-federal funds provided to this project were $165,000 in state appropriated funds and $90,300 in contributed indirect costs; 1998 non-federal funds provided to this project were $175,000 in state funds and 91,500 in contributed indirect costs.

Question. Where is this work being performed?

Answer. This research is being conducted at Kansas State University, University of Nebraska-Lincoln, and at ranches in Kansas, Nebraska, and Colorado.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The anticipated completion date was October 1, 1998, for the original objectives. However, the project was not initiated until several months after the expected date of October 1995 so they should finish the original objectives in late spring of 1999. As the project has progressed, the Principal Investigator has added other important questions to the original research plan and has planned to look more closely at management interventions that could help reduce the incidence of E. coli shedding in beef cattle. Thus, the project should continue for some time after the original expected period of time.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The project was evaluated by an on-site visit on October 28–29, 1997 by CSREES. The project team was doing an excellent job and the interactive collaboration was outstanding. The research team has also been successful in bringing other participants into the program. Also, the project leader provided a very comprehensive written report on November 1998, including manuscripts currently under review for publication, which has permitted a further assessment of the continued progress on this important project.

PRESERVATION AND PROCESSING RESEARCH, OKLAHOMA

Question. Please provide a description of the research that has been funded under the preservation and processing grant.

Answer. Research has focused on the effects of preharvest and postharvest factors on the market quality of fresh and minimally processed horticultural products, including marigolds, pecans, watermelons, and peaches. Researchers are developing harvester prototypes for marigold flowers and drying and threshing systems for marigold petal drying and separation. A fruit orienting mechanism is being developed for incorporation into an on-line grading system. An integrated harvesting and postharvest handling system is being developed for fresh market and processing market horticultural products. Research continues on methods to determine textural properties of pecans, determine optimum operating parameters for supercritical carbon dioxide and other alternative partial oil extraction, and develop and optimize modified atmosphere packaging techniques for pecan shelf life extension. fiscal year 1998 funds are supporting research through June 30, 2000. CSREES has requested, but not yet received, a proposal in support of the fiscal year 1999 appropriation.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher believes that technological improvements in fruit, nut, and vegetable handling systems are needed to supply domestic markets and support continued participation in international commerce, which is a national need. New environmentally-friendly processing systems have been developed and are being commercialized in Oklahoma, with broad application to numerous crops with international marketing potential. Processing systems under development for commercial adaptation will support market expansion of pecans, affecting product market potential and value regionally. Improvements in postharvest handling and processing are necessary to support growth of the industry and ensure competitive involvement in national and international commerce of horticultural commodities uniquely suited for production in Oklahoma. New extraction facilities will also have a positive impact on local economies, incorporating a new value added processing industry and providing local employment opportunities.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal of the research has been to define the major limitations for maintaining quality of harvested fruits, vegetables and tree nuts and prescribe appropriate harvesting, handling, and processing protocols to extend shelf life and marketability of harvested horticultural commodities, thus maintaining profitability of production systems and assuring an economic market niche for Oklahoma producers and food processors. A systems approach to develop complementary cropping, harvesting, handling, and processing operations has resulted in development of improved handling systems for cucurbit and tree fruit crops. Nondestructive processing systems for partial oil reduction of tree nuts have been developed to extend shelf life and lower the calorie content for the raw or processed product. Funding has been secured for construction of a commercial nut extraction facility in Oklahoma,

pending successful pilot testing which is underway. Technologies and procedures previously developed for cucurbit and tree fruit systems are being applied to development of okra, pepper, sage, basil, tree nut, sweet corn, and marigold cropping, handling, and light processing systems, with a targeted completion date of 2001. Research from this project provided the basis for commercial high relative humidity storage of peaches and to attract companies to the state to construct new value added food processing facilities.

Question. How long has the work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal year 1985, $100,000; fiscal year 1986, $142,000; fiscal year 1987, $242,000; fiscal years 1988 and 1989, $267,000 per year; fiscal year 1990, $264,000; fiscal year 1991, $265,000; fiscal year 1992, $282,000; fiscal year 1993, $267,000; fiscal year 1994, $251,000; and fiscal years 1995–1999, $226,000 each year. A total of $3,477,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. State funds have been provided as follows: fiscal year 1991, $126,900; fiscal year 1992, $209,783; fiscal year 1993, $219,243; fiscal year 1994, $308,421; fiscal year 1995, $229,489; year 1996, $366,570; fiscal year 1997, $397,881; and fiscal year 1998, $205,662. The State also provided $16,100,000 for development of an Agricultural Products and Food Processing Center and approximately $2,000,000 to staff the facility.

Question. Where is the work being carried out?

Answer. This work is being conducted at the Oklahoma State Agricultural Experiment Station, in conjunction with ongoing production research at the Wes Watkins Agricultural Research and Extension Center and the South Central Agricultural Research Laboratories.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. It is expected that ongoing research will be completed in 2002. Additional related objectives beyond this date would address further opportunities for horticulture industry growth and economic development.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. An agency science specialist conducts a merit review of the proposal submitted in support of the appropriation on an annual basis. A review of the proposal supporting the fiscal year 1998 appropriation was conducted on January 16, 1998. The project was evaluated as part of a comprehensive CSREES program site review in the fall of 1995, with a recommendation by the review team to continue the value-added product development.

RANGELAND ECOSYSTEMS, NM

Question. Please provide a description of the research that has been funded under the Rangeland Ecosystems, NM grant?

Answer. Current research is focused on the ecology of noxious and invasive weeds that are endemic to New Mexico's rangelands. Competitive research grants have been awarded that deal with studying the physiological and toxicological effects of these weeds on livestock.

Question. According to the research proposal, or the principal researchers, what is the national, regional, or local focus for this research?

Answer. Noxious weeds are a serious problem in the southwestern United States. About one-fifth of the rangeland in Texas and more than one-half in New Mexico is infested to some degree. Under this program, researchers are working to develop an integrated weed management approach.

Question. What was the original goal of this research and what has been accomplished?

Answer. Accomplished research led to understanding of broom snakeweed and other noxious weeds including a better understanding of plant's strategy for invasion and persistence. The primary focus of research at this time is addressing the need for an integrated weed management approach for noxious weeds, especially broom snakeweed.

Research is addressing three general areas which are ecology and management, biological control, and toxicology and animal health. One specific accomplishment is the biological control arena; several plant pathogens and insects are proving to be effective in broom snakeweed's control.

Question. How long has the work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal year 1989, $100,000; fiscal year 1990, $148,000; fiscal year 1991, $150,000; fiscal years 1992 and 1993, $200,000 per year; fiscal year 1994, $188,000; fiscal years 1995 and 1996, $169,000 each year; fiscal year 1997, $175,000; fiscal year 1998, $185,000; and fiscal year 1999, $200,000. A total of $1,884,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant were as follows: $249,251 state appropriations in 1991; $200,110 state appropriations in 1992; $334,779 state appropriations in 1993; $302,793 state appropriations in 1994; $294,451 state appropriations in 1995; and an estimated $300,000 in state appropriations in each fiscal year of 1996, 1997, and 1998.

Question. Where is this work being carried out?

Answer. Research is being conducted at New Mexico State University.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The project was initiated in 1989. Currently, additional and related objectives have evolved and anticipated completion date for these is 2000. Considerable progress has been made on many of the objectives. Anticipated completion date of the additional and related objectives that have resulted based on the current work would indicate another 5 years.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. Each year the grant is peer reviewed with oversight by an administrative executive committee within the College of Agriculture and Home Economics at New Mexico State University. Additionally, CSREES' senior scientific staff review the progress of the grant. Those reviews indicated progress in achieving the objectives.

REGIONAL BARLEY GENE MAPPING PROJECT

Question. Please provide a description of the work that has been funded under the Regional Barley Gene Mapping Project grant.

Answer. The Regional Barley Genome Mapping Project is a multi-disciplinary, multi-institutional project to develop a genome map of barley. Specific objectives are to: construct a publicly-available medium resolution barley genome map; use the map to identify and locate loci, especially quantitative trait loci controlling economically-important traits such as yield, maturity, adaptation, resistance to biotic and abiotic stresses, malting quality, and feed value; provide the framework for efficient molecular marker-assisted selection strategies in barley varietal development; identify chromosome regions for further, higher resolution mapping with the objective of characterizing and utilizing genes of interest; and establish a cooperative mapping project ranging from molecular genetics to breeding that will be an organizational model for cereals and other crop plants. All funds are awarded on a competitive basis.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher believes barley breeders nationwide need information about the location of agriculturally-important genes controlling resistance to biotic and abiotic stresses, yield, and quality factors in order to rapidly develop new, improved cultivars and respond to disease and pest threats. This project provides that information along with appropriate molecular markers to track these traits through the breeding and selection process.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this project was to develop a restriction fragment length polymorphism map for barley and associated important genetic traits to provide closely linked molecular markers for barley breeders. The project has developed comprehensive linkage maps defining the entire barley genome in three experimental populations and determined the location, number, effect, and interaction of genes determining a range of economically-important traits. Additionally, the project has supported the development and use of an array of genomics tools that are publicly available. Technical papers have been published to report results to the scientific community.

Question. How long has this work been under way and how much has been appropriated through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal year 1990, $153,000; fiscal year 1991, $262,000; fiscal years 1992–1993, $412,000 per year; fiscal year 1994, $387,000; fiscal years 1995–1998, $348,000 each year; and fiscal year 1999, $400,000. A total of $3,418,000 has been appropriated.

Question. What is the source and amount of nonfederal funds provided by fiscal year?

Answer. The nonfederal funds and sources provided for this grant were as follows: $203,760 from industry in 1991; $212,750 from industry in 1992; $115,000 from industry in 1993; $89,000 from industry in 1994; and $35,000 from the State of Washington and $108,000 in other nonfederal funding, for a total of $143,000 in 1995. Nonfederal funds were $163,000 for 1996 and $178,240 in 1997. In 1998, the project received $35,000 from industry.

Question. Where is this work being carried out?

Answer. Research is being conducted in the state agricultural experiment stations of Oregon, Colorado, Washington, Montana, Idaho, North Dakota, Minnesota, New York, Virginia, and California.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original objective was to produce a genetic map of agronomically-important traits of the barley genome. The anticipated time to complete this task was estimated at 10 years with completion in 1999. The initial goals have been exceeded; however, maps are never "done". The next step will be physical mapping of gene rich regions in order to study the genes and understand pathways. Researchers will focus on quality and disease resistance.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. In 1998, the special grant proposal was subjected to the project approval process at Oregon State University, which is the lead university, and reviewed by a CSREES scientist. This project is made up of many competitively-awarded mini-grants. A subgroup of the National Barley Improvement Committee, which is composed of elected representatives of research, growers, and industry, serves as the peer panel to review and select proposals based on relevance to the original objectives and scientific merit. Multi-disciplinary, multi-institutional, and continuing projects are given the highest priority. The overall project and its mini-grants have been judged to be scientifically sound and appropriate for the stated objectives, based on comments and rating from peer scientists which is done on each support prior to selection.

REGIONALIZED IMPLICATIONS OF FARM PROGRAMS

Question. Please provide a description of the research that has been done under the program on regionalized implications of farm programs grant.

Answer. The purpose of this research is to estimate the impacts of farm, trade, fiscal policies and monetary programs, and assess their alternatives on the economic viability of typical crop and livestock production operations located in different regions of the United States.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. There is a national need for research that provides an assessment and evaluation of the potential impacts of Federal farm, trade, and fiscal policies on the economic viability and competitiveness of farmers located in different regions of the United States. Policy impacts vary regionally because of differences in farm productivity, input costs, climate, farm enterprises, and size. The research results are widely used by farmers and public policymakers concerned about minimizing policy and program inequities between regions and farm sizes.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original, as well as current, goal was and continues to be to provide the farm community, agribusiness groups, and public officials information about farm, trade, and fiscal policy implications by developing regionalized models that reflect farming characteristics for major production regions of the United States. The researchers have developed a farm level policy analysis system encompassing major U.S. farm production regions. This system interfaces with existing agricultural sector models used for farm, macroeconomic, and trade policy analysis. The universities have expanded the number and types of representative farms to 80. Typical farm models also are being developed for Mexico and Canada under a collaborative agreement for use in analyzing impacts of the North American Free Trade Agreement.

Policy studies completed this past year at the request of policymakers and farm groups included analyses of the impacts of marketing loan provisions on farmers' economic viability; drought on farm income and farm viability; early provision of market transition payments, risk management accounts; and other crop insurance and disaster assistance alternatives.

Results of these analyses were presented to more than 60 different groups across the U.S., including, of course, both congressional agriculture committees. The Agricultural Food Policy Center web site, which contains copies of all Working and Briefing Papers, was visited more than 345,000 times during May-November, 1998 and more than 2,000,000,000 bytes of information was transferred.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1990 and the appropriation for fiscal year 1990 was $346,000. The fiscal years 1991–1993 appropriations were $348,000 per year; $327,000 in fiscal year 1994; and $294,000 in each of the fiscal years 1995 through 1999. A total of $3,187,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant were as follows: $288,843 State appropriations and $46,773 industry for a total of $335,616 in 1991; $45,661 State appropriations in 1992; $33,979 State appropriations in 1993; $40,967 State appropriations in 1994; $161,876 State appropriations in 1995; $187,717 State appropriations for 1996; $137,100 for 1997; and $161,400 for 1998.

Question. Where is this work being carried out?

Answer. Research is being conducted by the Texas A&M University and University of Missouri at Columbia.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. This program is of a continuing nature for the purpose of assessing the impacts of existing policies and issues and proposed policy and program changes at the individual firm level for feed grain, wheat, cotton, rice, oilseed, and livestock producers. In addition, the representative farms are constantly being updated as farming practices change. Currently the researchers are making adjustments for the increasing use of Bt and Round-Up Ready seeds.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. No formal evaluation of this project has been carried out; however, the CSREES representative is in frequent communication with the principal investigator concerning policy analyses procedures and studies.

RICE MODELING

Question. Please provide a description of the research that has been funded under the Rice Modeling grant.

Answer. The purpose of this research project is to develop a regional, national, and global rice industry model for use in analyzing the impact of changes in domestic and foreign public policies on production, trade, stocks, substitute crops, farm prices, and domestic as well as global consumption.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. Research is needed to assist both the U.S. rice industry and national policymakers in assessing the impact of existing and proposed changes in public policies for rice. This research enables improved analysis of both international and domestic policy changes on rice production, stocks, prices of substitute crops, and consumption. It has been, and is being used to analyze the impacts of farm policy proposals on the U.S. rice industry, to analyze the impact of the World Trade Organization and the Uruguay Round agreements on U.S. trade, to analyze the impact of emerging rice importing and exporting countries on U.S. rice exports, and to analyze the market for different rice types—qualities—and seasonal demand and supply factors that affect the global rice market. The principal researcher believes this research addresses national, regional, and local needs.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this research was to develop international, national, and regional models to analyze the impact of foreign and domestic policy changes and forecast changes in production, trade, stocks, prices of substitute crops, farm prices, and consumption.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work actually began about four years ago and federal research grants from various sources have totaled roughly $2,000,000 prior to this year. The work supported by this grant began in fiscal year 1996. The appropriation for fiscal years 1996 and 1997 was $395,000 per year; for fiscal years 1998 and 1999, $296,000 per year, for a total of $1,382,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds over the 4 years prior to this year totaled approximately $500,000. For the 1996 fiscal year, state appropriations were $178,000; and for 1997 and 1998, $150,000.

Question. Where is the work being carried out?

Answer. The research is being carried out at the University of Arkansas-Fayetteville and the University of Missouri-Columbia.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The domestic portion of the rice model has been completed. The international modeling research is a little over half completed, and the researchers estimate another five years is required. The purpose of constructing the models, however, is to provide on-going analyses of the impact of various policy proposals on the U.S. rice industry.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. We have conducted no formal evaluation of this project. However, annual proposals are peer reviewed for relevance and scientific merit. Also, each annual budget proposal is carefully reviewed for adherence to stated objectives and annual progress is discussed with the principal investigators.

RURAL DEVELOPMENT CENTERS

Question. Please provide a description of the research that has been funded under the Rural Development Centers Program grant.

Answer. The overall objectives of the research agenda of the five rural development centers are to: Improve economic competitiveness and diversification in rural areas; support management and strategic planning for economic development; create community capacity through leadership; assist in family and community adjustments to stress and change; and promote constructive use of the environment. The function of the Centers is to increase the productivity of regional faculty both in doing research on rural issues and in using that research to do effective outreach with rural communities. These projects have undergone a merit review.

Question. According to the research proposal, or one of the principal investigators, what is the national, regional or local need for this research?

Answer. The number of research faculty who are addressing broader rural issues is declining in many places. The multi-disciplinary, multi-state work supported by the Centers becomes even more crucial in a period of reduced research emphasis. Critical needs are being met by Center support including public lands policy, changing rural migration patterns, fiscal alternatives for local-governments, and forest stewardship education. Specific needs for regional research are reviewed annually by the Centers. The focus of proposals varies from year-to-year depending on the shifting priorities of rural clients.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The Rural Development Center mission is to strengthen rural families, communities, and businesses by facilitating collaborative socio-economic research and extension through higher education institutions in the various regions. Research programs are undertaken after evaluating broader regional and national priorities. Following are some accomplishments of selected research activities conducted under the auspices of various centers.

Industrial recruitment is one of the most popular methods of economic development in the northeast U.S. But increasingly the cost effectiveness of this strategy is being questioned. More and more, communities are capitalizing on an alternative strategy called Business Retention and Expansion—BR&E. BR&E seeks to catalyze on local economic development efforts by creating a team of local leaders to help the community improve its business climate, identify and address impediments to growth, and retention of existing businesses. The Northeast Center supported the development of BR&E materials that have been used in training workshops across

the country. Business Retention and Expansion International sponsored the workshops. Economic development professionals in 31 states in the U.S. and in Canada have purchased these BR&E materials to develop programs in their local communities to retain and expand existing businesses, and reduce the high costs associated with industrial recruitment strategies. The materials also have been translated into French and Polish and shared internationally.

A research study funded by the Northeast Rural Development Center assessed the consumer credit knowledge of rural poor and ethnic minorities and determined their use and management practices. An educational program that focuses on the wise use of consumer credit was developed and offered to a diverse extension audience. In-service workshops also were offered to extension educators in several states in the Northeast. Two additional Northeastern states, New York and New Jersey, have duplicated the curriculum for distribution to all counties. This program was coordinated with and contributed to the development of a short video that promotes the MONEY 2000 program, a program that encourages participants to save and/or reduce debt by $2,000 by the end of the year 2000. The video was distributed widely to extension personnel within the region and nation and to financial counselors at several military bases.

University of Rhode Island teamed up to perform a mid-term assessment of the MONEY 2000 program that has been operating successfully in New Jersey and New York for several years. MONEY 2000 was created to help families who are living paycheck-to-paycheck and struggling with low savings or high household debt. The goal of the program is to help participants either reduce debt or increase savings by $2,000 by the year 2,000. The analysis will focus on participants' behavioral changes and be used to suggest ways extension educators could improve the program. Results will be disseminated to state project leaders through the national MONEY 2000 listserv. Since it was launched in 1996, MONEY 2000 has helped over 7,000 people in more than 30 states increase their net worth by more that $3,000,000.

The Southern Rural Development Center partially funded and provided all logistical support for a National Conference, "Linking Family and Community Strengths." The conference was also supported by CSREES, W. K. Kellogg Foundation, Farm Foundation, National 4–H Council and the other regional rural development centers. The conference was funded to support 12 mini-grant, $1,000 projects that would transform learning at the conference to action. One example of outcomes is noted by the Virginia report. The grantee used her funding to support the cost of providing "Life in the State of Poverty" simulation exercise in her state. Five social service agencies partnered to present the exercise in Fauquier County. Within a week after the activity, people began discussing ways "to repair the community safety net." The County Administrator took seriously the dialogue of the training. He requested the Cooperative Extension Service staff to investigate creation of a volunteer coordinator position to track the resources available for families dropped from welfare roles. He even pledged county money. Word of this activity spread to the Governor's office requesting information abut what was happening in the county. A member of the U.S. House of Representatives has asked about a visit to Faquier County to observe the positive changes taking place. The Virginia Cooperative Extension Service, because of involvement in this training, continues to take the lead in educating limited resource families to move from self-sufficiency and to move the community toward support of all families.

Workers who commute can make important economic, fiscal, and social differences in both the county of their residence and the one where they work. When people cross state as well as county lines to get to work, these impacts can be multiplied. The Western Rural Development Center—WRDC—has funded a project to evaluate the effects of workers commuting across the Idaho/Wyoming and Nevada/Arizona state lines. The Idaho/Wyoming work is further along at this point. In the Idaho community 20 percent of the total personal income comes from the neighboring Teton county in Wyoming. And the Idaho commuters account for 75 percent of the commuters coming into the Jackson, Wyoming community. These workers are crossing a very tough mountain pass that is frequently closed with slides in the winter. The school, day care, housing, and other services are a difficult issue on the Idaho communities with very limited tax bases to support the needed services. The research is serving as a basis for discussions between the communities.

Using a Western Rural Development Center supported Business R&E retention and expansion program, New Mexico State University Extension has assisted seven communities expand their economic base by saving and creating local jobs. Seven jobs were saved in Silver City when task force members facilitated a propane company's move to a new location. The Clovis task force intervened with city officials to save a $1,000,000 business complex. The R&E staff in Torrance County created

75 jobs by helping a commercial greenhouse find suitable land. BC Hydro in Burnaby, British Columbia recently requested and received permission to adapt the Business R&E program materials for use in rural Canada.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal year 1971, $75,000; fiscal year 1972, $225,000; fiscal year 1973, $317,000; fiscal years 1974–1981, $300,000 per year; fiscal years 1982–1985, $311,000 per year; fiscal years 1986–1987, $363,000 per year; fiscal year 1988, $475,000; fiscal year 1989, $500,000; fiscal year 1990, $494,000; fiscal years 1991–1993, $500,000 per year; fiscal year 1994, $470,000; fiscal years 1995–1998, $423,000 per year; and fiscal year 1999, $523,000. A total of $10,641,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Non-federal funds available to the four Regional Centers for Rural Development were: fiscal year 1991, $1,117,000; fiscal year 1992, $790,000; fiscal year 1993, $900,000; fiscal year 1994, $776,591; and fiscal year 1995, $710,0050; for a total of $4,293,641 across the five years for which there are complete data.

Question. Where is this work being carried out?

Answer. The regional rural development centers include the following. Northeast Regional Center for Rural Development, Pennsylvania State University; North Central Regional Center for Rural Development at Iowa State University; Southern Rural Development Center at Mississippi State University; and Western Rural Development Center at Oregon State University. There is also a rural development project at North Dakota State University which receives funding from the annual Rural Development Centers appropriation. Most of the research sponsored by the four regional centers is actually performed by resident faculty at land-grant universities in the respective region through subcontracts from that center's grant.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives.

Answer. The regional rural development centers were established to provide an on-going "value added" component to link research and extension and by doing so to increase rural development under the special conditions in each region. The work of the Centers is being carried out in all 50 states and in some territories. The Centers compile a report of annual accomplishments and share those with the states in the region. The list of needs is constantly evolving and is being addressed through projects that are matched to the constantly shifting local agenda. The current phase of the program will be completed in 1999.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The Centers enlist the help of academic and private/public foundations personnel on advisory committees and boards of directors to help establish operating rules and provide professional, technical counsel and peer evaluation of Center projects and the principal investigators. The projects are evaluated annually by the advisory committees and the boards of directors against the five key issue areas and the objectives of each project for relevance, achievement, and initial impacts. Follow-up evaluation is carried out by the Center staffs in order to assess long-term impacts of these projects on local communities.

RURAL POLICIES INSTITUTE

Question. Please provide a description of the research that has been funded under the Rural Policies Institute grant.

Answer. The Rural Policy Research Institute—RUPRI—is a consortium of three universities designed to create a comprehensive approach to rural policy analysis. The Institute conducts research and facilitates public dialogue to increase public understanding of the rural impacts of national, regional, state, and local policies on rural areas of the United States.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. There is a need to estimate the impacts of changing state and national programs and policies on rural people and places. Objective public policy analysis can provide timely and accurate estimates of the impacts of proposed policy changes to allow more reasoned policy discussions and decisions. The principal researcher believes this research meets national, regional, and local needs.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of the Rural Policy Research Institute was to create a new model to provide timely, accurate, and unbiased estimates of the impacts of policies and new policy initiatives on rural people and places. The Institute has completed a number of successful policy research projects and developed three analytic models central to its mission. These projects focus on the rural implications of devolution, health care, education, housing, rural development, welfare reform, tax and telecommunications policy proposals. In addition, the Institute uses expert panels to provide policy decision support to a number of policy making groups at national and State levels. The expert panels and other collaborative research have, over the life of RUPRI, involved 150 scientists representing 16 different disciplines in 60 universities, 40 states, and three foreign countries. Currently, 50 nationally-recognized scientists and policy practitioners from 38 institutions and organizations serve on RUPRI panels, task forces, or work groups.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. The work supported by these grants began in fiscal year 1991, and the appropriation for fiscal year 1991 was $375,000. The fiscal year 1992 appropriation was $525,000; for fiscal year 1993, $692,000; for fiscal year 1994, $494,000; and fiscal years 1995–1999, $644,000 each year. A total of $5,306,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Aggregated non-federal funds to support the Rural Policy Research Institute across the three universities involved include unrecovered indirect costs, salary support from university and other non-federal sources, and various other grants, contracts, and reimbursable agreements. They amounted to $316,458 for fiscal year 1991; $417,456 in fiscal year 1992; $605,302 in fiscal year 1993; $537,834 in fiscal year 1994; $584,516 in fiscal year 1995; for fiscal year 1996, $576,782; $186,859 in 1997; $153,614 for 1998; and an estimated $168,450 for 1999. Total to date including the 1999 estimate, is $3,547,271.

Question. Where is this work being carried out?

Answer. The Institute's member universities are: the University of Missouri-Columbia; the University of Nebraska-Lincoln; and Iowa State University, Ames.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. Current funding will sustain activity through January 1998; however the original objectives were directed at building a permanent policy analytical capability.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. We have conducted no formal evaluation, however, annual project proposals are peer reviewed for relevance and scientific merit.

RUSSIAN WHEAT APHID, COLORADO

Question. Please provide a description of the research that has been funded under the Russian Wheat Aphid, Colorado grant.

Answer. Funding will support two key areas of research that are needed to assure long-term and sustainable Russian wheat aphid management. These are: (1) discovering new crop genes which provide resistance to the Russian wheat aphid—RWA—and incorporating them into commercially-acceptable wheat varieties, and (2) integrating the available control tactics into the most effective, efficient, and environmentally-sound production systems for the Great Plains.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. The Russian wheat aphid is an exotic pest that entered the western United States without its normal complement of biological control agents. This insect has rapidly become the most important insect pest of wheat in the western United States. From 1986–1991 the total economic impact was estimated to be in excess of $657,000,000. In the same period, some 17,500,000 pounds of insecticides were used nationally for Russian wheat aphid control. The cost to American farmers of insecticide treatments was over $70,000,000. In addition, the intense use of insecticides on a crop that previously received little insecticide treatment raised concerns about the impact on water quality, human health, food safety, non-target organisms, and general environmental quality. Direct losses in Colorado have been as high as $27,000,000 in a single year with an average direct loss of above $11,000,000 per

year, since 1987. Pest management research of national significance is supported by competitive grants awarded under the Integrated Pest Management program.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goals of the research are to: (1) discover new crop genes which provide resistance to the Russian wheat aphid and incorporate them into commercially-acceptable wheat varieties, and (2) integrate the available control tactics into the most effective, efficient, and environmentally-sound production systems for the Great Plains. The techniques of molecular genetics are being employed to reach the goal of identifying new genes for resistance to RWA and incorporating them into commercially-acceptable wheat varieties. Several DNA marker technologies used in other plant species have been successfully adapted for mapping RWA resistance genes in wheat. These include restriction fragment length polymorphism—RFLP—and amplified fragment length polymorphism—AFLP—techniques as well as microsatellite markers. RFLP markers were initially used to map two RWA resistance genes—Dn4, the one used in the resistant cultivar 'Halt' and Dn2, an additional resistance gene that might be suitable for inclusion in a cultivar containing two resistance genes. Using AFLP, researchers have identified a DNA marker that is more tightly linked to DN4 than the previously identified closest RFLP marker. Recently, a microsatellite marker was identified that is tightly linked to Dn2. A combination of several DNA marker technologies is essential for finding DNA markers tightly linked to RWA resistance genes in wheat. Finding and identifying tightly linked markers are important achievements because tight linkages are critical to using this technology to expedite the development of RWA resistant wheat cultivars and are required for cloning the genes via positional cloning—an essential goal of the project. A new RWA resistance gene—Dn7—was identified by other researchers in South Africa. The gene comes from rye and is contained in a wheat/rye translocation that is carried in a wheat background. This material has been obtained and has been crossed with susceptible wheat to generate materials for use in molecular genetic analysis of Dn7 and to incorporate the gene into wheat. Dn7 is one of the resistance genes that is being targeted for molecular cloning in the Colorado State University program. Progress has also been made in Integrating Tactics for Management of RWA. In 1998, experimental dryland cropping systems were established in eastern Colorado. Two of these are located in growers fields and have been designed with grower input and are managed jointly with the grower-cooperator. Long-term studies were initiated to compare the experimental systems with typical wheat production systems in the area. The experimental systems were designed to optimize the effects of environmentally-sound pest management tactics—particularly resistant cultivars, the effects of cultural practices [such as planting date, harvesting date, grazing, etc.—, and biological control—reducing RWA numbers through the actions of predators and parasites. In addition, the experimental systems were designed to optimize water use efficiency and other agronomic and profitability factors. At each location, wheat and other adapted dryland crops are grown in proximity to each other so that interactions among various crops and various production practices can be studied. Rotations over time of wheat with other crops also are being investigated. These large-scale experimental systems will be ideal arenas in which to determine the best way to apply the knowledge already gained about specific aspects of RWA biology and ecology, production practices, and the effectiveness of naturally occurring RWA parasites and predators. These large-scale experimental cropping systems also will provide valuable information on RWA management to wheat growers who are considering adding additional crops to their dryland cropping systems.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1998 and the appropriation for fiscal years 1998 and 1999 is $200,000 per year for a total of $400,000.

Question. What is the source and amount of non-federal funds provided by fiscal year.

Answer. State appropriations and the Colorado Wheat Administrative Committee have demonstrated strong support for this effort. The total per year is approximately $775,000 in new funding from the state of Colorado and redirected funds from within the university.

Question. Where is the work being carried out?

Answer. Research will be conducted on the campus of Colorado State University, at Colorado State University research stations, and on the farms of cooperators throughout Colorado. Outreach and extension activities will be focused on wheat

growers in Colorado, Nebraska, Wyoming, Kansas, New Mexico, Texas, and Oklahoma.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. This is a new project. It is anticipated to continue for a total of five years with a completion date of July 2003.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. This project will be evaluated by a CSREES site visit on February 4 and 5, 1999.

SEAFOOD HARVESTING, PROCESSING, AND MARKETING, MISSISSIPPI

Question. Please provide a description of the research that has been funded under the seafood harvesting, processing, and marketing grant.

Answer. Research related to seafood safety, quality, and by-product utilization has been supported by this grant. Funds from the fiscal year 1998 grant are supporting research through September 30, 1999. CSREES has requested the University to submit a proposal, which has not yet been received, in support of fiscal year 1999 funds. For fiscal 1999, funds will support research on: microbial population changes during retail display of shrimp; development of an impedance-based method to rapidly detect microorganisms on shrimp; determine physical, chemical, microbiological, and sensory differences between pond and tank aquaculture tilapia; and evaluate processes for utilization of uncooked shrimp processing by-products for production of flavor extracts.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher believes that national needs reflected in the project include providing consumers with affordable alternative seafood products. Alternative sources of seafood protein are needed because of a drastic decline in natural harvests due to overexploitation. Other national needs addressed in this project include reducing pollution during seafood and aquaculture food processing by converting byproducts into value-added food ingredients or materials. Regionally, much is unknown about the short-and long-term effects of the new seafood Hazard Analysis Critical Control Point—HACCP—regulations on the livelihood of Mississippi seafood and aquaculture food producers and processors who are typically small and lack sufficient resources to remain competitive. Continuation of this project will provide continued assistance to Gulf-Coast seafood processors in meeting new U.S. regulations as well as new international regulations that are important for Mississippi export products. Locally, catfish processors are a major employer of the severely economically depressed Delta region of Mississippi. By further enhancing the value of catfish products, this project seeks to improve the livelihood of individuals both on the Gulf coast and in the aquaculture region of the state.

Question. What was the original goal of the research and what has been accomplished to date?

Answer. The original goals of the research were to improve the quality and safety of catfish and improve the utilization of catfish byproducts and underutilized marine species. Due to successes of the original project, subsequent efforts are focusing on additional uses of seafood and aquaculture foods by improving processing strategies and providing alternative products from waste materials. The project has thus expanded to include crab, shrimp, oysters, freshwater prawns, hybrid striped bass, tilapia, and crawfish. The Food and Drug Administration has passed rulings affecting the potential viability of Mississippi seafood and aquaculture harvesters and processors; emphasis is thus being placed on addressing possible adverse consequences resulting from these changes.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1990 when $368,000 was appropriated for this project. The appropriations for fiscal years 1991–1993 were $361,000 per year; fiscal year 1994, $339,000; and fiscal years 1995–1999, $305,000 each year. A total of $3,315,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The State of Mississippi contributed $1,949 to this project in fiscal year 1991; $41,286 in fiscal year 1992; $67,072 in fiscal year 1993; $91,215 in fiscal year 1994; $147,911 in fiscal year 1995; and $61,848 in fiscal year 1996. Product sales contributed $7,044 in 1991, $13,481 in 1992, $13,704 in 1993, and $5,901 in 1994.

Industry grants contributed $14 in 1992 and $31,796 in 1993. Other non-federal funds contributed $80 in fiscal year 1991, $838 in 1992, and $17,823 in 1993. The total non-federal funds contributed to this project from 1991 through 1996 was $501,962. In fiscal year 1998, $151,286 in state funds, $8,790 in self-generated funds, and $23,877 in other non-federal funds were obtained.

Question. Where is this work being carried out?

Answer. Research is being conducted by scientists in the Departments of Food Science and Technology and Agricultural Economics of the Mississippi Agricultural and Forestry Experiment Station at Mississippi State University and at the Coastal Research and Extension Center, Seafood Processing Laboratory, in Pascagoula, Mississippi.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The principal investigators anticipate that research on the original objectives will be completed in 1999. Continuing needs by Mississippi seafood and aquaculture harvesters and processors related to improved quality, safety, and utilization will require research and development of new technologies to expand this industry.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. An agency science specialist conducts a merit review of the proposal submitted in support of the appropriation on an annual basis. The last review of the proposal was conducted on April 13, 1998. At that time, the agency science specialist believed that the projects addressed needs and interests of the regional seafood and aquaculture industries.

SMALL FRUIT RESEARCH

Question. Please provide a description of the research that has been funded under the Small Fruit Research grant.

Answer. Funding for this special grant has been used to enhance the production and quality of small fruits—blackberry, blueberry, caneberry, cranberry, marionberry, raspberry, strawberry, and grape in the Pacific Northwestern states of Idaho, Oregon, and Washington. Research has been focused on crop genetics, production/physiology, pest management, berry/grape processing, marketing, and wine production. Proposals are selected after examination of their relevance to priorities identified within the region.

Question. According the research proposal, or the principal researcher, what is the national, regional and local need for this research?

Answer. There is a considerable demand for fresh and processed berry products in the United States. The demand is also high in urban Asian markets where consumer interest for berry products is strong. Currently, international marketing of Northwest small fruit commodities involves the sale of traditional products. Research on international consumer preferences, packaging, and products continues to be essential. The importance of berry and grape crops to the region has long been recognized by the three Northwest states: Washington, Idaho, and Oregon. These crops are mainstays of high-value, specialty horticulture. The universities and small fruits industry have made a strong commitment to the improvement of these crops as evidenced by the high level of internally-developed resources for research and marketing. Thus, the Northwest Center for Small Fruit Research has developed effectively over the last 8–10 years into its present fully established form.

Question. What was the original goal of this research, and what has been accomplished to date?

Answer. Genetic improvement of small fruit cultivars continues to be a powerful tool using germplasm collection and identification, field evaluation of new germplasm, and advanced selections from breeding programs, virus identification and elimination, and approaches that utilize genetic engineering. Research is identifying cultivars and developing cultural practices that growers can utilize to reduce crop losses. Research is evaluating and investigating nutritional factors, cultural management, temperature stress, effects of pruning, micro propagation, cold hardiness/low temperature injury, and effects of viticulture practices on wine quality of winery processing on wine quality. Small fruit research continues to reap acclaim for its components involving industry-driven cooperation between industry, state, and Federal research. Its genesis as a small-fruits program reflects the contributions of plant biology, the commitment to facilitating the efficiency of research and the coordination of marketing throughout a multi-state region. The Center represents an innovative organization which has created a cooperative strategy for uni-

versity, USDA's Agricultural Research Service—ARS—and industry small fruit programs.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999.

Answer. The initial support for this grant was an appropriation in fiscal year 1991 for $125,000. The appropriation for fiscal years 1992 and 1993 was $187,000 per year; fiscal year 1994 was $235,000; fiscal years 1995–1998, $212,000 each year; and fiscal year 1999, $300,000. A total of $1,882,000 has been appropriated.

Question. What is the source and amount of non-Federal funds provided by fiscal year?

Answer. This project involves the use of Oregon State University—OSU—administrative personnel, equipment, utilities and facilities that are indirect costs to the project. These costs constitute an OSU contribution to this research project, which is not allowable as a reimbursable expense under this project. The recent passage of Oregon's tax limitation laws reduce revenues that restrict our ability to cost share. Thus, our policy is that we do not provide any cost sharing or matching funds for this or other agreements in which we receive no indirect costs. We are committed to providing the required collaborative efforts by Oregon State University scientists and administrators to complete the work described in this proposal. And in an effort to satisfy the request for a dollar amount for non-Federal funds, an approximation could be found by applying CPI values to estimate expenditures on this program since 1996.

Question. Where is the work being carried out?

Answer. The research is being conducted at Oregon State University, Washington State University, and the University of Idaho. Oregon State University is the lead institution for this project.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original objectives are still valid researchable issues, therefore this is a continuing process with priorities annually re-evaluated to appropriately adjust research direction within the project objectives.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The project evaluation process is accomplished annually by peer reviewers whom are chosen and organized by expertise according to the five technical working groups with input from the designated Agricultural Experiment Station Representatives in Washington, Oregon, and Idaho. The Program Administrator in each state contacts possible reviewers for each proposal. The chair of the review process annually rotate between the Agricultural Experiment Station representatives. Each submitted proposal is peer-reviewed by a panel of five individuals—three scientists and two industry representatives—and is grouped into one of the Center Technical Working Groups, namely genetics, pest management, production/physiology, processing/packaging, and marketing. Proposals are evaluated on the following criteria: (1) the nature of the proposed research and its relevance to the needs of the small fruit industries; (2) the relevance of the proposal to current small fruit research designated priorities; (3) the scientific expertise of the scientists involved—training, experience, and accomplishments relative to specific areas of small fruit research; (4) the appropriateness of the level of funding requested, vis-a-vis, availability of funds; and (5) the likelihood of success. Reviewers complete an evaluation sheet for each proposal, rating the five criteria on a scale of one to ten, with ten being the best. Previously awarded projects are given special consideration in order to allow for funding for up to three years—when appropriate progress is demonstrated. Compilation of evaluations are distributed to the three Agricultural Experiment Station Directors and the USDA–ARS Horticultural Crops Research Laboratory Research Leader, who make the final determination of funding for each proposed project. Notification of awards are made in December. The peer review of all proposals is coordinated and processed through the Northwest Center for Small Fruit.

SOUTHWEST CONSORTIUM FOR PLANT GENETICS AND WATER RESOURCES

Question. Please provide a description of the work that has been funded under the Southwest Consortium for Plant Genetics and Water Resources Program grant.

Answer. New Mexico State University, Los Alamos National Laboratory, Texas Tech University, the University of Arizona, and the University of California at Riverside entered into a cooperative interdisciplinary research agreement constituted as the Southwest Consortium for Plant Genetics and Water Resources to facilitate re-

search relevant to crop adaptation to arid and semi-arid regions. The overall goal of the Consortium is to bring together multi-disciplinary scientific teams to develop innovative advances in plant biotechnology and related areas to bear on agriculture and water use in and semi-arid regions. All grants made to the participating Institutions are awarded competitively by a scientific peer review process.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The Consortium is addressing the need for an integrated program that identifies specific problems of southwest agriculture, coordinates water and biotechnology research aimed at solving these problems, and facilitates the transfer of this information for commercialization. The specific research objectives of the Consortium include the development of crops with resistance to: drought and temperature extremes; adverse soil conditions; and pests and parasites. This research is highly significant to national, regional, and local needs. Biotechnology research of national significance is supported by competitive grants under the National Research Initiative and the Initiative for Future Food and Agricultural Systems.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this Consortium is to facilitate research to provide solutions for arid and semi-arid crop adaptation. Five participating institutions have developed research plans consistent with the Consortium's goals. Mini-grants to support research that would solve problems unique to southwest agriculture are awarded competitively following peer review. Specific attention is given to interdisciplinary agricultural research. Since its inception in 1985, the Consortium has provided essential support for the establishment of baseline data on new, forward thinking research relevant to the improvement of arid lands agriculture. Accomplishments include: identification of chromosome regions conferring water use and transpiration efficiency in wheat; analysis of the impact of water stress on host plant resistance to aphids and whiteflies on melon; and evaluation of genetic variation of water-soluble carbohydrates in spring wheat and salt-tolerance mechanisms.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal year 1986, $285,000; fiscal years 1987–1989, $385,000 per year; fiscal year 1990, $380,000; fiscal years 1991–1993, $400,000 per year; fiscal year 1994, $376,000; and fiscal years 1995–1999, $338,000 each year. A total of $5,086,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The Consortium's lead institution, New Mexico State University, reports matching non-federal funds of $80,000 in state appropriations in 1992 and $100,000 in 1993–1998. Nonfederal funds spent on this project originate from the five institutions that participate in the Consortium and support researchers' salaries, facilities, equipment maintenance, and administrative assistance.

Question. Where is this work being carried out?

Answer. Research is being conducted by the member institutions of the consortium: New Mexico State University; Los Alamos National Laboratory; Texas Tech University; the University of Arizona; and the University of California at Riverside.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The project was initiated in 1986 and accomplished significant results in the first five years. Additional and related objectives have been developed and anticipated completion date for these is 2001. The Consortium is successfully achieving its objectives through the funding of new interdisciplinary projects each year.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. Mini-grants are awarded competitively to support research that would solve problems unique to southwest agriculture. The mini-grant selection process is competitive. Proposals are evaluated by external peer reviewers, the Consortium Steering Committee, and the Consortium Scientific Committee. The review process includes: (1) preproposal screening by the Consortium Steering and Scientific committees; (2) request for proposals sent to those projects with preproposals that best meet the Consortium goals; and (3) external and internal review of all new proposals. After external and internal reviews, awards of up to $50,000 for up to two years of funding per project are made. An internal review of a progress report on each project is completed before the second year of funding is released.

SOYBEAN CYST NEMATODE, MISSOURI

Question. Please provide a description of the research that has been funded under the Soybean Cyst Nematode grant.

Answer. The research being funded by this grant is crucial to the development of effective management strategies to understand host parasite relationships of the pathosystems and each of its components. Work has dealt mainly with identifying Heterodera glycines-resistant genes and incorporating them into agronomically-superior cultivars. Basic studies elucidate the fundamental biology of the cyst nematode in regard to new management strategies. Applied work dealt with evaluating production systems and to new management strategies. This project was not awarded competitively but has undergone peer review at the university level and merit review at CSREES.

Question. According to the research proposal, or the principal investigator, what is the national, regional, or local need for the research?

Answer. The principal researcher believes that although this research is focused on the soybean cyst nematodes in Missouri, the problems are of regional and national significance. The soybean cyst nematode, Heterodera glycines is the most serious pest of soybean in the United States. The problems continue to increase in the Midwest where 12 states have yield reductions in soybean because of this nematode. Due to the nematodes ability to adapt to resistant varieties over time, new varieties are continually needed. Genetic research of national significance could potentially be supported by competitive grants awarded under the National Research Initiative or the Initiative for Future Food and Agricultural Systems.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal of this research is managing soybean cyst nematode through the various management strategies including the development of new resistant soybean varieties. To date, several nematode resistant soybean lines have been or will be released. The need for breeding soybean lines to develop resistant varieties with a broad spectrum of resistance continues. More fundamental research involves the utilization of new molecular technologies to identify genes responsible for resistance. Other aspects of the work relates to field management strategies for these nematodes.

Question. How long has work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal year 1979, $150,000; fiscal years 1980–1981, $250,000 per year; fiscal year 1982, $240,000; fiscal years 1983–1985, $300,000 per year; fiscal years 1986–1989, $285,000 per year; fiscal year 1990, $281,000, fiscal year 1991, $330,000; fiscal years 1992–1993, $359,000; fiscal year 1994, $337,000; fiscal years 1995–1997, $303,000 per year; fiscal year 1998, $450,000; and fiscal year 1999, $475,000. A total of $6,430,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant were as follows: $105,012 state appropriations in 1991; $84,368 state appropriations in 1992; $168.017 state appropriations in 1993; $118,725 state appropriations in 1994; $33,498 in 1995 and 1996; $33,723 in state appropriations in 1997; $37,445 in state appropriations in 1998; and $201,994 in 1999.

Question. Where is this work carried out?

Answer. This research is being conducted at the Missouri Agriculture Experiment Station and the University of Missouri.

Question. What is the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. Many objectives are being met, but genetic interaction of the soybean cyst nematode/soybean is extremely complex. The anticipated completion date of the continuing research is in 2000.

Question. What was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The last evaluation of this project was a merit review in January, 1998, and the renewal project will be evaluated in 1999. In summary, continued development of new management strategies for the soybean cyst nematode is extremely important. Progress in meeting the objectives in each goal continues with new varieties with nematode resistance being released yearly as well as excellent progress in other management strategies. The released lines include Delsoy 5710 and MPV437–NRR, while another nematode resistant strain is being evaluated in the

uniform tests. More fundamental research involves the utilization of new molecular technologies to identify genes responsible for resistance. Over 118 PI lines have been fingerprinted to identify genetically diverse sources of nematode resistance. Gene fusion was utilized to monitor changes in soybean to determine effects on nodulation and nematodes. Other aspects of the works relates to field management strategies for these nematodes including effects of nutrient uptake on nematode development. Environmental effects on race development in nematodes has indicated that it is not soybean genotype driven but dependent on time of sampling and other factors not reflected in conventional nematode tests.

STEEP III-WATER QUALITY IN THE PACIFIC NORTHWEST

Question. Please provide a description of the research that has been funded under the STEEP III—Water Quality in the Pacific Northwest grant.

Answer. The STEEP III study was established in 1996 as the third phase of the tristate STEEP Program entitled "Solutions to Environmental and Economic Problems," to meet the needs of farmers and ranchers in the Pacific Northwest in solving severe problems with soil erosion and water quality, while maintaining economically and environmentally sustainable agricultural production. An open call for research proposals is held by three cooperating states, Idaho, Oregon, and Washington. Awards are made competitively after both internal and external peer reviews within the states, and merit review by the agency.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. According to the research proposal, the soils of the Pacific Northwest wheat region are subject to severe wind and water erosion, which has taken a heavy toll of the topsoil in a little more than 100 years of farming. Due to the hilly terrain, water erosion has reduced potential soil productivity in the high rainfall areas of the region by about 50 percent. Wind erosion has reduced productivity on the sandy soils in the lower rainfall areas. Also, off-site environmental costs of water erosion are large. Although many of these are difficult to measure, they include damage from sediment to recreational areas, roadways, and other areas which costs taxpayers millions of dollars annually. Wind erosion, which occurs mostly in the spring and fall, also can be costly and environmentally damaging to air quality, and causes increasing concerns for human health and safety from blowing dusts. Water quality degradation is of increasing concern in the agricultural areas of this region, since sediment is a major pollutant of surface water runoff which may also carry potential chemical contaminants. The complex hydrology of the region's landscape has made it difficult to identify the sources of these chemicals in surface and ground waters. Water quality research of national significance could potentially be supported by competitive grants under the Water Quality Program.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The primary goals are: to obtain and integrate new technical/scientific information on soils, crop plants, pests, energy, and farm profitability into sustainable, management systems; to develop tools for assessing the impacts of farming practices on soil erosion and water quality; and to disseminate conservation technology to the farm.

The original STEEP and following STEEP II and STEEP III projects for erosion and water quality control, have provided growers a steady flow of information and technologies that have helped them meet economic, environmental, and resource conservation goals. Through the adoption of these technologies, the researchers believe that growers of wheat, barley, and other alternative crops have been able to reduce soil and wind erosion, improve water quality, and maintain or increase farm profitability. This has been accomplished through a tri-state, multi-disciplinary, multi-agency approach of basic and applied research, along with technology transfer and on-farm testing to assist growers with applying these research findings on their farms. The on-farm testing program has directly involved growers and stakeholders in the planning and conduct of the research and educational efforts—and has helped growers evaluate conservation options, such as residue management, to meet conservation compliance requirements.

STEEP programs have helped position farmers with new conservation technologies, such as direct seeding management systems, well in advance of deadlines to meet current and anticipated policy requirements. This preparation protects farmers against potential penalties and loss of government program benefits.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1991, and the appropriations for fiscal years 1991–1993 were $980,000 per year; in fiscal year 1994, $921,000; in fiscal year 1995, $829,000; and in fiscal years 1996–1999, $500,000 per year. A total of $6,690,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant were as follows: $938,812 state appropriations, $63,954 product sales, $156,656 industry, and $16,994 miscellaneous in 1991; $1,025,534 state appropriations, $75,795 product sales, $124,919 industry, and $88,696 miscellaneous in 1992; $962,921 state appropriations, $62,776 product sales, $177,109 industry and $11,028 miscellaneous in 1993; $1,069,396 state appropriations, $46,582 product sales, $169,628 industry, and $22,697 miscellaneous in 1994; and $1,013,562 state appropriations, $31,314 industry, and $107,151 miscellaneous in 1995. In 1996, Washington received $231,724 state appropriations; Oregon passed Measure 5 which reduced revenues and imposed funding restrictions so they were unable to provide any non-federal cost-sharing or matching funds; and Idaho contributed $81,525 state support, and $86,242 in estimated non-federal grant support, for a total non-federal contribution of $167,767. In 1997, Washington received $197,234 state appropriations; Oregon continues to have Measure 5 as law and continues to be unable to provide any non-federal cost-sharing or matching funds; and Idaho contributed $27,235 state support and $24,525 in estimated non-federal grant support for a total non-federal contribution of $51,760. In 1998, these same general levels of support have been continued.

Question. Where is this work being carried out?

Answer. The work under STEEP III will be done at laboratories and field research sites at the University of Idaho, Oregon State University, and Washington State University. Cooperative on-farm testing will be conducted in cooperation with growers on their fields in Idaho, Oregon and Washington.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The STEEP II project was completed in 1995, and the results were compiled in a final, five-year report in January 1997 showing that the original objectives have largely been met. The STEEP III project started in 1996 and will continue through the year 2000 as a five-year project.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The agency's program manager annually reviews progress reports, proposes new research on the STEEP Program, and attends the annual meetings to assess progress. The program is evaluated within the states each year by three committees: grower, technical, and administrative. Annual progress is reported at an annual meeting and compiled into written reports. These reports and the meeting are reviewed annually. Grower and industry input is solicited at the annual meeting on research objectives and accomplishments. The most recent evaluation was made at the January 1999 annual meeting which highlighted direct-seeding technology. This highly successful meeting attracted over 900 growers, scientists, and agricultural experts from the tri-state region. Farmer surveys are also distributed at each annual meeting, and results compiled to assess whether objectives are being successfully achieved.

SUSTAINABLE AGRICULTURE, MICHIGAN

Question. Please provide a description of the research that has been funded under the Sustainable Agriculture, Michigan program grant.

Answer. This project is intended to develop agricultural production systems that are highly productive and profitable as well as being environmentally sustainable. More specifically, this project examines how to achieve a high nutrient flow from soil to crops and animals, and back to soil, with low loss to ground and surface waters. Pesticide application rates are also reduced. The grant is allocated by the Michigan Agricultural Experiment Station to priority areas within the general area of sustainable agriculture. Within each of those areas, grants are awarded based on research merit and proposal submission. The projects and proposals undergo annual formal review within the Michigan System prior to submission to CSREES, and then review within CSREES.

Question. According to the research proposal or the principal researcher, what is the national, regional, or local need for this research.

Answer. The principal researcher believes there is a need to better understand the biological processes occurring in Michigan's high-nutrient-flow crop and animal sys-

tems. With high water tables, networks of lakes and slow-moving streams, and concern about environmental standards, field contamination by agricultural production materials is a high priority.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The specific goals of this research are to develop an agroecological framework for decision-making, develop crop and cover crop rotations, develop water table management strategies, and develop rotational grazing systems. Accomplishments to date include an extension publication on field crop ecology, development of on-farm compost demonstration sites, collection of research data and computer software models on water table management, completion of initial research trials on rotational grazing at three sites in Michigan, widespread testing of cover crops in several crop rotation systems, and tests of the use of nematology community structure as a method of detecting difference among farming systems. Findings from this project have demonstrated that rotational grazing reduces production costs and increases net profits, compared to traditional cow management. This project has also shown that composting is an effective way of stabilizing livestock waste, controlling odor, and improving nutrient composition for later land application. The computer modeling done with this project has shown reduced contamination of groundwater through alternative management practices employed in the project.

Question. How long has this work been underway and how much as been appropriated through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1994 with an appropriation of $494,000; $445,000 were appropriated in fiscal years 1995 through 1999, bringing total appropriations to $2,719,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Matching funds were provided at the state level for $511,900 in fiscal year 1994, $372,319 for fiscal year 1995, and $359,679 in fiscal year 1996. Matching support was not reported in fiscal years 1997 or 1998.

Question. Where is this work being carried out?

Answer. This work is being carried out in Michigan at several locations by Michigan State University. Locations include the Kellogg Biological Station, the Upper Peninsula Experiment Station, and farms around the state.

Question. What was the anticipated completion date for the original objectives of this project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original project, begun in 1994, was proposed through April of 1997. Its specific objectives were met, with additional objectives addressed in subsequent related proposals. The current project is currently scheduled to go through September 30, 2001.

Question. When was the last agency evaluation of this project? Provide a summary of the last agency evaluation conducted.

Answer. A formal evaluation of the Principal Investigator's program was concluded in 1997, commissioned by the C. S. Mott Foundation through an independent consultant. The project continues to have annual peer review. According to the Principal Investigator, the proposal has gone through the normal Michigan State University review process. First, all teams and collaborators of the project have met and reviewed the entire proposal with several suggestions and changes being incorporated. Secondly, research administrators in the fields of agronomy/soil science and entomology/pest management covering the major dimensions of the proposal have reviewed it for scientific appropriateness and accuracy as well as for overall balance and likelihood of achieving objectives. Their comments have been included as revisions to the proposal.

SUSTAINABLE AGRICULTURE SYSTEMS FOR NEBRASKA

Question. Please provide a description of the research that has been funded under the Sustainable Agriculture Systems for Nebraska grant.

Answer. This project is aimed at integration of field crops, animal production, agroforestry, livestock waste management, and diversified enterprises to meet production, economic, and environmental quality goals. The grant was awarded competitively within the University of Nebraska, and the integrated farm project has been reviewed annually for technical merit and progress toward goals by the internal review process of the university.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. Farmers and ranchers in Nebraska and throughout the Midwest face increasing difficulties in maintaining profitable operations that are sustainable under increased production costs and more stringent environmental regulations. They continue to seek alternative production systems, integration of crop and animal enterprises, value-added products, including those from woody perennials, and new marketing approaches to secure more of the food dollar. Work on crop residue utilization is highly important to assess the loss of erosion mitigation when grazing occurs as well as the benefits of winter forage to production of lean beef. Erosion is still a major problem with monoculture cropping, and work with contour strips, residue management, and animal grazing is essential to provide good recommendations to farmers for how to manage fragile lands.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. This project has involved several components, with a number of results to date. In improving erosion control through grazing, calves were fed cornstalks from October through March, and fed some supplements. The calves had lower costs of production and reduced need for grain feed. The researcher's work on integrative cropping and agroforestry has shown that diversifying rotations centered around soybeans has provided increased economic returns. In the objective dealing with compost utilization, compost has provided increased sources of nitrogen and improved soil quality. Reports from this project have been disseminated through extension and through a sustainable agriculture newsletter.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. This project began in fiscal year 1992 with an appropriation of $70,000; subsequent appropriations are as follows: $70,000 in fiscal year 1993; $66,000 in fiscal year 1994; and $59,000 per year in fiscal years 1995 through 1999. Total appropriations to date are $501,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Matching funds provided for this research include state funds in the amount of $25,313 for fiscal year 1992; $26,384 for fiscal year 1993; $27,306 for fiscal year 1994; $36,091 in fiscal year 1995, and $24,267 in fiscal year 1996. Matching funds were not reported in fiscal year 1997 or fiscal year 1998.

Question. Where is this work being carried out?

Answer. Research is being conducted by the University of Nebraska at several locations in Nebraska, with the major part of the project at the Agricultural Research and Development Center near Mead, Nebraska.

Question. What was the anticipated completion date for the original objectives of this project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original project proposed work through March of 1994. The current project proposes work addressing additional related objectives through March 31, 1999. It is expected that current objectives of the project will be met by this time period.

Question. When was the last agency evaluation of this project? Provide a summary of the last agency evaluation conducted.

Answer. There has not been a formal evaluation of this project, but progress reports have been submitted to the agency and reviewed by our scientific staff. There are no plans to do a performance evaluation in the future.

SUSTAINABLE AND NATURAL RESOURCES, PENNSYLVANIA

Question. Please provide a description of the research that has been funded under the Sustainable Agriculture and Natural Resources, Pennsylvania, project?

Answer. This project studies the cycling of nutrients in soil and crops with special emphasis on the development of indices for measurement of soil health. The project undergoes regular internal evaluation and assessment as part of Pennsylvania State University's major effort in soil quality and nutrient management research.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. Degradation of soil health/quality is a most serious problem for agriculture both in the mid-Atlantic region and throughout the nation. State governments, both regionally and nationally, are attempting to address the issue of soil and water degradation in cropping systems and in intensive animal agriculture. Traditional soil test results are not providing the needed answers for effective nutrient management.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this research was to understand the cycling of nutrients from animal agricultural production systems through soil and water into crops and back to food for animals or directly to humans in the case of vegetable production, and to use that knowledge to develop practical indicators of soil quality and health. If farmers are to manage their farm lands properly, indicators of soil quality and health must be developed that can be used by agricultural producers and consultants. Efforts under this project have been devoted to this goal with significant accomplishments to date. Management practices have been found to affect soil microbiology, and the fate of nutrients from crop residues and legume cover crops is being elucidated. A significant indicator of soil quality has been identified: measurement of the decomposition of filter paper has been shown to be an effective indicator of plant residue decomposition, which in turn has been shown to be highly correlated to nitrogen mineralization and also shows promise as an indicator of soil biological activity.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. The work supported under this grant began in fiscal year 1993. The appropriation for fiscal year 1993 was $100,000; $94,000 per year in fiscal years 1994 through 1998; and $95,000 in fiscal year 1999 for a total of $665,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. A total of $369,574 in matching support from university, state, and private industry sources was provided in fiscal year 1997. Matching support was not reported in fiscal year 1998.

Question. Where is this work being carried out?

Answer. Research is being conducted by the Pennsylvania State University with cooperators throughout the state including the Rodale Institute Research Center and farms around the state.

Question. What was the anticipated completion date for the original objectives of this project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The project has met the specific objectives set forth in the original project which began in 1993 with an ending date in 1995. The continuing project addresses additional objectives related to the overall goal. The ending date for the current project objectives is June 30, 1999.

Question. When was the last agency evaluation of this project? Provide a summary of the last agency evaluation conducted.

Answer. There has not been a formal evaluation of this project, but progress reports have been submitted to the agency and reviewed by our scientific staff. There are no plans to do a performance evaluation in the future.

SUSTAINABLE BEEF SUPPLY, MT

Question. Please provide a description of the research that has been funded under the Sustainable Beef Supply, Montana grant.

Answer. This is a new project. Its purpose is to develop, implement, and evaluate a Montana Beef Quality Assurance Program for beef producers. It will center on training beef producers with regard to the best management practices to ensure food safety, feeder calf quality, and consistency.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The need for this research is to develop a reliable and predictable supply of safe, consumer-friendly beef of high quality. A National Beef Quality audit conducted by the National Cattlemen's Beef Association revealed that lack of proper quality control resulted in a loss of $103.16 per head slaughtered. Research will be used to develop a verifiable and certifiable beef supply that has been produced through a beef quality and assurance program.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goals of this project are: develop a Beef Quality Assurance program for beef producers, implement a feeder calf certification program for Beef Quality Assurance-trained producers, implement an electronic identification and trucking system to document productivity of calves through various production schemes, and conduct producer educational programs focused on ranch financial management.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant begins in fiscal year 1999 and the appropriation for fiscal year 1999 is $500,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The State of Montana will contribute approximately $189,000 in fiscal year 1999 to cover the salary of faculty at Montana State University involved with this project. In addition, the Montana Stockgrowers Association has contributed $15,000 this year to the project and will likely contribute additional funding.

Question. Where is this work being carried out?

Answer. Research will be conducted at Montana State University and on cooperating Montana ranches.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. This project will be initiated in fiscal year 1999 and will likely require three years to complete the objectives.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. This is a new project. It will undergo a peer-review at the University before submission. The proposal, when received, will also be reviewed for merit prior to funding.

SUSTAINABLE PEST MANAGEMENT FOR DRYLAND WHEAT, MONTANA

Question. Please provide a description of the research that has been funded under the Sustainable Pest Management for Dryland Wheat, Montana grant.

Answer. Montana State University researchers are studying the influence of four cropping sequences and two tillage systems on insects, weeds, plant pathogens, nutrient management, physical and biological properties of soil, economic profitability, and environmental benefits. The research is being conducted on large experimental blocks in three different dryland farming regions—northern, central, and eastern—in Montana. Each site differs climatologically and agronomically from one another yet represents a significant production area within the state.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. This project addresses pest management issues under different cropping sequences and tillage practices utilized in the Northern Great Plains for dryland wheat production. The wheat-fallow-wheat system used by many farmers in the region favors the build up of many pests. Dollar losses due to insects, competitive weeds, and plant pathogens in dryland wheat production in Montana alone are staggering. For example, annual losses attributed to wheat stem sawfly exceeds $25,000,000; wild oat infestations causes an estimated $50,000,000 in harvest losses and management costs; and wheat streak mosaic has a monetary loss of $37,500,000. These and other pests also increase reliance on pesticides for crop protection which impacts environmental quality, increases production costs, and causes secondary pest outbreaks and resistance. The agronomic, environmental, and economical benefits of diversified crop rotations are numerous, but these benefits are largely unknown or not documented in dryland wheat production. As a result of this multi-disciplinary project, we can significantly reduce the economic impact of agriculturally important pests, improve soil health, reduce production costs, and improve production efficiency.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goals of the research are to investigate the physical, chemical, and biological interactions of cropping sequences, and tillage systems on soil attributes, water and nutrient use, weed species composition, presence of plant pathogens, and above and below ground insect populations. Profitability, marketing, and environmental benefits of diversified cropping systems will be examined so farmers can realize the risks and benefits of adopting these systems. Study results will be assimilated and transferred into practical solutions to farmers' problems relative to the constraints of dryland wheat production.

The first cropping season has been completed. Data were collected on 26 different cropping sequences. Crops grown included spring wheat, pulses—pea, chickpea, and lentil—cool oilseed—mustard—warm oilseed—safflower—and sunflower. Numerous physical and chemical attributes of the soil were measured including available nutrients, soil aggregate characteristics, pH, forms of N, bulk density, salinity, water

flow rates, and water holding capacity. Plant diseases were documented and soil samples taken for common root rot inoculum. Crop data taken included dates of plant emergence, vegetative dry matter, yield components, and straw residue. Insects in different crop rotations were estimated by sweep samples, sticky traps and pheromone traps. These results will be a valuable tool in assisting producers in understanding the interactions of cropping sequences and tillage systems as they impact pests and soil health. This work will also provide producers with a better opportunity to consider producing alternate crops under the Federal Agriculture Improvement Reform Act.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. This work supported by this grant began in fiscal year 1997 and the appropriation for fiscal year 1997 was $200,000, and fiscal years 1998 and 1999, $400,000 per year. A total of $1,000,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Non-federal funds of $42,000 from the Montana Wheat and Barley Committee were provided for project support during 1997. Non-federal funds of $80,000 from the Montana Wheat and Barley Committee were provided for project support during 1998.

Question. Where is the work being carried out?

Answer. Research is being conducted in three distinct dryland areas of Montana—north, central, and northeast—located on producer owned land. Each field site is within 45 miles of a Montana State University Agricultural Experiment Station research center.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The project was initially proposed for a duration of 3 years.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. Yearly progress reports will be used to track the effectiveness of the program of research. Assessment of the precision of biological control organisms and estimates of profitability, marketability, and risk will be used to assess progress.

SWINE WASTE MANAGEMENT, NORTH CAROLINA

Question. Please provide a description of the research that has been funded under the Swine Waste Management, North Carolina, grant.

Answer. During the past year, this multi-disciplinary project has expanded existing university efforts that have included plans to develop a prototype system for the treatment of animal waste which will be used to study and optimize new and innovative swine waste treatment processes. Specifically, the current project is focusing on the following topics: biological safety and nutrient quality of phosphoric acid-preserved animal mortality products processed by rendering, extrusion, and fluidized-bed cooking/dehydration; beneficial effects of swine manure biosolids on plant disease suppression; evaluation of alternative compost products; use of processed animal waste as a nitrogen and phosphorus source for Fraser Fir Christmas trees; production of a commercially-viable feed ingredient from animal wastes, cull sweet potatoes, and soybean hulls; routine techniques for monitoring the nutritional value of processed animal waste; and residual dietary phytase activity and phosphorus, calcium, and nitrogen content in fresh and composted manure.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The urgency for addressing environmental concerns relative to the intensive production of livestock and poultry continues to intensify in the United States. This is currently being reflected by strategies jointly proposed be U. S. Environmental Protection Agency and U. S. Department of Agriculture. In North Carolina, where livestock and poultry production account for approximately $5,000,000,000 in farm gate income annually, issues of adequate land area for recycling animal manures for crop uptake of nitrogen and phosphorus in some counties of intensive animal agriculture is especially sensitive. North Carolina is also currently in the process of implementing odor rules that will impact animal agriculture. Several other states and local regions are facing the same concerns. It is anticipated that deliverables from this research project will have a local, state and national impact.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The specific goals for this project include the following: utilize the North Carolina State University Animal Poultry Waste Management Center waste processing facility to develop optimum methods of screening, blending, fermenting, pelleting, extruding, and further processing animal waste-based nutrients for use as value-added products; installation of solid separation system at university swine research facility proximate to the Animal Poultry Waste Management Center waste processing facility; collect samples and establish supply sources of various types of animal waste by-products for conducting commercial scale processing and end-product evaluations; evaluate for targeted nutrient content and nutrient availability of processed materials targeted for use as plant nutrients; and evaluate materials processed for feedstuffs for targeted nutrient content and anti-nutritional factors.

These goals required assimilation of a multi-disciplinary research team, and completion of facilities that are able to heat treat, dehydrate, blend, extrude, compost, and pelletize the by-products to produce potentially valuable organic fertilizers or feed supplements. These tasks have been completed and the individual projects described previously are underway.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1997 and the appropriation for fiscal year 1997 was $215,000; fiscal year 1998 was $300,000; and fiscal year 1999 is $500,000. A total of $1,015,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. During fiscal year 1998 there were $244,622 in state funds provided in contract to North Carolina State University—NSCU—from North Carolina Department of Natural Resources and $80,460 in industry funds provided by membership monies from the members of the NCSU Animal and Poultry Waste Management Center in support of objectives related to this project.

Question. Where is this work being carried out?

Answer. This work is being conducted at North Carolina State University in Raleigh, North Carolina.

Question. What was the anticipated date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original anticipated completion date was February 28, 1999. Project objectives will not be completed by this date. The time to complete processes associated with equipment, facilities, and safety plans required for this project, coupled with unavoidable administrative delays in the secondary award process from Federal and university levels for this project, required a request for extension of the completion date to 2/29/00.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The Cooperative State Research, Education, and Extension Service conducted an evaluation of the progress of this work during January, 1999.

TILLAGE, SILVICULTURE, AND WASTE MANAGEMENT, LOUISIANA

Question. Please provide a description of the research that has been funded under the Tillage, Silviculture, and Waste Management Research Grant?

Answer. This research has five components: Rice and Cotton Tillage, Bald Cypress and Water Tupelo Silviculture, and Dairy and Poultry Waste Management. More specifically, the Rice Scientist are looking for ways to improve stand establishment; the Cotton Scientists are focusing on the use of tillage systems to combat harmful insect populations; the Waste Management Scientist are quantifying the environmental and economic effectiveness of approved dairy and poultry waste disposal systems; and the Silviculturists are conducting a problem analysis on factors affecting Bald Cypress and Water Tupelo regeneration. The project is annually subjected to the university's merit review process.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. The principal researchers hypothesize that the crops, forests, and waste issues addressed by this project extend beyond the state borders, thus this research has, at a minimum, multi-state to regional application.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goals were to: improve conservation tillage in rice and cotton farming; determine the effectiveness of no-discharge dairy waste treatment facilities; determine acceptable land treatment levels for poultry waste disposal; and to

evaluate wetland forest regeneration processes. All components of the project have established research studies and are monitoring progress. For fiscal year 1998 the silviculture component was placed on hold and a sweet potato project was added. This decision was prompted by a staffing change in the Department of Forestry and Wildlife. Prior to this decision, an annotated bibliography of Bald Cypress Silviculture was completed and the responsible scientists had begun work on Water Tupelo regeneration. Louisiana State University's Agriculture Experiment Station Director remains actively engaged in the project by participating in the development and delivery of the annual proposal. Moreover, through his annual review process he fosters collegiality and professional discourse across Departments.

Question. How long has the project been underway, and how much has been appropriated, by fiscal year, through fiscal year 1999?

Answer. The work began in fiscal year 1994. The appropriation for fiscal year 1994 was $235,000. For fiscal years 1995–1999 the appropriation was $212,000 per year. This sums $1,295,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. State funding in support of these areas of research exceeds $750,000 annually.

Question. Where is the work being carried out?

Answer. Investigations are being conducted on the main campus at Louisiana State University as well as the Experiment Stations at Calhoun, Crowley, Chase, Winnsboro, St. Joseph, and Washington Parish, Louisiana.

Question. What was the anticipated completion date for the original objectives of the project? Have these objectives been met? What is the anticipated completion date of additional or related projects?

Answer. The original work was scheduled for completion in 1999. Early term objectives have been met. The added experiments have closing dates ranging from 1999 to 2001.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted?

Answer. The last field evaluation was completed on December 12, 1995. The evaluation summary complimented the scientists on the interdisciplinary components associated with this project, along with their investigative procedures, report writing, and external networking.

TOMATO WILT VIRUS, GEORGIA

Question. Please provide a description of the research that has been funded under the tomato wilt virus research program grant.

Answer. This is a new project that will provide the research to help in the reduction of major crop losses in the southeastern United Sates due to tomato spotted wilt disease. Research will focus on the vector biology and the virus transmitted by the vector. This project was not awarded competitively but has undergone peer review at the university level and merit review at CSREES.

Question. According to this research proposal, or the principal investigator, what is the national, regional, or local need for this research?

Answer. Tomato Wilt Virus has become a major yield-limiting constraint on a number of very important food crops. This is a problem world-wide, but in the last ten years has spread throughout the Southeastern states. Since this virus was first observed in Georgia in 1986, it has caused an estimated $100,000,000 crop loss to the state. The wide host range of the virus and its vector make this a disease that is difficult to manage. The new strategies to manage this virus in Georgia will be applicable to all states where it occurs.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal of this research is to reduce losses in the major crops grown in the Southwest due to spotted wilt. This requires identifying the sources of virus and vectors, determining the dynamics of the thrips species that transmit the virus, elucidating how the virus is acquired by thrips to identify possible genes to enhance virus resistance in plants, and adapting to crops in the Southeast the Risk Assessment Index for spotted wilt that is currently in implementation and refinement at the University of Georgia for peanut.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant begins in fiscal year 1999 and the appropriation for fiscal year 1999 is $200,000.

Question. What is the source and amount of nonfederal funds provided by fiscal year?

Answer. The non-federal funds provided for this grant are $84,736 for 1999.

Question. Where is this work being carried out?

Answer. Research is being carried out at the University of Georgia and The Coastal Plain Experiment Station.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. Since this is a new program, the original objectives have not yet been met.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The project is under peer review at the University level and agency merit review.

TROPICAL AND SUBTROPICAL RESEARCH

Question. Please provide a description of the research that has been funded under the tropical and subtropical research program grant.

Answer. The Tropical and Subtropical Research—T STAR—Program is operating in coordination with the T STAR Caribbean and the T STAR Pacific Administrative Groups. State Agricultural Experiment Stations that are members of the Caribbean group are Florida, Puerto Rico, and the Virgin Islands; members of the Pacific group are Hawaii and Guam. The proposals are peer reviewed and are then selected for funding by the administrative groups.

Non-member institutional interests are represented by the Executive Director of the Southern Region Agricultural Experiment Station Directors, who is a member of the Caribbean group, and the Executive Director of the Western Region Agricultural Experiment Station Directors, who is a member of the Pacific group. The Agricultural Research Service also has representation on the two groups, as does the CSREES scientist who manages the T STAR grant program.

Funds for the program are divided equally between the two Basin Administrative Groups. The research objective of the program developed by the principal is to improve the agricultural productivity of many of the subtropical and tropical parts of the United States. Special research grants have been awarded for research on controlling insect, disease, and weed pests of crops; increasing the production and quality of tropical fruits, vegetables, and agronomic crops; promoting increased beef production through development of superior pastures; detection of heartwater disease of cattle and the influence of heat stress on dairy cattle reproduction; better use of land and water resources; developing computer models for efficient crop production systems and animal feeding systems; developing computer models for land-use decisions; using biotechnology methodologies for improving plant resistance to viral and bacterial diseases; using biotechnology to develop non-chemical, or biological, strategies for controlling insect pests; and potential for growing new speciality crops. fiscal year 1999 proposals have been requested.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher believes there is a need for the T STAR program to provide research-generated knowledge that enables informed choices in the responsible use of natural resources, facilitates the health and well being of American citizens through improved food safety and nutrition, provides frontline protection for the rest of the nation's farms and ranches from serious plant and animal diseases and pests, and enhances the ability of U.S. farmers to produce crops efficiently and economically and/or to introduce new crops and agricultural products with export potential to gain market share abroad. On a regional basis, the T STAR program addresses the unique challenges of practicing tropical agriculture, that is presence of pests year-round, heat stress, post-harvest processing to meet regulatory requirements for export, etc. The local need of Americans living in tropical regions of the nation for T STAR knowledge-based products to design and implement sustainable agricultural development within fragile tropical agroecosystems—particularly on tropical islands—and to develop new crops and niche markets.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this research was to increase the production and quality of tropical crops; control pests and diseases of plants and animals; promote increased beef production; and conserve land and water resources. Grants have supported research on control strategies for Melon thrips; the biochemical nature of re-

sistance to rust in nutsedge; development of bioherbicides for nutsedges; development of tomato cultivars with resistance to the spotted wilt virus; development of pheromones for monitoring and controlling the citrus root weevil; reducing the effects of heat stress in dairy cattle; development of a decision support system for vegetable production; finding cucurbits with resistance to silverleaf; developing a computer program for optimal supplementation strategies for beef and dairy cattle on tropical pastures; characterizing new strains of citrus tristeza virus in the Caribbean basin; determining the economic threshold for the citrus leaf miner on limes; using viral replicase genes to engineer rapid detection methods for geminiviruses; developing makers of bacterial spot resistance genes in tomato; breeding snap and kidney beans for resistance to golden mosaic virus and for heat tolerance; searching for resistance to papaya bunchy top disease; developing weed control for yam production; and bioengineering ringspot virus resistance in papaya.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The operation of the tropical and subtropical research program was transferred from ARS to CSREES, with CSREES funding being first provided in fiscal year 1983. Funds in the amount of $2,980,000 per year were appropriated in fiscal years 1983 and 1984. In fiscal year 1985, $3,250,000 was appropriated. In fiscal years 1986, 1987, and 1988, $3,091,000 was appropriated each year. $3,341,000 was appropriated in fiscal year 1989. The fiscal year 1990 appropriation was $3,299,000. The fiscal years 1991–1993 appropriations were $3,320,000 per year; $3,121,000 in fiscal year 1994; $2,809,000 in fiscal years 1995–1996; and $2,724,000 per year in fiscal years 1997 through 1999. A total of $51,994,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. For fiscal year 1997, more than $1,000,000 of nonfederal were provided to the T STAR program from state appropriations, and for 1998 $85,600. These state funds were in the form of faculty salary time commitments and indirect costs covered by the institutions.

Question. Where is this work being carried out?

Answer. This research is being conducted in Florida, Puerto Rico, Virgin Islands, Hawaii, and Guam. Work is also being done in other Pacific and Caribbean countries through agreements between institutions but not using Federal funds.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. Research on tropical crop and animal agriculture is to increase productivity net profits, decrease harmful environmental impacts, conserve water, and natural resources. The need to continue with this project has been expressed by producers in the area, importers in the U.S. mainland and the institutions involved.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The projects that are funded by the T STAR Special Research Grant have been peer reviewed by panels of scientists in the U.S. to assure that good science is undertaken. Also, as part of the grant renewal process, progress reports are reviewed by the two Administrative Groups and by the grant manager at the national level. Workshops in which research results and their application for agricultural production are developed every two years. Research papers are published in the appropriate regional, national, and international forums available.

The development in 1995 of the Strategic Plan for T STAR provided a mechanism to define priorities, examine program direction, and recommend operational changes. One of the principal points considered was to bring the Caribbean and Pacific Basin components closer and better coordinated. T STAR and the coordination which it implies was an outcome that will make this program better. Each sub project is peer reviewed annually at the initiating institution by the T STAR panel and by CSREES National Program Leaders.

TURKEY CORONAVIRUS, INDIANA

Question. Please provide a description of the research that has been funded under the Turkey Coronavirus, Indiana, grant.

Answer. This is a new grant in fiscal year 1999. CSREES has requested the university to submit a grant proposal that has not yet been received. The objectives of the research will be to: (1) develop enzyme-linked immunosorbent assays for detecting antibody to turkey coronavirus and turkey coronavirus antigen in turkey flocks, (2) elucidate immune responses in turkey poults infected with turkey coronavirus, and (3) determine which immunity, humoral and /or cellular, will pro-

vide the most effective protection for turkey poults against turkey coronavirus infection.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The need for this research is that the turkey industry plays a major role in animal agriculture in the U.S. This enteric disease of young turkey poults, called turkey poult enteritis or poult enteritis mortality syndrome, has contributed to significant economic losses by producers in Indiana, North Carolina, South Carolina, Virginia and other states. The cost to the industry is in the millions. Currently, no effective medication or vaccination is available for control and prevention of the disease. Although turkey poults that recover from the coronaviral enteritis may develop long-term immunity, little is known about the specific immunity. The proposed research will lead to further study on the understanding of immunological interaction between turkey poults and individual turkey coronaviral proteins and subsequent development of recombinant or a deoxyribonucleic acid vaccine for effective prevention of the disease. The enzyme-linked immunosorbent assays that will be developed in this research will provide an efficient tool for diagnosis and control of turkey poult enteritis.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The research is a new proposal so nothing has been accomplished to date. The goal of the research will be to develop enzyme-linked immunosorbent assays for monitoring antibody to turkey coronavirus and turkey coronavirus antigen in turkey flocks during acute outbreaks or recovery and in routine health monitoring and to develop effective vaccines to protect turkey poults against turkey coronavirus infection.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant begins in fiscal year 1999 and the appropriation for fiscal year 1999 is $200,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. This is a new proposal for fiscal year 1999. No non-federal funds will be provided in this fiscal year.

Question. Where is this work being carried out?

Answer. Research will be conducted at Purdue University in the Department of Veterinary Pathobiology and the Animal Disease Diagnostic Laboratory.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The anticipated completion date for the original objectives is December 31, 2001.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. Since this is a new proposal, no evaluation has been conducted. However, it is anticipated that it will be reviewed by a CSREES specialist shortly after it is received by the agency.

URBAN PESTS, GEORGIA

Question. Please provide a description of the research that has been funded under the Urban Pests, Georgia grant.

Answer. This research is focused on urban pests with specific emphasis on termites and ants. This project has been evaluated annually by CSREES.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. The principal researcher believes subterranean termites and ants are significant economic pests in the Southeastern United States. Damage and control costs for termites in Georgia were estimated at $44,500,000 in 1993. It is estimated that professional pest control operators apply over 23,000,000 pounds of active ingredients in and around homes each year. Chemicals currently registered for controlling these pests are less efficacious than desired and applied at an intensity that exceeds most agricultural settings.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal of the termite research is to better understand the biology of subterranean termites and their responses to selected environmental cues in order to design monitoring, risk assessment, and precision-targeting control strategies

using conventional and alternative methods. Additionally, an objective is to improve the identification of subterranean termites to the species level through studies of the termite genome, cuticular chemistry, morphometric characteristics, and termite behavior. Specific accomplishments in the termite research are as follows: Collection of three full years of data on over 80 different subterranean termite colonies in four of the major soil provinces in Georgia was completed in 1997. This data set has been compiled and is currently being analyzed using spacial analysis to assist in developing risk assessment models and precision-targeting of treatment options. Research with reduced-risk insecticides have provided data that will assist in registration of several novel chemistries within the next few years. Work with biological control agents has suggested that application of a naturally-occurring fungus to the structural components involved in a subterranean termite infestation should be efficacious in removing that infestation. Research continues to raise questions concerning the concept of baits as a termite control tactic. Recent data from termite behavior and genome studies indicate that the conventional concept of the monogyne—one pair of parents—social structure of a termite colony is not valid raising questions about the real-world composition of subterranean termite societies.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. This work supported by this grant began in fiscal year 1991 and the appropriation for fiscal years 1991—1993 was $76,000 per year. In fiscal year 1994 the appropriation was $71,000 and in fiscal years 1995 through 1999 the appropriation was $64,000 each year. A total of $619,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant by fiscal year were as follows: 1991—none, 1992—$26,000, 1993—$18,000, 1994—$59,530, 1995—$59,539, 1996—$30,000, 1997-$80,00, 1998-$50,000.

Question. Where is the work being carried out?

Answer. This research and technology transfer program is being conducted at the University of Georgia, Department of Entomology, Athens, Georgia..

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The grants have been processed on a year to year basis pending the availability of funds, however, the original objectives were essentially a five-to eight-year plan of work. CSREES entomologists judge that progress has been made on foraging behavior and the identification and development of termite baits. There has also been a publication of the research results.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. This project has been evaluated on an annual basis by CSREES, through the progress reports. Progress has been excellent.

VIDALIA ONIONS

Question. Please provide a description of the research that has been funded under the Vidalia Onion Grant.

Answer. The research has concentrated on developing pungency testing procedures to improve quality and sensory consistency of Vidalia onions.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for the research?

Answer. Vidalia onions are a specialty crop of extreme importance to the economy of certain areas of Georgia. The project is directed toward improving product quality and the nationally-and internationally-economic competitiveness of this production system.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The research has demonstrated that chemical tests can be used to accurately predict the pungency of onions prior to harvest, and perhaps flavor categorization, to consumers. The results have also indicated that several diseases affecting onions are the most serious problem in regard to quality and production.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The project began in fiscal year 1998 with an appropriation of $84,000 and for $100,000 in fiscal year 1999. A total of $184,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year.

Answer. The non-federal funding for this project for the last two years was $193,137 from the state of Georgia and $251,427 in private funding.

Question. Where is the work being carried out?

Answer. The work is being conducted at the Coastal Plain Experiment Station in Tifton, Georgia and in test plots in several commercial field sites.

Question. What was the anticipated completion date for the original objections of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The anticipated duration for the original project was five years. The initial objective of establishing procedures for pungency testing has proceeded ahead of schedule. The plant disease problems that have emerged will likely require several additional years, although the incidence and severity of these diseases are highly variable from year to year.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. This project is in it's second year, and the emphasis and objectives have changed from pungency research in fiscal year 1998 to onion disease research in fiscal year 1999. A CSREES review or evaluation has not yet been done on this project with plans to postpone the review until the end of the 1999 growing season when both aspects of the research project could be evaluated.

VITICULTURE CONSORTIUM, NEW YORK & CALIFORNIA

Question. Please provide a description of the research that has been funded under the Viticulture Consortium grant.

Answer. The University of California and Cornell University in New York conducted research on varietal responses of grapes, modeling of water requirements, management of diseases including Phyloxera, and other cultural aspects of grape production. Funds were used by the lead institutions to fund projects in the various grape-producing states within their region. Grants were made based on peer reviewed proposals and selected competitively by regional groups based on priorities developed by researchers, extension, and industry personnel.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The research being carried out is designed to help the viticulture and wine industries remain competitive in the U.S. and in the global market. Further, disease and insect problems are a concern of the industry, especially in new strains of phyloxera while overall improvement in all cultural management approaches to grape production need to continue.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this research is to maintain or enhance the competitiveness of the U. S. Viticulture and wine industry in the global market.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal years 1996–1997, $500,000 per year; fiscal year 1998, $800,000; and fiscal year 1999, $1,000,000. A total of $2,800,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Each year the viticulture industry provides matching contributions in excess of the appropriated federal funds.

Question. Where is the work being carried out?

Answer. Research is being carried out in nine eastern states and California.

Question. What is the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The research priorities set by the guidance group have not been met. The research is varied and complex and will take many years to complete.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The project underwent merit review in January, 1998. The research proposals are peer-reviewed in both regions before selection. The review group is composed on industry, research, and extension personnel that are experts in viticulture.

WATER CONSERVATION, KANSAS

Question. Please provide a description of the research that has been funded under the water conservation program grant.

Answer. This research program is designed to develop and disseminate technical and economic information on the efficient use of water for irrigated crop production in western Kansas. The program has the following objectives:

—Develop regression models to estimate the longevity of subsurface drip irrigation systems using calculations of annual system performance deterioration based on 13 years of operating pressures and flow rates;

—Evaluate utilization of livestock effluent with subsurface drip irrigation and its effect on water redistribution and corn water use patterns;

—Develop best management practices for nitrogen fertigation using subsurface drip irrigation systems for corn;

—Estimate the long run economic impacts of irrigation efficiency improvements for irrigated corn, wheat, and grain sorghum in the farm sector and affiliated sectors of the High Plains economy;

—Disseminate irrigation research information and best management practice recommendations to Kansas irrigators through a series of extension bulletins and updates based on research-based information.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher indicates that corn is the principal irrigated crop in Kansas and throughout the Great Plains. The principal researcher believes any realistic attempt to address overdraft of the High Plains Aquifer must address improvements in irrigation efficiency in corn production. The most common irrigation methods are furrow and sprinkler irrigation. The need to conserve water has focused attention on more efficient alternatives such as subsurface drip irrigation. This research will be of particular significance within the state and region. However, it also has national and international applications as advanced irrigation systems, such as subsurface drip irrigation, will be needed to improve irrigation water use efficiency in the next century.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The research goal is to determine the feasibility of subsurface drip irrigation and other alternative irrigation systems in western Kansas to sustain irrigated corn production to support the beef feedlot industry. The project also supports an educational effort through collection and dissemination of information on efficient irrigation methods. Subsurface drip irrigation acreage is increasing in Kansas and farmers are obtaining results on their own farms.

The computer program Irrigation Economies Evaluation Svstem—IEES—is complete and is being distributed by the Kansas State University Cooperative Extension Service. A report has been published which documents the data requirements and algorithms used in the model. A users guide is also available.

Education poster sessions have been presented at three meetings. These posters were designed to inform potential users about the advantages of using the IEES software to evaluate irrigation options for farms in the Great Plains.

A report entitled "Economic Analysis of Alternative Irrigation Systems for Continuous Corn and Grain Sorghum in Western Kansas," has been completed. The results of this study indicate that a low drift nozzle center pivot system is the most profitable center pivot system to use for irrigation of corn and grain sorghum. Overall, a surge flood system was the most profitable because of its relatively low ownership costs. Although the subsurface drip system shows some potential, it is only economically feasible when above-average crop yield and price conditions exist.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1993 with an appropriation of $94,000; $88,000 in fiscal year 1994; and $79,000 in fiscal years 1995–1999 each year. The total funds appropriated are $577,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant were as follows: $781,232 state appropriations, $55,205 product sales, $60,907 industry and miscellaneous in 1991; $868,408 state appropriations, $37,543 product sales, $35,484 industry and miscellaneous in 1992; $833,324 state appropriations, $54,964 product sales, $144,225 industry and miscellaneous in 1993. Amounts for other years should be similar.

Question. Where is this work being carried out?

Answer. The research is being conducted at Kansas State University. The field portion of the research is being conducted on Research Centers at Colby and Garden City, Kansas. Additional work is being carried out on campus at the Departments of Agronomy and Agricultural Economics in Manhattan, Kansas.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original anticipated completion date for the project was 1998. One of the most important objectives of the study is to evaluate longevity of the subsurface drip irrigation systems. These sites are unique to the region and very little information is available on system longevity. Pressing water quality problems of a regional and national scope has necessitated a change in the objectives to developing nutrient management practices under subsurface drip irrigation and utilization of livestock wastewater with subsurface drip irrigation. Additionally, changes in the federal farm program which allow greater planting flexibility has an effect on how irrigators make water/land allocation decisions. Field and economic studies related to allocation strategies, nutrient management, and wastewater utilization should be completed in three years.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The project has been peer reviewed. The reviewers felt the project concept to be valid and the timetable for accomplishments to be on target.

WATER QUALITY

Question. Please provide a description of the research that has been funded under the Water Quality special research grant.

Answer. The agency continues support of the national, competitively-awarded grants program as part of the Department's Water Quality Initiative. This program supports research to investigate the impacts of non-point source pollution from agriculture on water quality, and to develop improved, sustainable agricultural practices and systems that protect the environment and are economically profitable. This program is conducted jointly with the State Agricultural Experiment Stations, the U.S. Department of Agriculture's Agricultural Research Service and Natural Resources Conservation Service, the U.S. Environmental Protection Agency, the U.S. Geological Survey, extension specialists and other Federal, State, and local agencies. The water quality grants have supported more than 300 research projects across the country. In fiscal years 1996 and 1997, funds were awarded to the five Management Systems Evaluation Areas projects in the Midwest to continue the water quality systems research started in 1990. In 1996, new projects were initiated as Agricultural Systems for Environmental Quality. The new projects focus on watershed-scale agriculture production systems that reduce pollution of soil and water while maintaining productivity and profitability.

In 1998, the U.S. Department of Agriculture joined with the Environmental Protection Agency and the National Science Foundation in the national Water and Watersheds program which focuses on watershed-scale systems to improve water quality. Three projects have been funded under this new program.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The public is concerned about the possible risks to the environment, to soil quality, and to water quality resulting from the use of agricultural chemicals. Improved methods of detection of very minor amounts of chemicals in water have made the public, farmers, and policymakers more concerned about the use and management of these agricultural chemicals and wastes, while meeting the challenge of maintaining the efficiency and productivity of agricultural production systems. Water quality continues to be of high priority at local, regional and national levels. Results from the research are providing technologies to reduce pollutants, guidelines for site-specific farming, and improved farming systems.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goals of the program were to determine the extent to which agriculture has impacted groundwater quality, and to develop new and improved, cost effective agricultural systems that enhance ground water quality. During the past three years, focus and allocation of resources have increased for surface water quality. Major progress has already been made on these goals. Examples of some of the results of recently completed research include the following:

—Nebraska's water quality research indicates that irrigated corn can be produced profitability with less water and nitrogen than most farmers apply.

—Ohio's Lake Erie Agricultural Systems for Environmental Quality project, along with other State and Federal projects, is making excellent progress in reducing phosphorus loading in two major watersheds that discharge into Lake Erie. Watershed phosphorus budgets indicate that the net annual accumulation of phos-

phorus in the Maumee watershed has dropped from 23,000 metric tons to 2,600 metric tons. Farmers are no longer applying "buildup" levels of phosphorus to their fields—a major cultural change.

—In North Carolina, a 7-acre wetland is effectively removing nitrates from the runoff and drainage of a 950-acre watershed during the warm season; a Site-Specific Farming workshop was held at Greensboro, North Carolina, and attracted some 200 participants; and several industrial and educational displays have been developed for the Agricultural Systems for Environmental Quality project.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work under the Water Quality Program began in fiscal year 1990 with an appropriation of $6,615,000. The subsequent appropriations were as follows: $8,000,000 in fiscal year 1991; $9,000,000 in fiscal year 1992; $8,950,000 in fiscal year 1993; $4,230,000 in fiscal year 1994; $2,757,000 in fiscal years 1995–1997; $2,461,000 in fiscal year 1998; and $3,461,000 in fiscal year 1999. A total of $50,988,000 has been appropriated for the Special Research Grants Water Quality Program.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds in support of the Water Quality program, provided by state appropriations, industry, product sales and other local sources, have averaged approximately $1,000,000 per year since the program began in 1990.

Question. Where is this work being carried out?

Answer. Funds provided under the Water Quality Program have been awarded to institutions in virtually every state, so work is being carried out in all parts of the country. The Management System Evaluation Area projects of the Midwest Initiative on Water Quality are headquartered in Iowa, Minnesota, Missouri, Nebraska, and Ohio, with satellite locations in North Dakota, South Dakota, and Wisconsin. Three new projects located in Indiana, North Carolina, and Ohio were initiated in fiscal year 1995. Three new projects located in Illinois, North Carolina, and Utah were initiated in 1998.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original goals of the Department's Water Quality Research Plan were to: (1) assess the seriousness and extent of agriculture's impact on groundwater quality, and (2) develop new and improved agricultural systems that are cost effective and enhance ground water quality. These original goals have been met; however, water quality programs need to have a long-term focus. The physical processes that link production practices to water quality and the socioeconomic processes that characterize adoption can both be of long duration. The adoption process, from first learning about a practice through implementation, can take years. While assistance is designed to speed up this process, overall progress can still be slow. Therefore, adequate resources must be made available for an extended period of time to ensure successful completion of the project.

The original project was developed for five years with the expectation that it would be reviewed and possibly extended beyond the five-year period if warranted. The 1995 review of the program identified a need for increased attention to surface water quality problems. In 1996 and 1997, new water quality problems emerged; hypoxia, pfiesteria, etc.—which required renewed efforts. The research funded under the Special Research Grants Program has produced significant progress in understanding the impacts of agricultural practices on surface and groundwater pollution and in developing improved agricultural systems that are economically and environmentally sustainable. Implementation of some of these improved agricultural systems is already underway in a number of states. The focus over the next five years will be on developing and implementing agricultural systems that reduce the nutrient and contaminant loadings in our waters and watersheds.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. An external review team evaluated the Management System Evaluation Areas and associated component projects in 1995. All Management System Evaluation Area projects have an impressive record of successfully implemented interdisciplinary teams to study water quality problems. A major conference on Management System Evaluation Area and Agricultural Systems for Environmental Quality results is scheduled in June 1999. Criteria used to evaluate the success of the Midwest Management System Evaluation Areas project included:

—The relationship of the program to national and regional priorities.

—Contributions of the program to rural communities, to education of scientists, and to the quality of life in rural communities.
Methods used to transfer the project results to the customers and clients.
—Future opportunities and needs for environmental programs.
—Progress toward accomplishing objectives.

WEED CONTROL, NORTH DAKOTA

Question. Please provide a description of the research that has been funded under the Weed Control, North Dakota grant.

Answer. A major focus has been developing and evaluating systems to reduce herbicide use in crop production. The experiments of longest duration are field evaluations of sustainable, reduced tillage, and conventional crop rotation systems to ascertain changes in weed species and densities and in economic returns over time when weed management is reduced. Another emphasis has been weed biology, particularly understanding the unique physiological and genetic traits of herbicide-resistant kochia and wild oat in an effort to recommend the most cost-effective management alternatives. Another goal has been to improve the efficiency of postemergent herbicide use by utilizing additives that maximize weed control with reduced amounts of herbicide and by reducing spray volume and adapting new nozzle designs that improve application techniques.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The research address new methods to control weeds using systems control. The principles concerning effective use of additives with postemergent herbicides are being applied to improving the efficiency of postemergent herbicide use across the nation. Similarly, adaptation of herbicide application technology that allows reduced spray volumes while sustaining herbicide effectiveness is of nationwide benefit. The increased understanding of the inheritance and management of herbicide resistance in kochia and wild oat will be beneficial to management of these weeds in the central and northern regions of the United States where these weeds are abundant and cause major losses annually. The long-term field experiments should provide useful information on the positive and negative impacts of reduced weed management systems wherever spring-sown small grains are the primary crop.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The initial major activity was a long-term series of experiments to evaluate changes in weed species and populations and the economic returns in conventional, sustainable, and reduced tillage systems with rotations that are up to four years long. The research was initiated in 1993, but atypical wet conditions occurred for the first three years. It is felt that at least two complete cycles of crop rotations—eight years—will be necessary to accurately assess what farmers can expect from adopting new management systems.

The research to improve the efficiency of herbicides lead to development of the principle that effectiveness of many postemergent herbicides can be improved by using additives that dissolve the herbicide. And this principle was utilized to develop a basic pH adjuvant that improves the effectiveness of several postemergent herbicides.

The research with genetics of herbicide-resistant kochia has determined that inbreeding depression occurs when this naturally cross-pollinated plant is self-pollinated to develop genetically uniform plants, which are desirable for many research objectives related to inheritance of genetic traits. However, this discovery also demonstrates that cross-pollination must be maintained in kochia for research intended to accurately simulate genetic changes and competition with crops that may occur in a field.

Resistance of wild oat to many of the major herbicides used for its control in the United States has been documented, including resistance to imazamethabenz which has not been reported previously. Molecular biology and physiological studies have been initiated to better understand the cause of imazamethabenz resistance in wild oat, so management strategies can be recommended. Initial research has demonstrated that weed control by herbicides applied to weeds of recommended size has been equally effective when spray-drift-reducing or conventional nozzles are used. Because drift-reducing nozzles produce large droplets, the next step of evaluation is being initiated to determine whether small weeds are treated and controlled effectively when drift-reducing nozzles are used.

Question. How long has this work been underway and how much has been appropriated by fiscal year through year 1999?

Answer. The support by this grant began in fiscal year 1992 and appropriation for fiscal years 1992 and 1993 was $500,000 per year; $470,000 in fiscal year 1994; and $423,000 per year in fiscal years 1995 through 1999. A total of $3,585,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant were as follows: $27,030 state appropriations in 1992; $48,472 state appropriations in 1993; $41,969 state appropriations in 1994; $71,847 state appropriations in 1995; $62,134 state appropriations in 1996; $78,579 state appropriations in 1997; and an estimated $70,000 state appropriations in 1998.

Question. Where is this work being carried out?

Answer. Research is being conducted at the North Dakota State University.

Question. What was the anticipated completion date for the original objective of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original completion date for the long-term rotation experiment, utilizing the conventional, reduced tillage and sustainable management systems, was anticipated to be a minimum of 5 years, but the experience with atypically environmental conditions suggest that 8 to 10 years will be necessary to attain a relatively steady state or logical end of the research. The current intent is to continue the research until at least 2002. The problems encountered due to the inbreeding depression in kochia suggests that it will be difficult to determine the true genetic nature of inheritance of herbicide resistance in this weed as quickly as projected. And due to the discovery of herbicide resistance of wild oat to imazamethabenz, the genetic and molecular biology research to characterize the nature of this resistance is just getting a good start. It is anticipated that the genetic and biology research with kochia and wild oat will need to continue until at least 2002.

Question. When was the last Agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. A scientific peer review of the written proposal was conducted in fiscal year 1998 by CSREES prior to awarding the grant. Based on comments from the reviewers, CSREES required that the university revise and resubmit the proposal. The resubmitted proposal was approved with the caveat that within one year a scientific peer, onsite, progress review would be conducted by CSREES. That progress review has not yet been completed.

WETLAND PLANTS, LA

Question. Please provide a description of the research that has been funded under the Wetland Plants, Louisiana, grant.

Answer. CSREES has requested the university to submit a grant proposal that is currently in preparation.

Question. According to the principal researcher, what is the national, regional, or local need for this research?

Answer. There is local, regional, and national need for this research. Coastal wetlands erosion is a serious environmental problem in many coastal locations around the United States. The problem is particularly severe in Louisiana where an acre of coastal wetlands is lost to erosion every 20 minutes. Current technologies, even at great expense, can only slightly reduce these losses. The research this grant is funding has the potential to provide a significant improvement with respect to both the magnitude and expense of future coastal erosion control efforts.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this research was to develop an economically-feasible approach to controlling coastal wetlands erosion that would utilize vegetation to retain areas threatened by erosion and to rebuild lost land. To accomplish this, a system that incorporates agricultural principles involved in crop production is required. Specifically, a seed-based system utilizing appropriate planting material is required. While this is the first year of funding for this project from CSREES, progress has been rapid in developing this seed-based system, and field trials in the marsh are already planned for 1999.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant begins in fiscal year 1999, and the appropriation for fiscal year 1999 is $600,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant are as follows: $18,391 state appropriations, $5,319 industry grants, and $8,691 miscellaneous in 1999.

Question. Where is this work being carried out?

Answer. Research is being conducted at the Louisiana Agricultural Experiment Station.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. Since this is a new program, the original objectives have not yet been met.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. This is a new project, and there has been no prior agency evaluation. An agency evaluation is planned for fiscal year 2000 following one year of project operation.

WHEAT GENETICS

Question. Please provide a description of the research that has been funded under the Wheat Genetics grant.

Answer. This project provides partial support for the Wheat Genetics Resource Center at the University of Kansas. The Center focuses on collection, evaluation, maintenance, and distribution of exotic wheat-related germplasm needed to develop new wheat cultivars resistant to disease, insects, and environmental stress.

Question. According to the research proposal or the principal research, what is the national, regional or local need for this research?

Answer. The principal researcher believes most cultivated varieties of wheat are derived from common sources. They lack the rich genetic diversity needed to develop resistance to diseases, insects, and environmental stress. The replacement of genetically-rich primitive cultivar and land races by modern, more uniform cultivars all over the world is causing erosion of wheat germplasm resources. New pests or those that have overcome varietal resistance pose a constant threat to the Nation's wheat production. Genetic resistance often resides in wild relatives of wheat. The researchers believe this program, which was established in Kansas, is providing service to wheat breeders nationally and internationally.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this research was to enhance the genetic diversity available to wheat breeders nationally and internationally by collecting, evaluating, maintaining, and distributing germplasm derived from wild relatives of wheat. To date, 39 germplasm releases have been made containing new genes for resistance to such pests as Hessian fly, greenbug, leaf rust, soil-borne mosaic virus and Russian wheat aphid. Germplasm stocks with resistance to leaf rust and powdery mildew are under development. Evaluation of germplasm for important resistance genes was carried out by Center scientists and cooperating institutions. Center scientists have introduced antifungal protein genes into the wheat plant to enhance its survival against pathogen attacks. One transgenic wheat line gave enhanced resistance to wheat scab, a devastating disease of wheat. In 1998, the Center filled 20 requests from U.S. wheat breeders for seed from the germplasm collection and 10 requests for seed of germplasm releases, as well as 34 requests from international breeders.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. Work supported by this grant began in fiscal year 1989. Appropriations were for fiscal year 1989, $100,000; fiscal year 1990, $99,000; fiscal year 1991, $149,000; fiscal years 1992–1993, $159,000 per year; fiscal year 1994, $196,000; fiscal years 1995–1997, $176,000 each year, and $261,000 each year in fiscal years 1998 and 1999. A total of $1,912,000 has been appropriated.

Question. What is the source and amount of nonfederal funds provided by fiscal year?

Answer. The nonfederal funds provided for this grant were as follows: $609,309 in 1991; $531,167 in 1992; and $730,082 in 1993, $468,960 in 1994; $563,671 in 1995; $457,840 in 1996; $495,820 in 1997; and $155,279 in 1998. Sources include state appropriations, product sales, and other organizations, such as state commodity associations.

Question. Where is this work being carried out?

Answer. This research is being conducted at Kansas State University at the Wheat Genetics Resource Center. The principle investigator also reports collaborative projects with other departments at Kansas State University, as well as other institutions in the U.S.

Question. When was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The collection, evaluation, and enhancement of wheat germplasm is a continual process. Therefore, this project does not have a defined completion date.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The project was peer reviewed by the institution, Kansas Agricultural Experiment Station, and was found to address critically-important issues in the winter wheat industry in Kansas and other states. As an ongoing project, the research has been productive based on germplasm releases and peer-reviewed journal articles and other publications. Additionally, each annual proposal is reviewed by a CSREES scientist.

WOOD UTILIZATION RESEARCH

Question. Please provide a description of the research that has been done under the wood utilization grant.

Answer. The research includes: developing processes to upgrade low quality wood so it is suitable for higher value structural applications; catalyzing the formation of new business enterprises; and reducing environmental impact while improving systems for timber harvesting and forest products manufacturing.

Question. According to the research proposal, or the principal researchers, what is the national, regional, or local need for this research?

Answer. The forest products industry is very fragmented with many small firms which need publicly-sponsored research in order to remain economically viable. Research provides the woodworking machinery and tooling industry with technology to be more competitive in the global economy. Most of the companies helped through this research are too small to afford in-house research groups.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal is to generate new knowledge that will benefit the wood industry and the environment. New scientists are trained. Consumers benefit from better and more environmentally-sound products. Among the major accomplishments of the six centers are (1) design of glued-laminated beams that are reinforced with plastics to save 25–40 percent of the wood fiber that would otherwise be needed, (2) technology to apply wood preservatives using super fluids to reduce environmental problems associated with present commercial treatments, (3) better harvesting systems that are efficient and environmentally acceptable, (4) increase of wood machining speeds and reduction of saw blade width to increase productivity and save raw material, (5) a patented system to apply pressure and vibration to prevent enzymatic sapstain which degrades hardwood lumber by $70,000,000 to $200,000,000 per year, (6) reduction of quantity of wood bleaching chemicals needed by wood pulp producers, (7) design and strength of wood furniture frames to minimize wood requirements, and (8) adoption of European frame saw technology to composite lumber to provide a new raw material source for industry.

Question. How long has the work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal year 1985, $3,000,000; fiscal years 1986 through 1989, $2,852,000 per year; fiscal year 1990, $2,816,000; fiscal years 1991 and 1992, $2,852,000 per year; fiscal year 1993, $4,153,000; fiscal year 1994, $4,176,000; fiscal years 1995 and 1996, $3,758,000 per year; fiscal years 1997 and 1998, $3,536,000 per year; and $5,136,000 in fiscal year 1999, which provided a $500,000 increase for the six existing centers, and $1,000,000 for two new centers. A total of $50,981,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Mississippi State University non-federal funds were: State appropriations, $2,498,800, $2,178,725, $2,353,225, 2,331,691, $2,650,230, $2,778,535, $2,582,617, and 2,543,017 for 1991, 1992, 1993, 1994, 1995, 1996, 1997, and 1998, respectively. In addition, industrial funds averaged $783,458 for the 5 years from 1994 to 1998 in support of the Mississippi Forest Products Laboratory. Oregon State University state appropriations were: $1,337,962, $1,394,304, $1,256,750, $1,252,750, $1,417,755, $1,117,000, $1,100,000, $1,352,000 for 1991, 1992, 1993,

1994, 1995, 1996, 1997, and 1998, respectively. Estimated non-public support was $670,000 this year. Michigan State University non-federal contributions for 1997 totaled $605,000. Three new locations were added in 1994: University of Minnesota-Duluth non-federal match was $590,000, $550,000, $560,000, $371,930, and $307,532 for 1994, 1995, 1996, 1997, and 1998; North Carolina State University was $126,000, $165,000, $135,000, $163,216, and $323,134 for 1994, 1995, 1996, 1997, and 1998; University of Maine was $600,000, $445,723, $459,100, $477,464, and $526,210 for 1994, 1995, 1996, 1997, and 1998.

Question. Where is the work being carried out?

Answer. There are six locations. The initial three—Oregon State University, Mississippi State University, and Michigan State University—were joined by the University of Minnesota-Duluth, North Carolina State University, and the University of Maine in fiscal year 1994. For 1999, they will be joined by a center at the University of Tennessee, and a second center at the University of Idaho, which will include a consortium of Idaho, Montana, and Washington State.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original objective was to build and maintain three strong regional centers of wood utilization research. These centers have been established, and five more centers have been added. Projects begun in 1998 will be completed by 2002.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. On site reviews of centers are conducted on a rotating basis. Each center's plans are reviewed yearly or more frequently. Progress reports are reviewed yearly. Center directors last met together for joint planning in June 1996 and will be meeting again in February 1999. Centers all have advisory committees or research committees which meet periodically. We conduct informal on-site reviews periodically. The Minnesota and Oregon sites were visited in 1996, and the North Carolina site was visited in 1997. Oregon State was visited in 1998. A Departmental panel reviewed the original three centers in 1992 and 1993. At that time, the original objectives were broadened to include more consideration for environmental concerns. The centers have increased their focus on helping industry meet environmental objectives by conducting research leading to sustained timber production; extending the timber supply through improved processing; developing new structural applications for wood; and developing wood extractives to substitute for pesticides, preservatives, and adhesives.

WOOL RESEARCH

Question. Please provide a description of the research that has been funded under the wool research grant.

Answer. The overall goals for this research are to develop objective measures of wool, mohair, cashmere, and other animal fibers to improve the quality of wool products while enhancing the profitability of the U.S. sheep and Angora goat industries. Specific objectives include: develop and evaluate measurement techniques for rapid objective evaluation of wool, mohair, cashmere, and other animal fibers; increase the use of objective measurements to increase fiber production, quality, and income to producers; and increase consumer acceptance of fabrics made from these fibers. The fiscal year 1998 grants terminate between August 1999 and April 2000. The 1999 grant proposals have been requested by the agency. All grants are reviewed for relevance to industry needs and undergo scientific peer review.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. Collaboration exists among researchers in Texas, Wyoming, and Montana associated with this grant and other Federal, university, and industry scientists to assure responsiveness to the needs of those involved in wool and mohair production, marketing, and processing. The sheep and goat industries and the principal researchers believe that this research to be of national, regional, and local need. The research on wool, conducted by means of this grant, represents the only research efforts in the U.S. focused on improving the efficiency of measuring and assuring wool, mohair, and cashmere quality for garments made from these fibers.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The overall goal for this research is to develop objective measures of wool, mohair, cashmere, and other animal fibers with a focus on improving the efficiency of determining the quality of products made from these fibers while enhancing the profitability of the sheep and Angora goat industries. Research accomplish-

ments included the development of rapid and inexpensive measurements of fiber diameter, distribution of animal fibers, and other fiber properties such as fiber length and color. Each of these properties are very important for grading and processing to determine ultimate softness, durability, dye characteristics, comfort, and garment price. Laser and near-infrared spectroscopy techniques were evaluated cooperatively with industry for the purpose of determining mohair yield, fiber diameter, and medullation. Research data from the program contributed to national and international programs designed to accelerate the use of the new technology by sheep and goat industries. The scientists also cooperated on several experiments by providing measured fiber data to improve selection, nutrition, management, and marketing studies with sheep, Angora, and Cashmere goats. Textiles manufacturers have expressed a willingness to pay premium prices for the improved preparation of U.S. wool. Investigators in the program found that the classing of raw wool, skirting, and the removal of belly wood provides a more desirable product to the textile manufacturer providing greater profits to the producer. These measurements impact the efficiency of the sheep and Angora goat industries, the effectiveness of monitoring the quality and consistency of imported products, and the satisfaction of buyers of wool, mohair and cashmere textiles. Historically, wool products were considered a strategic commodity in the United States for military use. It is important that the U.S. producers of wool, mohair, and cashmere are competitive in the world market and that consumers are assured high quality textiles.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Grants have been awarded from appropriated funds in the amount of $150,000 per year for fiscal years 1984–1985; $142,000 per year for fiscal years 1986–1989; $144,000 for fiscal year 1990; $198,000 for fiscal year 1991; $250,000 per year for fiscal years 1992–1993; $235,000 for fiscal year 1994; $212,000 per year for fiscal years 1995–1997; and $300,000 per year for fiscal years 1998–1999. A total of $3,181,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant were as follows: $150,913 state appropriations, $11,800 product sales, $5,817 industry, and $3,556 miscellaneous in 1991; $111,394 state appropriations, $25,451 product sales, $41,442 industry contributions and $3,068 miscellaneous in 1992; $152,699 state appropriations, $39,443 product sales, $40,804 industry contributions, and $3,556 miscellaneous in 1993; $150,094 state appropriations, $35,284 product sales, $36,484 industry contributions, and $3,556 miscellaneous in 1994; $67,345 state appropriations, $10,000 product sales, and $34,325 industry contributions in 1995; $39,033 non-federal support in 1996; $174,486 non-federal support in 1997; and $200,307 state appropriations and $13,000 industry contributions in 1998.

Question. Where is this work being carried out?

Answer. The research is in progress at the Texas A&M University, Texas Agricultural Experiment Station at San Angelo, the University of Wyoming at Laramie, and Montana State University at Bozeman.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original objectives to improve the efficiency and profitability of wool, mohair, and cashmere production and marketing are still valid. Specific objectives for individual laboratories and experiments are continually revised to reflect the changing research priorities for the wool, mohair, and cashmere industries and to satisfy consumer demands for products from these fibers. It is anticipated that five years will be required to complete the current research.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. An external review of the overall wool research program was conducted in 1998 in Las Cruces, New Mexico by a team consisting of industry experts and peers from the scientific community. The review team concluded that the program was very productive and beneficial to the United States wool, mohair, and cashmere producers as well as the allied fiber industries. Research achievements, noted by the review team, included program input for testing methods and standards used to buy and sell wool for international trade. This has been very important in advancing issues important to domestic producers and maintaining competitiveness in the world market. World-wide acceptance of standards for the objective measurement of natural animal fibers due, in part, to the program has set the stage for the electronic marketing of wool and other fibers to aid the United States fiber industries in remaining competitive in the world market. Viable sheep and goat industries will

support jobs for people in rural areas, supply alternative foods for public consumption, use natural means of brush control to abate fire on rangeland and inhabited areas, and provide alternative uses of land unsuitable for cultivation and cattle grazing.

In addition to the program review, grant proposals are annually reviewed and the research facilities are periodically visited. The most recent visit and program assessment was in 1994 whereby it was determined that the stated objectives were being addressed and that they were consistent with industry needs. The principal investigators meet annually to evaluate progress and re-evaluate research priorities according to industry needs. Because the research encompassed in this grant is a component of a regional research project, accomplishments are reported annually to scientific peers and representatives from the sheep, goat, wool, mohair, and cashmere industries. In addition, the overall regional research project is peer reviewed every third year.

AGRICULTURAL DEVELOPMENT IN THE AMERICAN PACIFIC

Question. Please provide a description of the research that has been funded under the Agricultural Development in the American Pacific program.

Answer. The Agricultural Development in the American Pacific project called ADAP is a primary means for Land Grant research, extension, and instruction programs of the five participating institutions of American Samoa Community College, College of Micronesia, Northern Marianas College, University of Guam, and University of Hawaii, to collaborate and cooperate to enhance their impact on Pacific tropical agriculture and communities. ADAP is a mechanism to address common regional client-based issues while maintaining cultural, rural, economic, and environmental integrity. This special research grant is awarded noncompetitively to a program planned and approved by the five involved land grant institutions.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The principal researcher believes the five participating institutions are geographically dispersed yet facing many similar issues which can best be served through extensive networking and communication. ADAP facilitates communications and seeks to raise levels of academic achievement and improve the quality of education. ADAP's most unique feature is that twice each year it brings together the five Deans/Directors to discuss agriculture and human resources issues facing isolated, tropical ecosystems in the Pacific, and to plan and implement activities to address those issues. Priorities are categorized in three areas: sustainable systems, collaborations/partnerships, and communication systems. Activities range from joint and collaborative efforts to overcome taro leaf blight in the Pacific, to seeking recognition of Pacific tropical agriculture by the National Association of State Universities and Land-Grant Colleges.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. ADAP's goals are to develop human resources within the institutions, to more effectively manage agricultural programs within and among the institutions, and to focus available resources on critical agricultural issues of the Pacific. Ongoing projects include animal health surveys, livestock waste management, dietary guidelines for Pacific foods, youth-at-risk assessment, artificial insemination demonstration/education, and market information collaboration with "state" Departments of Agriculture. ADAP is now working jointly with the 22-nation Secretariat of the Pacific in developing a paraveterinary program. This program will use distance learning and site visits to train students from the cooperating nations and territories in animal health. This is a critical need for the Pacific region. Both ADAP and the Secretariat of the Pacific will contribute money as well as skilled personnel to assist in this project. In another regional cooperative effort, ADAP is planning a retreat for strategic planning among the "state" and national Departments of Agriculture in the Pacific region, to be held in July 1999.

Question. How long has this work been underway and how much has been appropriated, by fiscal year, through fiscal year 1999?

Answer. This work was funded for seven years with an annual appropriation of $650,000 to the former Extension Service. In fiscal year 1994, an appropriation of $608,000 was made to CSREES to continue the ADAP program. The fiscal years 1996 through 1999 appropriations were $564,000 each year. The appropriation total to CSREES is $2,864,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Non-federal funds are not provided. Unspecified in-kind support, such as facilities, equipment, and administrative support, are provided by each institution and, in some specific projects, by non-ADAP collaborating institutions.

Question. Where is this work being carried out?

Answer. This work is being carried out by American Samoa Community College, College of Micronesia, Northern Marianas College, University of Guam, and the University of Hawaii.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The ADAP program has been achieving original program objectives, particularly in the areas of improvement in institutional capacity and communications. It is anticipated that an additional 5 to 10 years will be needed to fully achieve collaborative integration of the American Pacific land grant programs.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. A formal review of the ADAP program was conducted July 1–10, 1997, and included visits by review team members to American Samoa Community College, College of Micronesia, Northern Marianas College, University of Guam, and University of Hawaii. ADAP incorporated review recommendations in preparing and adopting a new five-year 1997 strategic plan. An agency specialist conducts a merit review of the proposals submitted in support of the appropriation annually. In a review of the proposal on April 23, 1998, progress was judged satisfactory.

AGRICULTURAL WASTE UTILIZATION, WEST VIRGINIA

Question. Please provide a description of the research that has been funded under the Agricultural Waste Management, West Virginia grant.

Answer. The West Virginia Department of Agriculture is conducting a project to validate the applicability and effectiveness of anaerobic filtration for treating municipal and agricultural wastes. POWER anaerobic filtration is a leading-edge technology specifically developed to biologically recover nutrients and energy from organic waste streams and produce an effluent which meets discharge permit requirements.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The current need for this technology is local, national, and international. The beneficiaries of this technology will be both the people and the environment anywhere in the world where problems of food, fertilizer, and energy shortages are currently in conflict with the preservation of environmental quality. The direct benefits include enhanced and expanded waste water treatment capacity, creation of new jobs, and revenue from by-products and water quality improvement.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal will go beyond the testing of waste materials in the digester and proceed with a program to compare the microbiological loading of rivers, where known environmental pollution is measurable, and where the total bacterial concentration in the rivers could be determined in real-time with a bioprobe. Specific microbial analysis may be able to correlate with farming activities.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1998 and the appropriation for fiscal year 1998 was $360,000 and for fiscal year 1999 is $250,000. A total of $610,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Non-Federal funds are not being expended.

Question. Where is this work being carried out?

Answer. Research will be conducted at Moorefield, West Virginia

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The anticipated completion date of the original objectives is approximately two years. These objectives are within the original schedule.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The evaluation of the project was conducted at the end of January 1999 when the 1998 summary report was submitted.

ANIMAL WASTE MANAGEMENT, OKLAHOMA

Question. Please provide a description of the research that has been funded under the Animal Waste Management, Oklahoma grant.

Answer. This research project is designed to develop sustainable, environmentally-safe, and ecologically-sound best management principles and practices for beneficial animal waste applications for "High Plains Agriculture" in support of rural economic development through a Federal-state-local partnership. Emphasis will be placed on the rapidly expanding hog industry in the semiarid region, but information gained will also be applicable to the beef and dairy industries.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The Oklahoma Panhandle is the most productive agricultural region in the state with agricultural receipts in excess of $800,000,000. Nationally, Texas County in the Oklahoma Panhandle ranks number one in the state and in the top 15 of all counties in the United States relative to cash receipts. The rapid expansion of the hog industry in this semiarid region will only strengthen that position. The rapidly expanding swine industry was projected to add $650,000,000 in pork and value added products in Oklahoma in 1997 with the slaughter and processing of over 4,000,000 hogs per year. Information gained from this study will provide the data base to develop best management practices to maximize beneficial nutrient use and minimize nuisance odor in semiarid and rangeland production systems. Practices developed will have significant implications regionally, nationally, and internationally. The semiarid agro-ecosystem is unique with climatic conditions consisting of low rainfall that promotes both dryland and irrigated agricultural practices; extremes in high and low temperatures; and soils characterized with alkaline pH, low in organic matter and high in calcium carbonate. This unique agro-ecosystem makes information gained from more humid environments inapplicable.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. Field work has been initiated and initial work shows a positive response to animal waste applications. Initial studies of ammonia loss from applications indicate there can be significant losses following land applications. The original goal of this research is to develop best management practices that will protect ground water supplies from pollution of nutrients, salts, and pathogens; maintain air quality; and minimize odors derived from the entire hog-house, lagoon, land-application, and or rangeland production system, thus maintaining the quality of life in the rural sector.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1998 and the appropriation for the fiscal years 1998 and 1999 is $250,000 per year. A total of $500,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The research is matched by $554,000 non-federal funding. Other sources include state and industry.

Question. Where is this work being carried out?

Answer. This work has been initiated at The Oklahoma Panhandle Research and Extension Center located in Goodwell, Oklahoma. Further work will continue to be done at this site. The Center will provide the land area and a portion of the facilities and equipment necessary to conduct the major portion of the study. Other study sites will be developed on private land in cooperation with hog operations in the panhandle region.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original completion date was February 29, 2000. To document the results for these objectives more than one growing season will be needed. Completion of these objectives and additional objectives related to these will be February 28, 2002.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. This project was evaluated at the end of January 1999 when the summary report of the 1998 accomplishments was submitted. Results showed that a significant amount of ammonia will be volatilized almost immediately when the swine effluent is surface applied to crop land. Field plots have been established in order to receive various rates and methods of swine effluent applications. Plans have been

made for a regional meeting titled, High Plains Animal Water Management Conference.

CENTER FOR AGRICULTURE AND RURAL DEVELOPMENT

Question. Please provide a description of the research that has been done under the Center for Agriculture and Rural Development program.

Answer. The research provides current economic information on international trade in agriculture and analyses of the implications of trade policy alternatives on the agricultural sector of the United States and other countries.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. According to the proposal, trade negotiations and agreements are of national concern to policymakers, farmers, and agribusiness industries because of the implications for maintaining or opening markets and establishing improved terms of trade and prices. Typical agreements are extremely complex, requiring analysis by specialists to determine outcomes and to provide objective and accurate information to those impacted by such agreements. The specific research done under this project directly addresses national needs but has national, regional, and local implications.

Question. What was the original goal of this research, and what has been accomplished to date?

Answer. The goal is to assess and evaluate various proposals affecting agricultural trade, to provide analytical support to the Office of the U.S. Trade Representative, and to provide information to farmers and agribusiness firms on the competitive implications of trade agreements. Theoretical studies and empirical and descriptive analyses of policy issues and technical problems pertaining to the Uruguay round of negotiations were completed and provided to negotiators and the agribusiness community. Knowledge developed in this phase is now being used to monitor the effects of the Uruguay Round Agricultural Agreement—URAA.

This grant supports six projects focusing on URAA and the World Trade Organization—WTO—monitoring and implementation problems; implications of the URAA and WTO for Eastern Europe, Baltic, and the Newly Independent States; development of a model to assess the North American Free Trade Agreement and its linkages with the General Agreement on Tariffs and Trade; trade implications of U.S. food and development aid in developing countries; integration of China into world agricultural markets; and special projects as requested for the U.S. Trade Representative's office. Major emphasis is placed on developing and improving international livestock and grain sector models.

This grant supports six projects focusing on the General Agreement on Tariffs and Trade monitoring and implementation problems; implications of the General Agreement on Tariffs and Trade for Eastern Europe, Baltic, and the Newly Independent States; development of a model to assess the North American Free Trade Agreement and its linkages with the General Agreement on Tariffs and Trade; trade implications of U.S. food and development aid in developing countries; integration of China into world agricultural markets; and special projects as requested for the U.S. Trade Representative's office.

Question. How long has this work been underway and how much has been appropriated, by fiscal year, through fiscal year 1999?

Answer. This research program was initiated in fiscal year 1989. Grants have been awarded from funds appropriated as follows: fiscal year 1989, $750,000; fiscal years 1990 and 1991, $74l,000 per year; fiscal years 1992–1993, $750,000 per year; fiscal year 1994, $705,000; fiscal year 1995, $612,000; fiscal year 1996, $655,000; and fiscal years 1997 through 1999 $355,000. A total of $6,769,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant are as follows: $111,210 State appropriations and $175,616 miscellaneous for a total of $286,826 in 1991; $113,779 State appropriations and $173,117 miscellaneous for a total of $286,896 in 1992; $120,138 State appropriations and $164,707 miscellaneous for a total of $284,845 in 1993; $161,673 State appropriations and $32,000 miscellaneous for a total of $193,673 in 1994; $161,000 State and $30,000 miscellaneous for a total of $191,000 in 1995; $70,000 State appropriations and $44,000 miscellaneous for a total of $114,000 in 1996; $60,325 in State appropriations and $61,500 in miscellaneous funds for a total of $121,825 in 1997; and $72,000 in State appropriations and $75,000 in miscellaneous funds for a total of $147,000 in 1998.

Question. Where is the work being carried out?

Answer. The research program is carried out by the Center for Agriculture and Rural Development at Iowa State University.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original objectives of the project envisioned the development of models capable of providing guidance to policymakers, researchers, and farmers and others of the impact of agricultural trade proposals on the U.S. agricultural sector. As such the objectives are on-going.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. We have conducted no formal evaluations; however, each annual proposal is peer reviewed for relevance and scientific merit. Also, an informal evaluation of this project takes place as a part of each annual project review and approval process.

CENTER FOR NORTH AMERICAN STUDIES, TEXAS

Question. Please provide a description of the research that has been done under the Center for North American Studies program.

Answer. The purpose of this grant is to develop linkages with educational and other institutions in Mexico and Canada in order to share data and faculty, conduct research identifying trade opportunities and marketing problems, conduct policy analysis, and develop a broad range of training programs preparing agricultural/agribusiness firms for international marketing opportunities. The research proposal received a merit review at the university prior to submission to CSREES.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. The program director believes that citizens of the United States, Mexico, and Canada have some similar concerns about the impact of the North American Free Trade Agreement—NAFTA—and that new, innovative approaches involving international cooperation are needed to assess and evaluate these issues. Research and training are needed to provide information to evaluate alternatives for expanding U.S. exports and to resolve potential social, economic, and environmental conflicts.

Question. What was the original goal of this research, and what has been accomplished to date?

Answer. The goal is to promote strong agricultural ties among the three North American countries, foster greater cooperation in resolving critical agricultural issues of common interest, and ensure the continued competitiveness of U.S. agriculture. Institutional linkages with Mexican and Canadian universities continued to be developed and joint research and educational programs conducted. An international agribusiness information system, AGRINET, was created on the Internet and is accessible by firms from all three countries. A compilation of 6,600 articles on agricultural issues is available electronically throughout the region. An international video conference enabled U.S. faculty to make presentations at a Mexican trade conference. Research focused on potential markets in Mexico for U.S. products, such as rice, dairy, livestock, meat, feed, fresh fruits, and vegetables. A new model is being developed to analyze the impact of international trade agreements on farm and trade policy of NAFTA countries. Training programs included several seminars and conferences to increase the international capacity of U.S. firms; over 2,800 people attended in 1997. New international agribusiness courses were offered at several Texas institutions. Some of these educational programs were developed with faculty from Mexican and Canadian institutions and used with audiences in those countries.

Question. How long has this work been underway, and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Work supported by this grant began with an appropriation of $94,000 in fiscal year 1994; $81,000 in fiscal year 1995; and $87,000 per year for fiscal years 1996 through 1999. A total of $523,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant are as follows: $39,000 State appropriations in fiscal year 1994; $54,000 in 1995; $60,000 in 1996 and 1997; and $84,500 in 1998.

Question. Where is the work being carried out?

Answer. The program is being carried out at Texas A&M University through the Texas Agricultural Experiment Station in collaboration with other segments of the Texas A&M University System and Louisiana State University Agricultural Center.

Question. What was the anticipated completion date for the original objectives of the project? Have these objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original proposal in 1994 was for a period of 12 months. The current phase of the program will be completed in the year 2002.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation.

Answer. CSREES performed a merit review of the project in February 1998, as it evaluated the 1998 project proposal, and concluded that the project has sound objectives and procedures for helping U.S. firms to be successful in North American markets for agricultural products, thereby achieving CSREES goals of a highly competitive agricultural production system and enhanced economic opportunity for Americans. The principal investigator is well recognized for his leadership in the area of international trade.

DATA INFORMATION SYSTEM

Question. Please provide a description of system development activities that have been funded.

Answer. Cooperative State Research, Education, and Extension Service—CSREES—continues to fund activities under contract with a major information technology firm for the design and development of the Research, Education, and Economics Information System—REEIS. Previously-funded tasks that have been completed include the conduct of an inventory of databases targeted for inclusion in REEIS, the conduct of a comprehensive needs assessment focusing on information needs and practices within the Research, Education, and Economics mission agencies and State partner institutions, the design and development of a Web accessible catalog of databases identified in the inventory, and specifications for a retrieval language—a controlled vocabulary—for assisting users in accessing and searching REEIS databases. An additional task was completed under a separate contract that provided for an outside expert to conduct a review and evaluation of Web interfaces to the REEIS Database Catalog. A cooperative agreement with the University of Arkansas was also established to provide national leadership in coordinating the efforts of a National Steering Committee charged with guiding the development of the system. The Committee has met on three previous occasions, and a fourth meeting is planned in June, 1999. Currently underway, and critical to the development of REEIS, is a comprehensive review of state-of-the-art information technology systems that are available for use in developing the system. This will provide information needed by REEIS decision makers, systems staff, and other stakeholders to review the available information systems and technology options, and it will identify a representative set of tools and technologies that will serve as the basis for conducting benchmark studies and development of system prototypes. Funding is also provided under the REEIS initiative for enhancement of the Cooperative Extension System Plan of Work and Reporting System which has been targeted for ultimate inclusion in REEIS.

Question. What is the national, regional or local need for this activity?

Answer. At present, USDA's Research, Education, and Economics—REE—mission agencies and their university partners lack a central, integrated, user-friendly electronic information system capable of providing access to thousands of programs and projects for which they are responsible that focus on food, agriculture, natural resources, and rural development. Such an information system is increasingly needed to enable the Department and its partners to readily conduct baseline and ongoing assessments and evaluations of research, education, extension, and economic programs and projects. In recent years, this need has become more urgent for several reasons. First, the United States needs a visionary publicly-funded research and development program to produce essential knowledge and innovations for meeting growing competition in a global market—which is largely attributable to the expanding research and development efforts of foreign nations. Second, a comprehensive information system is needed to serve as a primary reference source for development of new research and education projects on such diverse issues as increasing productivity in agriculture and processing, improving the safety and quality of food, and enhancing the sustainability of the environment and rural communities. Third, Federal/State policy makers and administrators are requiring empirical analyses to account for historical, current, and future use of public funds to provide a basis for redirecting funds to higher priority issues. Fourth, the Government Performance

and Results Act—GPRA—has imposed reporting demands which current databases and decentralized information systems are not prepared to adequately satisfy. It is also envisioned that REEIS will play a key role in implementation of the Agricultural Research, Extension, and Education Reform Act—AREERA—of 1998. In this regard, REEIS would be well positioned to: Provide linkages for decision making among REE agencies, enable consistent reporting on identical or similar issues, provide the public with understanding of the role and mission of REE agencies,Expand REE's outreach to a broader base of constituencies, Provide a better vehicle to facilitate interaction among REE agencies and their university partners, Link commonalities of research, extension, and teaching projects and programs through a single interface, and foster global interactions.

Additionally, REEIS would serve to expand the Federal partnership by facilitating coalition-building with other Federal agencies.

Question. What was the original goal of this initiative and what has been accomplished to date?

Answer. The original goal of this initiative was to develop an information system that provides real-time tracking of research, extension, and education projects and programs; has the capability to communicate vertically between field, State, and Federal locations; enables the REE agencies and their partners to conduct rapid and comprehensive policy assessments and program evaluation analysis; facilitates assessment of technologies and practices employed in extension, education, economics, and research activities at the field and/or regional levels; provides clear and transparent public access to relevant parts of the information; and provides information management tools to enhance the timeliness and accuracy of REE-wide responses to inquiries about program objectives and expenditures.

Over the last year-and-a-half, substantial system planning and development work has been completed. Work accomplished under five multi-task contracts awarded during this period was instrumental in meeting major milestones considered to be critical components and a prerequisite to the design, development, and implementation of REEIS. Major tasks included the conduct of a comprehensive strategic information audit of information practices and needs within the REE agencies and partner institutions; the identification and inventory of major research, extension, education, and economics/statistics databases maintained or supported by the REE mission agencies; the design, development, and preparation of the REEIS Database Catalog Prototype that affords Web access to the inventory of 38 databases initially identified as candidates for inclusion in REEIS; and the design and evaluation of the Web interface to the REEIS Database Catalog.

The Needs Assessment, the main component of the strategic information audit, was recently completed. The purpose of the study was to identify system requirements as a prerequisite to development of detailed system specifications for a functional and physical design for REEIS. Over 130 system requirements are identified in the study which was undertaken with broad participation by REE agency personnel, State partners, and key stakeholders. A review and prioritization of the set of requirements by REE agency national program leaders, commodity specialists, and senior managers is currently underway.

In further response to Congressional legislation, a comprehensive review is underway to identify state-of-the-art information systems that are available for use in developing REEIS. The first report resulting from the review provides a set of criteria for product selection and evaluation and an initial data warehousing product suite list. The final set of system products and tools will be included in an updated and maintained Information Systems Technology database for subsequent use in REEIS system development activity.

Plans in fiscal year 1999 include the development of functional and physical specifications for REEIS, technical assessments of candidate databases for inclusion in REEIS, development and assessment of alternative system architectures, development and testing of a REEIS prototype, and updating and maintenance of the Information Systems Technology database and the REEIS Database Catalog. Implementation of the REEIS system, including training of REEIS users and technical system operators, is targeted for fiscal year 2000. The President's fiscal year 2000 budget requests $2,000,000 to support these efforts.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Congress first appropriated $400,000 REEIS in fiscal year 1997 to begin planning its design and development. An additional $800,000 was appropriated in fiscal year 1998 and $1,000,000 was appropriated in fiscal year 1999 for a total of $2,200,000 in fiscal year 1997 the REEIS National Steering Committee was established to provide advice and guidance throughout the development and implementation process. Since its inception, the Committee has met three times, first recom-

mending a plan of action and work specifications for conducting a strategic information audit and comprehensive needs assessment, and at its second and third meetings to review and evaluate contract deliverables, develop recommendations, and participate in assessing progress and plans for REEIS. The Committee will meet again this year in Washington, D.C. in June. Also in fiscal year 1997, a private information technology firm was engaged to conduct Phase I of a two-phase strategic information audit. Phase I resulted in a project management plan and specifications for the needs assessment, a REEIS database catalog, and controlled vocabulary.

In fiscal year 1998 Phase II was launched with full-scale implementation of the needs assessment. Phase II has resulted in a comprehensive list of more than 130 system requirements and a detailed analysis of information needs and practices of potential REEIS users. Findings of the study are based on responses from administrators, budget, and GPRA staff, senior managers, and program leaders within REE as well as administrators, policy officials, and faculty from State partner institutions, and other stakeholders. Results of the needs assessment were formally presented in February, 1999 in Washington, D.C. Also funded in fiscal year 1998 was work to enhance the REEIS database catalog; advisory services for conducting an outside review of Web interfaces to the REEIS database catalog prototype; and cooperative agreements for constructing a Web site for Human Sciences Research and enhancement of the Cooperative Extension System Plan of Work and Reporting System. Funds were also provided in fiscal year 1998 for conducting a comprehensive review of state-of-the-art information technology systems. The first deliverable from this contract is a list of evaluation criteria for software systems and system product selection and an initial data warehousing product suite list. A final report from this effort will provide information needed by REEIS decision makers, system staff, and other stakeholders to review information systems and technology options that are available for use in developing the REEIS system. Additionally, the identification of a representative set of tools and technologies resulting from this effort will serve as the basis for conducting benchmark studies and prototypes in subsequent REEIS design and development activities.

Projects to be funded in fiscal year 1999 include development of functional and physical specifications for REEIS, detailed technical assessments of candidate databases for inclusion in REEIS, assessments of alternative system architectures, development and testing of a REEIS prototype, and updating and maintenance of the Information Systems Technology database and the REEIS Database Catalog and its Web interface.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Non-federal funding does not apply at this time.

Question. Where is this work being carried out?

Answer. Leadership responsibility for REEIS resides within the CSREES Science and Education Resources Development division in Washington, DC. This provides for effective linkage within the REEIS platform of the Current Research Information System, the Food and Agricultural Education Information System, and appropriate extension databases. CSREES is working closely with all REE mission agencies and with the university system via a cooperative agreement with the University of Arkansas. We hope also to use the Intergovernmental Personnel Act to secure an IPA from another university to carry out REEIS essential management responsibilities. One staff person is assigned full time to manage and coordinate agency contracting activities and serves as the REEIS technical information program manager.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. It is anticipated that REEIS will become operational during the year 2000. The fiscal year 1997 appropriation of $400,000 covered start-up costs such as establishment of a National Steering Committee, preparation and specifications for contracting with an outside firm, contractor selection, project planning, and pre-design analyses conducted under contract with a major private sector information technology firm. Contract work completed included preparation of an inventory and prototype catalog of REE mission agency databases, a World Wide Web user interface to the catalog, specifications for a comprehensive needs assessment, and specifications for a controlled vocabulary for assisting user access to REEIS databases.

The fiscal year 1998 appropriation of $800,000 allowed for the conduct of a comprehensive needs assessment within the REE mission agencies and partner institutions; implementation, testing, refining, and maintaining the catalog prototype and its Web interface; funding of cooperative agreements for enhancing the Cooperative Extension System Plan of Work and Reporting System and developing a Human Sciences Research Web site; and contract work, currently underway for conducting

a review of information technology systems for use in developing the REEIS system. A portion of fiscal year 1998 funds is also targeted for creation of a data dictionary of core REEIS databases and the development of detailed specifications for a system design.

The fiscal year 1999 appropriation of $1,000,000 will allow for the preparation of a REEIS system foundation and REEIS prototype. This includes the preparation of detailed technical descriptions of core REEIS databases; expansion, updating and maintenance of the data dictionary; preparation of REEIS architectural alternatives; completion of functional and physical system specifications for a system design; and development of prototypes.

The requested increase for fiscal year 2000 is required to achieve broad implementation. REEIS will undertake system design, conduct benchmark tests of alternative architectures, continue development and testing of the REEIS prototype, and launch the operating system. Included is the need to conduct ongoing, iterative needs assessments within the agency and with its partners to align information system products and services with strategic information requirements necessary for meeting agency mission and goals and satisfying GPRA reporting requirements. Updating and maintenance of technical system assessments, conducting ongoing information technology evaluations, and enhancements of REEIS user interfaces will be needed to ensure currency and responsiveness over the life of the system. This entails the enlistment, training, and retention of essential personnel and staff and the purchase of computer hardware and software and related computer programming and technical services. Additionally, several current databases must be enhanced to distinguish the basis of investment—county, State, or Federal funds—to provide information on planned expenditures, and to link investments to accomplishments and impact. Initial implementation is expected to be completed by the end of the year 2000.

The strategic information audit, with participation of the REE mission agencies and university partners, has been completed and has resulted in a comprehensive list of system requirements that will serve as input to the development of detailed system specifications for REEIS. Currently underway is a comprehensive review of information technology systems which will identify a representative set of tools and technologies for REEIS development and serve as the basis for conducting benchmark studies and developing prototypes.

The Research, Education, and Economics Information System meets a high priority national need for an operational, up-to-date and continually responsive national information system. REEIS is being designed to meet the data information needs of all REE agencies and their university and private sector cooperators. It will link data systems on research, education, extension, and economics. To achieve effective response for it users, annual maintenance costs will be ongoing.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. Progress and accomplishments from the REEIS initiative have undergone and continue to undergo review and evaluation by the REE mission agencies, the REEIS National Steering Committee, our State partner institutions, and outside sources. The most recent evaluation of this project was conducted at the September, 1998, meeting of the REEIS National Steering Committee, comprised of representatives of the REE mission agencies, university partners, and other stakeholders. The evaluation specifically targeted preliminary findings from the REEIS Needs Assessment that were based on responses from a series of focus groups and interview sessions of policy officials, senior managers, and other stakeholders within the USDA/State university land-grant system. In addition, three work groups comprised of members of the Committee were charged with evaluating and critiquing a detailed questionnaire for use in completing the final segment of the needs assessment, serving as participants in an actual focus group session and critiquing its methodology, and reviewing and critiquing the Web version of the REEIS Database Catalog. Both oral and written reports from these work groups were presented and several of the work groups' recommendations are being implemented. Evaluations by REE agency policy officials, budget and GPRA staff, national program leaders, and senior managers of the final set of system requirements resulting from the needs assessment have been scheduled for completion by spring of 1999.

GEOGRAPHIC INFORMATION SYSTEM

Question. Please provide a description of the research that has been funded under the geographic information system program.

Answer. The purpose of this program is to promote collaborative and innovative transfer of systems technologies to state and local governments and others in the public and private sectors. The current program is being carried out by the non-prof-

it National Center for Resource Innovations. The directors and participants of the Center are the sub-contractors who are carrying out the program by working on agro-environmental problems at the national, regional, state, and neighborhood levels. They represent a wide spectrum of site-based expertise including four academic institutions, one regional development authority, one non-profit corporation, and the Southwest Indian Polytechnic Institute site added by Congress in 1997. This institutional arrangement has helped fill a role in linking some of the otherwise disparate efforts of agencies and academic institutions to apply them in the now seven regions of the country.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. The principal researcher believes that local officials are facing increasingly complex land management issues that require rapid access to resource knowledge and databases for decisionmaking. This project is needed to transfer relevant technology to state and local governments, including Native American communities, whose limited training budgets and sometimes-isolated location make it difficult to use the latest technology. The technology developed in the Center program is useful in improving the management of natural resources. While concentrating on issues related to agriculture, the independent, non-profit nature of the National Center for Resource Innovations facilitates linkages across disciplinary and institutional barriers and makes it possible to use analyses at the state and local levels which were initiated at the Federal level. While the early phases of the geographic information system concentrated on building information systems related to rural, physical, and natural resources, the current challenge is to integrate human economic, social, and demographic information in order to better understand the relationship of human communities to the landscape. At the other end of the spatial scale, the role of the public sector in geographic information system-based precision farming technologies, data capture, and information synthesis is the subject of a current study group.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal of this work was to serve as a pilot project for the transfer of geographic information systems technology related to natural resources to local governments.

The Center has carried out this function. Economic and biological data are being presented in various formats to state and local governments and individuals. Through its seven regionally distributed sites, including the new Southwest Indian Polytechnic Institute site in New Mexico, the Center has implemented a variety of geographic systems technologies to local governments—both rural and urban. These include the recent expansion of transfer of geographic information technology through various distance education and Internet technologies.

It is anticipated that the fiscal year 1999 grant will support work under this program through March 2000. The proposal for this work in 1999 has been received and reviewed.

Question. How long has this work been under way and how much has been appropriated through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal year 1990, $494,000; fiscal year 1991, $747,000; fiscal years 1992 and 1993, $1,000,000 per year; fiscal year 1994, $1,011,000; fiscal year 1995, $877,000; fiscal year 1996, $939,000; and fiscal years 1997 through 1999, $844,000 per year. A total of $8,600,000 has been appropriated since the beginning of the program.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. To date, the work in this program for fiscal year 1990 through fiscal year 1997, had $5,009,834 in non-federal support. In fiscal year 1990, non-federal support was $714,940 consisting of equipment, databases, and other miscellaneous contributions from foundations, city, and state governments. In fiscal year 1991, non-federal support was $25,000 from county government. In fiscal year 1992, non-federal support was $366,016 from county government, computer companies, and state governments consisting of equipment, software, facilities, and miscellaneous support. In fiscal year 1993, non-Federal support was $713,900 consisting of financial and miscellaneous support from foundations, county and state governments. In fiscal year 1994, the non-federal support was $713,643. In fiscal year 1995, the non-federal support was $987,000. In fiscal year 1996, it was $567,173. It was $456,582 in fiscal year 1997. In 1998, non-federal dollars exceeded $1,000,000, and it is anticipated that they will again in 1999.

Question. Where is this work being carried out?

Answer. The National Center for Resource Innovation-Chesapeake Bay is located in Rosslyn, Virginia. This group is working under a cooperative agreement with the

U.S. Department of Agriculture's Natural Resources Conservation Service to work with 13 northeastern states. The southeastern center in Valdosta, Georgia, in affiliation with the South Georgia Regional Development Center, has developed a comprehensive plan of the City of Adel as a model for other urban centers in the ten-county region. The southwestern center, in Fayetteville-Arkansas, serves several local governments through its training facilities at the University of Arkansas, basing its technical approach on expertise and past experiences with the Federally-developed system known as GRASS. They have developed pilot projects for some local jurisdictions and state level databases, which they have provided online. Central Washington University focuses on training for state planning and on three local governments and the Yakima Nation in the Yakima watershed. The north central center in Grand Forks, North Dakota, in affiliation with the University of North Dakota, focuses on relating real time weather data to other spatial attributes. The University of Wisconsin-Madison, functioning as the Great Lakes center, continues a long history of involvement in the application of this technology at the local level with strong focus on soils/land-use and the institutional aspects of the integration of a new technology. Native American communities are being reached through the newly-developed Southwestern Indian Polytechnic Institute facilities in Albuquerque, New Mexico.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original objectives to build institutional frameworks for developing and disseminating geographic and related information to local decisionmakers is constantly evolving. Each site has developed approaches to addressing regional needs for modern technologies, and many innovative applications have been implemented. Technologies, including Internet-based educational and information exchange, have been developed to respond to the Center's customers. The Center has been asked to include these new technologies in order to bring its primarily rural users into new eras of public education and information management.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. Proposals have been internally reviewed by Departmental personnel in different agencies. Beginning in 1995, the program has also been externally reviewed by local advisory committees and qualified professionals inside and outside of government. Their various comments and suggestions are sent to the agency for merit reviews.

GULF COAST SHRIMP AQUACULTURE

Question. Please provide a description of the research that has been funded under the Gulf Coast Shrimp Aquaculture grant.

Answer. Research funded under this program has provided much of the required information necessary for a viable U.S. marine shrimp farming industry. Studies have been conducted on biosecurity and environmental protection in shrimp production systems, prevention and detection of diseases via molecular biological techniques, and the development of high health and genetically-improved stocks for seed production. Performance trials on selected stocks in various production systems have been conducted, and seed production systems have reached commercial feasibility. A number of important viral pathogens of marine shrimp have been identified and protocols have been established for the detection of these viral pathogens that have decimated the shrimp industry world-wide. Improved viral detection techniques have led to the development of specific pathogen-free stocks of commercial importance. Researchers have responded rapidly to viral infections that have impacted the U.S. shrimp farming industry. Researchers will intensify efforts aimed at preventing new introductions of exotic viral pathogens.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. The principal researcher indicates that there is potential to enhance domestic production of marine shrimp through aquaculture in order to reduce the approximately $2,000,000,000 annual trade deficit in marine shrimp. Research should result in improving the supply of high quality seed, improved shrimp health management, improved biosecurity and environmental protection, and enhanced production efficiency in shrimp culture systems. The U.S. has the opportunity to become a major exporter of shrimp seed and broodstock and disease control and biosecurity technologies, products, and services.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goal was to increase domestic production of marine shrimp through aquaculture. Recent studies have focused on the prevention and detection of diseases, production of specific-pathogen free and specific-pathogen resistant seed and broodstock, biosecure and environmentally-compatible productions systems, and improved feeds and feeding strategies for broodstock maturation and larval production. Researchers have responded to severe disease outbreaks caused by the introduction of exotic viral pathogens into U.S. shrimp farms. Diagnostic and disinfection techniques for a number of important viral pathogens have been developed. In addition, scientists are currently addressing this problem by developing high health genetically-improved stocks and evaluating these animals under commercial production conditions. Biosecurity protocols and biosecure system technologies have been developed to prevent additional introductions of viral disease agents and escape of non-native species of shrimp.

Question. How long has this work been underway and how much has been appropriated by fiscal year, through fiscal year 1999?

Answer. Grants have been awarded from funds appropriated as follows: fiscal year 1985, $1,050,000; fiscal year 1986, $1,236,000; fiscal year 1987, $2,026,000; fiscal year 1988, $2,236,000; fiscal year 1989, $2,736,000; fiscal year 1990, $3,195,000; fiscal year 1991, $3,365,000; fiscal years 1992–1993, $3,500,000 per year; fiscal year 1994, $3,290,000; fiscal year 1995, $2,852,000; fiscal year 1996, $3,054,000; and fiscal years 1997 through 1999, $3,354,000. A total of $42,102,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The U.S. Marine Shrimp Farming Consortium—USMSFC—estimates that non-federal funding for this program approaches 50 percent of the Federal funding for fiscal years 1991–1997 and $1,240,297 in fiscal year 1998. The source of non-federal funding is primarily from state and miscellaneous sources.

Question. Where is this work being carried out?

Answer. The work is being carried out through grants awarded to the Oceanic Institute, Hawaii, and the Gulf Coast Research Laboratory in Mississippi. In addition, research is conducted through subcontracts at the University of Southern Mississippi, Tufts University, the Waddell Mariculture Center in South Carolina, the Texas Agricultural Experiment Station, and the University of Arizona.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The anticipated completion date for the original specific research objectives was 1987. The original specific objectives have been met, however broader research goals have not been met. Researchers anticipate that the specific research outlined in the current proposal will be completed in fiscal year 1999.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. This program is reviewed annually by CSREES Program Managers. Participating institutions are required to submit a detailed accomplishment report with the submission of each new grant proposal. In addition, the agency conducts an in-depth on site review of the program every four years. The 1999 review of the program found that the progress during the last twelve months has been well documented and the proposal is well written. Research objectives are being met and the proposed research is consistent with the National Science and Technology Council's Strategic Plan for Aquaculture Research and Development. Facilities and expertise are very good and the close linkages between the researchers involved and the U.S. shrimp farming industry has greatly enhanced the commercialization of the research findings from this project. The USMSFC continues to address important research needs of the industry and has played a critical role in developing management strategies for protecting both wild and cultured stocks from the introduction of viral pathogens.

MARICULTURE, NORTH CAROLINA

Question. Please provide a description of the research that has been funded under the Mariculture, North Carolina grant.

Answer. The proposal represents a new research and development initiative in marine finfish species for commercial aquaculture in the U.S. The long-term goal of the project is to develop methods for mass propagation of marine finfish for commercial cultivation and possible stock enhancement. Specific objectives include: development of captive sexually-mature snapper broodstock; control of maturation and reproduction; standardize methods for induced and natural spawning of conditioned

fish; and establish environmental conditions for rearing of larvae. The proposal is put through the university's peer review process and is reviewed by the CSREES Program Manager.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. The researchers indicate that there is a regional and national need to develop aquacultural production systems for a variety of marine finfish. The researchers also indicate that the proposed research is consistent with the National Science and Technology Council's—NSTC—Strategic Plan for Aquaculture Research and Development.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The goal of this research program is to develop sustainable aquaculture production systems for marine finfish. The researchers are developing culture technologies and evaluating marine finfish species that have potential for commercial aquaculture production. Captive snapper were successfully matured and spawned and larvae reared through juvenile stages. Juveniles were supplied to commercial and governmental organizations for grow-out trials. Initial results appear promising with good survival rates and excellent feed conversion ratios.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1998. The appropriation for fiscal year 1998 was $150,000, and for fiscal year 1999 is $250,000. A total of $400,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The university estimates a minimum of $115,000 of non-federal funding in fiscal year 1998 primarily from state and private sources.

Question. Where is this work being carried out?

Answer. The research will be conducted at the Center for Marine Science Research at the University of North Carolina at Wilmington.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The anticipated completion date for the original objectives is fiscal year 1999. The project was initiated in fiscal year 1998.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The agency evaluates the progress of this project on an annual basis. The university is required to submit an accomplishment report each year when the new proposal is submitted to CSREES for funding. The researchers have been asked to develop a research proposal consistent with the NSTC's Strategic Plans for Aquaculture Research and Development. The proposal is well-written and the objectives are clearly stated. The methodology and experimental design are generally sound. The research is relevant and addresses a potential opportunity for the aquaculture industry. The feasibility of attaining the objectives of the proposed research is good. The researcher is well qualified and has the appropriate background to conduct the research. Facilities are adequate and would be enhanced through this grant.

MISSISSIPPI VALLEY STATE UNIVERSITY

Question. Please provide a description of the project that has been funded under the Curriculum Development and Strengthening-Mississippi Valley State University grant.

Answer. Academic programs have been broadened to include more agriculture-related courses consistent with the needs of students from the Mississippi Delta. Funds were used for curriculum development and to generally strengthen academic programs, including accreditation and reaccreditation efforts. Of the ten programs eligible for accreditation, nine have been accredited. Courses continue to be modified to reflect the needs of graduates as well as employers in the Mississippi Delta, with particular emphasis on those areas that employers have the greatest need. The funds continue to provide enhancements related to other program and administrative responsibilities support areas that positively impact program delivery and administration at Mississippi Valley State University. Curriculum additions have had a positive impact on student enrollment. The project has been merit reviewed.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this proposal?

Answer. The primary need for this project is to satisfy a state and local need. The need is for strengthening university capacity and curriculum development at Mississippi Valley State University. Emphasis has been on degree programs that produce graduates with potential for improving the quality of life in rural areas. The Criminal Justice program has been developed and administered in a departmental unit with social work to provide for improved administration and academic counseling. A master's degree program in Criminal Justice is now offered. The baccalaureate major in Elementary education has been reinstated.

Question. What was the original goal of this project and what has been accomplished to date?

Answer. The original goal was to provide funding to strengthen the academic programs of the university. The academic programs have been strengthened as evidenced by student recruitment, which has improved to show a positive ratio between applications received and students admitted. Approximately one half of the applicants are enrolled. Increased quality of instruction and programs have benefitted students. This is reflected in the higher graduation rate, increased student enrollment, enriched faculty, and improved community relationship.

Question. How long has this work been underway and how much has been appropriated, by fiscal year, through fiscal year 1999?

Answer. This program was initiated in fiscal year 1987. Grants have been awarded from funds appropriated as follows: fiscal year 1987, $750,000; fiscal years 1988 and 1989, $625,000 per year; fiscal year 1990, $617,000; fiscal year 1991, $642,000; fiscal years 1992 and 1993, $668,000 per year; fiscal year 1994, $593,000; fiscal year 1995, $544,000; fiscal years 1996–1999, $583,000 per year. A total of $8,064,000 was appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Mississippi Valley State University provided reports to document State and private funding during the period of this grant. The State figures provided here are for enhancement funds gained above the University's standard formula generated funds. The sources and amounts are as listed:

SOURCE

Fiscal year	State	Private	Total
1987		$168,640	$168,640
1988		186,036	186,036
1989	$68,658	190,258	258,916
1990	207,879	369,358	577,237
1991	333,263	337,700	670,963
1992	349,427	470,220	819,647
1993	35,750	358,680	394,430
1994	590,890	568,970	1,159,860
1995	841,654	530,300	1,371,954
1996	1,197,917	590,824	1,788,741
1997	309,717	755,629	1,065,346
1998	313,738	538,423	852,161

Question. Where is this work being carried out?

Answer. The program has been carried out on the campus at Itta Bena and at off-campus sites in Anguilla and Greenville and the Greenwood Center since the Spring Semester of 1996.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original objectives completion date was June 1992, and the primary objective of erasing the financial deficit was accomplished at that time. The university has been operating on a sound financial basis as of July 1993. Curriculum and strengthening objectives are progressing very well. The objective of the current grant will be completed by September 30, 1999.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The program has been evaluated on an annual basis by the agency. The annual progress report for fiscal year 1998 revealed progress in the academic programs. For example, the Social Work Department had significant positive changes

in the quantity and quality of the faculty. The Business Department offered a component dealing with Agricultural land lease in the business law classes, and the other classes had topics on input and output analysis, agricultural stimulations, and initial farm planning. The major objectives of this project have been met. The funds are now used to maintain the level attained since receiving these funds. The fiscal year 1999 proposal will be peer reviewed. The last on-site visit was conducted on April 21–23, 1993. Mississippi Valley State University has responded positively to recommendations of the on-site review team. The university has implemented a time and effort reporting system. Funds are requested on a reimbursable basis and are deposited in interest bearing accounts. The payment method for receiving USDA funds was changed to the electronic transfer system. Property acquired through Federal Grants are identified as such in the university property records, and the Drug-Free Workplace Policy had been implemented.

NATIONAL ALTERNATIVE FUELS LABORATORY

Question. Please provide a description of the research that has been funded under the National Alternative Fuels Laboratory—NAFL—grant.

Answer. Through a nationally-marketed collaboration program in which the NAFL matches about half of its USDA funding with non-federal money to work on industry-relevant projects, NAFL researchers have (1) resolved ethanol-in-gasoline performance and environmental issues to accelerate the use of ethanol, (2) developed a lead-free ethanol-and biodiesel-containing alternative to leaded aviation gasoline, (3) initiated new biomass fuel technologies including an agricultural co-products-to-ethanol process and an ethanol extraction process for removing contamination from fungus-infected wheat and barley, (4) initiated a program to increase E85—85 percent ethanol–15 percent gasoline—fuel economy and evaluate automobile exhaust emissions, (5) initiated and coordinated the 27-member Red River Valley Clean Cities—RRVCC—Coalition to increase the number of alternative fuel vehicles in regional public and private fleets, and (6) built E85 refueling sites in North Dakota.

Question. According to the research proposal or the principal researcher, what is the national, regional, or local need for this research.

Answer. Our Nation needs to develop commercially-viable alternatives to fossil fuels to ensure energy security, improve air quality, and provide employment. It is crucial to national security and economic development that these new fuels are accurately represented in the marketplace and given an opportunity to compete fairly with traditional fossil fuels. The NAFL provides unbiased scientific data on fuel performance and environmental effects. Regional need for the research derives from the need to support regional agriculture and associated industries through (1) development of economic uses for agricultural co-products and (2) development of economic uses for mycotoxin-contaminated grains.

Question. What was the original goal of this research, and what has been accomplished to date?

Answer. The primary original goal was to develop a database of at-the-pump-sampled conventional, reformulated, and alternative transportation fuels sold in the upper Midwest and throughout the U.S. to enable comparison of current and historical fuels on the basis of chemical and physical properties. The database is being expanded to include how gasoline chemistry affects air quality and fuel performance. Another original goal was to provide information on conversion of crop residues, agriculture processing wastes, high-cellulose content municipal wastes, and other biomass materials to alternative fuels. The NAFL program supported North Dakota's first two public E85 refueling sites, an ongoing industry-supported effort to develop and build a new ethanol plant in the Grand Forks region, and resolved ethanol blend fuel economy and tailpipe emissions issues, and E85 engine cold-start problems.

Question. How long has this work been underway, and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The NAFL work began in fiscal year 1991 and was, in part, sponsored by this grant. USDA appropriations in fiscal year 1991 through fiscal year 1993 were $250,000 per year. Later awards were $235,000 in fiscal year 1994, $204,000 in fiscal year 1995, and $218,000 per year in fiscal years 1996 through 1999. A total of $2,061,000 has been appropriated over 9 years.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. To date, in fiscal year 1998, more than $60,000 in non-federal collaborative funding has been secured from corn grower organizations, a state public service department, alternative fuels technology companies, the city of Winnipeg, and Ford Motor Company. An additional $40,000 in fiscal year 1998 non-federal funding

is anticipated through projects proposed to the Kraus Group—an alternative fuels technology provider—and the Minnesota Chamber of Commerce. A total of $1,045,000 in non-federal funds has been secured for performance of NAFL program objectives over the duration of this grant. During fiscal year 1991 through fiscal year 1993, non-federal funding from the State of Illinois totaled $630,000. For fiscal year 1994, non-federal funding of $105,000 was secured from the American Corn Growers' Association, the Renewable Fuels Association, and others. fiscal years 1995, 1996, and 1997 non-federal funding totals of $50,000, $60,000, and $140,000, respectively, were secured from corn grower organizations, state agriculture departments, alternative fuels technology companies, and regional economic development agencies.

Question. Where is this work being carried out?

Answer. The University of North Dakota Energy and Environmental Research Center—EERC—located in Grand Forks performs this work. The EERC is a research, development, demonstration, and commercialization facility that employs about 200 scientists, technicians, and support personnel.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The completion date for the original objectives was April 30, 1992. The objectives were met. The work was then expanded to include partnerships with industry and agriculture. NAFL has been established as a center of expertise for development and demonstration of bio-based fuels, investigating fuel chemistry effects on engine performance and air quality, dissemination of accurate and objective information regarding ethanol in gasoline, and ethanol feedstock assessment and process development. Additional tasks which have been added include: the Red River Valley Clean Cities Coalition, implementing agricultural co-product-to-ethanol plant project, and commercializing an ethanol-based aviation fuel. These tasks should be completed by 2002.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation.

Answer. In June of 1998, the U.S. Department of Agriculture conducted an onsite evaluation, and the NAFL program was given a very favorable review. The program continues to be a model for Federal-private sector collaborations. Personnel have continued to meet or exceed program objectives detailed at the initiation of each annual performance period.

NATIONAL CENTER FOR PEANUT COMPETITIVENESS

Question. Please provide a description of the research that has been funded under the National Center for Peanut Competitiveness.

Answer. The grant supports an interdisciplinary research and education program to enhance the competitiveness of the U.S. peanut industry by examining alternative production systems, developing new products and new markets, and improving product safety.

Question. According to the research proposal, or the principal researcher, what is the national, regional, or local need for this research?

Answer. Peanuts are a very important crop in several southern states. In many counties, peanuts provide more than 50 percent of all crop income. Peanut producers have been major beneficiaries of government income protection programs, but Federal farm and trade policies are changing and producers must become more competitive and market oriented.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The project helps peanut producers be more competitive in the global market. In the first year of the project—1998—a computerized expert system was adapted for hand-held computers that were used to help farmers reduce pest control costs. In addition, economic factors were added to a computerized disease risk management system which includes a large number of factors involved in the onset of a very destructive wilt. For every one-point improvement in the "wilt index," a farmer's net income is increased $9–14 an acre. USDA funds were used to leverage an additional $124,000 for research by the Center for Peanut Competitiveness.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1998 with an appropriation of $150,000. The appropriation for fiscal year 1999 is $300,000, making a total of $450,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. In fiscal year 1998, the state of Georgia contributed $141,181 and the state of Alabama, $15,000.

Question. Where is this work being carried out?

Answer. The Center is located at the University of Georgia at Griffen and involves cooperators from nearby peanut producing states, such as Auburn University in Alabama.

Question. What was the anticipated completion date for the original objectives of the project? Have these objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original proposal in 1998 was for a period of 36 months, however, the need to improve the competitiveness of U.S. peanut growers continues to grow. The fiscal year 1999 proposal extends the project until 2002.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. CSREES reviewed and approved the project proposal in February 1998. We believe its scientific objectives and procedures will enable the Center to improve the competitiveness of U.S. peanut producers.

PM–10 STUDY, CALIFORNIA AND WASHINGTON

Question. Please provide a description of the research that has been funded under the PM–10 study, California and Washington research grant.

Answer. The PM–10 study in California and Washington addresses the effects of emissions of PM–10 and PM–2.5 sized particulates, or dust, from agricultural land on air quality and development of control strategies. These studies are being conducted by scientists at the University of California-Davis and the Washington State University, in cooperation with Federal, state, and local agricultural, environmental, and health agencies, and farmers and growers in both states. The California program has focused on developing and refining methods to accurately measure and detect the sources of PM–10 and PM–2.5 emissions from various agricultural practices and to investigate alternative practices for reducing potential air pollution on susceptible California crops and soils. In addition, the California research has been expanded to include dust and gaseous emissions from cattle feedlots, dairies, and the poultry industry. This is in direct response to the increased public concern with odors and air quality problems possibly related to livestock operations. The Washington State University scientists are using refined instruments on field sites to measure and predict the effects of wind erosion and agricultural practices in the Columbia River Basin region on PM–10 and PM–2.5 emissions, under both natural wind erosion and with portable wind tunnel studies. Alternative cropping and tillage practices, residue management, and weed control practices are being developed and compared for control of PM–10 and PM–2.5 emission pollution under Columbia River Basin conditions.

Question. According to the research proposal, or the principal researcher, what is the national, regional or local need for this research?

Answer. There has been growing national concern over the potential health and safety aspects of air pollution from dusts and suspended particulate matter resulting in passage of the 1990 Clean Air Act, as well as state air quality laws in both California and Washington. Because of particular problems from PM–10 and PM–2.5 emission in the arid regions of the Western United States, research on the role of agricultural operations in intensively cultivated soils in California and the Columbia River Basin, as sources of PM–10 and PM–2.5 pollution, will assist growers to develop alternative agricultural management practices to control PM–10 and PM–2.5 emissions.

Question. What was the original goal of this research and what has been accomplished to date?

Answer. The original goals of this research were to measure the PM–10 emission rates from significant crop and tillage practices, to determine the source of PM–10 emissions on soils in agricultural regions of central and southern California and the Columbia River Basin in the Pacific Northwest, and to explore cost-effective alternative agricultural practices to control these emissions. More recently, studies of finer PM–2.5 particulates have been included because of their recognized potential health risks. In California, field measurements are being continued on both PM–2.5 and PM–10 emissions on production practices on almonds, figs, walnuts, cotton, wheat, and on ammonia emissions from dairy farms and feedlots. Similar studies in the Columbia River Basin are being conducted in Washington on a number of agricultural practices in the rain-fed and dryland croplands. Susceptible climatic

and soil conditions and tillage and cropping practices have been identified and are being used to develop prediction tools to assist growers to adopt alternative practices to reduce potential air pollution by PM–10 and PM–2.5 particulate emissions.

A Light Detection and Ranging system has been developed at the University of California at Davis that makes it possible to take a snapshot of the shape of an emission plume from a source such as a harvester, and to make estimates on the amount of particulate material emitted into the atmosphere and its subsequent transport.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant began in March 1994. The appropriation for fiscal year 1994 was $940,000; fiscal year 1995, $815,000; and for fiscal years 1996 through 1999, $873,000 per year. A total of $5,247,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. In California, the program is matched by State funds in the form of salaries, benefits, and operating costs. In Washington, there were no state or non-Federal funds in support of the PM–10 project in 1994 and 1995. In 1996, state support was $22,566, and in 1997, state support was $102,364. Similar funding was continued in 1998.

Question. Where is this work being carried out?

Answer. This work is being directed by participating scientists at the University of California-Davis and at the Washington State University.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The anticipated completion date of the original objectives of this project is 2000. The first four objectives of the project on soil particle characterization are anticipated to be completed in 1999. The objectives on field control will continue. In 1998, a manual for practices was developed and circulated for use by growers in Washington State to reduce wind erosion on agricultural land. Implementation and development of these management practices will be a major role of this project in the future. Quarterly and annual reports on the Washington State project to date are available.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The agency's Program Manager annually reviews the research progress reports and proposed new research and attends the annual meetings of the program to assess progress. The program is also evaluated each year by technical, administrative, and agency personnel. Progress is reported at research review meetings three times a year, with the November 1998 meeting in Washington involving strong participation of a large number of growers and public advisory committee members. A formal on-site review by a panel of experts was conducted of the Washington program in November 1997, and a similar review of the California program is planned in the near future.

AG IN THE CLASSROOM

Question. Please provide a description of the research that has been funded under the Ag in the Classroom grant.

Answer. Ag in the Classroom is an extension outreach program designed to promote agricultural literacy among pre K–12 students. Funds appropriated for this program are used to leverage agricultural literacy activities in all 50 states, the District of Columbia, and U.S. territories by providing national leadership and guidance to the agricultural education community. This community serves the educational needs of more than 5,000,000 students through a network of more than 120,000 teachers.

Question. What is the national, regional, or local need for this project?

Answer. This extension outreach program is directed toward the youth of America. In the Federal Agriculture Improvement and Reform Act of 1996—Public Law 104–127—Congress stated the importance of increasing the number of young Americans pursuing a baccalaureate or higher degrees in the food and agricultural sciences—section 805d. Agricultural literacy is a first step in creating both an interest and awareness of career opportunities in the food and agricultural sciences.

Question. What was the original goal of this program and what has been accomplished to date?

Answer. The original purpose of this extension outreach program was to promote agricultural literacy among this nation's youth. The Secretary of Agriculture established the Ag in the Classroom Program in 1981 to help ensure that future generations are agriculturally literate. The mission of Ag in the Classroom is to help K–12 students understand the complexity of the total food and fiber system, appreciate its impact on our economy and society, and become citizens who are able to support wise agricultural policies. The Program encourages educators to integrate the critical role of agriculture in our economy and society into their teaching. The Program helps coordinate programs in all 50 states, the District of Columbia, and the U.S. territories. It provides leadership, counsel, and educational materials, and maintains a nationwide network of individual farmers, educators, agribusinesses, and local government officials who actively support the Ag in the Classroom mission.

Question. How long has this work been underway and how much has been appropriated by fiscal years to date?

Answer. A total of $2,253,880 has been appropriated for this program as follows: fiscal year 1986, $76,000; fiscal years 1987 and 1988, $74,000 per year; fiscal year 1989 $87,000; fiscal year 1990, $135,000; fiscal year 1991, $170,000; fiscal years 1992 and 1993, $208,000 per year; fiscal year 1994, $185,000; fiscal year 1995, $208,000; fiscal year 1996, $204,880; and fiscal years 1997 through 1999, $208,000 per year.

Question. What is the source and amount of non-Federal funds provided by fiscal year?

Answer. This is not a grants program and does not require matching funds. However, the original intent was to have an Ag in the Classroom Program in all 50 states, the District of Columbia, and in the U.S. territories. This has been accomplished. These state programs receive no Federal dollars. Thus, the Federal Ag in the Classroom Program is highly leveraged, albeit indirectly, because the states support their own activities.

Question. Where is the work being carried out?

Answer. The work of Ag in the Classroom is being carried out in all 50 states, the District of Columbia, and in the U.S. territories. The national program impacts an estimated 120,000 teachers and over 5,000,000 students in grades K–12.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related activities?

Answer. Ag in the Classroom is an extension outreach program. Given the original goals of the program were to promote agricultural literacy among America's youth and that we do not have a population fixed in time, this is a continuing effort. Indeed, as each generation becomes further removed from the agricultural heritage of this Nation, the need for Ag in the Classroom becomes more paramount.

Current plans include the development of cooperative support agreements to develop a high quality web site to coordinate activities and curriculum modules among each of the Ag in the Classroom state coordinators, sponsor national teaching awards at the K–12 level, and to streamline the development and dissemination of materials. Ag in the Classroom will also continue its role in sponsoring the coordination of a national, annual conference, for the purpose of bringing the Ag in the Classroom community together to share experiences, ideas, materials, information, and techniques among state programs, educators, governmental agencies, agribusinesses and agricultural organizations.

The state Ag in the Classroom Program coordinators—including the District of Columbia and the U.S. territories—have formed a National Ag in the Classroom Consortium.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. Several efforts have been made to evaluate various aspects of the Ag in the Classroom program. A survey was conducted of constituents through the Ag in the Classroom newsletter evaluating the population affiliation to and involvement with Ag in the Classroom and topics that would affect the future direction of projects within the program. Findings from this survey indicated that readers wanted to know specific information about successful projects/program in the Ag in the Classroom community, access to age-specific lesson plans, updates on resource guides, and information on specific agricultural topics. The respondents were highly supportive of Ag in the Classroom.

During the annual national conference, formal evaluations were conducted regarding the conference and future projects. Findings from these conferences indicated that the target audience found the conference extremely valuable for sharing ideas on local Ag in the Classroom projects/programs. In addition, they found the conference very useful for obtaining resource materials. Conference attendees indicated

that they would like to see attention focused at the national level to develop a "teacher friendly" web site. They also indicated an interest in materials associated with agricultures' environmentalism role. A third issue that arose is the need for the national level to continue its role in the dissemination of resource guides and materials.

The National Ag in the Classroom Consortium provides USDA with another source of stakeholder input for assistance in identifying and setting priorities. Evaluations have been conducted in several states by the state coordinator on different projects such as: newsletters, videos, and various other products/activities. Many of these findings are brought forward to the Executive Committee of the National Ag in the Classroom Consortium. Comments are then brought forward from the Executive Committee to the attention of the National Program Leader through a monthly conference call. This provides a model for continuous process improvement.

BEEF IMPROVEMENT—ARKANSAS

Question. Please provide a description of the program that has been funded as the Arkansas Beef Improvement Program.

Answer. The Arkansas Beef Improvement Program uses three educational methods to demonstrate the decision making process and cost-effective management practices. The educational methods include demonstration farms that are enrolled in the program for five years, county workshops conducted over three evenings for two hours each evening, and five Beef Improvement special projects that were implemented this past year. An Arkansas Beef Improvement Executive Committee provides the overall direction for the program.

Question. What is the national, regional or local need for this program?

Answer. The implementation of specific cost-effective management practices vary from year to year, region to region, and state to state. The primary teaching objective of the Arkansas Beef Improvement Program is the decisionmaking process rather than specific management practices. Goal setting, evaluation of resources, and the process of selecting cost-effective management practices are emphasized in the decisionmaking process.

Question. What was the original goal of this program and what has been accomplished to date?

Answer. The overall goal of the Arkansas Beef Improvement Program was to enhance the efficiency and profitability of the Arkansas cattle producer. The program is still using demonstration farms to implement and evaluate cost-effective management practices, but during this past year, Beef Improvement Special Projects were implemented. There are five special projects. They are calving and breeding seasons; pasture renovation; hay quality and supplemental feeding; stocker cattle; and cow herd performance. Each project has its own requirements and objectives. Thirteen counties were selected to participate in the projects. Only one project per county was allowed. The objectives for the special projects were to concentrate on specific production problems and allow a means for more county agents and producers to become involved with the Arkansas Beef Improvement Program.

Additional accomplishments for the Beef Improvement Program.

—In 1997, four farms completed the five-year Arkansas Beef Improvement program. Their accomplishments included: Mature cow calf crop increased from 85 to 92 percent,Farms increased the average number of mature cows by 68 percent,Total pounds of beef sold per animal unit was 38 pounds higher the fifth year of the program compared to the first year; The average gross margin per farm increased by 138 percent—$28,664 vs. $12,423,If the farms received the same selling price in 1997 as they did in 1993, the average gross margin per animal unit would be 12 percent higher—$129.72 vs. $145.4 andPounds weaned per cow exposed increased 7.1 percent

—Benchmark data for the four new farms added to the program in 1997 were collected. Data included beef cattle production information, cow-calf budgets, soil test, forage test, cow herd performance information, and forage inventory.

—Arkansas Beef Improvement Workshops were delivered through county Extension offices. Overall, the participants found the workshop to be very meaningful to their operation and planned to implement many of the production practices discussed.

Question. How long has the program been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. $200,000 has been devoted to this project from Fiscal Years 1993 through 1995 and in fiscal years 1996 through 1999, $197,000 was appropriated for a total of $1,388,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. $95,000 has been provided annually from 1993 to 1997 from state funds. Arkansas provided $118,154 this past fiscal year.

Question. Where is the work being carried out?

Answer. Since the initiation of the Arkansas Beef Improvement Program, ten demonstration farms in Arkansas—from ten different counties—completed their fifth year. Currently, there are four demonstration farms in the second year of the program. Thirteen Special Projects were implemented this past year. Arkansas Beef Improvement Workshops were conducted in 17 counties. Therefore, 44 counties have participated in the Arkansas Beef Improvement Program. By involving more counties, a better representation of the Arkansas cattle industry was obtained.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. Currently there are four demonstration farms enrolled in the program. These farms are on their second year. It was agreed the Extension team would work with these farms for five years. Data from the final year as well as an Arkansas Beef Improvement Producer Survey and County Agent Survey will be collected and summarized for evaluation. Commitments to the Arkansas Beef Improvement Special Projects vary in length, depending on the project and farm situation. Most Special Projects will last 3 to 5 years. The first year of the Special Projects is primarily devoted to collection of benchmark data. In the second year, management practices are implemented and the impact measured. The Arkansas Beef Improvement Workshops are an ongoing program in the counties.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. A CSREES review of the project is conducted annually. The 1998 review noted the project is taking a sound approach to improving beef production efficiency and profitability in Arkansas. The review advised that project results and materials be widely disseminated through publications and educational programs for the benefit of other producers in Arkansas and beyond.

DELTA TEACHERS ACADEMY

Question. Please provide a description of the program that has been funded under the Delta Teachers Academy project.

Answer. The National Academy proposes to continue its Delta Teachers Academy in the Lower Mississippi Delta Region—a region of 219 counties and parishes clustered around the Mississippi River encompassing portions of Arkansas, Illinois, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee—focusing on educational improvement in the core subject areas. Specifically, the program will provide long-term academic enrichment to approximately 525 elementary and secondary school teachers at 35 sites by teaming them with university scholars for in-service training sessions during the school year and continuing with summer institutes. Through its Fellows Program the Delta Teachers Academy will also sustain the professional development of over 650 Academy graduates throughout the region. The Delta Teachers Academy grant is not awarded competitively; however, we require annual applications reporting the previous year's accomplishments and describing activities and expenditures planned for the upcoming year. These applications undergo merit review by at least three of our Ph.D. level staff before grant awards are made.

Question. What is the national, regional, or local need for this project?

Answer. According to the grant recipient, 33 percent of the children in the 219-county area comprising the Lower Mississippi Delta region live below the poverty line compared to 20.5 percent nationally. In 1996 the Children's Defense Fund stated that seven out of ten poor Southern families with children had at least one working family member. In 1996, 60 percent of Louisiana's public schools sampled ranked "below basic" on the National Assessment of Education Progress test for eighth-graders. Poor educational performance, rural poverty, and limited economic development are strongly correlated as depicted in a 1995 report from USDA's Economic Research Service. In its report to Congress in 1990, the Delta Development Commission cited serious educational problems including poor student performance in core content areas, demoralized teachers with little or no opportunity for academic development, and region-wide difficulty in recruiting and retaining qualified teachers. The Commission also stressed the links between these problems and the pervasive poverty and depressed economic conditions that characterize much of the seven-state Delta region. The Commission's report also cited that 75 percent of the region's workforce lacks the basic reading skills necessary for technical training and

specifically cites the need for improved teacher training as one means for breaking the cycle of poverty and economic non-competitiveness.

Question. What was the original goal of the program and what has been accomplished to date?

Answer. The original and continuing goal of the project is to address the problem of insufficient professional development opportunities for the elementary and secondary teachers of the seven-state region. The Academy project has focused on the core subjects of English, geography, history, mathematics, and science. Humanities, language arts, social studies, reading, civics, and interdisciplinary subjects are also covered by some sites. The Delta Teachers Academy began by offering educational development activities for 100 teachers from approximately 50 rural districts at 10 sites. Training has now been expanded to include 525 teachers at 35 new sites across the entire seven-state region. In addition, there are over 650 graduates of the program whose professional development is sustained through the Academy's Fellows Program and who are leading teacher in-service training back at their home schools. The project has helped improve student performance and teacher training, morale, recruitment, and retention in the region.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. A total of $20,661,000 dollars has been appropriated to the Department of Agriculture for this project, including $2,000,000 dollars in fiscal year 1994, $3,935,000 dollars in fiscal year 1995, $3,876,000 dollars in fiscal year 1996, $3,850,000 dollars in fiscal year 1997, and $3,500,000 dollars per year in fiscal years 1998 and 1999.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. There are no non-federal funds identified for this project.

Question. Where is the work being carried out?

Answer. The Delta Teachers Academy project is coordinated out of The National Faculty's Southern Region office in New Orleans, Louisiana. The project is being conducted at 35 sites selected from within the seven-state Lower Mississippi Delta region including the states of Arkansas, Kentucky, Illinois, Louisiana, Mississippi, Missouri, and Tennessee.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original objective was to provide three full years of training to each faculty team established by the Delta Teachers Academy program. Training consists of four two-day academic sessions and one two-week summer institute for each team. This objective has been met for the original 24 faculty teams first funded under the Fiscal Year 1994 Department of Agriculture grant, for the 15 additional teams established in 1995, and for the one new team established in fiscal year 1996. The 20 new teams established in fiscal year 1997 have received two years of training, and the 14 new teams established in fiscal year 1998 have received one year of training. As of the end of the Fiscal Year 1997 grant, 40 of the 41 faculty teams established by the Delta Teachers Academy will have met the original objective of the program. Objectives for the fiscal year 1999 grant include providing ongoing professional development of 33 teams consisting of 600 participants; add two additional teams to maintain their general level of service to 35 teams throughout the region; instituting several new procedures for better meeting their clienteles needs based on the independent review completed by Westat; intensify its individual and field-based approach; and draft individual work plans for each site. The anticipated project completion date for the 35 current sites is September 30, 2002.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. An assessment of the short-term impact of the Delta Teachers Academy by Westat, Inc. of Rockville, Maryland was completed in August 1997. Westat's study found that the vast majority of participants reported that the Academy had met their personal and professional needs by renewing their enthusiasm for teaching, improving their self-confidence, increasing their sense of professionalism, improving their knowledge of specific content areas, enhancing their teaching methods, and providing opportunities to interact with peers. The study also provided considerable evidence that teachers are applying what they have learned from the Academy in their own classrooms. For example:

—90 percent reported applying academic content from the program in their classrooms.

—78 percent reported incorporating skills and strategies learned developed at the Academy into their classroom teaching.

—83 percent reported that their teaching approaches have become more effective in improving student learning.
—88 percent said the Academy had prepared them to assume leadership roles in their schools.
—89 percent noted changes in their students' work habits, attitudes, aspirations, and achievements.

A United States General Accounting Office review of the Academy's programs was also conducted in fiscal year 1995. The General Accounting Office report—GAO/RCED–95–208 included summary statistics on over 1,000 teacher evaluations of Academy sessions as well as the General Accounting Office's own survey of participants. The General Accounting Office found that on average, participants reported that the Academy was more effective than any other teacher development program they had participated in, was very effective in renewing or enhancing knowledge in one or more academic subjects, and was generally effective in enhancing the teaching skills and strategies required for teaching challenging academic content.

In addition, a site visit of the Delta Teachers Academy offices in New Orleans, Louisiana and of the National Faculty's Summer Institute at Tulane University was conducted by the Cooperative State Research, Education, and Extension Service's National Program Leader for Higher Education and Evaluation, during July 1996. The site visit confirmed that participating teachers are very enthusiastic about the Delta Teachers Academy program, that the instruction provided by The National Faculty's university scholars is on target and appropriate to the K–12 teachers' needs, and that the facilities are very well suited to program requirements. The site visit further confirmed that the Delta Teachers Academy has strengthened the participating teachers' ability to teach by improving their content knowledge base, helped them become leaders of other teachers by requiring them to conduct staff development back at their home schools, and had a positive impact on student learning. School superintendents report greater student enthusiasm, more homework, and higher test scores for students whose teachers were in the Delta Teachers Academy program. As determined by such sources as reports from school superintendents, an outside expert evaluation, a GAO review, and site visits and merit reviews by Federal program staff, it appears that the project has met its original objective of providing increased teacher professional development opportunities in the seven-state Lower Mississippi Delta Region.

DIABETES DETECTION AND PREVENTION, WASHINGTON AND HAWAII

Question. Please provide a description of the extension activity that has been funded under the Diabetes Detection and Prevention, Washington and Hawaii grant.

Answer. CSREES has met with representatives of the Joslin Diabetes Centers and conversed with representatives of its State Cooperative Extension Partners in Washington and Hawaii. The grant will support demonstration and outreach activities designed to detect undiagnosed diabetes through use of a non-invasive ocular fluorescence technique. CSREES has requested that a revised proposal be submitted from the Joslin Diabetes Center.

Question. According to the proposal, or the project director, what is the national, regional or local need for this extension program?

Answer. The need for this demonstration program grows out of a need to reach more of the millions of Americans who have undiagnosed diabetes. Diabetes is currently one of the leading causes of death and disability in the U.S. adult population, and is highest among certain racial and ethnic populations, especially Native Americans, African Americans, Hispanic Americans, and Asians and Pacific Islanders.

Question. What was the original goal of this program and what has been accomplished to date?

Answer. The goal of this extension outreach project will be to provide (1) screening for diabetes among selected rural minority patient populations in Washington and Hawaii using innovative detection technology and blood glucose measures; (2) diabetes education prevention and care materials; and (3) case management support and follow-up services for patient referrals.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The work supported by this grant begins in fiscal year 1999 and the appropriation for fiscal year 1999 is $550,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. There are no non-federal funds and sources expected for this grant.

Question. Where is this work being carried out?

Answer. The program will be conducted at Joslin Diabetes Centers at Swedish Hospital in Seattle, Washington, and Straub Medical Center in Hawaii. In addition, the Cooperative Extension offices in selected counties in Hawaii and Washington will be involved in program implementation.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The anticipated completion date for the original objectives is 2002.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. Because this is the first year of the project's funding, and it is in fact just getting underway, the Agency evaluation has not yet occurred. A mid-year evaluation of program outputs and the delivery process to date will occur in July 1999.

EXTENSION SPECIALIST, ARKANSAS (SMALL FARM MANAGEMENT AND MARKETING EDUCATION PROJECT)

Question. Please provide a description of the program that has been funded under the Small Farm Management and Marketing Education Project.

Answer. The Small Family Farm Management and Marketing Education program provides farm financial education and support materials that are necessary for family farm enterprises to develop and maintain an effective financial management system for their operations. The program is located at the Dale Bumpers Small Farms Research Center located at Booneville, Arkansas, in a transition zone where horticultural crops, both warm and cool season forages, and ruminant animal issues may be researched. It relates to 151,000,000 acres of major land resource area in the United States and is specifically representative of 72,000,000 acres in the upper mid-South. This program extends research on technical and efficiency issues to the limited resource hill-land family farmers located in the area. The program promotes the use of land resources, labor, and capital in a whole-farm context intended to sustain small family farms.

Question. What is the national, regional or local need for this program?

Answer. This program fills the need to evaluate the economic applicability of research conducted at the Center and to transfer the applicable results to operators of small family farms. This research considers the limitations and potentials faced by farmers as they decide how to improve their operations through the use of new technologies, minimize risk when risk capital is limited, combine enterprises on limited acreages to make better use of labor, and select and use equipment for multiple enterprises. Within the region and in local situations, feasible alternative enterprises are identified and methods to improve biological and economic efficiency are advanced. Value-added markets are being explored as a means of enhancing incomes and promoting the sustainability of small family farms.

Question. What is the original goal of this program and what has been accomplished to date?

Answer. The goal of the project continues to be to develop a small/family farm management and marketing education program based upon the Center's mission, extend the research information to family farmers in the mid-South, provide support to county and state Extension professionals providing education on alternative agricultural management and marketing, and be a resource to faculty, agency personnel, and the public in farm management and marketing. An ambitious set of objectives include identifying niche marketing for alternative enterprises, encouraging use of computerized farm record systems, provide guidance on the development of whole-farm management systems, and conduct in-service and other training for relevant groups. In fiscal year 1998, the record keeping system was updated to include soil tests, fertilizer and chemical use, manure analyses, and other measures in addition to financial information. Tested programs and procedures in alternative agriculture have been disseminated to more than 13,000 producers through Extension publications, newspapers, and other media. Assistance has been provided to more than 17,500 stakeholders in Arkansas, 27 other states, and two foreign countries. Program faculty have provided in-depth training on production practices and record keeping to 785 producers and worked with an extensive group of private and public organizations to form networks that provide programming to enhance production, profitability, and longevity in family farm enterprises.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The project has been underway since 1992. Appropriations of $100,000 have been made in each of the fiscal years 1992 through 1995. Appropriations in

fiscal year 1996 through fiscal year 1999 were $99,000 for each year. A total of $796,000 has been appropriated.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. State matching funds have been provided through the Arkansas Cooperative Extension Service in fiscal year 1992 through fiscal year 1999. The amounts are $59,040 in fiscal year 1992, $55,680 in fiscal year 1993, $54,250 in fiscal year 1994, $54,446 in fiscal year 1995, $54,446 in fiscal year 1996, $46,347 in fiscal year 1997 and $40,467 in fiscal year 1998. The total is $364,676.

Question. Where is the work being carried out?

Answer. The central location is the Dale Bumpers Small Farms Research Center at Booneville, Arkansas. It is being carried out primarily in the 10-state area served by the Center. These states are Alabama, Arkansas, Georgia, Kentucky, Louisiana, Mississippi, Missouri, Oklahoma, Tennessee and Texas.

Question. What was the anticipated completion date for the original objectives of the project? Have these objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original proposal, one year in length, was extended as the research results continued to evolve and the educational needs of the target audience increased. During the coming year, the emphasis is on alternative enterprises, niche marketing, market reporting, farm management information, and record keeping. Contact is maintained with Extension personnel and other organizations.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. A merit review of the current proposal is conducted each year when it is received using internal criteria that examine objectives, procedures, timelines, anticipated product, and the competency and experience of the project directors. The evaluation indicates that this is a productive project, especially in terms of its outreach. It complements the ongoing research at the Center, assessing economic feasibility, and developing farm management applications. The value of the work is evident in the growing number of stakeholders which are involved and in the expanded networking with private sector organizations.

EXTENSION SPECIALIST, MISSISSIPPI

(BASIC WEATHER SERVICE FOR RESEARCH AND EXTENSION PROJECT)

Question. Please provide a description of the program that has been funded as the Basic Weather Service for Research and Extension Project.

Answer. The Basic Weather Service and Extension project is designed to fill a void in weather data due to closure of the Ag Weather Service facility in Stoneville, Mississippi. The funding will be used to gather and disseminate critical agricultural weather data for producers and researchers in Mississippi and surrounding states.

Question. What is the national, regional or local need for this program?

Answer. The grant proposal states that the Ag Weather Service facility was closed at Stoneville, Mississippi. This action has created a void in the availability of and access to critical weather data that producers and researchers use to make management decisions and to formulate work plans within the state and region.

Question. What was the original goal of this program and what has been accomplished to date?

Answer. The goal of the project is to collect, maintain, and disseminate weather information for producers and researchers in Mississippi and surrounding states. Electronic weather stations and links with other web sites to deliver weather data have been installed and developed. The project is providing timely data to producers in the Delta.

Question. How long has the program been underway and how much has been appropriated by fiscal year through 1999?

Answer. The funding for fiscal years 1997 and 1998 was $50,000 each year and for 1999 $100,000 was appropriated for a total of $200,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The State of Mississippi, through the Mississippi Cooperative Extension Service and Delta Research and Extension Center, provided $41,350 in state appropriated funds to support this project in 1997 and 1998.

Question. Where is the work being carried out?

Answer. The project will be conducted at the Delta Research and Extension Center in Stoneville, Mississippi.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of the additional or related objectives?

Answer. One of the original objectives, installation of equipment to collect weather data and establishment of a website, has been completed. The agriculture community—producers, markets, supplier of goods and services, and financial institutions—depend upon weather information as a guide for business planning and decision making. The National Weather Service has eliminated certain critical services to rural areas and to agriculture clientele. As agriculture implements new programs in pest management, crop production, and site-specific farming, near real-time weather data is critical to success of these programs. Weather services provided by the Stoneville project will be in cooperation with and complementary to services provided by the National Weather Service. Additional objectives relating to the continuing need to collect, process, and disseminate timely weather data are critical to the Delta Region. Current funding supports the objectives to ensure these weather services are available to the region.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. Evaluation of the project and Internet website is being conducted with an on-line survey instrument and through e-mail responses about the site. An advisory group has been identified and is functioning to provide evaluative feedback on the weather center's current status as well as assessing needs for future plans for the project's continued mission.

INCOME ENHANCEMENT DEMONSTRATION, OHIO

Question. Please provide a description of the program that has been funded under the Income Enhancement Demonstration Project for Northwest Ohio.

Answer. The Federal funds support the Agricultural Business Enhancement Center which plays a major role in the development of the agricultural sector of Northwest Ohio. The Center provides a variety of management training programs, helps farmers and other agribusinesses develop comprehensive business plans, and facilitates business networking. CSREES performs an annual merit review of this project.

Question. What is the national, regional, or local need for this program?

Answer. The Center seeks to enhance the competitiveness for agricultural firms in Northwest Ohio and create greater economic opportunity for local residents. To be successful in business, farmers and other agribusiness firms must be able to adapt to a large number of major changes affecting the entire food system from the farmer to the consumer. These include changes in farm programs, globalization of markets, new technologies, information systems, consumers' concerns for food safety and nutrition, and society's concern for protecting the environment. Individuals, families, firms, and communities in Northwest Ohio need to understand the changes, and develop and implement effective strategies for dealing with change.

Question. What was the original goal of this program and what has been accomplished to date?

Answer. The original goal of the project was to help people develop new businesses and restructure and expand existing businesses in order to enhance incomes in Northwest Ohio. The Agricultural Business Enhancement Center conducts economic research on market opportunities, provides a variety of management training programs, helps individual farms and other agribusinesses develop comprehensive business plans, and facilitates networking with businesses in other regions of the United States and around the world. During 1997, for example, six business plans were completed—three firms decided to pursue financing and startup, and three firms decided to abandon their idea. Seven additional plans were in various stages of development. Out of 150 women attending "Women in Agriculture" workshop, 85 percent said workshop participation would improve management of the family farm, 80 percent said it would improve family relationships, and 22 percent said it would improve farm income. The Center completed its tomato processing plant feasibility study and accompanying business plan but was unsuccessful in finding a sufficient number of producers to invest in a cooperative or to find a private investor. A new study is underway to determine the feasibility of farmers markets at Ohio Turnpike plazas.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. The project began in 1991. Appropriations have been as follows:$145,000 in fiscal year 1991; $250,000 per year in fiscal years 1992 through 1995; and

$246,000 per year in fiscal years 1996 through 1999. Appropriations to date total $2,129,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The State of Ohio has appropriated the following funds: $35,100 in fiscal year 1991; $72,368 in 1992; $56,930 in 1993; $30,547 in 1994; $49,935 in 1995; $51,432 in 1996; $48,664 in 1997; and $53,736 in 1998.

Question. Where is the work being carried out?

Answer. The Agricultural Business Enhancement Center is located in Bowling Green, Ohio and serves eight counties in the Toledo Metropolitan Area. Project leadership is being provided by the Department of Agricultural Economics, Ohio State University, Columbus, Ohio.

Question. What was the anticipated completion date for the original objectives of the project? Have these objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original proposal in 1991 was for a period of 12 months, however, the ongoing needs of producers and agribusinesses to adjust to major changes in the agricultural sector continues to provide the Center with many challenges. The current phase of the program will be completed in September 1999.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. CSREES performed a merit review of the project in March 1998 as it evaluated the proposal for that year, and concluded that the project has a good track record of providing relevant and useful management and marketing education to local farmers and agribusinesses. However, the project leader was asked to submit plans for evaluating the impact of the project before funds would be released. The evaluation plan was approved in July 1998 and funds released in August.

INTEGRATED COW-CALF MANAGEMENT—IOWA

Question. Please provide a description of the program that has been funded as "CHIPS: Cow-Calf Integrated Resource Management Program."

Answer. The CHIPS program is a grass roots, technical assistance program designed to provide management assistance services to Iowa cow-calf producers. This integrated resource management—IRM—program was developed to impact the area's rural economy by maximizing the profit potential of individual livestock producers. Participating cooperators work one-on-one with trained technicians, utilizing a variety of management services designed to assist these producers as enterprise decisions are finalized. The CHIPS program was originally targeted in an 11-county area of southeast Iowa. The program has systematically grown to extend services to over 190 beef producers in over 60 Iowa counties.

Question. What is the national, regional or local need for this program?

Answer. The agricultural economy of Iowa has experienced significant changes over the past several years. These changes have impacted the economic structure and health of local and regional agricultural entities. Weather conditions, floods, depressed market prices, and industry changes have all contributed to these economic and industry changes.

CHIPS has adjusted program focus and direction to respond to the economic conditions existing in the volatile cattle industry. This approach provides CHIPS cooperators with individualized alternatives to address the situation at hand. Technicians work with cooperators to address industry issues, including grain substitution options during high corn/soybean prices, management recommendations as the Conservation Reserve Program—CRP—acres are released, and updates regarding market programs. These examples reflect CHIPS long-term sustainable approach as sound management and economic decisions are finalized by cooperators. Through the CHIPS program, producers will have a performance and economic perspective of their beef operation. Decisions made from data collection and management recommendations are imperative as producers address these economic challenges. This approach supports both individual economic survival as well as strengthening the local and regional economic community.

Question. What was the original goal of this program and what has been accomplished to date?

Answer. The overall goal of CHIPS is to have a positive effect on the area's economy by improving the long-term profit potential of the local cattle industry. To address this broad project goal, CHIPS has established the following objectives:

—Improve profit potential of cooperator farms.

—Identify issues and trends in management data.

—Raise awareness and understanding of over 2,000 agricultural producers in Iowa about cow-calf production on highly erosive land and integrated resource management.

—Provide CHIPS cooperators intensive technical assistance to develop goals and individualized farm recommendations, including management areas such as pasture and forage production, rations, utilization of resources, record systems, and government farm program compliance. Over 190 cow-calf operations were involved in this technical assistance program during 1998.

—Assist producers as they develop management skills to improve efficiency and reduce costs of production as CHIPS recommendations are implemented.

During 1998, over 190 cooperators, involving approximately 16,000 beef cows, participated in CHIPS. This program has expanded in cooperator numbers and geographical area. CHIPS has grown from one technician and 11 counties in 1992 to seven FTE technicians servicing 60 counties in Iowa. The infrastructure has also changed. This expansion includes formation of CHIPS, Inc., a CHIPS Employee Handbook, administrative interaction with Iowa State University, Pathfinders RC&D, and Southern Iowa RC&D.

During 1997–98, CHIPS technicians conducted 1,189 one-on-one farm consultations. Numerous management areas were reviewed, with over 9,900 calves weighed, 3,500 beef cows weighed, and more than 4,100 head permanently identified. This information was utilized by the technicians to complete and analyze 69 Cow Herd Appraisal of Performance Software—CHAPS—and 19 Standardized Performance Analysis—SPA—records. These contacts involve a wide variety of technical assistance, with primary emphasis on nutrition, cost-effective ration development, genetic evaluation, value-added practices, and cow production concerns. Included were more than 300 forage samples, with over 250 specific rations and projections distributed. Over 77 pasture consultations were conducted, 8 newsletters distributed to over 1,300 agribusiness producers and representatives, and 44 soil samples collected. An educational Beef Value Added Tour to Kansas was coordinated by CHIPS, with 54 people attending the two-day event. Over 650 people participated in 44 educational programs and presentations involving CHIPS technicians and support staff.

Question. How long has the program been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. $138,000 was approved for fiscal year 1992; $138,000 for fiscal year 1993; $276,000 for fiscal year 1994; $350,000 for fiscal year 1995; $345,000 for fiscal year 1996; $345,000 for fiscal year 1997; and $300,000 per year in fiscal years 1998 and 1999. Federal funding through fiscal year 1999 totals $2,192,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. CHIPS cooperators pay client fees of approximately $3.00 per cow. This fee structure is on a sliding scale that adjusts for cow herd size. Approximately $45,000 client fees were collected from cooperators during fiscal year 1998.

Question. Where is the work being carried out?

Answer. The CHIPS program is being operated in six designated technician areas in Iowa. These include approximately 60 counties in the following Iowa areas: southeast—16 counties; south central—8 counties; southwest—8 counties; northwest—8 counties; east central—8 counties; and central—12 counties.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The CHIPS program was initially projected to address the goals and objectives of the project in a three-year time frame. As the program expanded, new services were extended to new geographical areas. As this expansion progressed, CHIPS adjusted the focus and direction of services to meet the rapidly changing needs of the cattle industry. The level of technical assistance and program delivery will require continued adaptation to emerging issues. Over the past several years, producers have been challenged by low forage quality and quantity due to excessive moisture and flooding, record high grain prices, closure of the Monfort beef packing plant in Des Moines, and depressed prices. As this occurred, CHIPS responded by adapting services and technical assistance to cooperators.

The objectives and goals of CHIPS will continue to be modified and adapted to meet needs of the cooperators. CHIPS is developing an agreement with the Iowa Cattlemen's Association—ICA. The goal is to expand services to CHIPS clientele and support the value added Iowa Quality Beef program. This relationship is the direct result of discussions with the ICA, the Iowa Beef Center at Iowa State University, Precision Beef Alliance, and CHIPS. Cooperating beef groups will determine the services and administrative structure of CHIPS in the future.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. A CSREES review of this project is conducted annually. In addition, three Iowa State University Extension personnel have been requested to conduct a CHIPS program evaluation. Included in this request is a review of CHAPS and SPA records to evaluate short-and long-term impacts, identification of production and management changes incorporated by cooperators due to CHIPS, and future services needed by clientele. This information will be essential to determine the financial and production impact of the program, and to determine what services and technical assistance should be supported. Preliminary information from the record evaluation indicates changes in production have had a positive impact on the operations involved in the CHIPS program. This evaluation process is to be completed by June, 1999.

NATIONAL EDUCATION CENTER FOR AGRICULTURAL SAFETY

Question. Please provide a description of the extension project that has been funded under the National Education Center for Agricultural Safety grant.

Answer. The National Education Center for Agricultural Safety is dedicated to reducing the level of preventable illnesses, injuries, and fatalities among farmers, ranchers, their families, and employees. The National Education Center for Agricultural Safety translates current research into training programs on the safety and health hazards that impact the agricultural workplace. Training methods include the use of real-life scenarios and simulations for the purpose of enhancing trainee knowledge and positively changing work behaviors so that unsafe work practices can be reduced and eliminated among the at-risk audiences. An 11,000 square foot training center developed with a $1,000,000 grant from Iowa houses the resources and simulators used in the hands-on training.

Question. According to the extension proposal, or the project director, what is the national, regional or local need for this project?

Answer. The project director believes this training to be of national, regional, and local need. Farming continues to be one of the most dangerous occupations in the United States. 1998 data provided by the National Safety Council showed that 830 farmers, ranchers, family members, and farm employees suffered fatal injuries while performing farm work. Most of these incidents were classified as preventable. The adoption of safe work habits is dependent upon the relevance, affordability and availability of safety training for at-risk and underserved agricultural audiences. It is the mission of the National Education Center for Agricultural Safety to make practical, hands-on training available in order to reduce the level of preventable illnesses, injuries, and fatalities in production agriculture.

Question. What was the original goal of this training center and what has been accomplished to date?

Answer. The original, and continuing goal of this project was to test the efficacy of adapting practical, hands-on training methods for reducing the level of preventable farm work incidents in the United States. Research indicates that trainees and students will positively respond to agricultural safety training if it simulates real life conditions of farming hazards. The National Education Center for Agricultural Safety is offering practical training initiatives concentrating on the hazards that negatively impact farm work, including hazards associated with the farm machinery, agrichemicals, livestock, confined spaces, and grain.

During fiscal year 1998, over 400 individuals received training coordinated by National Education Center for Agricultural Safety. Among these trainees were emergency medical service personnel, farm cooperative patrons, agricultural youth, and high school agriculture teachers. Mail and phone follow-ups with many of these trainees have shown that most are sharing critical safety and health information with their peers, parents, and other at-risk audiences. For example, one Montana family trained during the National Education Center for Agricultural Safety AG Families—USA program, have conducted seven community-based programs for adults and children in Western Montana. Another dairy farm family from the Milwaukee, Wisconsin, area, planned and conducted a comprehensive farm safety day camp for over 100 farm youth in eastern Wisconsin.

Question. How long has this work been underway and how much has been appropriated by fiscal years through fiscal year 1999?

Answer. The work supported by this grant began in fiscal year 1998, and the appropriation for fiscal years 1998 and 1999 is $195,000 per year for a total of $390,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. The non-federal funds and sources provided for this grant were as follows: $450,000 state appropriations dedicated for construction of the Phase II training sites at the National Education Center for Agricultural Safety, and $75,000 miscellaneous cash and in-kind donations during fiscal year 1998. Non-federal funds were provided by Deere & Company, DuPont Corp., Double L Group, Ltd., Melroe Company, Dubuque Racing Association, and the Theisens' Farm, Home and Auto Company.

Question. Where is this work being carried out?

Answer. Training under this grant will be conducted at the National Education Center for Agricultural Safety, located on the campus of Northeast Iowa Community College in Peosta, Iowa.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The anticipated completion date of the original objectives is approximately March 31, 1999. Many of these objectives have already been met. Anticipated completion date of additional objectives is March 31, 2000.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. A CSREES merit review of the project application was conducted in the spring of 1998. The project will be completing its first year March 31, 1999. The National Education Center for Agricultural Safety will utilize multiple evaluation tools such as pre and post testing, follow-up surveys to determine knowledge gain and behavior change, external evaluators, and an advisory committee.

PILOT TECHNOLOGY PROJECT, WISCONSIN

Question. Please provide a description of the program that has been funded under the Wisconsin Pilot Technology Project.

Answer. Primary industrial extension activity of the Manufacturing Technology Transfer program is the delivery of technical assistance to manufacturing companies. Executive direction in determining the assistance required will be provided by the University of Wisconsin—Stout's Northwest Wisconsin Manufacturing Outreach Center—NWMOC—with direct consultation and long-term in-plant assistance delivered primarily through the efforts of university Project Managers and Co-op students. Direct assistance may be delivered through staff of the University of Wisconsin System, both two-and four-year institutions, and Extension services; the Wisconsin Technical college System; secondary schools; the private sector, professional societies, and private consultants, or attendance at state or national seminars. The project also draws on many other state resources to add expertise and capacity to network facilitation and in-plant extension activities. The project has undergone a merit review.

Question. What is the national, regional, or local need for this program?

Answer. America's manufacturers continue to face tremendous global competition. There are enormous pressures to improve the quality of products; reduce the time consumed to bring new products to market; and there remains an ever increasing demand to reduce the costs of products. Currently there is a strong movement in manufacturing to use speed-to-market combined with new product introduction as a tool to obtain a competitive advantage. While high quality and cost efficiencies continue to be mandatory commitments for today's manufacturers, great value is now being placed on speed-to-market. Large companies are not the only ones influenced by these trends. Small-and medium-size manufacturers often supply larger firms. Hence, they must be able to quickly process large amounts of information and solve complex problems.

Question. What is the original goal of this program and what has been accomplished to date?

Answer. The Manufacturing Technology Transfer program's principal objective is the development of a competitive, secure manufacturing base through the mechanism of industrial extension. The program principally targets small and medium-size manufacturers in rural Wisconsin. This funding will: continue to provide valuable industrial extension service to the target audience; support the continued empirical development of an industrial extension model; and investigate the use of new manufacturing technologies to support global competitiveness of manufacturers. Productivity improvements were reported by the companies showing impressive economic impact to the region through implementation of:

—Client operations assessment/plant evaluation and strategy development

—Opportunities for productivity improvements.

—Implement new organizational and operational methods

—Investigate new manufacturing technologies.
—Establish quality assurance/total quality systems.
—Establish ongoing training programs.
—Deliver on-site instruction in new technologies, improved methods and processes.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. This project has been underway since fiscal year 1992 and was funded for $165,000 per year in fiscal years 1992 through 1995, and for $163,000 in fiscal years 1996 through 1999 for a total of $1,312,000.

Question. What is the source of and amount of non-federal funds provided by fiscal year?

Answer. No non-federal funds have been provided for this project.

Question. Where is this work being carried out?

Answer. The work will be carried out by the University of Wisconsin-Stout.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original proposal in 1992 was for a period of 12 months. However, the Manufacturing Technology Transfer Program was developed as a continuously evolving industrial extension strategy for serving the needs of the manufacturing community. The Manufacturing Technology Transfer Program is measured by success in meeting the objectives of the past five years' proposals, including the delivery of modernization assistance and development of an industrial extension model. The current phase of the program will be completed in 1999.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. To measure the success of the project, a client evaluation process has been developed which includes an evaluation questionnaire. Evaluations indicate significant forward strides in job creation, new businesses, expanded productivity, and enhanced international competitiveness. An agency evaluation of this project was last performed by the Department of Commerce in 1997.

RANGE POLICY DEVELOPMENT, NEW MEXICO

Question. Please provide a description of the program that has been funded under the Range Policy Development research grant.

Answer. The Range Policy Development project has collected local economic data throughout the State. Local data have been used to develop an economic model to help explain the relationships among local economies and primary industries. The model is intended to enable policymakers to better understand how local and State economies are tied to primary industries, especially those industries that use public lands. The initial focus of the project has been on the livestock grazing industry. The project has undergone merit review within CSREES, and funds have been awarded to the institution following recommendations by the review panel.

Question. What is the local, regional, or national need for this program?

Answer. In New Mexico and throughout the western states, many local economies are dependent on the use and management of public range and forest lands. However, there exists a great deal of disagreement about the true level of dependence of individual communities on these public land-based industries, and, consequently, disagreement about the local, statewide, and regional impacts of public policies that alter the use and management of these lands. Through better understanding of how public lands impact local and regional economies, we may be better able to predict the outcomes of potential legislation or amended land use policies, resulting in policies that enhance, rather that detract from, local economies.

Early results from this project have been encouraging and have spawned a six-state collaboration to design a regional economic model based on the New Mexico prototype. This regional coalition has been seeking funds from multiple sources, including the Fund for Rural America.

Question. What is the goal of this program and what has been accomplished to date?

Answer. New Mexico is in the process of developing detailed input-output models for each county from local and state tax revenue data. The economists are following up with workshops across the state to present information from economic forecasts to local decisionmakers. Further, the project calls for increasing the utility of the models by expanding the scope of the database to include industries in addition to the grazing enterprises.

Question. How long has this work been under way and how much has been appropriated through fiscal year 1999?

Answer. This project was initiated in December 1994. It has been funded year-to-year to accomplish annual objectives. The first tier of objectives were met in 2 years. The second phase is currently scheduled for completion during 1999. The total appropriation for the project has been $964,240. Of that total, $197,000 appropriated for fiscal year 1998 has been extended through November 1999. The 1999 appropriation of $197,000 has yet to be awarded, as we have yet to receive and review a request from the institution.

Question. What is the source and amount of non-federal funds to support this project?

Answer. The project budget does not indicate any non-federal support. However, Agricultural Research Stations in five other States have economists currently working together on a Regional Research Project, with the intent of improving and expanding upon the New Mexico project.

Question. Where is this work being carried out?

Answer. Research is being conducted statewide based from New Mexico State University in Las Cruces, New Mexico.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. According to the project director, most of the original objectives have been accomplished. In this second phase of the project, the investigators are collecting data to allow incorporation of other industry and government sectors into the model. Objectives for this phase should be completed near the end of 1999.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The proposal for continued funding most recently underwent merit review by a team of CSREES National Program Staff in May 1998, and a review of progress-to-date was conducted by the project liaison in September 1997. The reviews focused on criteria including the relevance of the project goals, the suitability of the proposed research methods, and the extent of progress made toward addressing the goals of the project. Both reviews found that phase one objectives had been met and that adequate progress had been made toward the objectives of the second phase of the project. A more comprehensive evaluation of the project, originally scheduled for Fall 1998, has been rescheduled for December 1999 to coincide with the no-cost extension requested by the project managers at New Mexico State.

RURAL DEVELOPMENT, OKLAHOMA

Question. Please provide a description of the program that has been funded under the Rural Development, Oklahoma Project.

Answer. This program provides financial and technical assistance to small business to create and retain jobs in rural Oklahoma and to stimulate the local economies. The program is carried out through financial services, business incubators, problem-solving assistance to small-and medium-sized manufacturers, and technical assistance to rural small businesses. The program is expanding to include assistance to rural small businesses to enter international trade. The program continues to evaluate new products and processes that may result in new industries or be applied to improve existing manufacturing processes. The project has undergone a merit review.

Question. What is the national, regional, or local need for this program?

Answer. The increased demand for small business financing and technical assistance verifies the need for the program. Each year financing secured for small businesses has significantly increased. The demand for business incubators is also on the rise. Last year, Rural Enterprises—REI—agreed to mange two more business incubators bringing the total REI-managed facilities to thirteen. Also, small businesses continue to need access to technical and business management assistance, worker training, and international trade assistance in order to stay competitive in domestic and world markets.

Question. What was the original goal of this program and what has been accomplished?

Answer. The original goal of the program was to create jobs in rural Oklahoma by providing systematic access to improved technology, training, financial, and business management assistance. REI is a Certified Development Corporation for the small Business Administration as well as a designated Certified Development Financial Institution. As a result, REI has been successful in obtaining financing for entrepreneurs and rural small businesses totaling $119,060,129. Special technical

assistance efforts have included problem-solving assistance to small manufacturers; training and dissemination of information on ISO9000 to assist rural businesses compete with a global market; providing manufacturers with a "Quick View Assessment" program which enables manufacturers to compare their facilities and operations with other companies across the United States; and working one-on-one with small businesses providing on-site assistance with inventory control, cash flow management, and marketing.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Appropriations to date are as follows: $433,000 per year in fiscal years 1988–89; $430,000 in fiscal year 1990; $431,000 in fiscal year 1991, $300,000 per year in fiscal years 1992–95; $296,000 per year in fiscal years 1996–97; $150,000 per year in fiscal years 1998–1999. Appropriations total $3,819,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. No non-federal funds have been provided for this project.

Question. Where is this work being carried out?

Answer. The work is being carried out at Rural Enterprises, Inc., REI, in Durant, Oklahoma.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original proposal in 1988 was for a period of 12 months. However, the objectives of Rural Enterprises, Inc. are on-going because of the nature of the activity. The clientele is diverse and decentralized. The engineering and management consultation model being pursued with individual clients results in a situation where hundreds of problems are being pursued simultaneously and when solved are replaced by new issues resulting from international competition, regulations, training needs, and changeover costs. The next phase of the program will be completed in 1999.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. REI itself conducts an on-going evaluation process to measure the organization's effectiveness and efficiency in accomplishing its objectives, and this is documented on a quarterly basis through our reporting system. Over 6,000 jobs have been created and retained for new and expanding businesses as a result of this program. While the program has met its key objective of job creation in rural Oklahoma, the nature of its outreach effort continues to evolve and change as business sustainability and profitably confront new challenges within small and rural communities. CSREES has not conducted an evaluation of the Rural Enterprises, Inc. project.

RURAL DEVELOPMENT THROUGH TOURISM, NEW MEXICO

Question. Please provide a description of the program that has been funded under the Rural Economic Development Through Tourism—REDTT—Project in New Mexico.

Answer. The Rural Economic Development Through Tourism Project involves applied research and outreach focused on locally-based tourism development strategies to enhance economic opportunity in small and rural communities in New Mexico. Components of the agenda support training of local leadership and tourism professionals, strategic planning and market development, and technical assistance to communities. The proposals submitted are submitted for internal review and evaluation within the agency. Recommendations are presented to enhance impact on regional and national agendas.

Question. What is the national, regional or local need for this program?

Answer. This is an on-going pilot to demonstrate the effective development and implementation of applied research, training, education, and technical assistance related to rural tourism as a development strategy. The grant has demonstrated that a long-term commitment of resources and activity can lead to effective development of tourism resources and build new market opportunities and tourism products for small communities. This project would provide an excellent proposal for the Fund for Rural America.

Question. What was the original goal of this program and what has been accomplished?

Answer. The applied research and outreach project was designed by the State Cooperative Extension Organization to increase the ability of the public sector to enhance economic opportunity for rural communities through tourism development. A

regional task force composed of Extension professionals and community leaders from business, industry, education, and government—local, state, and Federal—was developed to guide and advise the development and implementation of locally-based programming and research. The results include video training materials, a public relations package, image studies and profiles, regional tourism guides, development of tourism bus packages, festival planning workshops, development of regional tours, and a mini-grants program for tourism development.

Question. How long has this work been underway and how much has been appropriated through fiscal year 1999?

Answer. In fiscal years 1992 through 1995 the amount of $230,000 was appropriated. The appropriation for fiscal years 1996 and 1977 was $227,000 per year; for fiscal year 1998 was $247,000; and for fiscal year 1999 was $280,000. Total appropriated funds to date is $1,901,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. fiscal year 1992 included $38,764 in state matching funds. fiscal years 1993,1994, 1995, and 1996 included $39,360 of state matching funds. fiscal years 1997 and 1998 include $39,040 state matching funds.

Question. Where is this work being carried out?

Answer. Applied research and outreach is being carried out through New Mexico State University.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original completion date was September 30, 1993. The original objectives of this research have been met. The additional objectives being presented for the current year will be completed by September 30, 2000.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The agency evaluates the merit of research proposals as they are submitted. No formal evaluation of this project has been conducted. The principal investigators and project managers submit annual reports to the agency to document impact of the project. Each year, the project has demonstrated significant accomplishment in the reports submitted. Impacts include significant increases in attendance of local festivals, increase in number of tour bus visits to New Mexico, training to over 700 tourism employees in the region, and establishment of a number of new businesses. Agency evaluation of the project includes peer review of accomplishments and proposal objectives and targeted outcomes.

RURAL REHABILITATION, GEORGIA

Question. Please provide a description of the program that has been funded under the Rural Rehabilitation project in Georgia.

Answer. The program has tested the feasibility of providing satellite-based adult literacy education, in association with vocational rehabilitation services, to handicapped adults in rural Georgia. The program has developed curriculum, tested and adapted technology, established student recruitment and retention strategies, expanded to Statewide coverage, and provided successful adult literacy education.

Question. What is the national, regional, or local need for this program?

Answer. A state task force has estimated that 25 percent of Georgia's adult population is functionally illiterate. Functional illiteracy is regarded in Georgia as a form of disability. The extent of adult functional illiteracy is similar throughout much of rural America.

Question. What was the original goal of this program and what has been accomplished to date?

Answer. The original goal of this program was to prove that distance learning can be an effective tool for reaching and teaching functionally illiterate adults in rural areas. This program has demonstrated that satellite-based literacy training, in cooperation with vocational rehabilitation services, can successfully provide adult literacy education designed to improve critical reading, writing, and thinking skills, for handicapped rural adults. Over the past 9 years, test scores and attendance and completion rates of students in the satellite-based program have shown that distance learning is an effective delivery system for instructing low-level readers and non-readers. Test scores and attendance rates of students in this program have been comparable to those of students in traditional, urban classes.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Funding for this program was initially appropriated in fiscal year 1989, and the program has been in operation since March 1989. Through fiscal year 1998, appropriations for this program have been as follows: $129,000 in fiscal year 1989; $256,000 per year in fiscal years 1990, 1991, and 1992; $250,000 per year in fiscal years 1993, 1994, and 1995; and $246,000 per year in fiscal years 1996, 1997, 1998 and 1999. Funds appropriated to date total $2,631,000. These Federal funds are typically used for program innovation and quality improvement.

Question. What is the source of and amount of non-federal funds provided by fiscal year?

Answer. The fiscal year 1998 source of non-federal funds provided for this program are state appropriated funds from the Georgia Department of Adult Education. Prior years sources also included private contributions from the Woodruff Foundation and other local foundations. Through fiscal year 1998, the total amount of non-federal funds provided the project has been $8,006,901. The breakdown by fiscal year is: $164,000 in fiscal year 1988; $270,500 in fiscal year 1989; $809,675 in fiscal year 1990; $656,765 in fiscal year 1991; $65,000 in fiscal year 1992; $1,019,821 in fiscal year 1993; $20,000 in fiscal year 1994; $872,500 in fiscal year 1995; $1,500,000 in fiscal year 1996; $1,319,320 in fiscal year 1997; and $1,309,320 in fiscal year 1998.

Question. Where is this work being carried out?

Answer. The Georgia Tech Satellite Literacy Project is sponsored and operated by four organizations: Georgia Institute of Technology's Center for Rehabilitation Technology, the Center for Rehabilitation Technology, Inc., Literacy Action, Inc., and the Georgia Department of Technical and Adult Education. The program grantee is CRT, Inc., a private, not-for-profit business advisory board to the Center for Rehabilitation Technology, College of Architecture, Georgia Institute of Technology, from which the literacy instruction has been provided.

Question. What was the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. It was anticipated that it would take three years to demonstrate that distance learning can be an effective tool for reaching and teaching functionally illiterate adults in rural areas. That original objective was met in Fiscal 1991. Additional objectives since fiscal year 1991 have been to expand the outreach of the satellite based adult literacy program to enough additional sites throughout the State of Georgia so that all potential participants have reasonable access to the program, and to continually upgrade the quality of class programming and the technical capacities of the system. The fiscal year 1997 technological upgrades expanded the capacity of the program more than 25-fold, from 77 to over 2,000 downlink sites, and a 6-fold increase in broadcast hours, and made materials available as supplemental tools to all Georgia literacy classes. As of December 1997, the Georgia Tech Satellite Literacy Program is in a period of transition from that of providing literacy instruction via direct television broadcasts to classrooms to that of development and dissemination of technology-based instructional aids. The project has been renamed the Lifelong Learning Network, or LNN. This change is being made based upon the request of the major sponsor, the Georgia Department of Technical and Adult Education, Office of Adult Literacy. The LNN will develop and produce video-based instructional supplements, technology-based curriculum and training for adult literacy practitioners, and multi-media projects for literacy students.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. The agency receives annual reports on the project that are used, together with agency merit review, to assess its progress. Based on these reports, the agency has found that the project has made steady progress in demonstrating the feasibility of utilizing distance learning technology and teaching methods to provide adult literacy education programs to handicapped adults throughout the State of Georgia. The project has been successful in applying the latest distance education technology to both control the program cost per participant and, most recently, to expand the availability of the program.

TECHNOLOGY TRANSFER PROJECTS, OKLAHOMA AND MISSISSIPPI

Question. Please provide a description of the program that has been funded under the Oklahoma and Mississippi Technology Transfer Projects.

Answer. The original work involved the transfer of uncommercialized technologies from Federal laboratories and universities to rural businesses and communities. The objectives have evolved to providing more one-on-one assistance to small manufacturers. This type of assistance responds to the stated needs of the small manufac-

turing community and fills a recognized gap in the existing service provider community. This project has undergone a merit review.

Question. What is the national, regional, or local need for this program?

Answer. Manufacturing extension programs throughout the country have identified one-on-one engineering technology assistance as a need for small manufacturers as they attempt to become more competitive and profitable.

Question. What is the original goal of this program and what has been accomplished to date?

Answer. The primary goal of these programs is to contribute to an increase in business productivity, employment opportunities, and per capita income by utilizing technology and information from Federal laboratories; Rural Enterprises Development Corporation and Industrial Technology Research and Development Center in Durant, Oklahoma; Mississippi State Food and Fiber Center; Vocational-Technical Education System; Center for Local Government Technology; Cooperative Extension Service; and other university departments and non-campus agencies. Specific program objectives are to:

—Develop greater profitability of existing enterprises.

—Aid in the acquisition, creation, or expansion of business and industry in the area.

—Establish an effective response process for technological and industrial-related inquires.

—Devise effective communication procedures regarding the program for the relevant audiences.

Question. How long has this work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. Funding appropriated to date is as follows: $350,000 per year in fiscal years 1984 and 1985; $335,000 in fiscal year 1986; $333,000 per year in fiscal years 1987 through 1990; $331,000 per year in fiscal years 1991 through 1995; and $326,000 per year in fiscal years 1996 through 1999. Appropriations to date total $5,326,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Oklahoma State University and Mississippi State University have provided considerable amounts of matching support from state funds over the life of the project. Over the past four years, support has included a significant portion of engineering faculty salaries as well as the administrative support of county and district extension staff.

Question. Where is this work being carried out?

Answer. The work is being carried out at Mississippi State University and Oklahoma Sate University.

Question. What is the anticipated completion date for the original objectives of the project? Have those objectives been met? What is the anticipated completion date of additional or related objectives?

Answer. The original proposal in 1984 was for 12 months. The original objectives have been, and continue to be met. Although individual client projects have a beginning and end, the technology transfer process is continuous. Over the past years, specific and measurable annual objectives and the achievement of objectives have been documented in annual reports. The objectives of both programs have been to: continue the delivery of high-quality engineering assistance and technology transfer services to small manufactures: conduct joint workshops, client referral, and joint research and application projects; and demonstrate a value of service to clients many times project operating costs. The current phase of the program will be completed in 1999.

Question. When was the last agency evaluation of this project? Provide a summary of the last evaluation conducted.

Answer. Site visits and merit reviews have been conducted annually on these projects as well as client surveys by project staff themselves. Survey results have documented job creation, productivity enhancement, and local community economic activity. The Technology Transfer program has impacted the integration of emerging technologies that are benefitting the citizens, ranging from assisting small businesses and industries in integrating new computer hardware and software for conducting electronic commerce, to providing extensive online information resources. The Technology Transfer Funds have served as a catalyst for the development of a long range telecommunications network plan for the total extension service to link all county extension offices and research centers directly to the Mississippi data/video backbone and provide access to the Internet.

WOOD BIOMASS, NEW YORK

Question. Please provide a description of the program that has been funded under the Wood Biomass Grant?

Answer. The objective of this project is to expand, implement, and gain acceptance of wood biomass as a sustainable, renewable and environmentally-affable fuel source. In addition, the project is deemed to support the promotion of alternative forest products for the Nation's Central and Northern Hardwood forests regions.

Question. What is the national, regional, or local need for this program?

Answer. The principal researchers hypothesize that the project is of national interest. Biomass research studies through the U.S. Departments of Agriculture and Energy span 20 or more years. This work clearly demonstrates that the nation is in a position to scientifically produce environmentally-affable fuels for power generation systems. Except for co-generation plants the current cost of conventional power supply fuels currently precludes the wholesale adoption of this technology. Complementing the planned fuel supply are many sidebar benefits including carbon sequestration, rural economic development, wildlife habitat, and soil erosion and sedimentation associated with conventional agriculture.

Question. What was the original goal of this program and what has been accomplished to date?

Answer. The goal of this project is to promote, through applied research and technology transfer, wood biomass as a sustainable wood supply for (1) power generation, (2) alternative farm products, (3) wise stewardship of land resources, and (4) enhanced farm profitability.

To accommodate these goals, scientists at the State University of New York are planting willow trials on several sites and under several conditions. Site preparation and planting has occurred on several locations, and more are planned. Cornell University, a partner institution in the project, has hired a technology transfer specialist to coordinate educational activities resulting from this work. Common events include field days, news articles, videos, and exhibits.

Question. How long has the work been underway and how much has been appropriated by fiscal year through fiscal year 1999?

Answer. This aspect of the program began with an appropriation of $200,000 in fiscal year 1995. An additional $197,000 was appropriated by the Congress for fiscal years 1996 through 1999. This sums $988,000.

Question. What is the source and amount of non-federal funds provided by fiscal year?

Answer. Four state partners and approximately 18 private partners contribute resources at a ratio of nearly 1.5 to 1 for this project.

Question. Where is the work being carried out?

Answer. The field work is being conducted on private and state land near Syracuse, New York. Electronic and print media allows Cornell's technology transfer activities to extend far beyond that point.

Question. What was the anticipated completion date for the original objectives of the project. Have those objectives been met? What is the completion date of additional or related objectives?

Answer. The completion date for the original objectives of the project, willow cultivar planting, was September 30, 1996. With the addition of some new dimensions to the project, the completion date is now 2003. Because of the timing of one of the fiscal awards, some weather related problems and some land contract problems all of the original objectives have not been met. Most of the unmet objectives should be completed in 2000.

Question. When was the last agency evaluation of the project? Provide a summary of the last evaluation conducted.

Answer. A field review of the project was conducted on August 20–21, 1997. Excerpts from the review report include (1) positive accolades for their quarterly progress reports, (2) positive accolades for the outreach program being conducted by Cornell University, (3) praise for the scientific outreach by the principal investigators, (4) praise for connecting the willow biomass program to the poultry waste and riparian issues in New York state, and (5) praise for gaining the acceptance of willow biomass as an agricultural crop for state property tax purposes. On the concern side, CSREES' project administrator flagged the delay in establishing the demonstration farm and requested diligence in bringing this aspect of the project to fruition. Subsequent reports from the project reveal that this aspect has been satisfactorily addressed.

SUBMITTED QUESTIONS ON GOVERNMENT PERFORMANCE AND RESULTS ACT

QUESTIONS SUBMITTED BY SENATOR COCHRAN

ALTERNATIVE AGRICULTURAL RESEARCH AND COMMERCIALIZATION CORPORATION

Question. What specific steps have you taken as the head of the agency to achieve performance-based management within your agency, as required by the Government Performance and Results Act?

Answer. In accordance with the Act, AARCC has developed a strategic plan and annual performance plans for fiscal year 1999 and fiscal year 2000.

Question. How are your agency's senior executives and other key managers being held accountable for achieving results?

Answer. The performance goals and objectives contained in AARCC's strategic and annual performance plans were taken from AARCC's business plan, which, together with the by-laws, is the operational framework for the corporation. The business plan was approved by the AARCC board of directors and is the basis by which the board measures the performance of the corporation. As the Executive Director, I am evaluated, in part, on my ability to have the corporation meet its annual and strategic goals.

Question. How is performance information being used to manage the agency?

Answer. Performance against AARCC's business plan targets is a major consideration in establishing a value for AARCC's portfolio and preparing the corporation for privatization. Since the business plan also anticipates a certain level of repayments to the revolving fund each year, performance information is also used to anticipate the necessary level of future appropriations. AARCC's budget requests are developed accordingly.

Question. How did program performance factor into decisions about funding requests for fiscal year 2000? Please provide examples.

Answer. AARCC developed its fiscal year 2000 budget request with the expectation that two to three of its portfolio companies would complete initial public offerings (IPOs) during the fiscal year. If these companies complete successful IPOs and become publicly traded, then their capacity for job creation and growth increases. Returns to the AARCC revolving fund are also realized through the sale of AARCC's stock in the company. This contributes to the attainment of all four objectives in AARCC's annual performance plan: increased economic development and job creation in rural areas, profitable and efficient uses of limited natural resources, development of profitable U.S. companies that manufacture products from renewable agricultural, forestry, and or animal-based raw materials, and a reduced need for appropriated funding for AARCC.

Question. What specific program changes has the agency made to improve performance and achieve the goals established in the strategic and annual plans?

Answer. AARCC has not found it necessary to significantly alter its program in order to accomplish its GPRA goals and objectives. The GPRA goals and objectives are already expressed as short- and long-term milestones in the AARCC business plan. In some instances, timetables for accomplishing these milestones have been extended due to unusual budget constraints during fiscal year 1999. Nevertheless, AARCC has still been able to pursue a number of initiatives to support the accomplishment of its performance targets.

With respect to its performance goal to increase public awareness of AARCC and its mission, AARCC has recently introduced of the Industrial Agriculture Clearinghouse, an internet-based service designed to assist in commercializing new uses for agricultural products. To date, the Clearinghouse has been visited 3,864 times; AARCC's fiscal year 1999 performance indicator was 2,800 hits.

Additionally, AARCC has been instrumental in organizing USDA's Bio-based Products Coordination Council. A primary responsibility of the Council is the semi-annual publication in the Federal Register of a bio-based products list. This list provides Federal agencies with a variety of product alternatives that comply with the environmentally preferable purchasing requirements of Executive Order 13101, Greening the Government Through Recycling, Waste Prevention, and Federal Acquisition. This Executive Order, signed on September 14, 1998, strengthens and expands the Federal government's commitment to recycling and buying recycled-content and environmentally preferable products.

Finally, in an effort to increase awareness of AARCC and bio-based products within the investment community, AARCC co-sponsored an investment forum last October and is co-sponsoring another one in June. These events are targeted to investors with an interest in environmental technologies. They have been organized to show-

case products and technologies from the bio-based products industry generally, and AARCC-funded companies specifically.

Another performance goal is to obtain a clean and timely audit opinion on AARCC's audited financial statements. To this end, AARCC is working with an outside contractor and USDA's Office of Inspector General (OIG) to develop a new system of internal controls. These controls are still being developed and will be implemented later this fiscal year. Consequently, AARCC's performance goal of obtaining a clean audit opinion in fiscal year 1999 has been delayed until fiscal year 2000.

Question. How does the agency budget structure link resource amounts to performance goals?

Answer. AARCC's budget structure is dictated by statute—16 percent of amounts in the revolving fund (appropriated funds plus return on investment) are reserved for administrative expenses; 84 percent must be used to fund new projects. The administrative portion of the budget supports the salaries, benefits, travel and related expenses of the AARCC staff and board of directors. This part of the budget also funds the public education, information technology, and financial management activities included as management initiatives in AARCC's annual performance plan. It is by financing new investments, the activity funded by 84 percent of AARCC's overall budget, that AARCC attempts to accomplish the performance goals identified in its annual performance plan.

Question. What, if any, changes to the account and activity structure in the budget justification are needed to improve this linkage?

Answer. Currently, the Federal Agriculture Improvement and Reform (FAIR) Act requires that a full one percent of AARCC's annual appropriation be spent to conduct due diligence reviews of prospective investment projects. Because the size of AARCC's portfolio has grown considerably since this legislation was enacted, the funds sequestered by this provision would be better spent to enhance the performance of the existing portfolio investments. This could be accomplished by redirecting the one percent to be used for follow-on investments in existing portfolio companies, or for expenses associated with project monitoring activity, or both. Making this change, however, would require an amendment to the FAIR Act.

Question. Does the agency fiscal year 2000 Results Act performance plan include performance measures for which reliable data are not likely to be available in time for the first performance report in March 2000? If so, what steps are planned to improve the reliability of these measures?

Answer. We anticipate that a reporting of reliable data regarding AARCC's net present value and the annual rate of return on its portfolio investments will be delayed by a year. AARCC's performance plan submitted as part of its fiscal year 2000 budget request showed hard data as being available at the end of fiscal year 1999. Due to an unexpected reduction of 50 percent in AARCC's fiscal year 1999 appropriation, funds were not available during fiscal year 1999 to let the RFP required to secure an outside valuation of the AARCC portfolio. This activity has been postponed until fiscal year 2000 and will not be complete in time to meet the March 2000 deadline for issuing AARCC's first annual performance report.

Question. How will future funding requests take into consideration actual performance compared to expected or target performance?

Answer. AARCC's funding requests are specified in its business plan, which ties future requests to anticipated returns on the investment portfolio. AARCC has identified a 20 percent annual rate of return as a performance goal for fiscal year 2000. This translates into anticipated cumulative repayments of $1.7 million and a subsequent appropriation request of $15 million.

Question. To what extent do the dollars associated with specific agency performance goals reflect the full costs of all associated activities performed in support of that goal? For example, are overhead costs fully allocated to goals?

Answer. AARCC has only one performance goal, to accelerate commercialization of industrial and consumer products made from renewable agricultural, forestry, and animal by-product raw materials. Consequently, all resources available to AARCC in a given fiscal year are dedicated to accomplishing that goal.

AGRICULTURAL MARKETING SERVICE

Question. What specific steps have you taken as the head of the agency to achieve performance-based management within your agency, as required by the Government Performance and Results Act?

Answer. We have developed a strategic plan that includes goals and objectives that are linked to each budget activity within AMS. Internal semi-annual and external annual performance reporting ensure the agency's compliance.

Question. How are your agency's senior executives and other key managers being held accountable for achieving results?

Answer. Every AMS senior executive's performance standards include an element requiring effective leadership and timely action in implementing established program goals and objectives.

Question. How is performance information being used to manage the agency?

Answer. Through effective leadership, adapting to changing priorities, and the ability to develop and carry out goals and objectives, the agency's senior executive staff manage their respective programs by utilizing performance data information.

Question. How did program performance factor into decisions about funding requests for fiscal year 2000? Please provide examples.

Answer. AMS funding requests for fiscal year 2000 reflect both program performance and the changing agricultural market structure. For example, the marketing of U.S. products is increasingly influenced by changes in the international marketplace. The fiscal year 2000 budget request includes funding to expand reporting in foreign markets and development of organic certification to enhance the international trading of U.S. agricultural products.

Question. What specific program changes has the agency made to improve performance and achieve the goals established in the strategic and annual plans?

Answer. AMS' Strategic Plan and fiscal year 2000 Annual Performance Plan include specific objectives to improve performance. Two examples are the implementation of the organic standards program and the restructuring of the dairy marketing agreements and orders program. AMS plans to implement national organic production and labeling standards, and implement an accreditation and certification program using those standards to achieve its goal of facilitating the strategic marketing of U.S. agricultural products in domestic and international markets. Through reorganization and streamlining, AMS continues to reform the Milk Marketing Order Program to achieve its goal of ensuring fair and competitive agricultural marketing through marketing tools and regulations.

Question. How does the agency budget structure link resource amounts to performance goals?

Answer. The performance plan includes a performance goal for each AMS budget activity.

Question. What, if any, changes to the account and activity structure in the budget justification are needed to improve this linkage?

Answer. Since the linkage is direct, no changes are necessary to the account and activity structure in the budget justification.

Question. Does the agency fiscal year 2000 Results Act performance plan include performance measures for which reliable data are not likely to be available in time for the first performance report in March 2000? If so, what steps are planned to improve the reliability of these measures?

Answer. AMS expects to have reliable data for the first performance report.

Question. How will future funding requests take into consideration actual performance compared to expected or target performance?

Answer. As in the past, future funding decisions will be based on both program performance and changing marketing structure.

Question. To what extent do the dollars associated with specific agency performance goals reflect the full costs of all associated activities performed in support of that goal? For example, are overhead costs fully allocated to goals?

Answer. Each of AMS' budget requests are associated with goals in the performance plan and reflect the full agency costs in carrying out that goal, including overhead.

AGRICULTURAL RESEARCH SERVICE

Question. What specific steps have you taken as the head of the agency to achieve performance-based management within your agency, as required by the Government Performance and Results Act? Answer. As Administrator, I have supported the development of the Agency's outcome oriented strategic plan and streamlined the National Program Staff in order to more effectively manage the research program. Also, I have strongly supported the GPRA workgroup recommendation to aggregate the Agency's more than 1,100 research projects into a National Program structure. These changes have helped to reinforce the attention of ARS scientists and managers on producing research outcomes that directly address issues and problems confronting American agriculture. In addition, the creation of National Programs has greatly strengthened the interactions between ARS and its customers, partners, and stakeholders. While many aspects of research do not lend themselves to a strict performance-based management regime, the changes that have been made in the

management of ARS' research program will move the Agency in that general direction.

Question. How are your agency's senior executives and other key managers being held accountable for achieving results?

Answer. The principal tool for moving the agency towards a greater focus on performance management is the development and full implementation of the National Programs. The National Program Staff is the component primarily responsible for managing the ARS research program. Each National Program Leader has an element in his/her performance standards that require him/her to plan, organize, and hold customer workshops that are essential to shaping each National Program. The Annual Performance Plan and the Annual CRIS Project Report, were just completely revised to make them more responsive to performance-based management.

Question. How is performance information being used to manage the agency?

Answer. The 23 new National Programs are the principal components of the Agency's approach to programmatic accountability. The National Programs support the ARS Strategic Plan 1997–2002 and each is focused on specific short- and long-term outcomes. Performance information (both current and projected up to two years) is the basis of the Annual Performance Plan and the Annual Performance Report. The National Program Staff is currently developing a brief annual report for each of the 23 National Programs which will be available on the ARS home page this summer. NPS also plans to comprehensively review its performance information data gathering efforts (both substance and process) before it begins to collect information on fiscal year 1999 performance.

Question. How did program performance factor into decisions about funding requests for fiscal year 2000? Please provide examples.

Answer. In the ARS Annual Performance Plan covering fiscal years 1999 and 2000, the Agency specifically identified performance measures that will be achieved if Congress concurs with the budget request. While research does not lend itself easily to the use of numerical metrics, the enactment of GPRA has begun to change the culture of ARS by strengthening the Agency's focus on the ultimate outcome of its work.

As an example of how ARS displays fiscal year 2000 requests for new or additional funding in its Annual Performance Plan, under Performance Goal 2.1.2.1, "Demonstrate new integrated technologies to protect plants, animals, and ecosystems," ARS is requesting increases of:

—$1,667,000 for areawide integrated pest management programs, and IPM component technology for fruits and vegetables treated with organophosphates and carbamates and pests under large-scale action agency eradication.

—$1,500,000 for the Office of Pest Management Policy.

—$900,000 for wheat and barley scab research.

—$1,000,000 for research on brucellosis vaccines for wildlife.

Question. What specific program changes has the agency made to improve performance and achieve the goals established in the strategic and annual plans?

Answer. In response to the enactment of GPRA, ARS completely changed the way it manages its research program. Traditionally, the Agency managed its research through 1100 plus individual CRIS projects. A workgroup was established in 1994 to develop recommendations on how best to implement GPRA in a research agency. Based on its recommendations the various research projects were organized into National Programs. The National Program Staff with considerable input from ARS scientists, customers, stakeholders, and partners, developed 23 National Programs which are now being refined and implemented through a series of workshops. The National Program structure will far more effectively focus the work of the Agency on achieving the goals and objectives identified in the 5-year Strategic Plan and the AnnualPerformance Plans than would the previous approach.

Question. How does the agency budget structure link resource amounts to performance goals?

Answer. The performance goals are directly linked between the Strategic Plan and the Annual Performance Plans. The Performance Plan is linked, at the level of the five General Goals, to the traditional budget accounts by a crosswalk.

Question. What, if any, changes to the account and activity structure in the budget justification are needed to improve this linkage?

Answer. No specific changes in the appropriation account and activity structure are anticipated at this time. However, if the new National program structure proves to be a useful framework for setting forth annual program goals for research activities in ways that improve results and accountability, then the appropriations committees and the Department may consider changes in the budget activity structure. The Department would consult with the committees to ensure any changes would

improve the budget appropriation process from both the executive branch and Congressional perspectives.

Question. Does the agency fiscal year 2000 Results Act performance plan include performance measures for which reliable data are not likely to be available in time for the first performance report in March 2000? If so, what steps are planned to improve the reliability of these measures?

Answer. After considerable internal study and wide-ranging informal discussions with other Federal research agencies, ARS concluded that it could not meaningfully display its accomplishments of its research program using numerical metrics as envisioned in GPRA. In the Explanatory Notes that accompanied the Agency's fiscal year 1997 budget request, ARS provided a preliminary performance plan that counted scientific publications, new CRADAs, patent applications, and so forth. The information generated by that approach did not even remotely address the intent of GPRA. As a result, ARS requested a waiver under GPRA to use a narrative approach. OMB concurred. Following the structure of the ARS Strategic Plan 1997–2002, the Annual Performance Plan for fiscal years 1999 and 2000 identifies approximately 150 specific anticipated accomplishments for each year that, if achieved, will enable the Agency to meet its performance goals. Even though GPRA does not require a performance report until March of 2000, ARS decided to complete its first report covering over 150 milestones that had been identified in last year's Annual Performance Plan. Each fiscal year 1998 indicator of progress (anticipated accomplishment that demonstrates progress towards a longer term goal) has a narrative description of what was actually accomplished and a description of the outcome or impact of that work. ARS demonstrated its commitment to programmatic accountability by developing a combined document containing the Annual Performance Report for fiscal year 1998 and the Annual Performance Plan for fiscal years 1999 and 2000 a year ahead of the statutory requirement.

Question. How will future funding requests take into consideration actual performance compared to expected or target performance?

Answer. As mentioned earlier, since it was not possible to meaningfully track research with numerical measures, ARS requested a waiver under GPRA to use a narrative approach concurred to by OMB. Following the structure of the ARS Strategic Plan 1997–2002, the Annual Performance Plan for fiscal years 1999 and 2000 identifies approximately 150 specific accomplishments or milestones that the Agency anticipates achieving in each fiscal year. Successful achievement of these milestones will indicate progress towards the broader goals and objectives contained in the strategic plan. If the agency successfully meets most of these milestones, the Congress can have confidence that steady progress is being made towards the General Goals.

Question. To what extent do the dollars associated with specific agency performance goals reflect the full costs of all associated activities performed in support of that goal? For example, are overhead costs fully allocated to goals?

Answer. Because of the ongoing nature of research, the Annual Performance Plan anticipates milestones and outcomes which the Agency anticipates accomplishing in fiscal years 1999 and 2000. The Plan does not associate specific funding to these anticipated accomplishments. Where the Plan does directly link specific levels of resources with research activities is in areas where the fiscal year 2000 budget requests "new" money. In the most recent Plan, ARS has identified over 45 anticipated accomplishments that would occur if Congress approves the budget request.

Animal and Plant Health Inspection Service

Question. What specific steps have you taken as the head of the agency to achieve performance-based management within your agency, as required by the Government Performance and Results Act?

Answer. The APHIS Administrator will incorporate elements into all senior managers performance standards which help focus management on desired program results, consistent with Government Performance and Results Act (GPRA) requirements. He has also involved managers throughout APHIS programs in revisiting their Annual Performance Plan goals, indicators, and targets; by doing so, they have clarified and refined the Agency's fiscal year 2000 plans.

Question. How are your agency's senior executives and other key managers being held accountable for achieving results?

Answer. The performance of senior managers will be reviewed and judged based on their attainment of GPRA goals.

Question. How is performance information being used to manage the agency?

Answer. One of the major benefits of focusing on GPRA requirements has been the establishment of baseline data to determine where our programs currently stand

in terms of results. This information will enable us to track progress and trends, set more accurate targets, communicate results to our stakeholders and customers, and make management decisions based on actual performance information.

Question. How did program performance factor into decisions about funding requests for fiscal year 2000? Please provide examples.

Answer. Program performance was a key factor in the resource allocation decision process in APHIS. For instance, the success of the Brucellosis Program as measured by the reduction in the number of infected herds resulted in the decision to request a reduction in funding for that line item in fiscal year 2000. APHIS requested additional funding in the Horse Protection line item to improve program performance by allocating the additional resources to increase the number of audits and monitored horse shows, and to expand training for inspectors.

Question. What specific program changes has the agency made to improve performance and achieve the goals established in the strategic and annual plans?

Answer. Programs in APHIS have established strategic and operational plans at lower levels in the organization, including field levels, to ensure that program managers throughout the agency are able to prioritize their work so that GPRA goals are met and so that Agency activities are aligned in such a way as to enable successful accomplishment of targets.

Question. How does the agency budget structure link resource amounts to performance goals?

Answer. They are directly linked. The five functional components of the agency's budget structure (Pest and Disease Exclusion, Plant and Animal Health Monitoring, Pest and Disease Management, Animal Care, and Scientific and Technical Services) correspond to the five general goals of the APHIS strategic plan. In the annual performance plan, APHIS has developed a set of annual performance targets for each goal of its strategic plan. The objectives listed under each goal in the annual performance plan correspond directly to funded pest and disease programs under each functional component.

Question. What, if any, changes to the account and activity structure in the budget justification are needed to improve this linkage?

Answer. We do not believe that changes to the budget account and activity structure would significantly improve the linkage between resource amounts and performance goals.

Question. Does the agency fiscal year 2000 Results Act performance plan include performance measures for which reliable data are not likely to be available in time for the first performance report in March 2000? If so, what steps are planned to improve the reliability of these measures?

Answer. There may be measures for which the reliability of the data used to assess performance could be improved. In other cases, other measures may be better served by alternative data sources other than the original data sources identified.

APHIS benefits from focusing Agency attention on performance data because we can help ensure that as information systems are designed and implemented, they take into consideration the need for reliable program performance data. Similarly, as APHIS interacts with other agencies, with other levels of government (e.g., States), with academia and private industry, we can focus on identifying other sources of data outside of APHIS which can help improve our data. We believe that the reliability of our data sources can be tested and enhanced through the use of related and supplemental data sources housed elsewhere.

Question. How will future funding requests take into consideration actual performance compared to expected or target performance?

Answer. APHIS will compare projected versus actual accomplishments and determine the causal factors for differences between the two. This analysis will be driven by the questions, Are we measuring the right things? Are we using the right targets/indicators to show the true results of the program? Are we operating efficiently and effectively? Have the benefits truly outweighed the costs? There may be times when unpredicted or external factors may cause us to have to revise or redefine targets and indicators. These factors, which are difficult to anticipate, may ultimately have a direct and significant impact on future funding requests. We intend to constantly monitor and compare actual performance to target performance, analyze the gaps, and use this information when considering future funding. There is no doubt that some changes will occur along the way, to both targets and indicators, but APHIS challenge will be to keep enough of our measures constant to be able to truly gauge progress.

Question. To what extent do the dollars associated with specific agency performance goals reflect the full costs of all associated activities performed in support of that goal? For example, are overhead costs fully allocated to goals?

Answer. The dollars associated with specific agency performance goals are limited by total available funding which consists of appropriated funds and projected funding from other sources. In the current budget era, APHIS has had to turn more frequently to its partners either at other levels of government, in other agencies, or in private industry to help support its goals. Increases in cooperative agreements, user fees, and other fee for service opportunities have helped narrow the gap between diminishing federal funds and true costs to run agency programs, but there are times when the gap still exists.

Opportunity costs are often incurred by the agricultural community as well, and they are not necessarily captured in the dollar amounts reported by APHIS for each performance goal. APHIS may have goals geared toward eliminating diseases of farm animals, for instance, and may track APHIS activities focused on assisting farmers in preventing/managing diseases. However, it is difficult to determine what it really costs a farmer to have to destroy part of a herd because it was diseased, even though it helped APHIS to prevent further spread of the disease. On the other side, it is difficult to gauge the economic effects of farmers no longer requiring loans from USDA if APHIS has helped them to enhance their financial solvency through pest and disease management.

Still other opportunity costs exist. For instance, because most Americans are disconnected with agriculture, they lose sight of the difficulties inherent in a system with few producers to provide food and fiber to a great many consumers. Each time a farmer or rancher goes out of business because of bad weather conditions or lack of methods (such as chemicals for crop protection or tools for livestock depradation control) to protect their agricultural inventories the agricultural community suffers. Greater responsibility falls upon fewer producers to supply an increasing population with greater varieties and quantities of food.

APHIS does not have a separate line item for overhead costs. The dollars associated with specific performance goals include overhead costs.

COOPERATIVE STATE RESEARCH, EDUCATION, AND EXTENSION SERVICE

Question. What specific steps have you taken as the head of the agency to achieve performance-based management within your agency, as required by the Government Performance and Results Act?

Answer. Programs managed by the Cooperative State Research, Education, and Extension Service (CSREES) are based on five GPRA goals that were developed over a period of 18 months in consultation with the land-grant university partners. The allocation of program funds by CSREES are based on an appropriate response to the goal(s). It becomes the responsibility of each Director/Administrator receiving funds from CSREES to develop a performance plan that covers at least 5 years. The performance plan describes objectives, performance goals, performance indicators along with outcome and outcome indicators. To assess the appropriateness and relevance of the performance plan submitted by each State, a review is conducted of each plan by CSREES National Program Leaders and Deputy Administrators. This merit review forms the basis for the allocation of formula funds. Each year, the same institutions submit an annual performance report to the agency to describe accomplishments made against the performance plan. Reviews of these submissions provide the basis for the agency performance plan and report. Using this procedure, the agency is in a strong position to eliminate program duplication and recommend the use of funds to address issues of national importance where Federal research and education can generate the greatest impact.

Question. How are your agency's senior executives and other key managers being held accountable for achieving results?

Answer. The agency strategic and performance plans form the basis for evaluating agency and executive accomplishments. Each agency executive is held accountable for his/her influence in setting goals for the agency and leadership in influencing the development of agency program priorities. Progress is assessed during regular meetings and in CSREES executives' mid-year and annual performance reviews.

Question. How is performance information being used to manage the agency?

Answer. Performance information is being used to frame the agency performance plan and provide guidance in the USDA budget priority setting process. The success of this effort is best demonstrated in joint development and publication of annual impact statements that highlight significant system achievements in research and education. The impact statements have focused on issues that are important to the Nation, and have had a positive impact in helping stakeholders understand the value added by the investment made in Federal funding and the need to redirect resources to address relevant issues, particularly when gaps in information are identified.

Question. How did program performance factor into decisions about funding requests for fiscal year 2000? Please provide examples.

Answers. Agency performance is assessed based on how well it allocates resources and support project needs that are relevant to the U.S. Department of Agriculture. This was reflected in decisions made in the President's Budget for fiscal year 2000. The following are examples of issues that can be addressed by CSREES: Development of new surveillance methods for foodborne diseases; deliver information to at-risk populations to improve nutrient intake; focus on animal waste management to prevent the pollution of air, soil and water resources; enhance child care programs in targeted communities; develop program delivery strategies for Native American communities to improve health, enterprise management and community development and nutrition; improve entrepreneurial business skills for small farmers to establish viable farm operations and enterprises; integrate production, processing and distribution systems for generation of high value products; study how pathogens are introduced into the production environment, how they survive to contaminate foods, including fresh fruits and vegetables; develop alternatives needed for safe substitutes for commonly used pesticides; etc.

Question. What specific program changes has the agency made to improve performance and achieve the goals established in the strategic and annual plans?

Answer. Developing a comprehensive strategic plan with annual performance plans has encouraged the agency to focus on things that are important to the accomplishment of specific goals. It has changed from a previous organizational culture that tried to "be all things to all people". The agency strategy has created an environment that recognizes the value of focusing on a few issues that are relevant and can be accomplished within the resources provided.

Question. How does the agency budget structure link resource amounts to performance goals?

Answer. The agency budget structure links all mechanisms of support (or budget line items) to the five goals outlined in the strategic plan through use of a crosswalk budget table. This allows performance goals and measures to be developed that support the budget and respond to the Congressional accountability mandate of GPRA. This will result in output and outcome measures that will be documented in future annual performance reports prepared by CSREES.

Question. What, if any changes to the account and activity structure in the budget justification are needed to improve this linkage?

Answer. No specific changes in the appropriation account and activity structure are anticipated at this time. However, if a different program structure proves to be a useful framework for setting forth annual program goals for research activities in ways that improve results and accountability, then the appropriations committees and the Department may consider changes in the budget activity structure to reduce the complexity of crosswalks that we use at the present time. The Department would consult with the committees to ensure any changes would improve the budget appropriation process from both the executive branch and Congressional perspectives.

Question. Does the agency fiscal year 2000 Results Act performance plan include performance measures for which reliable data are not likely to be available in time for the first performance report in March 2000? If so, what steps are planned to improved the reliability of these measures?

Answer. The agency believes that it will have reliable data in time for the first performance report in March 2000. We have used the annual performance report experiences over the past two years to refine performance measures based on the agency strategic and performance plans.

Question. How will future funding requests take into consideration actual performance compared to expected or target performance?

Answer. We believe that the Government Performance and Results Act will require us to document actual performance compared to expected targeted performance. This lets us learn from past experiences and become better at projecting targeted performance as an estimate of resources needed to conduct programs.

Question. To what extent do the dollars associated with specific agency performance goals reflect the full costs of all associated activities performed in support of that goal? For example, are overhead costs fully allocated to goals?

Answer. The dollars associated with the performance goals represent the total amount appropriated for CSREES programs including federal administration funds retained by the agency to administer the programs. In addition, estimated reimbursable funds and mandatory funds for programs administered by CSREES are included.

DEPARTMENTAL ADMINISTRATION

Question. What specific steps have you taken as the head of the agency to achieve performance-based management within your agency, as required by the Government Performance and Results Act?

Answer. In 1998, the Acting Assistant Secretary, began a re-examination of how the performance goals and objectives were affecting operations and customer service within Departmental Administration (DA). New streamlined goals were identified which could better guide performance to the essential business roles of the DA Staff Offices. These new goals and objectives stress the two essential elements of DA business responsibility: Leadership, oversight and coordination to improve management of program and administrative systems throughout the Department; and the delivery of timely, reliable and efficient services to Department agencies.

Last Fall, DA managers met in consultation with the staff of the House Committee on Government Operations and other staff from the Congress to explain this change and seek their guidance. A Strategic Plan was initially drafted and Performance Plans were developed for the fiscal year 2000 Budget. We are now operating under this Performance Plan, which was developed by DA senior leadership.

Question. How are your agency's senior executives and other key managers being held accountable for achieving results?

Answer. The fiscal year 2000 Budget contains a Performance Plan for fiscal year 1999 and 2000 which relates the DA goals and objectives directly to accomplishments in each Staff Office area. The new Plan identifies key elements of accomplishment in areas that can be directly related to performance in each Staff Office and progress is reviewed on a regular basis.

Question. How is performance information being used to manage the agency?

Answer. Under the restricted budget situation in which all DA operations find themselves today, there are constant questions on how to best use scarce resources. The Performance Plan provides an index of progress/accomplishment across the spectrum of DA program activity. Although the performance factors are relatively new, there is a potential to manage the allocation of resources by prioritizing program accomplishments and shifting resources to meet critical program needs.

Question. How did program performance factor into decisions about funding requests for fiscal year 2000? Please provide examples.

Answer. In the budget years immediately preceding the fiscal year 2000 Budget, DA operated under strong program priorities aimed at reversing the negative trends which had been identified in the Department's civil rights record. Budget decisions followed these priorities. In the development of the current budget, DA re-examined other policy support and service responsibilities as well. A new Strategic Plan and performance goals and objectives were identified in internal workshops and in consultation with the Congress. The heart of the current budget proposal is the focus on these performance elements which reflect the new Strategic Plan focus on customer service.

Question. What specific program changes has the agency made to improve performance and achieve the goals established in the strategic and annual plans?

Answer. As a continuation of the development of the focus on service to customers, DA is currently engaged in an examination of its service responsibilities and whether its functions are supported by the current organizational structure. Some realignment of functions and organizations may be needed. The objective is to have the program assignments and organization in place by September 30, 1999.

Question. How does the agency budget structure link resource amounts to performance goals?

Answer. The current Performance Plan and the performance measures reflect the budget structure. Key performance measures have been identified in each major area so that the accomplishments can be measured against the resources used.

Question. What, if any, changes to the account and activity structure in the budget justification are needed to improve this linkage?

Answer. As previously stated, DA is currently undergoing an examination of its functions and organization. Changes will be implemented by the end of this fiscal year and will be reflected in the next budget cycle (fiscal year 2001). As part of the organizational planning, the budget structure will be adjusted to closely reflect the key operations and responsibilities of DA.

Question. Does the agency fiscal year 2000 Results Act performance plan include performance measures for which reliable data are not likely to be available in time for the first performance report in March 2000? If so, what steps are planned to improve the reliability of these measures?

Answer. The current Performance Plan contains measures which can be tracked and should not present any problems in developing the first performance report next

year. As adjustments are made, the availability of data to support key measures will continue to be an important criterium.

Question. How will future funding requests take into consideration actual performance compared to expected or target performance?

Answer. The development of future budgets will assess the priorities and cost of achieving the performance elements identified in the Performance Plan. Unproductive or extremely inefficient program objectives will be de-emphasized in favor of more critical and more productive program elements. Experience with the performance measures will be used in assessing the critical budget criteria of: whether the program/activity should be continued, identifying the appropriate roll for DA, and determining whether the DA operating plan for the program/activity is efficient and productive.

Question. To what extent do the dollars associated with specific agency performance goals reflect the full costs of all associated activities performed in support of that goal? For example, are overhead costs fully allocated to goals?

Answer. The current resource costs identified in the Performance Plan by goal reflect the total amount of full time equivalent (FTE) employment and dollars used by DA in each area. This includes directly appropriated funds, reimbursements from customers and working capital funds. Overhead, such as management, training and facilities costs are allocated to the goals on a pro rata basis.

ECONOMIC RESEARCH SERVICE

Question. What specific steps have you taken as the head of the agency to achieve performance-based management within your agency, as required by the Government Performance and Results Act?

Answer. The ERS Administrator has taken a number of significant steps toward achieving performance-based management. The most ambitious activities relate to evaluating the effectiveness of ERS research and analysis in achieving the agency mission and goals. They are providing useful insights into program strengths and weaknesses. Stakeholders and customers have played a central role in these evaluation efforts, which include:

—A major 2-year review of the ERS program by the National Academy of Sciences National Research Council, which is now complete and will be released in final form very shortly. The report addresses key aspects of ERS operations, including the need for formal instruments that allow clients to assess the suitability of ERS to perform any given analytical task and the need for peer review of individual scientists. A new process for accomplishing the latter is already underway. The report also provides recommendations on means of assessing the balance between intramural and extramural research, particularly focusing on ways to expand the extramural program. ERS has already taken some steps in this direction in its extramural program in support of the Food and Nutrition Research Program.

—A review of the market for economic information on commodity markets. The need for, availability of, and access to economic information on agricultural markets has changed significantly during the last decade. In response, ERS has undertaken a study to determine the value placed on different types of agricultural market information by decisionmakers in the public and private sectors. The first phase, now nearly complete, focused on public sector information users, soliciting information from USDA agencies, the Congress, and other Government agencies. The second phase will focus on private sector information users.

The ERS Administrator played a valuable role as a member of the management advisory team overseeing an assessment of USDA's Interagency Commodity Estimates Committee process. This cross-cutting review is aimed at improving the efficiency and efficacy of the Department's process for developing commodity estimates. ERS not only provided funding, but is also providing major staff support for implementation. In addition, in the last year, ERS has begun development of a single comprehensive tracking system for its products to replace the multiple tracking systems currently in place, and a system to more systematically ensure that customers are getting the products and services they need. Finally, the Administrator has assigned a senior staff member the responsibility of investigating and developing evaluation methods and approaches to assure the relevance and quality of ERS research. Question. How are your agency's senior executives and other key managers being held accountable for achieving results?

Answer. Responsibility for achieving program goals is written into the performance elements and standards of all senior executives and branch chiefs. To make those standards concrete, ERS senior executives and branch chiefs prepare an inte-

grated set of division plans of work, articulating expected results that will contribute to achievement of agency goals. They provide an effective means of linking day-to-day activities to strategic and performance goals. In addition, the assessment by the National Research Council, the market information study, and the systems being developed to track products and customers all are providing means of evaluating success in achieving results.

Question. How is performance information being used to manage the agency?

Answer. The recommendations from the National Research Council report and information from the other assessments currently underway will provide significant guidance for ERS managers. For example, the market information study, by examining how the need for and the availability of economic information on agricultural markets has changed over the last decade, is assisting ERS in designing a market outlook program to meet the needs of a dramatically changed U.S. agriculture. As another example, in 1998, ERS created its first-ever "inventory" of all the work underway for each USDA mission area and then used it to initiate discussions within USDA on how to achieve more effective collaboration.

Question. How did program performance factor into decisions about funding requests for fiscal year 2000? Please provide examples.

Answer. In considering potential budget requests, ERS has always analyzed its program for gaps that could be filled by additional or different research and analysis. In deciding on fiscal year 2000 funding requests, that analysis was aided by the framework provided by ERS strategic and performance plans. Also helpful were increased efforts to incorporate customer feedback into discussion and decisions on programs.

For example, ERS has an ongoing program of work in commodity market analysis. This program provides the analytical underpinning for the Department and Agency situation and outlook programs. ERS requested additional funds for this program for fiscal year 2000 after ongoing and intensive program reviews, along with consultation with other USDA agencies, and feedback from outside users. It was clear that changes in the policy and trade environment made it vital for ERS to ensure sufficient capacity to analyze the structure and performance of commodity markets and to augment the analytical expertise on which Department forecasting is based. User feedback also made it clear that better and quicker access to ERS information was essential. All of these needs were encompassed in the ERS funding request.

Question. What specific program changes has the agency made to improve performance and achieve the goals established in the strategic and annual plans?

Answer. Within the context provided by the agency's strategic and annual plans, the need for planning and organizing some types of research across organizational units of ERS was clarified. As a result, the agency moved to initiate cross-unit activities where appropriate. The best example is creation of the Structural Change in Agriculture Organizing Team. The team, which is composed of researchers from all three ERS program divisions, is developing a major new agency program of work. Their efforts promise to provide critical insights that will significantly contribute to meeting ERS's goal of providing policymakers and others with quality analyses on issues related to structural change in agricultural industries. Other groups reflecting the priorities set in the ERS plans and utilizing cross-agency expertise are working on revenue insurance, trade and the environment, biotechnology, and rural amenities.

Since ERS's program is one of research and analysis, a key performance indicator used for every goal is the percentage of published research that meets peer review standards. Peer review of ERS products is a basic tenet of the ERS program. To ensure that the rewards system for staff reflects the agency's goal of developing high quality, relevant research, ERS has recently initiated another kind of peer review—of the positions of individual analysts. The new Economist Position Classification System is helping to ensure that economists are recognized for the impacts of their achievements.

Each of the ERS performance goals indicates that information will be provided to "policy makers, regulators, program managers, and organizations shaping public debate" in a timely fashion. In fiscal year 1998 and fiscal year 1999, the agency took steps to more systematically identify ERS customers and manage the information flow to them. These efforts, which are moving toward implementation, include the development of an automated system for managing customer services. The system will provide an economical means of ensuring that customers have ERS information when they need it and in the form they find most useful.

Question. How does the agency budget structure link resource amounts to performance goals?

Answer. ERS's budget has one appropriation item, economic analysis and research. The Performance Plan's five goals are linked and dependent on funding levels allocated within the agency.

Question. What, if any, changes to the account and activity structure in the budget justification are needed to improve this linkage?

Answer. ERS does not propose any changes to its account structure.

Question. Does the agency's fiscal year 2000 Results Act performance plan include performance measures for which reliable data are not likely to be available in time for the first performance report in March 2000. If so, what steps are planned to improve the reliability of these measures?

Answer. ERS will have sufficient and reliable data to complete its March 2000 performance report.

Question. How will future funding requests take into consideration actual performance compared to expected or target performance?

Answer. If actual performance does not reach the target performance levels, ERS will review the goal to ensure that it is attainable and the indicators to ensure that they are appropriate. If both are realistic, the agency will assess the possibility of achieving the targets by management or programmatic changes. If neither of these non-budget approaches is likely to attain the desired results, reallocation of current funds or a request for additional funds will have to be considered.

Question. To what extent do the dollars associated with specific agency performance goals reflect the full costs of all associated activities performed in support of that goal? For example, are overhead costs fully allocated to goals?

Answer. The dollars associated with agency performance goals fully reflect the full costs of associated activities in support of the goals, including overhead costs.

FOREIGN AGRICULTURAL SERVICE

Question. What specific steps have you taken as the head of the agency to achieve performance-based management within your agency, as required by the Government Performance and Results Act?

Answer. FAS has adopted the philosophy that, in order to achieve true performance-based management within the agency, as required by GPRA, we must institutionalize it at every level of the organization. To that end, beginning in fiscal year 1997 and continuing in fiscal year 1998, FAS conducted strategic planning workshops with every division in the agency.

FAS is currently conducting weekly half-day conferences with a core group of key agency officials to move the process forward another step this year. FAS's ultimate goal is to link what every employee is doing to support the organization-wide goal. Through the business processes we are implementing, we are building the organizational capacity to achieve performance-based management within the agency.

Question. How are your agency's senior executives and other key managers being held accountable for achieving results?

Answer. Effective October 1, 1998, FAS implemented a performance reporting system, where each key manager is required to report on a quarterly basis his or her accomplishments relative to his or her assigned primary and support responsibilities. The primary and support responsibilities come directly from the agency's annual performance plan. All senior executives and managers in the agency have a critical performance element in their standards of performance which holds them accountable for this reporting requirement.

Question. How is performance information being used to manage your agency?

Answer. The performance information currently being reported on a quarterly basis by executives and managers is being used to make mid-course adjustments as necessary to help the agency accomplish its goals and outcome targets. Additionally, FAS is currently in the process of adding a second stage to its performance reporting system that will significantly enhance the agency's ability to track performance in a way that it can be related to results and used to manage the agency more efficiently and effectively.

Question. How did program performance factor into decisions about funding requests for fiscal year 2000? Please provide examples?

Answer. Program performance factored heavily into FAS's budget request for discretionary spending in fiscal year 2000. For instance, two new initiatives for fiscal year 2000 determined by FAS to be highly beneficial to U.S. export promotion are the South African Agricultural Trade Office (ATO) and the Reverse Trade Missions. The South African ATO proposal supports the President's Africa Initiative which recognizes the potential market for U.S. agricultural products. South Africa is the hub of southern Africa's trade, finance, and transportation infrastructure. The Commerce Department agrees with FAS' assessment of U.S. trade potential in southern

Africa as it too has proposed nearly a dozen new Commercial Service positions in the region for fiscal year 2000. Reverse Trade Missions, that is, bringing foreign buyers to U.S. trade shows to orient their focus on the quality and diversity of U.S. agricultural products, is an established and well utilized program by our competitors. This approach has higher sales potential per cost, especially for small and medium-sized U.S. firms without the ability to participate in foreign trade promotion activities.

Question. What specific program changes has the agency made to improve performance and achieve goals established in the strategic and annual performance plan?

Answer. Two major changes have been made to improve performance and achieve FAS's strategic goals and objectives. Both focused on improving customer service. FAS is scheduled to receive the Vice President's Hammer Award for one of the changes, and the other is being nominated for a Hammer Award.

The change that resulted in a Hammer Award was focused on improving the administration of the Food for Progress (FFP) program. FAS administers the FFP, which provides commodities for donation through Private Voluntary Organizations (PVOs) to support developing countries that have made commitments to expand free enterprise in their agricultural economies. The overall processes of the program had been layered one on top of each other over the years. This resulted in PVOs' requests for funds not being turned around in a timely fashion—administrative delays of up to forty (40) business days were common.

The management team of FAS recognized that something had to be done to improve efficiency. A management team was organized to tackle the problem. Over a period of 18 months, the team made tremendous gains in operational efficiency by eliminating numerous and redundant reviews, re-evaluating the current tasks and making them more cohesive, providing more accountability to their customers (in this case the PVOs), and reducing the average cycle time of transferring administrative support funds to a particular PVO from forty-one (41) to seven (7) business days.

The other major program change the agency has made over the past two years has been the implementation of a Unified Export Strategy (UES), designed to provide industry partners with the opportunity for one-stop customer service. The philosophy is that FAS has a suite of program tools funded by Congress to effect changes in behavior in markets around the world, which in turn positively influence the ability of exporters to sell U.S. farm products in foreign markets around the world. The UES is designed to help FAS deploy its suite of program tools in a highly integrated manner to maximize the return on public investment for its services.

Question. How does the agency budget structure link resource amounts to performance goals?

Answer. Strategic objectives in the annual performance plan are a mirror image of the program activities reported in the agency budget structure. The stated performance goals underneath each objective in the performance plan link directly to budgeted resource amounts in the current fiscal year 1999 budget and the proposed fiscal year 2000 budget.

Question. What, if any, changes to the account and activity structure in the budget justification are needed to improve this linkage?

Answer. A core team of senior managers within the agency is currently in the process of evaluating alternative options to improve this linkage. Additionally, as FAS learns more about institutionalizing performance-based management processes, the potential need may arise for further changes to adjust the agency's budget and planning structure to accommodate changes in legislation, international trade, and technology.

Question. Does the agency fiscal year 2000 Results Act performance plan include performance measures for which reliable data are not likely to be available in time for the first performance report in March 2000? If so, what steps are being planned to improve reliability of these measures?

Answer. It is possible that the fiscal year 2000 Results Act performance plan may include performance measures for which reliable data will not be available in time for the first performance report due to Congress in March 2000. The process of making GPRA a reality in FAS is still ongoing. FAS is working to refine its performance measurement criteria and its performance reporting system to ensure that reliable data and measures are available in the future to track performance. FAS believes a more realistic time frame target for ensuring reliable data is available to it and other government agencies it works with in achieving its goals would be by the end of fiscal year 2000, not mid-year.

Question. How will future funding requests take into consideration actual performance compared to expected or target performance?

Answer. Once the agency has a track record to reference, the agency plans to use actual performance compared to targeted performance, combined with external factors that may have inhibited reaching a targeted goal, to set priorities in its future funding requests.

Question. To what extent do the dollars associated with specific agency performance goals reflect the full cost of all associated activities performed in support of that goal? For example, are overhead costs fully allocated to goals?

Answer. The dollars associated with specific agency performance goals generally reflect the cost of all associated activities performed in support of that goal. Overhead costs are proportionately distributed, with approximately 75 percent allocated to General Goal #1, "Expand export opportunities," and approximately 25 percent allocated to General Goal #2, "Promote world food security."

FARM SERVICE AGENCY

Question. What specific steps have you taken as the head of the agency to achieve performance-based management within your agency, as required by the Government Performance and Results Act?

Answer. In order to achieve performance-based management, as required by the Results Act, Farm Service Agency (FSA) has:

—Established a Senior Management Planning and Controls Committee (SMPC). The SMPC's strategic management functions include: providing leadership, commitment, and guidance to the Agency strategic planning program; providing strategic direction for the Agency by establishing strategic goals; overseeing development and implementation of Agency strategic plans and annual performance plans required by GPRA; and communicating GPRA results to Congress, the Administration, customers, and other stakeholders.

—Established the Strategic Management and Corporate Operations Staff within the Office of the Administrator, which works closely with the SMPC to carry out the Agency's strategic management initiatives.

—Established key contacts in each program/administrative area that are responsible for developing, implementing, and monitoring performance goals and measures.

—Developed a strategic plan for fiscal years 1997–2002 and annual performance plans for fiscal year 1999 and fiscal year 1999/2000.

Specific examples of efforts to implement performance based management include the following.

—The farm loan program annual performance goals and measures are reflected in the goals for each State. These goals and measures were developed to achieve the desired results outlined in the strategic plan. The State Executive Director for each State is held responsible for achieving these goals.

—The Deputy Administrator for Commodity Operations (DACO) is conducting a complete review of the Agency's commodity procurement and warehouse licensing and examination procedures. This review involves industry and customer interviews, development and analysis of alternative ways of conducting these functions, and cost analysis of such alternatives. This review will result in recommendations to improve the efficiency and performance of the licensing and procurement operations. The review team is learning the importance of knowing what customers want and being pro-active in meeting customers needs.

Question. How are your agency's senior executives and other key managers being held accountable for achieving results?

Answer. Performance plans for Agency senior executives contain performance standards related to achieving Agency goals and objectives, improving management, and reducing program and administrative costs.

Additionally, FSA's Administrator has a separate performance agreement on Equal Employment Opportunity/Civil Rights (EEO/CR) which includes specific goals and measures by which the Administrator will be rated. The Agency's Deputy Administrators' performance plans contain a performance element and standards directly linked to accomplishment of the Administrator's EEO/CR goals.

Question. How is performance information being used to manage the agency?

Answer. Starting in June 1999, program managers will be responsible for monitoring performance data and submitting quarterly reports to the Strategic Management and Corporate Operations Staff. Monitoring performance on a quarterly basis will allow the Agency to make adjustments in a timely manner, helping to ensure achievement of performance goals.

Examples of how the Agency is currently using performance information include:

Farm Loan Programs

Field office goal accomplishment is monitored at least monthly by both State and National Offices. This monitoring process reveals trends and problems as they develop, resulting in FSA revising policies and redirecting resources, as appropriate.

Commodity Operations

FSA is closely monitoring the timeliness of commodity shipping. FSA no longer accepts bids from contractors that ship late at bid opening. Such bids are treated as non-responsive.

DACO is evaluating the possibility of establishing licensing and examination criteria and fees based on the warehouse operators' past performance rather than solely on capacity.

DACO is moving to implement Total Quality System Audits (TQSA) for commodities purchased for feeding programs. Under TQSA, the manufacturer of such products is responsible for maintaining the quality of the product.

Question. How did program performance factor into decisions about funding requests for fiscal year 2000? Please provide examples.

Answer. Funding decisions for fiscal year 2000 were primarily based on Agency priorities relative to carrying out the Agency's mission. However, program performance was considered in developing funding requests from the standpoint of whether sufficient funds were being requested to operate a viable program.

Question. What specific program changes has the agency made to improve performance and achieve the goals established in the strategic and annual performance plans?

Answer. The following are specific examples of program changes implemented by FSA.

Goal 1, Farm Programs

Noninsured Crop Disaster Assistance Program (NAP).—During fiscal year 1998, FSA authorized seven pilot FSA State Offices to approve NAP areas and supporting market price and crop yield data. Review of the pilot, assessing increases in timely processing of NAP area requests and claim payments, will be made in fiscal year 1999. Assuming expected improvements in processing NAP areas and producer claims, authorization can be granted to additional States in fiscal year 1999 and fiscal year 2000.

Loan Deficiency Payments (LDPs).—Significant policy changes to help farmers who are experiencing low commodity prices were announced by Secretary Glickman on September 11, 1998. These policy changes make producers who harvest eligible wheat, feed grains, or oilseeds in forms other than whole kernel, such as silage and cobbage, eligible for marketing assistance loans or LDP's. High moisture commodities, commodities containing contaminants, such as aflatoxin, and low quality commodities will also be eligible. It is expected that these program changes will result in increased producer participation in the marketing assistance loan and LDP programs in 1999 and future years, as economic conditions warrant.

Livestock Assistance Program.—Compared to previous livestock feed assistance programs, the application process for this program was streamlined and the reporting burden on producers was reduced by relying heavily on producer certification of losses and not requiring the producer to purchase feed in order to be eligible for assistance.

Crop Loss Disaster Assistance Program.—Compared to previous ad hoc disaster programs, the application process was streamlined and the reporting burden on producers was reduced by using existing information from losses previously reported to FSA and RMA.

Tobacco Program.—A preliminary BPR package has been completed for the tobacco program as part of a pilot program to automate the marketing process for all kinds of tobacco. A pilot project is planned for the 1999 burley tobacco marketing season to determine the feasibility of national deployment of the new piloted marketing system. As funds become available, additional segments of the tobacco program will be reengineered. Automating the marketing process will result in a less labor intensive, more efficient program.

Peanut Program.—In an effort to streamline the collection of peanut marketing assessments (PMAs), the responsibility for day-to-day reconciliations and oversight of deposits has been assigned to the three area peanut loan associations. Moving this function, previously performed by the Tobacco and Peanuts Division (TPD) at headquarters, to the associations allows the reconciliations to be performed closer to the buying point and also reduces the workload for TPD personnel. TPD maintains overall responsibility for the accurate collection of the PMAs.

Goal 3, Farm Loan Programs

The guaranteed loan program regulation has been totally rewritten to streamline the process and make it more user friendly. Particular emphasis was placed on streamlining small loan packaging, adding program flexibility and developing the Preferred Lender Program. These changes should reduce processing time frames, maintain a low loss history, speed delinquency resolution, move direct loans into the guarantee program, and help the agency target minority farmers. In addition, the Agency will soon more fully implement the Debt Collection Improvement Act which will permit the Department of the Treasury to assist us in the collection of seriously delinquent direct loan accounts through offset.

Goal 4, Commodity Operations (Warehouse Examination Operations)

DACO has increased the use of available technology to increase the efficiency of the warehouse examination workforce. Increasing the efficiency of the examination workforce permits the Agency to conduct necessary examinations with a reduced workforce.

DACO is expanding the services that warehouse examiners provide in order to increase sources of revenue for examination operations. By adding services that are needed and requested by the warehouse industry, we expect to increase the value of overall United States Warehouse Act (USWA) functions, which in turn will increase the number of warehouse operators that elect to be federally licensed.

DACO submitted a draft rewrite of the USWA to the Office of Management and Budget (OMB) for their review in April 1998. OMB has not commented on the proposed draft. The rewrite will, among other things, allow the warehouse industry to increase performance and productivity through the use of electronic documents of title (i.e., warehouse receipts, bills of lading, shipping certificates, etc.) for agricultural commodities.

Goal 4, Commodity Operations (Commodity Procurement Activities)

All domestic distribution program contracts have been changed to a delivery basis versus shipping period basis. This should improve timely deliveries since contractors are not paid until products have been delivered.

The rate of liquidated damages for late shipment was increased to be commensurate with the value of the commodity.

Several commodities are now purchased for a longer time period than one month. Certain contracts are now made quarterly or on an annual basis. This ensures an adequate commodity supply and more of a partnership relationship with suppliers resulting in better, more timely performance.

FSA is purchasing more commercial products with brand labels rather than special USDA labels. This should improve the quality and timeliness of deliveries.

FSA now purchases peanut butter with specifications equivalent to national brands. All peanut butter suppliers must have the product tested prior to FSA allowing the firm to participate in the procurement program. This qualified product list has resulted in a better quality product for recipients.

Management Initiative 1, Equal Employment Opportunity and Civil Rights

Civil Rights and Small Business Utilization Staff (CR&SBUS) is piloting and implementing a new standard operating procedure to perform CR State and Service Center Management Reviews. A greater emphasis is placed on the farm loan programs, reviewing fewer Service Center offices, but focusing more on specific problems in each office. By fiscal year 2000, we plan to review some of the Headquarter and Kansas City complexes for EEO problems.

CR&SBUS has instituted tracking systems which will help to quickly and accurately track the status of settlement cases, program complaints, EEO informal complaints, formal backlog complaints, and our EEO informal Early Resolution Program. In addition, these systems provide the data needed to analyze and identify areas for improvement. This system was needed because the volume of cases and settlements has greatly increased since 1997. The Administrator is provided a weekly update on each of these items.

CR&SBUS has established and trained 15 fact finding employees in Montgomery, Alabama, who work full-time on gathering the facts of program complaints and send them to the Headquarters office for analysis. This new system guarantees independent and fair treatment to customers, and improves the number of cases processed on-time as stated in the FSA Annual Performance Plan.

CR&SBUS established an EEO informal Early Resolution Program which brings complainants and supervisors together early in the process to resolve differences before they go formal. This has reduced the number of formal EEO complaints registered as stated in the FSA Annual Performance Plan. It also helps employee mo-

rale by quickly resolving management/employee differences and is a cost savings to the Agency.

Question. How does the agency budget structure link resource amounts to performance goals?

Answer. The FSA fiscal year 1999/2000 Annual Performance Plan and Budget discuss the level of resources needed to achieve program performance goals. The annual performance plan encompasses all program activities included in the agency's budget request, and reflects the program activities associated with identified goals. This linkage enables decision-makers to assess the FTEs and funding requirements of achieving annual performance goals. Performance goals were developed for each FSA budget account. These measures are incorporated in budget material to indicate expected performance to be achieved based on available funding.

Question. What, if any, changes to the account and activity structure in the budget justification are needed to improve this linkage?

Answer. Currently, there are no plans to change the FSA account structure for fiscal year 2001, since there is direct linkage between the account and activity structure in the budget and the associated GPRA program activities for which performance goals have been established.

Question. Does the agency fiscal year 2000 Results Act performance plan include performance measures for which reliable data are not likely to be available in time for the first performance report in March 2000? If so, what steps are planned to improve the reliability of these measures?

Answer. As reflected in the FSA fiscal year 1999/2000 Annual Performance Plan, some performance measures exist for which resulting data may not be available for inclusion in the March 2000 Annual Performance Report. Instances in which data is not available will be reflected in the Annual Performance Report accompanied by an explanation supporting the reason data is unavailable and anticipated time frames to obtain the data. However, prior to preparation of the March 2000 Annual Performance Report, FSA will diligently strive to develop systems facilitating the collection and evaluation of all required data.

Question. How will future funding requests take into consideration actual performance compared to expected or targeted performance?

Answer. The primary reason for requesting funding is to achieve expected or targeted performance, given certain assumptions. Uncertainties, however, in developing budget requests and later actual execution, include unexpected changes in the agricultural economy which have an impact on results. Given this reality, future funding requests will continue to reflect agency priorities with consideration given to performance in the prior year relative to expected or targeted performance. Although actual performance will be a factor in deciding on funding requests in future years, it is and will continue to be only one of many factors considered in determining appropriate funding levels.

Question. To what extent do the dollars associated with specific agency performance goals reflect the full costs of all associated activities performed in support of that goal? For example, are overhead costs fully allocated to goals?

Answer. Performance goals in the Agency's budgets are not reflective of the full costs of all associated activities performed in support of that goal. However, performance goals and program activities in the budget are linked to the four Agency goals in the annual performance plan, which are presented on a full cost basis. For example, each Agency goal, i.e. Farm Programs, includes the salaries and expenses needed to support that goal. Specific Agency performance goals in the annual performance plan are not reflective of the full costs. A basis for determining full cost at this level has not been developed.

FOOD SAFETY AND INSPECTION SERVICE

Question. What specific steps have you taken as the head of the agency to achieve performance-based management within your agency, as required by the Government Performance and Results Act?

Answer. The FSIS Pathogen Reduction/Hazard Analysis and Critical Control Point (HACCP) system regulation, finalized in 1996, is a scientifically based system designed to reduce pathogens on raw products. The regulation requires meat and poultry slaughter and processing plants to adopt a HACCP system of process controls to prevent chemical, physical, and biological food safety hazards. The regulation contains specific requirements for sanitation and microbiological testing. By the beginning of this year, 92 percent of all Federally inspected meat and poultry products have been produced under a HACCP system. The HACCP regulation is a fundamental shift in meat and poultry inspection from prescriptive oversight of the regulated industry to performance-based standards for that industry's products. As part

of HACCP implementation, FSIS is rewriting its regulations to reflect this shift from prescriptive oversight to performance-based management. The Agency is also breaking new ground in establishing performance standards for pathogens. Product samples taken under the regulation for almonella and E. coli testing will also be under performance-based standards for the future. At this stage, the focus is on determining baselines and monitoring prevalence. Future baseline data gathering and performance-based pathogen testing are projected for Campylobacter and Listeria as well.

Question. How are your agency's senior executive and other key managers being held accountable for achieving results?

Answer. Senior Agency managers have traditionally been involved in developing an FSIS strategic planning process resulting in a strategic plan. To strengthen managers' accountability for achieving results of initiatives contained in the plan, in 1996 the Administrator established specific levels of performance for a performance rating of "outstanding" and "superior" in senior executives' performance standards. Annual reviews of upper level managers include an evaluation of how well they have satisfied these agreed-upon performance levels.

Question. How is performance information being used to manage the agency?

Answer. Through the requirements of sanitation and pathogen testing contained in the HACCP regulation, the Agency is monitoring the degree of success of plant performance as indicated by performance-based data. Plant data generated in E. coli testing, for example, will provide trend analysis that will enable Agency managers to determine the appropriateness of critical control points in a plant's HACCP plan. Performance-based data provide objective monitoring of a plant's compliance with the regulatory requirements and permit the Agency to redirect resources to noncompliant plants as necessary. The Performance-Based Inspection System (PBIS) database is also useful in helping Agency managers in directing resources to those areas where the resources are most needed. The Agency believes that the HACCP system along with performance-based results from micro testing will improve food safety and reduce foodborne illness.

Question. How did program performance factor into decisions about funding requests for fiscal year 2000? Please provide examples.

Answer. The decisions about funding requests for the 2000 budget reflect support for priority areas of performance both within the Agency and in cooperative work with the Agency's State partners to improve food safety on a seamless national basis.

The largest single funding increase is requested for mandatory pay raises estimated at $21.3 million, which are essential to maintaining inspection coverage nationwide. Without this increase, FSIS would have to reduce staffing—primarily in the inspection workforce—and this would compromise our ability to perform our statutory mission of food safety inspection oversight.

The program initiatives included in the budget request target key performance areas to meet the anticipated challenges of new program demands. Once HACCP is implemented in all inspected establishments, FSIS must be able to transition its workforce to perform the redefined regulatory tasks and procedures required by the HACCP final rule. The requested increase of $10.8 million will effect the proposed salary upgrades, redeployment, and recruitment to develop a more highly skilled, better educated, and more versatile workforce that will enable FSIS to maximize the performance of its inspection workforce.

To strengthen the food safety partnership with the States, $2.9 million is requested through the President's Food Safety Initiative. This highlights the increasing importance of our cooperative work with States in performing our food safety mission with both State Departments of Health and Agriculture in outbreak and recall investigations and in the Cooperative State Inspection Program.

An additional increase of $1.0 million is requested to carry out Department-mandated civil rights training and to improve Agency civil rights programs. This request reflects the importance of civil rights in our food safety performance day in and day out throughout every area of FSIS, from the most remote establishment to headquarters program offices.

Question. What specific program changes has the agency made to improve performance and achieve the goals established in the strategic and annual plans?

Answer. The Agency underwent an organizational restructuring as it went about implementing HACCP in 1996. FSIS restructured from a region-area-circuit organization to districts which would provide more comprehensive service to its customers and improve communications between the field and headquarters.

FSIS involved all stakeholders and constituencies from the outset to gain valuable information about the Pathogen Reduction/HACCP regulation, a core component of the Agency's goal. Through more than 100 public meetings to date, the Agency has

sought public comment on its policies and future direction, resulting in changes in the HACCP regulation and, ultimately, in program changes for HACCP implementation.

Question. Could you describe the process used to link your performance goals to your budget activities? What difficulties, if any, did you encounter and how did you solve them?

Answer. The Agency recognized the importance early on of linking the performance goals and the budget activities through the Agency mission. The goals represent Agency mission objectives, while the budget activities represent mission activities. On a preliminary basis, the Agency evaluated the relationship between the budget activities and the performance goals to determine whether or not changes were needed in budget activities, and found that the complementary linkage of performance goals and budget activities to the Agency mission indicated no immediate need for change.

FSIS is undergoing a transformation in its inspection program from traditional organoleptic inspection to HACCP-based inspection. The performance goals are specific to achieving a reduction in foodborne illness through HACCP and other inspection changes, and primarily focus on new and anticipated food safety developments. The budget activities capture all costs for both the traditional inspection program and the new HACCP-based inspection system now being implemented. The linkage of performance goals and budget activities will evolve through many stages as transformation of the inspection program takes place, but the Agency does not anticipate any further changes in its budget activities at this time.

Question. To what extent does your performance planning structure differ from the account and activity structure in your budget justification? Do you plan to propose any changes to your account and/or program activity structure for fiscal year 2000?

Answer. The FSIS performance planning structure is built around specific steps that must be carried out to achieve the strategic goal of minimizing foodborne illness in meat, poultry, and egg products. The account and activity structure used in the budget submission is organized along program activity lines that capture the range of infrastructure and support activities necessary to build a total inspection program.

At this point in time, it is too early to discuss with any certainty the likelihood of changes to the account structure. The proposed program activity structure is broad and flexible enough to permit linkage with strategic and annual performance goals, especially as these are fine-tuned or change over time.

Question. Does the agency fiscal year 2000 Results Act performance plan include performance measures for which reliable data are not likely to be available in time for the first performance report in March 2000? If so, what steps are planned to improve the reliability of these measures?

Answer. During the performance measure design process, FSIS created measures that would utilize information that is both available and reliable. The Agency does not anticipate performance-reporting difficulties in preparing the March 2000 report.

Question. How will future funding requests take into consideration actual performance compared to expected or target performance?

Answer. The Agency's performance measures are designed to measure performance in areas where performance has never been measured before. This is clearly a learning period for the Agency and adjustments will be made as lessons are learned.

FSIS has established performance measures that it believes relate to each performance goal in question. That is, the measures used correlate directly to the targeted performance. However, the Agency believes that it needs more experience before it is able to confidently predict future budget requirements based on projected performance.

Question. To what extent do the dollars associated with specific agency performance goals reflect the full costs of all associated activities performed in support of that goal? For example, are overhead costs fully allocated to goals?

Answer. Full program cost is captured in the six budgetary Program Activities (Federal Food Inspection, Import/Export Inspection, Laboratory Services, Field Automation and Information Management (FAIM), Grants-to-States, and Special Assistance for State Programs) which encompass all activities of the Agency's meat, poultry, and egg inspection mission. The dollar amounts associated with the performance goals reflect the full Agency cost in carrying out those goals, including overhead.

GRAIN INSPECTION, PACKERS AND STOCKYARDS ADMINISTRATION

Question. What specific steps have you taken as the head of the agency to achieve performance-based management within your agency, as required by the Government Performance and Results Act?

Answer. Beginning with fiscal year 1999, each of the agency's senior managers will be evaluated on how well they perform in two new areas, best business practices and outreach. Senior managers will be expected to identify and use best business practices to deliver quality service to American agriculture. They must demonstrate innovative and creative thinking to promote good business that achieves the agency's mission while being sensitive to customer concerns. Senior managers must also foster an understanding of the agency's mission, goals, and objectives and demonstrate empathy for customers' concerns. The end result is that each senior executive's performance will be directly linked to the agency's performance and to our customers' needs—both of which are key aspects of performance-based management.

Question. How are your agency's senior executives and other key managers being held accountable for achieving results?

Answer. The agency's senior executives are held accountable for achieving results. As part of the performance review process, the agency's senior executives are evaluated on their key accomplishments for the fiscal year. Furthermore, all senior executives are evaluated on how well they take affirmative steps to support, promote, and carry out Administration and Department policy, of which the GPRA is a key component.

Question. How is performance information being used to manage the agency?

Answer. The following examples indicate how performance information is being used to manage the agency's programs. GIPSA plans to increase the time devoted to analyzing issues involving competitive practices, financial protection, and trade practices to ensure a fair, open, and competitive marketplace for livestock, meat, and poultry. Timely resolution of investigative issues is critical to marketplace efficiency. The percentage of investigative issues resolved in a year's time is a critical measure of program performance. The agency, will, therefore, strive to increase the percentage of investigative issues resolved within the span of one year with an overall improvement in marketplace efficiency.

Faster resolution of issues will also result in an increase in the amount of money recovered for the benefit of livestock producers suffering economic losses in the marketplace. Using fiscal year 1998 as the established baseline, GIPSA will continually monitor loss recovery and focus on those issues having the greatest impact on the producer.

GIPSA has also implemented an enhanced quality assurance and quality control program to ensure the quality and accuracy of inspection results nationwide. The program includes a balance of national and localized monitoring. A greater emphasis is placed on proactive actions to prevent problems from occurring rather than reacting to problems once they have occurred. Results from the quality assurance and quality control program provide the data to monitor the statistical accuracy of original inspection results and the statistical accuracy of Official Agency inspection results-two key performance indicators.

In the near future, GIPSA will complete a telecommunications network that will allow electronic mail and daily data sharing between all offices within the official inspection and weighing system. Among other things, the network will allow GIPSA to create a national grain quality database that will have many uses, such as providing a dynamic picture of nationwide grain trends and allowing timely responses to potential problem areas. The database will also allow GIPSA to monitor and measure the consistency of grain inspection results—something in which our customers have a keen interest.

Question. How did program performance factor into decisions about funding requests for fiscal year 2000? Please provide examples.

Answer. Program performance factored directly into decisions about the agency's funding requests for fiscal year 2000. As provided in the agency's annual performance plan, GIPSA recognizes that a funding level less than that requested for fiscal year 2000 would restrict the agency's ability to meet its goals, objectives, and performance measures for the Packers and Stockyards Programs. Available resources would be focused on conducting investigations involving competitive issues and on those issues having the greatest financial impact on the industry. Reduced funding would result in fewer investigations and could expand the time frame to complete investigations.

The agency also provided an explanation in its budget request and performance plan for fiscal year 2000 of why additional funding is needed for mycotoxin detection, varietal identification, and the study of future market needs. All three relate

directly to the agency's ability to provide the technology to measure grain quality and quantity so that the market has ready access to reliable information which, in turn, reduces market risk and increases market efficiency.

Question. What specific program changes has the agency made to improve performance and achieve the goals established in the strategic and annual plans?

Answer. GIPSA's ability to achieve Goal 1 of its strategic and annual plans is improved by the Agency's recent restructuring of the Packers and Stockyards Programs. The restructuring has strengthened GIPSA's capability to investigate possible unfair and anticompetitive practices and provides greater flexibility and efficiency in enforcing the trade practice and payment protection provisions of the Packers and Stockyards Act. Additional economic, statistical, and legal expertise have been added to the field offices, thereby increasing the efficiency and effectiveness of the Packers and Stockyards staff in investigating anticompetitive practices. The larger field offices will give GIPSA the critical mass of personnel needed to address complex anticompetitive issues.

As indicated in a previous response, GIPSA has also implemented an enhanced quality assurance and quality control program to ensure the quality and accuracy of inspection results nationwide. Results from the quality assurance and quality control program provide the data to monitor the statistical accuracy of original inspection results and the statistical accuracy of Official Agency inspection results—two key performance indicators.

Question. How does the agency budget structure link resource amounts to performance goals?

Answer. Each of the agency's budget activities, the Packers and Stockyards Programs and the Grain Program, is directly linked to a strategic goal and supporting performance goals and indicators. The Packers and Stockyards Programs are represented in Goal 1 of the agency's strategic and annual plans, and the Grain Program is represented in Goal 2. The end result is that the agency's budget structure directly links resource amounts to goals.

Question. What, if any, changes to the account and activity structure in the budget justification are needed to improve this linkage?

Answer. No changes are needed at this time.

Question. Does the agency fiscal year 2000 Results Act performance plan include performance measures for which reliable data are not likely to be available in time for the first performance report in March 2000? If so, what steps are planned to improve the reliability of these measures?

Answer. The agency may not have data for one of the performance indicators supporting Objective 2.3. As given in the agency performance plan for fiscal year 2000, the agency projects that that the percentage of satisfied customers will increase to 88.5 percent in fiscal year 1999. The agency's ability to measure levels of customer satisfaction is dependent upon approval by the Office of Management and Budget to conduct customer surveys.

Question. How will future funding requests take into consideration actual performance compared to expected or target performance?

Answer. The agency's senior managers compare actual and expected performance as they prepare their funding requests. Such comparison is an integral part of the budgeting process.

Question. To what extent do the dollars associated with specific agency performance goals reflect the full costs of all associated activities performed in support of that goal? For example, are overhead costs fully allocated to goals?

Answer. There is a direct linkage between the agency's strategic goals and the agency's two program areas, the Packers and Stockyards Programs and the Grain Program. The goals, in turn, are directly linked to the agency's budget activities. The end result is that the dollars associated with specific goals reflect the full cost of all associated activities performed in support of that goal.

NATIONAL AGRICULTURAL STATISTICS SERVICE

Question. What specific steps have you taken as the head of the agency to achieve performance-based management within your agency, as required by the Government Performance and Results Act?

Answer. NASS has taken a number of measures to promote performance-based management. One major tool is the internal NASS Action Plan, developed from the Agency's GPRA Strategic Plan, which provides employees with a more detailed blueprint for achievement of the NASS goals and objectives. This document contains internal performance targets, strategies, and measures which were developed at the grassroots level by NASS employees. The NASS Action Plan also includes the specific performance measures reported in the Agency's Annual Performance Plan.

To help measure the success of management initiatives, an organizational climate survey of NASS employees is taken every 2 years, and the results shared with all employees. Following the most recent climate survey, the Administrator of NASS appointed an employee committee to study the survey results and make specific recommendations to NASS senior managers on areas identified as needing improvement. In addition, a tailored organizational climate survey was administered to NASS computer analysts to provide useful information for an April 1999 data processing workshop attended by key data processing staff. The status of all NASS initiatives and accompanying performance measures are frequently included on the agenda for senior and middle manager workshops, meetings, and conferences.

Question. How are your agency's senior executives and other key managers being held accountable for achieving results?

Answer. The responsibility for reporting the needed data for the performance measures reside within the individual NASS work units. These measures are updated in the Agency's Action Plan, available to all employees. NASS's senior executive decisionmaking body, the Strategic Planning Council, reviews specific performance measures in semi-annual meetings and requests more information from individual units, as needed. The senior executives' performance standards include elements related to providing leadership in establishing and implementing program goals and objectives, and managing the human, financial, and property resources effectively and efficiently to accomplish program goals.

Question. How is performance information being used to manage the agency?

Answer. NASS performance measures represent a mix of internal measures, such as organizational climate survey results and measures of the accuracy and timeliness of reports, and external measures, such as customers' assessments of the usefulness and importance of NASS data. Managers utilize this information to help them determine how to allocate resources and shift priorities, modify procedures, develop new products, and perform strategic planning.

Question. How did program performance factor into decisions about funding requests for fiscal year 2000? Please provide examples.

Answer. Customer feedback is a critical part of NASS's annual performance plan. The NASS fiscal year 2000 budget request includes initiatives to expand NASS's environmental work, such as the collection of additional pesticide use data. This is in direct response to requests from customers, stakeholders, and partners who are pleased with the current NASS chemical use data set, but want more information about certain commodities and sectors of agriculture not covered in the current program. NASS has worked extensively with customers and stakeholders to receive input into the prioritization of commodities without usage data, review States involved in the program, and to discuss the use of commodity rotation in NASS pesticide use data collection plans. In 1997, NASS implemented an annual postharvest pesticide use survey to address levels of pesticide residues on specific commodities that are treated following harvest. To date, four commodities have been surveyed: apples, potatoes, corn, and wheat. Plans for 1999 are to collect postharvest application data on soybeans and oats.

NASS's involvement in Puerto Rico for the census of agriculture program was directly responsible for the formulation of a budget initiative for fiscal year 2000. Because USDA is now responsible for conducting the census of agriculture in Puerto Rico, the Puerto Rico Department of Agriculture, for the first time, had a lead coordination role in the conduct of the 1997 Census of Agriculture. It became obvious after successfully working together on this census that the same cooperation on other agricultural statistics programs would be very beneficial to both parties. This prompted a request from the Secretary of the Puerto Rico Department of Agriculture to establish a NASS office in Puerto Rico which ultimately resulted in the budget initiative included in the fiscal year 2000 budget request for NASS.

Question. What specific program changes has the agency made to improve performance and achieve the goals established in the strategic and annual plans?

Answer. NASS has made measurable progress in increasing the percent of total national agricultural production included in the NASS annual program, which is a key performance measure in both the GPRA strategic plan and the annual performance plan. This has been accomplished by providing agricultural statistics for the equine and aquaculture sectors and expanded data for the nursery and greenhouse industries.

Question. How does the agency budget structure link resource amounts to performance goals?

Answer. The Annual Performance Plan links the budget and performance goals by showing the Agency's funding and FTE's allocated by the five Research, Education, and Economics (REE) Mission Area general goals. The last page of the NASS

Annual Performance Plan includes a Resource Table matrix displaying the three NASS program activities according to the REE goals.

Question. What, if any, changes to the account and activity structure in the budget justification are needed to improve this linkage?

Answer. NASS does not anticipate any needed changes at this time. NASS's present budget accounting structure cross-walked with the REE general goals allows for the development of meaningful performance indicators and resource allocations.

Question. Does the agency fiscal year 2000 Results Act performance plan include performance measures for which reliable data are not likely to be available in time for the first performance report in March 2000? If so, what steps are planned to improve the reliability of these measures?

Answer. No. NASS anticipates having performance data available for each measure in time for the first performance report.

Question. How will future funding requests take into consideration actual performance compared to expected or target performance?

Answer. The improved accuracy afforded by actual performance data versus estimated information will allow better decisions to be made regarding Agency program changes, new initiative requests, reallocation of resources, and targeting of areas needing improvement.

Question. To what extent do the dollars associated with specific agency performance goals reflect the full costs of all associated activities performed in support of that goal? For example, are overhead costs fully allocated to goals?

Answer. Yes, overhead costs are fully reflected since the total NASS budget is divided among the five general goals.

NATIONAL APPEALS DIVISION

Question. What specific steps have you taken as the head of the agency to achieve performance-based management within your agency, as required by the Government Performance and Results Act?

Answer. The National Appeals Division (NAD) has one mission and that is to conduct evidentiary administrative appeal hearings and reviews arising from program operations of assigned agencies. NAD has one goal: Conduct timely hearings and issue timely and well reasoned determinations which correctly apply laws and regulations. NAD has developed performance-based measures using statutory and regulatory requirements. These measures include: timeliness of appeal hearings; timeliness for issuing appeal hearing determinations; timeliness for issuing appeal review determinations; and percent of hearing officer determinations upheld on review. NAD has implemented NADTrack, a management information system, which tracks data for these performance measures. NADTrack data is used to measure and refine priorities while ensuring that NAD is maximizing its resources.

Question. How are your agency's senior executives and other key managers being held accountable for achieving results?

Answer. NADTrack data will be reported on a quarterly basis to key managers. Reports will be in a standardized format, and will use data from the GPRA-based NADTrack Subsystem. The report will conform with the Strategic Plan, Annual Performance Plan and the Annual Performance Report. These Quarterly Performance Evaluations will be the product of NAD's internal analysis. The performance goals and indicators for these objectives have been identified by the key managers.

Question. How is performance information being used to manage the agency?

Answer. NAD uses its NADTrack system to determine whether performance meets stated goals and objectives. This information is used to ensure organizational efficiency and effectiveness are achieved. Performance information from NADTrack, budget formulation, and other management tools are used to: identify strategies for allocating resources, design customized training, prioritize performance objectives, and (4) measure results of management decisions.

Question. How did program performance factor into decisions about funding requests for fiscal year 2000? Please provide examples.

Answer. In the fiscal year 2000 request, NAD asked for additional money to fund a customized training program. This increase in training funds was based upon a review of NAD performance factors.

Question. What specific program changes has the agency made to improve performance and achieve the goals established in the strategic and annual plans?

Answer. In fiscal year 1999, NADTrack evolved into a system which uses consistent and reliable data to maintain and update statistics. All performance information is measured using identical statistical methodologies.

Question. How does the agency budget structure link resource amounts to performance goals?

Answer. NAD's budget structure directly links resource amounts to program goals. The entire appropriation is assigned to a single performance goal.

Question. What, if any, changes to the account and activity structure in the budget justification are needed to improve this linkage?

Answer. No changes are needed at this time.

Question. Does the agency fiscal year 2000 Results Act performance plan include performance measures for which reliable data are likely available in time for the first performance report in March 2000? If so, what steps are planned to improve the reliability of these measures?

Answer. The agency's fiscal year 2000 Results Act performance plan does not include performance measures for which reliable data are not likely to be available in time for the first performance report in March 2000.

Question. How will future funding requests take into consideration actual performance compared to expected or target performance?

Answer. Actual performance will be compared to the expected performance and budget request adjustments made as required. Adjustments, when required, will be made using current resources to the maximum extent possible.

Question. To what extent do the dollars associated with specific agency performance goals reflect the full costs of all associated activities performed in support of that goal? For example, are overhead costs fully allocated to goals?

Answer. Because of NAD's single mission, all costs are assigned to its single performance goal.

NATURAL RESOURCES CONSERVATION SERVICE

Question. What specific steps have you taken as the head of the agency to achieve performance-based management within your agency, as required by the Government Performance and Results Act?

Answer. First, I have ensured that there is a clear focus on performance-based management at the highest level. I realigned the headquarters structure, consolidating responsibility for strategic planning, performance planning and measurement, budget allocation, and oversight and evaluation under a Deputy Chief for Strategic Planning and Accountability. I directed the new Deputy Chief to develop and implement a new accountability system that would provide a balanced, reliable, and timely picture of the agency's performance. The system will enable agency managers to estimate the effect of programs on the condition of natural resources systems, assess the cost-effectiveness of service delivery, identify opportunities for process improvement, and respond to customers' needs with strategies and assistance tailored to local conditions.

Second, I have taken action to ensure that reliable high-quality information is available to achieve performance based management within NRCS. In fiscal year 1999, we have begun implementation of the new accountability system, which includes data in three major categories.

The system provides detailed data on how we spend our time. The Time and Attendance Report each employee submits every 2 weeks will report the hours spent for each of 27 programs or initiatives (Watershed Surveys and Planning, Grazing Lands Conservation Initiative, etc.) and for each of nine major activities (providing assistance in developing conservation plans, conducting resource inventories, etc.). The system was further enhanced in fiscal year 1999 to include a web-based report database that summarizes NRCS program and activity hours.

The system also provides data on the annual workload and long-term conservation needs of NRCS and the conservation partnership in each field office area. We have developed procedures to conduct nationally consistent analyses of our workload. An initial workload assessment was completed October 1, 1998. It identifies conservation needs based on local knowledge and goals, natural resources information from NRCS inventories, and information from other sources. The analysis develops estimates of the time, by technical discipline, required to produce the agency's core work products.

The system also provides complete and consistent data on a limited number of key performance measures. We have identified key measures that are adequate indicators of annual progress toward strategic goals. These indicators are conservation practices and systems that are defined in NRCS field office technical guides. Basic demographic data necessary to ensure programs are delivered fairly and equitably will be reported for all services delivered. In addition to the conservation practices and systems, which are indicators of outcomes, the new system will collect data on selected output and input indicators, including program management items (such as number and acres in contracts, etc.), on resource inventory and technology development, and on other NRCS state and national office outputs.

The performance reporting system is being developed and implemented in phases. The first phase, essentially completed in fiscal year 1998, permits collection of data on performance measures that are easily quantifiable activities, such as acres on which erosion control practices were applied. Beginning in October 1998, a sample of field offices began entering data. Other offices will be added to the system later in the year. Throughout this transition year, the effectiveness of the system will be evaluated and needed adjustments made.

Third, I have strengthened management of performance evaluation and oversight activities. On October 1, 1999, Oversight and Evaluation Staffs were realigned to the Operations Management and Oversight Division, under the Deputy Chief for Strategic Planning and Accountability, to conduct oversight activities to ensure that NRCS employees comply with all laws, regulations, and agency policies and procedures and evaluations to improve the quality and delivery of services.

Finally, I have taken action to ensure that funding is linked to performance. New procedures are being implemented to define performance expectations when budgets are allocated to managers.

Question. How are your agency's senior executives and other key managers being held accountable for achieving results?

Answer. Agency-wide goals for key performance measures are set in the agency performance plan, based on the long-term goals in the strategic plan. In addition, goals for program-specific activities or outputs are established. As the performance measurement system becomes fully operational, specific state goals will be established for each performance measure. An appropriate element will be included in state and regional conservationists' individual performance appraisals. The Regional Conservationists will monitor the progress of states for which they are responsible and hold state conservationists accountable for meeting goals. The Deputy Chief for Strategic Planning and Accountability will monitor performance nationally and report to the Associate Chief, who will hold Deputy Chiefs and Regional Conservationists accountable.

Question. How is performance information being used to manage the agency?

Answer. Measurable long-term outcome strategic objectives that support the agency's mission are established in the strategic plan. Annual performance goals are set to move toward achievement of the strategic goals and objectives. Line managers will be assigned responsibility for specific portions of each agency goal when they receive their allocation for a fiscal year. They will develop operating budgets that use their funds and staff to meet the established goals and conduct all activities needed to achieve the goals. Employees will report their accomplishments on key performance measures on a continuous basis and will report how their time was spent, by program and major activity. Data will be available on a real-time basis so that employees and first-line supervisors can monitor progress. Senior managers will review performance and financial data periodically to ensure efficient and effective use of resources and to take corrective action when necessary.

Question. How did program performance factor into decisions about funding requests for fiscal year 2000? Please provide examples.

Answer. fiscal year 1998 and fiscal year 1999 are transitional years in our use of performance information. In fiscal year 1998, we determined that the level of quality of performance data reported through the existing reporting system was not adequate to meet GPRA requirements and could not be improved to the necessary degree at an acceptable cost in field staff time. The systems then in use required so much time that they actually hampered achievement of service delivery goals. Therefore, we suspended use of the reporting system then in use and began development of a new system that would provide more consistent reporting of key measures with less burden on the field staff. Fiscal year 1998 performance data for many of the cross-cutting measures of natural resources improvement were, therefore, not available for use in developing fiscal year 2000 budget requests. However, program output data was available and was considered in formulating the budget requests. In addition, historical performance data was also available and was considered where appropriate.

For example, the 1996 Act set an acreage goal of 975,000 acres to be enrolled in the program by the end of 2002. Actual acreage enrolled through the end of fiscal year 1998 was 665,447 acres. The fiscal year 1999 budget supports a goal of 120,000 acres. For the fiscal year 2000 budget, program manager's information was used to determine that a goal of 199,826 acres was achievable, which would bring the total enrolled to the fiscal year 2002 goal. The program manager's information on cost of enrollment was used to establish a request to support the goal.

In formulating the request for the Environmental Quality Incentives Program, several kinds of performance-related data were considered. Program performance data, including program participation, the extent of the resource concerns to be ad-

dressed, and the special needs of historically underserved customers were considered. Because addressing concerns about potential problems associated with animal feeding operations was identified as a major goal of the program, data on the level of historical performance and the time and cost required for completing waste management systems was used to estimate the level of performance that could be anticipated with various levels of funding.

With the new Performance and Results Measurement System, output and outcome performance data will be used much more extensively in the future.

Question. What specific program changes has the agency made to improve performance and achieve the goals established in the strategic and annual plans?

Answer. We have made the changes in the headquarters management structure and in our management information systems described earlier.

In addition, we have established a team to analyze field office operations and identify internally-imposed requirements and procedures that add little value and reduce the time that front line staff can devote to direct services to customers. We are implementing the team's recommendations, thus allowing employees to focus more attention on directly serving customers and completing high priority conservation work.

We are developing plans to ensure that all agency personnel maintain the level of technical expertise essential to meeting goals. An interdisciplinary team conducted a review of how we deliver appropriate conservation technology to field personnel and made recommendations for improvement, which we are implementing. A separate review of training for the field offices has resulted in a comprehensive catalog of training, including self-paced, satellite, agency-provided formal coursework, and non-agency training available. The review made further recommendations for improving technical training. The Technical Guide Committee is continuing to update conservation practice standards. All practice standards are available on the World Wide Web so that all technical staff have immediate access to current technology. We will also shortly begin a focused effort to develop the Field Office Technical Guide of the Future.

And of course we are continuing to work with the other Service Center agencies in the ongoing business reengineering process to reduce duplicative administrative tasks and free up the field to work with customers.

Question. How does the agency budget structure link resource amounts to performance goals?

Answer. The performance goals established in the agency performance plan are cross-cutting goals that are supported by multiple activities in the budget structure. The performance goals provide a way for managers and the public to see the outcome on the landscape that results from the agency's services that are funded through separate accounts. This comprehensive view of agency performance is not possible when performance is measured program-by-program.

The agency performance plans for fiscal year 1999 and fiscal year 2000 include a summary table that quantifies the relationship between each program and resource objective in the agency strategic plan. For programs that support multiple objectives, however, allocation among objectives is only estimated. The combined data that will be available from the new time and attendance reporting system and performance measurement system and the workload analysis activity will provide information for planning and will be the basis for allocation of funds to outcomes, enabling managers to ensure that funds and time are expended on the objectives that were intended.

In addition to the cross-cutting goals, each program in the budget structure continues to set program-specific goals for activities and outputs that must be achieved in order to achieve the higher-level performance measures.

Question. What, if any, changes to the account and activity structure in the budget justification are needed to improve this linkage?

Answer. We are not yet prepared to propose changes to our account and activity structure. As more detailed information becomes available through our new performance reporting systems, we will conduct analyses to evaluate the benefits and identify unintended consequences of changes in the budget structure.

Question. Does the agency fiscal year 2000 Results Act performance plan include performance measures for which reliable data are not likely to be available in time for the first performance report in March 2000? If so, what steps are planned to improve the reliability of these measures?

Answer. We expect to have available data that are reliable at the national level for the key natural resources outcome-related performance measures in the revised fiscal year 1999 performance plan that was included in our fiscal year 2000 plan.

The new reporting systems include built-in edit checks to provide a first level data validation function and help ensure the accuracy of the data. Internal reviews are

conducted to ensure that activities meet all applicable program, technical, and quality standards and are properly recorded. Additional data validation/verification plans are being developed to ensure data are nationally consistent and comparable.

Question. How will future funding requests take into consideration actual performance compared to expected or target performance?

Answer. When our accountability system is fully implemented, we will have more detailed information on results achieved and the time required to achieve them, by geographic area. We will be able to more accurately estimate expected performance at alternative levels of funding than was possible with information available earlier, which generally supported only generalized national estimates. We will be able to identify the causes of any shortfall in expected performance and to determine corrective action needed. We will hold managers accountable for performance goals. Where reliable information demonstrates that performance shortfalls result from insufficient resources directed to a problem, we will provide the Congress with a firm basis for making its decisions on future funding.

Question. To what extent do the dollars associated with specific agency performance goals reflect the full costs of all associated activities performed in support of that goal? For example, are overhead costs fully allocated to goals?

Answer. The fiscal year 1999 and fiscal year 2000 performance plans include a summary table that attempts to allocate all agency funds among the natural resources objectives established in the strategic plan, thereby indicating the full costs associated with the objective. Our time and financial systems in the past have not been designed to track costs by resource outcome. Therefore, at present we can only estimate full costs of objectives.

Our new time reporting system is designed to provide detailed information of the time actually spent in supporting each program's activities and the time spent in certain major activities, such as conservation planning or application. Data from the time reporting system and the financial systems will feed the Actual Cost Recovery and Evaluation System (ACRES), which will provide data on direct, indirect, and full cost of programs and of the work activities in the time reporting system.

We made program time the focus of the initial phase in implementing our new time reporting system because time funded through the Conservation Technical Assistance (CTA) account is used to assist planning, and to a lesser degree, application, of conservation systems that are implemented with cost-share funds from some other source. Oversight entities and the Congress have expressed interest in having a clearer view of this interaction between programs. While program and activity data will be adequate to explain the use of funds for programs, such as the Wetlands Reserve Program, that primarily address a single resource goal, it may not permit us to track all costs associated with all resource outcomes for programs such as CTA that address multiple goals. Further refinement of the workload analysis effort may be needed in some cases to allocate time to specific natural resources goals rather than to work activities. A team has been established to complete an analysis and develop needed mechanisms to fully integrate the elements of the accountability system.

OFFICE OF BUDGET AND PROGRAM ANALYSIS

Question. What specific steps have you taken as the head of the agency to achieve performance based management within your agency, as required by the Government Performance and Results Act?

Answer. Employee performance standards for OBPA staff establish the job performance requirements that have to be met in order to accomplish the performance goals specified in OBPA's Strategic Plan and Annual Performance Plan.

Question. How are your agency's senior executives and other key managers being held accountable for achieving results?

Answer. Accountability for achieving results is ongoing based on the nature of the work the office carries out on a day-to-day basis throughout the year. In addition, senior executives performance ratings are based on whether the desired level of performance is achieved based on feedback from Departmental policy officials.

Question. How is performance information being used to manage the agency?

Answer. Managers and staff are aware of what they are expected to accomplish based on their annual individual performance standards and elements. During the year, this performance is closely monitored and remedial actions are taken as necessary to enhance performance.

Question. How did program performance factor into decisions about funding requests for fiscal year 2000? Please provide examples.

Answer. It has become apparent that the desired level of program performance is becoming increasingly difficult to maintain as staff resources have decreased and

program and budget complexity has increased. To meet these needs the OBPA budget requests increases for an additional staff year, as well as funds to replace the office's outdated information technology system. It is expected that these increased resources will allow the office to maintain and enhance its performance.

Question. What specific program changes has the agency made to improve performance and achieve the goals established in the strategic plan?

Answer. OBPA has not found it necessary to make any program changes. The goals we have set out in our GPRA documents are those we would strive to achieve whether or not there is a requirement to formally acknowledge such efforts.

Question. How does the agency budget structure link resource amounts to performance goals?

Answer. The OBPA budget structure consists of a single appropriation for the office. That appropriation encompasses all of the performance goals based on staff and other resources dedicated to accomplishing the goals.

Question. What, if any, changes to the account and activity structure in the budget justification are needed to improve this linkage?

Answer. No changes are needed.

Question. Does the agency fiscal year 2000 Results Act performance plan include performance for which reliable data are expected to be available in time for the first performance report in March 2000.

Answer. We expect reliable data to be available in time for the 2000 performance report.

Question. How will future funding requests take into consideration actual performance compared to expected or target performance?

Answer. If expected performance is not achieved we will try to determine the causes for reduced performance and tailor budget requests, as appropriate. As mentioned previously, the fiscal year 2000 budget request includes increases necessary to achievement of the performance goals. In addition, we will look for opportunities for improved performance within existing resources.

Question. To what extent do the dollars associated with specific agency performance goals reflect the full costs of all associated activities performed in support of that goal. For example, are overhead costs fully allocated to the goals?

Answer. All costs are fully allocated to the goals.

OFFICE OF COMMUNICATIONS

Question. What specific steps have you taken as the head of the agency to achieve performance-based management within your agency, as required by the Government Performance and Results Act?

Answer. I asked the Office of Communications'—OC—management team to refine the focus of our Performance Plan. During that process we acknowledged that as a communications support agency, our only goal is to enhance and assist in accomplishing the Department's three goals; expand economic and trade opportunities for agricultural producers an other rural residents; ensure food for the hungry, and a safe, affordable, nutritious and accessible food supply; and promote sensible management of our natural resources. To fully assure our success in meeting OC's goal, we reviewed and added to our means and strategies section. OC managers contributed to this revision so they understand the linkage of our plan to their performance and to the staff. Managers will rank their employees' performance according to their accomplishment of means and strategies and in recognition of their contributions toward achieving our goal. We have realigned and strengthened our performance plan to assure that OC provides high quality and timely support that will contribute significantly toward USDA meeting its goals.

Question. How are your agency's senior executives and other key managers being held accountable for achieving results?

Answer. Weekly reports are used by these managers, the Director and Deputy Director of OC to monitor the agency'sperformance. In the case of specific information initiatives, special meetings will be held to assess OC's performance in meeting those initiatives. Also, the Director and Deputy Director evaluate and measure the performance of OC's senior executives and key managers on an annual basis. The individual performance plans for senior executives and other key managers used in this process include performance elements that are tied to OC's means and strategies for accomplishing its performance goal.

Question. How is performance information being used to manage the agency?

Answer. OC uses feedback from the media and the public to evaluate our performance. Positive or negative performance indicators will be used in evaluating individual performance. Work accountability will also be measured by weekly activity

and management reports. Remedies and additional actions will be established should performance fall below the plan.

Question. How did program performance factor into decisions about funding requests for fiscal year 2000? Please provide examples.

Answer. The Office of Communications' staff level has been reduced by more than 20 per cent since 1993. During this time, little or no funds have been appropriated to expand communications activities, improve OC's information technology, or to measure USDA and OC performance in achieving stated communications goals and objectives. The increases proposed in the fiscal year 2000 budget will be used to add technological enhancements that allow measurement of communications performance (e.g., Internet counters or feedback on use of radio and TV products); train OC staff in the use of the latest technologies; effectively and efficiently provide information to under served client populations; and to obtain a limited amount of consulting assistance to gain specialized skills not currently available. Our requested funding for fiscal year 2000 is directly related to our annual performance plan.

The proposed budget includes $588,000 in fiscal year 2000 for OC to upgrade its technology and provide staff the training necessary to make use of advances in communications products, technologies, and techniques so that all segments of the American public may take full advantage of USDA programs, initiatives, services and data. For example, upgraded capabilities would include making teleconferences, publications, and radio and television recordingsprepared for media use directly available to the general public via the Internet. This will dramatically transform the general public's access to USDA materials. Products which were previously available only through the media outlets at specified times or were available to a limited number of participants, will be available at the public's convenience and in a form that will allow for more effective use. Members of the public can save materials on their own home computers, making them available for not only current, but future reference. USDA staff around the country as well as the public can access teleconferences on a variety of topics such as, informational programs, policy discussions, technical guidance, and training. If the requested funds are not provided, OC will not be able to take full advantage of these technological advances, which will restrict OC's ability to provide information in the most effective, timely and cost-efficient manner.

The proposed budget also includes $70,000 in fiscal year 2000 for OC to improve communications efforts to reach groups working with citizens in under served communities and geographic areas. Funds will be used to design, produce, distribute and analyze under served client population surveys and fund audio and video teleconferences with target populations and organizations.

The proposed budget also includes $201,000 in fiscal year 2000 for OC to cover the increased cost of critical Department-level communications coordination and dissemination. Through thisfunding, OC will use available communications products, technology and techniques that reach all segments of the American public, regarding food supply concerns raised by Year 2000 compliance by the agricultural industry. OC will use radio and television special programs and the printed media to alert the consumer that food supplies will be delivered as regularly scheduled.

Question. What specific program changes has the agency made to improve performance and achieve the goals established in the strategic and annual plans?

Answer. The Office of Communications does not manage programs, but rather supports the programs of the Department's agencies, therefore there are no changes to report. However, OC continually modifies its performance based on internal assessments, weekly staff meetings and feedback from USDA agencies and other customers. In the fiscal year 2000 budget request OC proposes to enhance its evaluation mechanisms and upgrade the technology usedto disseminate information to the public.

Question. How does the agency budget structure link resource amounts to performance goals?

Answer. OC's budget structure is a single line item that fully supports its one performance goal.

Question. What, if any, changes to the account and activity structure in the budget justification are needed to improve this linkage?

Answer. No change is needed to the OC account and activity structure in the budget justification to improve this linkage.

Question. Does the agency fiscal year 2000 Results Act performance plan include performance measures for which reliable data are not likely to be available in time for the first performance report in March 2000? If so, what steps are planned to improve the reliability of these measures?

Answer. The fiscal year 2000 budget request includes a request for additional funding to expand or enhance the evaluation mechanisms used. If the requested

funding is not provided, OC will use existing feedback and evaluation techniques. If the Electronic Access initiative is not funded, this will seriously jeopardize OC's ability to achieve its goal of expanded and enhanced support of USDA's performance goals.

Question. How will future funding requests take into consideration actual performance compared to expected or target performance?

Answer. Office of Communications will meet its targeted performance if it receives the additional funds appropriated from the fiscal year 2000 budget request. The Office of Communications has not received a budget increase in the last three years, which required absorbing pay raises and increased operating expenses.

Question. To what extent do the dollars associated with specific agency performance goals reflect the full costs of all associated activities performed in support of that goal? For example, are overhead costs fully allocated to goals?

Answer. Since OC has only one performance goal, all of its funding resources, including overhead costs are devoted to this goal.

OFFICE OF THE CHIEF ECONOMIST

Question. What specific steps have you taken as the head of the agency to achieve performance-based management within your agency, as required by the Government Performance and Results Act?

Answer. Strategic and performance goals have been developed to achieve performance-based management within the Office of the Chief Economist—OCE. As head of the agency, I worked with the managers to identify achievable goals and indicators for measuring and validating OCE accomplishment. Throughout this process, I have emphasized to all OCE personnel that annual performance appraisals will be based on achievement of plan criteria.

Question. How are your agency's senior executives and other key managers being held accountable for achieving results?

Answer. Senior executives and other key managers are being held accountable for achieving results by the fact that their performance ratings and eligibility for bonuses depend on accomplishment of plan goals and indicators. Their degree of success in achieving these goals and indicators is related to the degree to which they achieve the target quantitative and qualitative indicators specified in the strategic and performance plans.

Question. How is performance information being used to manage the agency?

Answer. The managers of each element have been made aware of the specific goals which they are responsible for accomplishing. As managers provide feedback based on preliminary indicators, progress is monitored and, if necessary, remedial steps are initiated to ensure accomplishment of their assigned goals.

Question. How did program performance factor into decisions about funding requests for fiscal year 2000? Please provide examples.

Answer. OCE provides analysis and information critical for effective Department program performance. Examples are: OCE provides crop and weather information that is essential for accomplishment of USDA Strategic Plan Goal 1: Expand Economics and Trade Opportunities for Agricultural Producers and Other Rural Residents. OCE requested funding for an initiative to modernize weather and climate data requisition in fiscal year 2000 to provide the Secretary and other stakeholders with timely, objective, and accurate information and analyses required to accomplish this Strategic Goal. This initiative was required to mitigate data gaps caused by the National Weather Service's decision to redefine its mission and by USDA's need to operate a modern world meteorological service.

Question. What specific program changes has the agency made to improve performance and achieve the goals established in the strategic and annual plans?

Answer. OCE has not found it necessary to significantly modify its program to achieve the goals established in its strategic and performance plans. However, OCE has implemented a variety of program adjustments to better achieve goals. For example, OCE received increased funding in fiscal year 1999 to improve food safety risk assessment in support of the President's Food Safety Initiative. OCE also organized coordination activities for USDA efforts in the area of global climate change and small farms.

Question. How does the agency budget structure link resource amounts to performance goals?

Answer. The agency budget is designed to prioritize limited resources consistent with GPRA goals. Budget requests and FTE levels are linked to specific performance goals.

Question. What, if any, changes to the account and activity structure in the budget justification are needed to improve this linkage?

Answer. There is no need for changes in the account and activity structure to improve this linkage.

Question. Does the agency fiscal year 2000 Results Act performance plan include performance measures for which reliable data are not likely available in time for the first performance report in March 2000? If so, what steps are planned to improve the reliability of these measures?

Answer. OCE's fiscal year 2000 Results Act Performance Plan includes performance measures for which reliable data are expected to be available in time for the first performance report in March 2000.

Question. How will future funding requests take into consideration actual performance compared to expected or target performance?

Answer. OCE assumes that actual performance will achieve targeted performance levels unless externalities present obstacles that cannot be overcome. OCE makes this assumption because its strategic and performance goals are compatible with the program activity structure contained in the President's Budget. Because the strategic plan covers a five-year period, OCE recognizes the possibility that changes or modifications in its activities may occur, especially, if funding levels are insufficient or support from other agencies is inadequate.

Question. To what extent do the dollars associated with specific agency performance goals reflect the full costs of all associated activities performed in support of that goal? For example, are overhead costs fully allocated to goals?

Answer. All costs are fully allocated to the goals of OCE. On a goal by goal basis, costs are allocated in direct proportion to the number of FTEs required to achieve performance results.

OFFICE OF THE CHIEF FINANCIAL OFFICER

Question. What specific steps have you taken as the head of the agency to achieve performance-based management within your agency, as required by the Government Performance and Results Act?

Answer. During the year I have served as Chief Financial Officer, I have undertaken a major revision of our strategic plan that reevaluated who we are, who we serve, and what definitions others would apply to us. I have emphasized that while compliance with regulations and standards make for good business practices, we are here to provide a more productive work environment that results in cost savings and access to better financial information for decision making purposes.

Individual performance plans of OCFO managers and employees are linked to and measured against the performance goals contained in our strategic and annual performance plans.

To institutionalize performance-based management, my Directors participated in developing the fiscal year 1999 and fiscal year 2000 annual performance plans and determining the objectives and measures that would indicate success in meeting those objectives. In coordination with agency contacts and plans, the Directors determined the Department-wide financial management goals USDA must achieve to provide the financial information that USDA decision-makers need to overcome long standing deficiencies in financial management.

Much of OCFO's efforts are currently directed at the modification or creation of processes that will enable establishment of performance information (i.e., baselines, targets). These processes include, but are not limited to, implementation of cost accounting systems, audit tracking systems, and integrated financial information systems, and customer satisfaction levels. Accomplishment of these activities is necessary to monitor Department-wide progress and conduct performance-based management activities. To some extent, implementation activities to modify or create these processes are serving as interim measures.

Question. How are your agency's senior executives and other key managers being held accountable for achieving results?

Answer. Each Division Director develops an annual operating plan that supports the annual performance plan. The annual operating plan lays out the specifics of what their division intends to accomplish for the year. This serves as a performance contract that is used in their individual performance ratings. Accountability is determined based on the level of performance achieved in line with their plan.

Question. How is performance information being used to manage the agency?

Answer. We are taking advantage of all available information in managing the Officethis includes time keeping data on hours of effort spent on projects and activities that relate to the Annual Performance Plan, as well as special reports on progress for those larger items such as the Foundation Financial Information System—FFIS implementation. We are tracking the available data on our Department-

wide goals, e.g., audit closure statistics, corrections of internal control weaknesses, and progress toward achieving an unqualified opinion of financial statements.

As stated earlier, there are weekly reports and periodic retreats where information is used to assess where we are and what steps are needed for mid-course correction.

Another source of performance information is the USDA Office of Inspector General and the General Accounting Office. These two organizations give us continual feedback information regarding our performance in the area of Departmental leadership for financial management via a host of audits, management alerts, and reports.

Also, our staff is in touch with the Congressional staff and the GAO GPRA plan evaluators, collecting information and using it to focus our performance management activities.

Question. How did program performance factor into decisions about funding requests for fiscal year 2000? Please provide examples.

Answer. As part of our fiscal year 2000 Budget and Program development process, we recognized deficiencies brought to our attention by GAO (e.g., Major Management Challenges and Programs Risks, Performance and Accountability Series), our Inspector General, OMB and the central guidance agencies. The major areas of these deficiencies included financial management, systems, and reporting timeliness.

In order to overcome these deficiencies OCFO has analyzed these deficiencies and determined that additional resources of $2 million and 14 staff years are necessary to accomplish the following: (1) releasing financial statements on time, (2) correcting the material deficiencies cited in the recent report of the Inspector General on the Audit of the 1997 Consolidated Financial Statement, (3) adequately implementing Congressionally mandated debt collection provisions, (4) properly implementing a financial information architecture that fully complies with Federal requirements, (5) maintaining guidelines for cost distribution processes to include guidelines for establishment of fees, (6) assuring compliance with the Single Audit Act and nonprocurement debarment and suspension/drug-free workplace requirements, (7) participating as a key player in Government-wide efforts to continually define and refine financial information requirements, (8) complying with new reporting requirements such as the accountability report, (9) developing and retaining a level of financial management expertise in the USDA agencies that ensures effective use of financial management information, (10) conducting oversight and guidance of USDA agencies GPRA planning and reporting requirements.

These planned accomplishments are reflected in the performance goals contained in our annual performance plans.

Question. What specific program changes has the agency made to improve performance and achieve the goals established in the strategic and annual plans?

Answer. Our biggest program change was the restructuring of the Foundation Financial Information System (FFIS) project, which was undertaken in response to an independent evaluation of that project. FFIS is the cornerstone of our efforts to implement over the next five years the integrated financial management mandated for each federal agency by the CFO Act. With the Secretary's support and guidance, we obtained a waiver from the Office of Personnel Management to bring an experienced project management team from another Federal agency that had successfully implemented a central financial system similar to what we are using at USDA.

Question. How does the agency budget structure link resources to performance goals?

Answer. The appropriated budget structure for OCFO is a single line item. There is a table showing by fiscal year the resources needed to accomplish each strategic goal in terms of source of funding, e.g, Appropriated, Working Capital Fund, and reimbursements. The sum of resources by type of fund needed to meet the strategic goals is shown in tables at the end of the fiscal year 1999 and fiscal year 2000 annual performance plans.

Question. What, if any, changes to the account and activity structure in the budget justification are needed to improve this linkage?

Answer. No change is needed to the OCFO account and activity structure in the budget justifications.

Question. Does the agency fiscal year 2000 Results Act performance plan include performance measures for which reliable data are not likely to be available in time for the first performance report in March 2000? If so, what steps are planned to improve the reliability of these measures?

Answer. Our performance goals are based on information we either have available or will have available for the performance report. The verification and validation process will tell us whether or not performance targets for fiscal year 1999 were reached.

Question. How will future funding requests take into consideration actual performance compared to expected or target performance?

Answer. The development of future budgets will assess the priorities and cost of achieving the performance elements identified in the Performance Plan. As a result of the assessment, unproductive or extremely inefficient program objectives will be de-emphasized in favor of more critical and more productive program elements. Experience with the performance measures will be used to determine whether or not a program/activity should be continued, and determine whether the OCFO operating plan for the program/activity is efficient and producing the desired outcomes.

Question. To what extent do the dollars associated with specific performance goals reflect the full costs of all associated activities performed in support of that goal? For example, are overhead costs fully allocated to goals?

Answer. The OCFO appropriated overhead costs are fully allocated among Strategic Goals 1 and 2 in the Annual Performance Plans. Goal 3 includes our WCF funded activities which operate on a full cost recovery basis with overhead built into the fee for service charged to our customers.

OFFICE OF CHIEF INFORMATION OFFICER

Question. What specific steps have you taken as the head of the agency to achieve performance-based management within you agency, as required by the Government Performance and Results Act?

Answer. During the fiscal year 2000 budget development process, OCIO staff made certain that all increases were aligned with the Strategic plan and with the Annual Performance Plan. OCIO developed specific performance measures for each increase requested in an effort to track the progress of OCIO program objectives. Project Management with specific measures and milestones will be instituted in the way OCIO manages its work in the coming fiscal year.

In November 1998 and April 1999 the OCIO management team met to track our progress; look at lessons learned; and develop a tactical plan (in November 1998) to meet our mission. A full session of the meeting was devoted to determining "How OCIO Measured up to its 1999 Annual Performance Plan." Findings from the session were that OCIO is on track to meeting its performance goals for fiscal year 1999.

Question. How are your agency's senior executives and other key managers being held accountable for achieving results?

Answer. OCIO has recently established a procedure for having senior executives and key managers quarterly apprise the CIO and Deputy CIO (DCIO) of progress towards achieving the fiscal year performance goals. Individual accountability of managers is defined by means of individual performance standards. Formal performance evaluations take place once a year.

Question. How is performance information being used to manage the agency?

Answer. OCIO utilizes performance information as a tool for measuring program success. The CIO and DCIO also review these indicators to determine if in fact they are based on outcomes. If the performance measure does not yield the intended goal, it is changed to measure the intended goal.

Question. How did program performance factor into decisions about funding requests for fiscal year 2000? Please provide examples.

Answer. During the fiscal year 2000 budget development process, OCIO staff made certain that all increases were aligned with the Strategic plan and with the Annual Performance Plan. OCIO developed specific performance measures for each increase requested in an effort to track the progress of OCIO program objectives. See the example below:

Performance Goals and indicators

Establish USDA policy on IT management using the Capital Planning and Investment Control methodology:

Number of USDA agencies using CPIC in the selection, evaluation, and control of their IT investment portfolio fiscal year 1997, n/a; fiscal year 1998, 5; fiscal year 1999, 10; and fiscal year 2000, 20.

Question. What specific program changes has the agency made to improve performance and achieve the goals established in the strategic and annual plans?

Answer. Strategic tactical planning was instituted in fiscal year 1998 to help improve performance and meet the goals established in the strategic and annual plans.

Question. How does the agency budget structure link resources to performance goals?

Answer. OCIO directly links its budget resources to performance goals. During the fiscal year 2000 budget development process, OCIO staff made certain that all in-

creases were aligned with the Strategic plan and with the Annual Performance Plan. OCIO developed specific performance measures for each increase requested in an effort to track the progress of OCIO program objectives.

Question. What, if any, changes to the account and activity structure in the budget justification are needed to improve this linkage?

Answer. We do not consider changes to be necessary at this time.

Question. Does the agency fiscal year 2000 Results Act performance plan include performance measures for which reliable data are not likely to be available in time for the first performance report in March 2000? If so, what steps are planned to improve the reliability of these measures?

Answer. OCIO expects that its measures will supply reliable information for the first report. OCIO performance measures will be improved with each iteration of its tactical plan.

Question. How will future funding requests take into consideration actual performance compared to expected or target performance?

Answer. The fiscal year 2001 and future budget processes will follow the previous year's budget development process which directly linked performance measures with increases and dollars in the base.

Question. To what extent do the dollars associated with specific performance goals reflect the full costs of all associated activities performed in support of that goal? For example, are overhead costs fully allocated to goals?

Answer. All costs associated for a program activity are fully realized in the OCIO performance goals, including overhead for support staff.

OFFICE OF THE GENERAL COUNSEL

Question. What specific steps have you taken as the head of the agency to achieve performance-based management within your agency, as required by the Government Performance and Results Act?

Answer. I welcome and act upon feedback from Subcabinet level officials on the success and timeliness of legal services provided as it relates to achieving the jointly established performance goals and objectives as required by the Government Performance and Results Act (GPRA). Where additional legal resources are required, I direct senior OGC managers to reallocate resources to properly reflect priorities set for the Department by the Secretary of Agriculture, Subcabinet level officials and agency heads.

For example, a paramount issue that has required increased assistance and counsel is the issues of concentration in agriculture and the impact on producers. I have directed the reallocation of legal resources—a senior level official—to work directly with Subcabinet policy officials to evaluate, assess and address problems in this area.

Question. How are your agency's senior executives and other key managers being held accountable for achieving results?

Answer. In addition to meetings with the senior OGC managers as issues arise, I meet with them collectively, on a weekly basis, to assess their progress in achieving the agency goal and objectives. Managers will be held accountable for achieving results through year end surveys conducted with agency officials which will reveal whether managers have done a good job in striving to meet the priority needs of agency officials. The results of these surveys will be discussed during yearly performance evaluations to inform, guide and direct management of the achievement of not only OGC's goal but of the success in assisting USDA officials in meeting their strategic goals.

I also use the established Incentive Awards Program for managers that deserve special recognition for performance in the achievement of OGC's goal and objectives. I have sponsored and held management conference with senior management throughout the organization in order to be able to evaluate our performance in achieving agency goals.

Question. How is performance information being used to manage the agency?

Answer. Within OGC, the information gathered through meetings and consultation with Subcabinet and agency heads, will enable senior managers to better provide an understanding of priorities to agency attorneys. This in turn, will regulate the work flow and lessen, to some extent, the crisis mode of handling agency legal work. This performance information will also be used to provide managers with continuing feedback concerning the development of new issues that require substantial amounts of OGC input, so that resources can be effectively managed and/or reallocated.

Question. How did program performance factor into decisions about funding requests for fiscal year 2000?

Answer. The process of more carefully prioritizing demands for legal services is clearly required by the current budget environment. In this current budget climate, increases in staffing to meet constant or increasing work loads are unlikely to be forthcoming. Therefore, OGC must plan how resources will be allocated and agency officials must be educated to understand that legal resources are limited. The process envisioned by our performance plan will force managers in OGC to work and consult more closely with agency officials to determine priorities for legal services and determine whether or not OGC services were effective and responsive, taking into account established priorities. For example, If USDA officials indicate that OGC services were not effective and responsive, taking into account established priorities, then OGC will determine the reason for this. If additional resources are needed, then such information will be included in OGC's budget submission in order to achieve the goals and objectives set forth in our plan.

Question. What specific program changes has the agency made to improve performance and achieve the goals established in the strategic and annual plan?

Answer. One of the objectives was to create a Civil Rights unit within OGC. In achieving OGC's objective in a manner that supports the Secretary's policy objectives, we made a fundamental change within the agency's organization to transfer and request substantial legal resources to a newly created Civil Rights division. We have hired a cadre of experienced civil rights attorneys and support staff, to include a senior executive with a track record of achievement in Civil Rights to support the Department's Civil Rights program. We also have been successful in our efforts to promote workforce diversity by conducting an outreach program regarding employment opportunities to minority law students and the physically challenged. We have also improved the computer and communications systems in the office by upgrading OGC computers, providing OGC employees with Internet access and continuing with the implementation of the paradox work tracking system.

Question. How does the agency budget structure link resource amounts to performance goals?

Answer. The performance goals articulated in the annual performance plan will be tied directly to the goal stated in our strategic plan. The goal centers around making OGC more responsive by ensuring that demands for legal services are prioritized in a manner consistent with the priorities of the Secretary.

Question. What, if any, changes to the account and activity structure in the budget justification are needed to improve this linkage.

Answer. Since the budget for OGC is requested via single line item in the President's budget, we do not anticipate any need to change or modify the account or activity structure to improve this linkage.

Question. Does the agency fiscal year 2000 Results Act performance plan include performance measures for which reliable data are not likely to be available in time for the first performance report in March 2000? If so, what steps are planned to improve the reliability of these measures?

Answer. We are in the process of developing an internal agency database which will be used to track OGC's performance measures.

Question. How will future funding requests take into consideration actual performance compared to expected target performance?

Answer. The assumption underlying the OGC strategic plan are based on a recognition that staffing levels within OGC are unlikely to change significantly over the next five years. Therefore, the focus of the plan will be to ensure that OGC prioritizes its work in a manner which properly reflects the priorities of the Secretary of Agriculture, the Under and Assistant Secretaries and Agency Heads. Should funding be provided at a level that is less than requested, OGC would be unable to meet its objective of providing effective legal services in a responsive manner.

Question. To what extent do the dollars associated with specific agency performance goals reflect the full costs of all associated activities performed in support of that goal? For example, are overhead costs fully allocated to goals?

Answer. The fully allocated costs of providing legal services have been distributed to OGC's performance goals.

OFFICE OF THE INSPECTOR GENERAL

Question. What specific steps have you taken as the head of the agency to achieve performance-based management within your agency, as required by the Government Performance and Results Act?

Answer. We have developed the strategic and annual plans required by the Act and identified the mission and performance goals, objectives, and performance indicators to foster performance-based management within OIG. We have initiated revi-

sions to our management information system to capture the data needed to measure our progress, and we continually stress the need to achieve our performance goals to our managers.

Question. How are your agency's senior executives and other key managers being held accountable for achieving results?

The agency's executives and managers are being held accountable through an ongoing assessment of the results produced. Senior executives and other key managers are evaluated based on the measurable activities results of the personnel. Executives and managers are directing the efforts of the agency towards areas that can maximize our efforts and are evaluated accordingly.

Question. How is performance information being used to manage the agency?

Answer. We are using performance information to enable us to gain insight into the adequacy of our internal policies and procedures and to compare quantitative and qualitative results with our initial benchmarks. As mentioned above, the agency tracks a wide range of data on the audits and investigations conducted and results achieved by its staff. This computerized management information system is the backbone of program management. Performance information is being used to identify areas in which our methods need to be changed and to assess the effectiveness of these changes.

Question. How did program performance factor into decisions about funding requests for fiscal year 2000? Please provide examples.

Answer. Program performance and all other aspects of the agency's operations and needs are routinely considered as decisions are made regarding the agency's funding requests. Our special Presidential law enforcement initiative identified as Operation Talon exemplifies this effort. Under Operation Talon, the agency has worked with local law enforcement and social service agencies to identify fugitive felons who are receiving Government benefits from the Department's programs. It has been highly successful nationwide providing outstanding results in identifying these fugitive felons and removing them from the benefit roles. It has been so successful it was announced by the Vice President in December 1997 at a high profile media event which also touted cooperation between Federal, State, and local Governments. These results helped support our decision to seek additional funding to enhance our law enforcement efforts under our goal of promoting program integrity in the Department's programs by detecting fraud, waste, and abuse in these programs.

Question. What specific program changes has the agency made to improve performance and achieve the goals established in the strategic and annual plans?

Answer. We have intensified our planning efforts by seeking input from agency management personnel and gathering information from other sources, such as consultations with the Congress and through the media to identify those areas that require a more intensive focus. We continuously evaluate, and changes are made to the workload, staffing assignments, etc., to improve performance. We also perform research to familiarize ourselves with any changes that may have occurred in USDA agencies and mission areas during each year and prepare profiles detailing the changes and their impact. The profile information is used to prepare strategies that define those areas where OIG resources can best be applied to help ensure that the Department's programs are more efficient, effective, and better protected against fraud, waste, and abuse.

Question. How does the agency budget structure link resource amounts to performance goals?

Answer. All of the agency's appropriated funding is allocated to its performance goals which are linked to the agency's budget structure.

Question. What, if any, changes to the account and activity structure in the budget justification are needed to improve this linkage?

Answer. None.

Question. Does the agency fiscal year 2000 Results Act performance plan include performance measures for which reliable data are not likely to be available in time for the first performance report in March 2000? If so, what steps are planned to improve the reliability of these measures?

Answer. Audit and Investigations' performance data are expected to be available for the performance evaluation and will be available in time for the first performance report.

Question. How will future funding requests take into consideration actual performance compared to expected or target performance?

Answer. As more information is available—and its accuracy and reliability assessed—on how the agency's goals actually reflect its operations, costs, and results, these will be made part of the agency's decisionmaking process in determining fu-

ture funding requests, as well as other activities of the agency's day-to-day operations.

Question. To what extent do the dollars associated with specific agency performance goals reflect the full costs of all associated activities performed in support of that goal? For example, are overhead costs fully allocated to goals?

Answer. The agency's performance goals reflect the full costs of each goal including a pro rata portion of all associated overhead or other related costs.

RURAL DEVELOPMENT

Question. What specific steps have you taken as the head of the agency to achieve performance-based management within your agency, as required by the Government Performance and Results Act?

Answer. The development and implementation of performance-based management is an ongoing process. We expect managers to use the strategic plan as a guiding management tool. In addition to the development of annual performance plans at the agency-level, as required by the Results Act, Rural Development State Directors are required to develop annual performance plans for their States, including measurable performance targets. Agency Administrators annually issue their "Administrator's Priority Performance Goals" which detail performance targets by program to be achieved at the state-level. These performance targets, directly and indirectly, support the performance measures used in the annual performance plans. State Directors' annual performance appraisals reflect their success in attaining these performance targets and implementing their annual plans.

Question. How are your agency's senior executives and other key managers being held accountable for achieving results?

Answer. The annual performance appraisal for senior executives and State Directors now includes an evaluation of their success in meeting specific program performance targets.

Question. How is performance information being used to manage the agency?

Answer. The performance indicators in the Annual Performance Plans, along with other measures and forms of information, are used by senior management in the day-to-day management of the agencies. For example, to maximize its limited resources and increase the amount of funds available for rural development, leveraging is a key objective in the mission area's strategic plan. Rural Development agencies have strongly pushed their employees and customers to find ways to leverage their funds with private and public partners. Each of the Annual Performance Plans include performance measures tracking the Agency's leveraging activity for most of their programs.

Question. How did program performance factor into decisions about funding requests for fiscal year 2000? Please provide examples.

Answer. Funding requests for Rural Development programs are based on many factors, especially need, which is essentially determined by requests for funding. For loan and grant programs the performance measures in the Annual Performance Plan are tied directly to the level of funding provided for each program. For example, the strong need for clean drinking water in rural areas, as defined through the President's Water 2000 Initiative, has resulted in an increase in the President's request for Water and Waste Loan funds from $730 million in fiscal year 1999 to $900 million for fiscal year 2000. This results in an increase in the performance measurement "rural people served who did not previously have public water service" from 539,000 people served in fiscal year 1999 to an estimate of 648,000 people served in fiscal year 2000.

Likewise, the unmet demand for Business Programs and the performance of loans in recent years were considered in fiscal year 2000 funding request decisions. In the Intermediary Loan Program, a large unmet need (approximately $41.4 million) due to a lack of funds existed at the end of the fiscal year 1998. This level of unmet need continued in fiscal year 1999 and is anticipated to continue in fiscal year 2000. Because of this a significant increase in program level funding, from $33 million in fiscal year 1999 to $52.5 in fiscal year 2000, is being requested by the President. This increase will result in an increase in the Performance Measure "number of jobs created or saved" through the IRP from 25,250 in fiscal year 1999 to 40,170 in fiscal year 2000.

Poverty among rural seniors is staggering. The Economic Research Service reports 42 percent of rural seniors, over the age of 74, are at or below 150 percent of the poverty rate. A majority of these seniors are women and own their own homes. The Section 504 Home Repair loan and grant programs help low-income senior citizens eliminate health and safety problems in their homes. The average income of a Section 504 recipient is $12,400 and fifty percent of all participants earn less than

$8,710 each year. All recipients of Section 504 grants are very low-income elderly people, and 67 percent of them are single women (usually widows). More than half of the Section 504 loan recipients are senior citizens. The President's proposal to increase the Section 504 loan and grant programs, from $55 million in fiscal year 1999 to $62 million in fiscal year 2000, will result in an increase in the "number of existing houses improved" for low income rural senior citizens from 8200 homes in fiscal year 1999 to over 11,200 homes in fiscal year 2000.

The Farm Labor Housing loan and grant programs received increases from $33.5 million in the fiscal year 1999 budget to $40 million in the President's fiscal year 2000 budget. This increase was in recognition that the programs reach a population, namely farmworkers, that is underserved not only by USDA but also by the rest of the Federal Government. The USDA Farm Labor Housing programs are the only Federal programs dedicated to farm worker housing and these programs are among the few programmatic opportunities USDA has to serve farmworkers, since farmworkers typically do not participate in food assistance programs such as WIC or food stamps. The Secretary committed to increasing the funding for these programs as part of his civil rights initiative. The proposed funding increases will result in an increase in the "number of Section 514/516 units built" for farmworkers from 495 units in fiscal year 1999 to over 600 units in fiscal year 2000.

The Community Facilities direct and guaranteed loan programs, plus the grant program, allow communities to provide basic services that will enhance the quality of life of the residents. Community Facilities programs can be used to address a panoply of rural community needs, ranging from child care centers to job training centers to teacher housing. Ninety percent of the recipients of Community Facilities direct loans receive loans at "poverty" or "intermediate" interest rates, which are significantly below market rates, because the communities cannot afford to repay the debt at the full interest rate. The President proposed an increase in the Community Facilities programs from $387 million in fiscal year 1999 to $473 in fiscal year 2000. This increase is reflected in a number of performance measures in the Rural Housing Service's Annual Performance Plan. Several of these measures are: an increase in the "number of new or improved health care facilities" in rural areas, from 136 in fiscal year 1999 to 165 in fiscal year 2000; an increase in the "number of beds available at new or improved elder care facilities" from nearly 2200 in fiscal year 1999 to over 2650 in fiscal year 2000; and an increase in the "number of children served by new or improved child care centers" from approximately 6100 in fiscal year 1999 to approximately 7400 in fiscal year 2000.

Question. What specific program changes has the agency made to improve performance and achieve the goals established in the strategic and annual plans?

Answer. Rural Development has made several program changes to improve performance and performance measurement. For example, the Rural Utilities Service observed that the existing eligibility and application scoring criteria for its Distance Learning and Telemedicine program were impeding its ability to meet its goals for targeting of funds to the neediest applicants. The criteria was changed to eliminate the problem. The Rural Business-Cooperative Service observed that its information management system did not track certain information to monitor goal accomplishments. While the automated system is being enhanced, a manual reporting system was designed so the State Offices can report their accomplishments on goals to the National Office on a quarterly basis.

The Rural Housing Service recognized the need to increase its leveraging activity in order to implement the mission area strategic plan and to increase the funding available for rental housing in rural communities. In fiscal year 1999 the Agency changed its regulations to begin awarding Farm Labor Housing and Section 515 Rural Rental Housing funds through nationwide competitions and to give preference to leveraged applications. The Farm Labor Housing competition has not been completed but the Section 515 process is done. By giving priority to leveraged applications, the Rural Housing Service was able to leverage its $79 million for new construction by more than 75 percent. This excellent precedent sends a signal to Section 515 applicants that they must leverage in order to receive funding from the Agency and it will hopefully elicit an even higher level of matching funds in the future.

Question. How does the agency budget structure link resource amounts to performance goals?

Answer. Rural Development established one strategic plan which supports the three agencies constituting the mission area. The Rural Development Strategic Plan contains a mission statement which encompasses the role of the entire mission area and three Goals, one for each agency. It also contains four broad Management Initiatives which support the entire mission area. By having a Goal for each agency, alignment with the existing budget structure, which is agency and program based,

is achieved. Separate Annual Performance Plans for each agency facilitate reconciliation with the budget request over the entire mission area. The Goals in the mission area Annual Performance Plan, which align with the Objectives in the strategic Plan, are supported by one or more quantifiable performance measures to be achieved during the fiscal year.

Question. What, if any, changes to the account and activity structure in the budget justification are needed to improve this linkage?

Answer. Rural Development does not need any changes to the account and activity structure to support the Results Act. Individual agency performance plans focus on the major programs that account for the bulk of the mission area's funding.

Question. Does the agency fiscal year 2000 Results Act performance plan include performance measures for which reliable data are not likely to be available in time for the first performance report in March 2000? If so, what steps are planned to improve the reliability of these measures?

Answer. We have established performance measures in the annual performance plans that support the goals in the strategic plan and have given priority to the development of measures which could be verified in future performance reports. These measures are largely based and drawn from our existing automated data systems, which are mainly financial systems and are audited annually by the Office of the Inspector General. The quality of these data are generally good but, since they are primarily financially-based, may not be as outcome-oriented as some might like. These measures are indicative of the types of data used in the day-to-day management of the agency. While we believe having results-oriented data, which would measure the impact of the program on the customer, would be useful, it is also difficult to define and would require the development of new data and systems. No resources are now available to support new systems development for Results Act reporting purposes. Until additional resources become available, we will continue to rely on existing information systems for monitoring accomplishments.

Question. How will future funding requests take into consideration actual performance compared to expected or target performance?

Answer. Funding requests for loan and grant programs are primarily needs-driven while the performance measures are primarily a function of the amount of funds provided for the program. Programs that perform exceptionally well on measures of greatest priority, such as their capability to serve those rural Americans most in need, will be considered for increases. However, given the Administration's desire to stay within budget targets, it is unlikely that any programs will receive significant increases.

Question. To what extent do the dollars associated with specific agency performance goals reflect the full costs of all associated activities performed in support of that goal? For example, are overhead costs fully allocated to goals?

Answer. Rural Development's comprehensive program delivery structure, which provides services across all of rural America, is not conducive to explicitly identifying and associating all overhead costs directly with individual performance activities. Rural Development staff and support resources are generally commingled in the delivery of mission area programs. Field staff provide housing, business, cooperative, water and waste, and community facilities program services. Administrative service activities support all of the program areas. It would not be useful or meaningful to attempt to allocate costs at too fine a level. Overhead costs are fully allocated to the goals, but only at the macro level.

RISK MANAGEMENT AGENCY

Question. What specific steps have you taken as the head of the agency to achieve performance-based management within your agency, as required by the Government Performance and Results Act?

Answer. In January of this year, the Risk Management Agency (RMA) initiated a series of quarterly executive meetings for the purpose of discussing and improving Agency performance. At the first meeting, six macro performance measures were identified: 1) loss ratio, 2) market information, 3) financial audit, 4) public awareness, 5) program integrity, and 6) administrative costs. These measures were developed in consultation with the private insurance sector.

At the second meeting, these macro-level indicators were merged into our operational strategy. From this strategy, numeric micro-level performance standards will be developed.

Question. How are your agency's senior executives and other key managers being held accountable for achieving results?

Answer. Each of our senior executives have performance elements in their standards that relate to the performance measures established in compliance with the

GPRA. Data will not be available this year to judge the performance of all of these measures. Thus, executives will be judged by their having completed initiation of a process to obtain and evaluate these measures.

For example, farmers' awareness of risk management methods is one performance measure. RMA has included questions to assess this awareness in upcoming farmer surveys. The results of this survey, however, will not be available in this rating period.

Question. How is performance information being used to manage the agency?

Answer. Many of the performance measures are relatively new and baselines are still being established. In addition, the performance of an insurance program is typically measured over a period of years due to the statistical basis of an insurance program.

The major divisions within RMA have been assigned macro-level performance measures. For example, Research and Development has been assigned responsibility for the loss ratio. Loss ratio measures the amount of indemnities paid per premium received and is set by statute to be 1.075 with a reasonable reserve. Compliance with this standard is measured over a period of years. RMA is working with an actuarial consulting firm to determine if the means used to set premiums, which directly affects the loss ratio, are adequate. If the loss ratio is routinely exceeded, premium rates will be adjusted to compensate.

Similarly, Insurance Services has been assigned to monitor market indicators such as the market share and penetration for various risk management products. A marketing plan is being developed to establish the baseline for these measures as well as to determine means to improve them. The summary of business reports and related analyses will be used to determine which insurance products are most frequently used. Maintenance on remaining products will be dropped so that scarce resources can be used elsewhere.

These are two examples of how performance measures are used to adjust the course of the agency.

Question. How did program performance factor into decisions about funding requests for fiscal year 2000? Please provide examples.

Answer. When the fiscal year 2000 President's Budget was announced earlier this year, USDA presented specific ideas for strengthening the farm safety net. These ideas emerged as a result of the farm crisis in 1998. Farm income fell precipitously, commodity prices plummeted as world markets softened, and other farmers struggled with the effect of natural disasters that hit many parts of the country. Neither the crop insurance program nor the 1996 farm bill were able to ameliorate the dramatic losses the farm economy suffered. As a result, weaknesses in the program were exposed. For example, we learned that our program is unable to provide adequate levels of protection to producers suffering multiple years of loss. Too many farmers remain uninsured or under-insured. Many crops and commodities, like livestock, do not have federally-backed insurance available to them, and farmers have far too little instruction on the risk management tools and strategies that can protect and improve their farm revenue.

In response to these concerns, USDA offered the following preliminary proposals: bring new, more flexible risk management tools to farmers; make the basic program more financially worthwhile by raising the floor on basic crop insurance coverage; increase incentives for farmers to purchase higher levels of coverage; cover multi-year disasters; cover livestock; make farmers in designated disaster areas eligible for NAP assistance once such a designation occurs; and provide better information and risk management education to farmers.

Question. What specific program changes has the agency made to improve performance and achieve the goals established in the strategic and annual plans?

Answer. In response to the farm crisis that exposed weaknesses in the crop insurance program, USDA has suggested the following proposals for change. These changes would allow RMA to achieve their goal established in its strategic and annual plans, "To strengthen the safety net for agricultural producers through sound risk management programs and education."

—*Raise the Coverage Floor*.—Raise coverage to 60 percent of approved yield indemnified at 70 percent of the expected market price, a 50 percent increase. Caution is needed to avoid raising buy-up insurance too high thereby shifting production and potentially depressing prices further. Caution is also needed to avoid raising CAT coverage too high due to the potential buy-down affect on current buy-up policy holders.

—*Make Higher-level Coverage More Affordable*.—Increase the premium subsidy so that coverage at 70 percent of the approved yield indemnified at 100 percent of the expected market price level (or 70/100) will cost the producer the same as 65/100 coverage does today. Additionally, provide an additional premium

subsidy for coverage above the 70/100 level of 50 percent of the additional premium, and make all insurance plans, including revenue, equal in terms of assistance for premium. Review of company expense reimbursements may be warranted in recognition of the higher premium. The subsidy rate at these higher coverage levels would be 55 percent.

—*Cover Multi-year Disasters*.—Develop a new multi-year insurance "umbrella" to complement single-year policies. Further, crop insurance price elections and company expense payments would be based on multi-year price averages, avoiding sharp inter-year swings. In this context, RMA would also examine alternatives to the current method of determining the yields used as the basis for coverage.

—*Speed Flexible, New Risk Management Tools to Market*.—Stimulate the flow of new risk management tools to farmers by: (a) authorizing RMA to reimburse companies for costs of successful new products that they develop; (b) expanding contracting with the private sector to develop products for smaller crops; (c) reducing the regulatory procedures required to develop and update policies; and (d) giving RMA greater flexibility to use pilot projects, including pilot programs on a nationwide scale.

—*Cover Livestock*.—Authorize RMA to pilot revenue-based livestock insurance products proposed by the private sector. On an initial basis, USDA proposed providing up to $50 million per year from the Federal Crop Insurance Corporation (FCIC) Fund for these products.

—*Improve the Noninsured Assistance Program (NAP)*.—Many farmers rely on the NAP program as their primary protection from natural disaster losses. Coverage should be increased to 60 percent of yield and 70 percent of price, commensurate with the CAT increase. In addition, the cost-effectiveness of the current area trigger versus a Secretarial disaster designation should be reviewed.

—*Provide Better Information and Services to Farmers*.—As changes are made to strengthen the crop insurance programs as part of the farm safety net, it will also be important that farmer awareness is increased so that producers can more quickly access a wide range of both new and existing risk management tools. Crop insurance reform should include a public awareness outreach effort to enable producers to assume more responsibility for greater understanding, and to better manage their risk management planning portfolios.

Question. How does the agency budget structure link resource amounts to performance goals?

Answer. The performance measures specifically link resources to goals, as many of the goals are financially based. The Agency also uses the approach of establishing annual performance goals and indicators that gauge progress toward achieving the long-term general goal and objectives found in its strategic plan. As a result, all resources directly support the general goal of the Agency, "To strengthen the safety net for agricultural producers through sound risk management programs and education."

Question. What, if any, changes to the account and activity structure in the budget justification are needed to improve this linkage?

Answer. RMA feels no changes are necessary given the fact that we have established performance goals and indicators that gauge progress toward achieving the long-term general goal of the Agency.

Question. Does the agency fiscal year 2000 Results Act performance plan include performance measures for which reliable data are not likely to be available in time for the first performance report in March 2000? If so, what steps are planned to improve the reliability of these measures?

Answer. Yes. We envision difficulty in gauging farmers' use and knowledge of risk management tools. The following steps are being taken to try to improve the reliability of the measure: RMA is sponsoring some educational projects which include surveys on farmers' use and knowledge of risk management tools for certain regions of the U.S. However, sufficient funding for a comprehensive and reliable U.S. survey is not currently available. RMA is closely monitoring risk management educational opportunities of U.S. producers through regional activity logs. The extent of risk management education opportunities can be a proxy measure for knowledge of risk management tools.

Question. How will future funding requests take into consideration actual performance compared to expected or target performance?

Answer. RMA intends to monitor the crop insurance program and take into consideration the actual performance of the program when requesting future funding. For example, RMA will continue to evaluate and address program concerns such as: shortfalls of basic CAT coverage; low prices; multiple-year losses; revenue insurance participation; and lack of federally-backed livestock insurance. In addition, RMA

will continue to analyze the number of acres which were actually insured, compare them to our fiscal year estimates, and revise as necessary. The number of policies in force, potential policies, premium cost per acre, and participation levels will also be evaluated and revised to reflect the most current data or trend. Furthermore, RMA intends on using the results of farmer surveys that gauge farmers' awareness of risk management methods, as well as regional activity logs, in determining future resource requirements of the Risk Management Education and Public Awareness/ Outreach initiatives.

There are some factors, however, that are more difficult to consider when comparing actual performance and target performance. For example, it would be nearly impossible to predict a loss ratio based on prior year actuals, due to occurrences such as unforeseen weather disasters. Compliance with this standard is generally measured over a period of years. As as result, the Agency uses the mandated loss ratio of 1.075 in projecting loss estimates. If, however, the loss ratio is routinely exceeded, premium rates will be adjusted to compensate.

Question. To what extent do the dollars associated with specific agency performance goals reflect the full cost of all associated activities performed in support of that goal? For example, are overhead costs fully allocated to goals?

Answer. All resources, including total Administrative and Operating (A&O) and Federal Crop Insurance Corporation (FCIC) Fund dollars, are linked to and directly support the general goal of the Agency, "To strengthen the safety net for agricultural producers through sound risk management programs and education."

AGRICULTURE, RURAL DEVELOPMENT, AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 2000

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

NONDEPARTMENTAL WITNESSES

[The following testimonies were received by the Subcommittee on Agriculture, Rural Development, and Related Agencies for inclusion in the record. The submitted materials relate to the fiscal year 2000 budget request for programs within the subcommittee's jurisdiction.]

PREPARED STATEMENT OF THE AD HOC COALITION

Mr. Chairman, Members of the Subcommittee, this statement is respectfully submitted for the hearing record on behalf of the ad hoc coalition[1] supporting fiscal year 2000 appropriations for title I of Public Law 480 at not less than the same level as provided in the current fiscal year. The ad hoc coalition applauds the Administration's estimate that $91 million of CCC funds will be used to support Food for Progress in fiscal year 2000. The coalition also supports full funding for title II at not less than the same level as provided in the current fiscal year.

In its fiscal year 2000 budget, the Administration without explanation recommends a title I program level of only $150 million, a substantial decline from that established by the Congress for the current fiscal year. Our members also note with dismay that funding for title III, Public Law 480, has been zeroed out in the President's budget. This small program, which protects the poorest of the poor, should be restored at least to the $25 million level provided by Congress in the current fiscal year. At a time when U.S. agricultural prices are low, the Department should sustain these historic programs, with strong Congressional support, to alleviate hardships in friendly countries and promote new markets over the long term for our farmers.

LONG-TERM SIGNIFICANCE OF PUBLIC LAW 480

Mr. Chairman, the title I program has an illustrious history. From enactment in 1954 until the mid-1960s, title I shipments accounted for about 20 percent of the annual value of all agricultural exports. Until foreign sales dramatically increased in the 1970s, title I shipments continued to represent more than five percent of all agricultural exports. As recently as fiscal year 1990, moreover, title I export values regularly exceeded $700 million. Only in recent years has the U.S. commitment to this program eroded substantially, to a low of $202 million in title I credit sales in fiscal year 1997.

Under the leadership of your Subcommittee, Mr. Chairman, Congress in fiscal year 1998 reversed the severe decline in title I program funding. In that year, credit sales increased from $202 million to $252 million, despite severe limitations im-

[1] The ad hoc coalition is composed of the USA Rice Federation, the National Association of Wheat Growers, the National Corn Growers Association, the National Council of Farmer Cooperatives, the American Soybean Association, the National Grain Sorghum Producers, the American Maritime Congress, the Maritime Institute for Research and Industrial Development, the Transportation Institute, TECO Transport Corporation, and Liberty Maritime Corporation.

posed by the Congressional budget process. When the administration proposed again that the title I program level for fiscal year 1999 be sharply reduced, you responded by nearly doubling the funding requested for the program. Under severe budget constraints, the Agriculture Appropriations Subcommittees of the Congress have sustained title I when competing demands for resources have been most persistent.

This year the wisdom of Congress' decision to preserve title I has been demonstrated for everyone to see. In the face of declining farm prices at home and serious economic dislocations abroad, the Clinton Administration has undertaken a Food Aid Initiative which includes an allocation of $726 million from the CCC to the title I program accounts. This will increase the program level for title I in fiscal year 1999 to $1,070,000,000, including $996 million in commodity credits and $104 million for ocean freight differential and ocean transportation costs.

In fiscal year 1999, the title I program of Food for Peace was available to provide emergency assistance to the Russian Federation, and to provide additional markets for American agricultural products. This has happened before. It will happen again. The program must be preserved and sustained at reasonable levels to ensure its availability when adverse conditions recur at home or abroad. The great significance of title I in trying times has once again been shown; its long-term significance as a principal food aid and market-developing program cannot be forgotten.

Mr. Chairman, the export subsidy reduction commitments established in conjunction with the Uruguay Round Agreement on Agriculture severely restrict U.S. flexibility in agriculture export market development. Those commitments curtail the use of the Export Enhancement Program and similar strategies that might be implemented in the future. But Food for Peace is exempt from the Uruguay Round restrictions: Public Law 480 remains one of the principal programs for penetrating new overseas markets, for establishing trading relationships that will surely become essential to the economic survival of our agricultural sector.

OUTLOOK FOR U.S. AGRICULTURAL TRADE

In the two decades following World War II, Food for Peace was instrumental in securing long-term, stable markets for American food and fiber. In fiscal year 1996, U.S. agricultural exports reached a record value of $59.8 billion, representing more than 25 percent of total farm cash receipts for crops and livestock. In that year, the U.S. share of the global agricultural export market reached 23 percent, an increase of more than one-third in a single decade. But the record level achieved in fiscal year 1996 was no more than a snapshot of conditions at a given moment in time. Regrettably, conditions have only deteriorated since that banner year.

Mr. Chairman, as the Department has reported, lower world market prices and export volumes reduced U.S. agricultural exports to $53.6 billion in fiscal year 1998, a full ten percent below fiscal year 1996's record high. In the current fiscal year, the Department expects the value of farm exports to decline to $49 billion. About 85 percent of the decline reflects reduced exports to Asia, but Brazil this year is also expected to reduce significantly its purchases from American farmers. This is particularly important to rice farmers, as Brazil in fiscal year 1998 accounted for one-fifth of total U.S. rice exports.

The President's Food Aid Initiative will account for shipments of 5.0 million metric tons of farm produce, an amount equal to all other U.S. food aid combined for the current fiscal year. This initiative has the strong support of the American agricultural sector, but it is not sustainable over the long term. As conditions at home and abroad return to normal, the United States once again will rely upon title I, Food for Peace, and other critical programs to maintain and expand export markets, and to create new markets in emerging economies throughout the world.

The Foreign Agricultural Service of the U.S. Department of Agriculture, in administering Food for Peace, will be instrumental in protecting existing markets and developing potential new markets. Through sustained title I funding, Congress must give the Department the tools it needs to do the job.

USDA SHOULD BE DIRECTED TO USE TITLE I RESOURCES

Mr. Chairman, the ad hoc coalition strongly recommends a fiscal year 2000 appropriation for title I of Public Law 480 at not less than the level provided in fiscal year 1999. Using carryover funding from prior fiscal years, increased levels for the baseline program can be achieved without diverting resources from other worthwhile programs of the Department.

Mr. Chairman, the ad hoc coalition respectfully requests report language accompanying the fiscal year 2000 funding bills which would direct the Department of Agriculture to increase title I country allocations and make full use of the resources available for this worthwhile program. A strong and sustained title I program is the

best insurance for Congress that the Department can promptly respond to future changes in the global agriculture export market and protect and develop new markets for our farmers.

CONCLUSION

Mr. Chairman, the administration has long acknowledged the importance of title I of Food for Peace as a program to promote long-term markets for U.S. commodities, and to alleviate hardship in friendly countries. But the administration suggests a title I program level for fiscal year 2000 of only $150 million, a substantial decline from that established by Congress for the current fiscal year.

With enactment of the 1996 Farm Bill, Government price supports and producer payments are being phased down. As a result, agricultural producers have become increasingly dependent on export markets to sustain a healthy economy. The title I, Public Law 480 program, coupled with the other export programs, have become of even greater significance than ever before in meeting this objective, sustaining the many allied industries dependent upon a healthy agricultural economy, as well as providing valuable humanitarian assistance to developing countries.

The members of the ad hoc coalition respectfully request an appropriation of not less than last year's level for the title I program and committee report language directing the Department of Agriculture to establish a program level for the title I program that makes full use of this appropriation and the carryover funds. The need is there. We also request that the Agriculture Appropriations Subcommittees of Congress closely monitor the performance of the Department in fulfilling this objective over the course of the fiscal year.

Our farmers and the U.S. maritime transport system depend upon Congress to set the standard, and upon the Department to meet that standard, as we enter an era of uncertainty and volatility in trading relationships. The title I program of Food for Peace must be preserved and effectively employed to promote American interests in an environment of uncertain markets and increasing global competition.

PREPARED STATEMENT OF THE AMERICAN FARM BUREAU FEDERATION

The American Farm Bureau Federation has identified four USDA program areas for which adequate fiscal year 2000 funding is essential. They are:

—programs key to the proper implementation of the Food Quality Protection Act (FQPA),
—funding for reform of the crop insurance program
—programs to expand foreign markets for agriculture
—funding for research to keep American agriculture competitive.

These priorities are highlighted in the first portion of this statement. The second portion contains a list of additional programs supported by Farm Bureau.

FOOD QUALITY PROTECTION ACT

Farm Bureau supports the Administration's request for $204 million for the Food Quality Protection Act (FQPA) and related programs. Farm Bureau supports $36 million for FQPA directly related programs, plus $127 million for integrated pest management research (IPM), $21 million for pesticide data collection and $20 million for pesticide registration, clearance, assessment and training

We support full funding for the Pesticide Data Program (PDP). PDP provides valuable pesticide residue information to the Environmental Protection Agency (EPA) so that pesticide tolerance reassessment decisions can be made on actual residue levels rather than on theoretical maximums. Implementation of the FQPA must occur in a manner that does not harm production agriculture. This depends on the availability of accurate data on pesticide use and residues on crops.

We support full funding for the Office of Pest Management. The Office of Pest Management should provide advocacy for farmers' continued access to safe and effective crop products and must be adequately funded to perform this important task.

Key functions of the Office of Pest Management must include assisting EPA in establishing accurate data for risk assessments where current data is inaccurate or incomplete. This includes the development of crop profiles, which will be used by EPA in making risk assessments and tolerance decisions. USDA must be a full partner with EPA in all key implementation policy decisions. To reduce disruption of U.S. agricultural producers, USDA should conduct an economic impact analysis of proposed EPA implementation strategies, including EPA's proposals relating to risk assessments for the organophosphate and carbamate pesticides.

We support full funding for the IR–4 Program, which provides data to EPA to clear new uses and tolerances for pesticides used on minor crops. Minor crops are likely to be impacted first by FQPA implementation. The IR–4 Program, if properly utilized, can provide data to support new, effective, economical and safe pesticide uses for crops impacted by FQPA.

CROP INSURANCE/RISK MANAGEMENT

The federal crop insurance program must provide greater flexibility and more effective coverage for all agricultural commodities. Participation must be increased and the program should be expanded to include a comprehensive revenue insurance program to protect farmers from economic disasters due to weather or prices. The need for a short-term emergency financial assistance package last year again pointed up the urgency for effective crop insurance and risk management programs.

Reforms in risk management programs must assure broad-based availability and affordability for livestock as well as crops. Producers must have the opportunity to purchase coverage with small deductibles. These programs must also address multi-year disasters.

We were disheartened that the Administration did not include additional money for crop insurance reform in its fiscal year 2000 budget proposal after indicating earlier that it planned to submit a proposal. Several members of Congress have come forward with major reform plans that merit serious consideration. Depending on the assumptions used, most of the plans carry yearly costs beyond current funding levels of $1.5 billion to $2.5 billion per year. We recommend that a minimum of $2 billion per year in additional funding be earmarked for these programs.

EXPORT PROGRAMS

Continued funding of export development programs is fundamental to improving farm income, both in the short and long run. We recommend maximum funding of all export development programs consistent with our commitments under WTO trade rules.

We support increased funding for the GSM credit program. We endorse the Administration's aggressive use of GSM 102, GSM 103 and supplier credit guarantee programs in fiscal year 1999, and back its plans to continue.

We support increased funding for the Market Access Program (MAP) and the Export Enhancement Program (EEP). MAP funding should be restored to its original funding level of $200 million. We oppose efforts by the Administration to reduce the Export Enhancement Program program level by $85 million to $494 million. While we understand the administration's need to find budget offsets for other high priority spending, this reduction sends the wrong signal to other countries that subsidize exports, hurts our competitiveness overseas, and puts the United States at a disadvantage in the upcoming negotiations on agriculture in the World Trade Organization. We support funding for the Dairy Export Incentive Program to the full extent allowed under the Uruguay Round Agreement.

We support increased funding for Public Law 480 programs, the primary means by which the United States provides foreign food assistance. We appreciate the Administration's aggressive use of $1.07 billion in Public Law 480 Title 1 credit sales to move additional products into the export markets during fiscal year 1999. We do not agree with the recommendation to reduce use of the program to $150 million.

We support funding of APHIS Import/Export programs at $7.2 million to maintain current services and assist in reducing unfair trading practices. The Foreign Market Development Cooperator Program should be funded at no less than the current level.

AGRICULTURAL RESEARCH

Agricultural research and the distribution of that research to producers is critical to the future of our industry. One of the implicit areas of agreement when the 1996 Farm Bill was enacted was that funding for agricultural research would be increased to allow U.S. producers to maintain their competitive position in world markets. To date this has not happened. In order to move the research agenda forward we support the following:

—$120 million for the Initiative for Future Agriculture and Food Systems authorized by the Agricultural Research, Extension, and Education Reform Act of 1998.

—$200 million for the National Research Initiative Competitive Grants program. Originally authorized at $500 million annually, the program has only been funded at $100 million to $120 million.

We support enhanced funding for the Agricultural Research Service (ARS), with particular emphasis in the following areas:

—an increase of $8.1 million for emerging diseases and exotic pests of plants and animals. Care must be taken to assure that animal, plant and aquaculture concerns are addressed.

—an increase of $9 million for work in the area of plant and animal genetic resources and the Agricultural Genome Project.

—an increase of $11.7 million for work in food safety, to address both pre-and post-harvest areas. This should include work on manure handling, risk assessment and antibiotic resistance.

—an increase of $2 million for Agricultural Information to develop or enhance information systems delivery for rural America.

We support adequate funding for ARS to transfer the National Swine Research Center at Ames, Iowa from Iowa State University to ARS and to fully staff the facility. Estimated needed funding for this would be $10 million per year.

We support ARS funding of $8.2 million for general maintenance and modernization of the Plum Island Animal Disease Center.

We support current ARS activities regarding honeybee research and strongly opposes plans to close the Tucson laboratory.

The National Soil Tilth Lab at Ames, Iowa should be maintained at its current level of funding to continue work on soil, water, manure and nutrient management to improve the environment and farmers' ability to sustain profitable operations for the long term.

We support CSREES funding of $4.8 million for Animal Health and Disease, Section 1433.

We support CSREES requests for funding of the following special research grants:

—$2.7 million for Integrated Pest Management and Biological Control

—$600,000 for minor use animal drugs.

—$2 million for the Bi-national Agricultural Research and Development Fund (BARD).

Other Issues

We oppose all efforts to reduce funding for APHIS-Wildlife Services. At minimum, Wildlife Services should be funded at last year's level for "methods development" and "operations." Additional funding of $1.2 million should be made available for wildlife hazards at airports. Any unfunded Congressional directives should receive funding. APHIS-Veterinary Services should be funded so there is no loss of services.

GIPSA should be funded so there is no loss of services and to provide for additional administrative oversight of the poultry industry. GIPSA should receive full funding to monitor business transactions between produces and packers

For FDA, we support additional funding of $200,000 per year for the next five years for the Center for Veterinary Medicine to hire staff to reduce the backlog of animal drug applications.

We support the Commission on 21st Century Production Agriculture and urge sufficient funding to ensure that the Commission will be able to conduct a thorough revaluation of the effectiveness of the FAIR Act and potential agricultural policy alternatives.

We support efforts to provide loans to producers to build on farm grain storage facilities.

We reject plans to cut funding to boll weevil eradication programs. We support full funding to provide a 30 percent match with producer funding and increased availability of low interest revolving loan funds to facilitate expansion of the program.

We support increased funding for USDA guaranteed operating and ownership loans and streamlined administrative procedures to ensure that loans are made in a timely manner.

We support funding of the Conservation Reserve Program to increase enrollment to the 36.4 million acres allowed under current law.

We are concerned about adequate NRCS conservation operation funding. Conservation program delivery and technical assistance should be a priority for NRCS funding. No new initiatives should be funded in the conservation operations budget. Emphasis should be placed on traditional technical assistance and the development of reliable resource data for assisting producers deal with nutrient management. We support earmarked funding for technical assistance under the Grazing Lands Conservation Initiative.

With regard to conservation programs under the Commodity Credit Corporation Program (CCC), we believe that emphasis should be placed on the Environmental Quality Incentive Program (EQIP). EQIP is an important program for assisting pro-

ducers dealing with increased water quality regulation. We support the $100 million increase for EQIP proposed by the Administration to bring funding to $300 million. We also support the removal of the CCC Section 11 cap on reimbursement of NRCS for technical assistance provided for CRP and Water Reserve Program delivery.

We oppose all user fees for conservation programs.

We oppose the Administration's zero funding for the Forestry Incentive Program and suggest funding of $6 million.

We support APHIS funding of:

—$1.2 million to facilitate development of a National Animal Health Emergency Management System;

—$68 million to maintain and enhance the Animal Health Monitoring and Surveillance program, including funding for both Johne's and trichinae programs

—$10.6 million for veterinary biologics

—$16.9 million for veterinary diagnostics to facilitate more reliable tests for use with animals that are to enter the U.S. as well as for emerging diseases such as Johne's and porcine respiratory and reproductive syndrome.

—$3.8 million for the animal care unit to bring total funding to $13 million. This will allow for effective operation and enforcement of the Animal Welfare Act.

We support the FSIS proposal of $33.1 million for continued implementation of the HACCP based food inspection system. We are opposed to user fees to finance federally mandated meat and poultry inspection programs. Programs to ensure food safety benefits everyone should be funded by tax dollars.

PREPARED STATEMENT OF THE AMERICAN HONEY PRODUCERS ASSOCIATION, INC.

My name is Richard Adee. I am President of the American Honey Producers Association, Inc. and I am submitting this statement in its behalf. The American Honey Producers Association, Inc. is a national organization of commercial beekeepers with activities in most of the States in this country.

First, the Association wishes to thank you for the support the Subcommittee has provided in the past for agricultural research activities in behalf of the beekeeping industry. It has enabled the Agricultural Research Service to staff its bee laboratories at the minimum level necessary to meet with the critical needs of the industry. At this time, the Association supports the President's budget proposal for bee research with one notable exception. To continue this research, the Association is seeking the restoration of $200,000 that the Administration would cut from the baseline funding for the bee laboratory at Weslaco, Texas, along with cuts for many other research projects contained in the fiscal year 1999 appropriation. On the other hand, we fully support the increase in the level of funding recommended by the Administration for the ARS honey bee breeding, genetics, and physiology laboratory at Baton Rouge, Louisiana.

(1) *Background.*—Honey bees pollinate over 90 cultivated crops whose estimated value exceeds $9.3 billion and produce an average of 227 million pounds of honey annually. Since 1984, the survival of the honey bee has been threatened by continuing infestations of mites and pests for which appropriate controls have not yet been developed and research must provide the answers. Unfortunately, there is no simple solution to these problems. The honey bee industry is too small to support the cost of the needed research, particularly with the current depressed state of the industry. As you know, there are no longer any federal subsidies on honey. Further, there are no funds, facilities, or personnel elsewhere available in the private sector for this purpose. Accordingly, the beekeeping industry is dependent on research from public sources for the scientific answers. The key to the survival of the honey industry lies with the honey bee research program conducted by the Agricultural Research Service.

(2) *Research at the ARS Weslaco, Texas, Laboratory.*—Parasitic mites, primarily the varroa mite, are causing a crisis for the U.S. beekeeping and pollination industry. Tens of thousands of domestic honey bee colonies are being lost annually to varroa mites. Wild bee colonies have been decimated. The only chemical now registered for varroa mite control, fluvalinate, is being rendered ineffective by the development of resistant mite populations. The USDA honey bee lab at Weslaco, Texas, has been working hard trying to find alternative chemicals to control the varroa mite. This past summer it appears that they have found a chemical, coumaphos, which is equally effective as fluvalinate. This is a real break through for the bee industry but as of today we have only been able to obtain a section 18 emergency registration. Much work still remains to be done before a section 3 general registration is granted by EPA.

A new pest, the small hive beetle, has been found in Florida this past year and has caused severe bee colony losses. Apparently, it originated in South Africa. Estimates put the losses in just one season at over 30,000 colonies. There is evidence that the beetles are spreading to other areas in the East coast. As the beetles spread, they will just devastate the bee industry. In order to contain the beetle, several states have quarantined bees from Florida, North Carolina, South Carolina, and Georgia or are actively considering such quarantines.

The USDA–ARS honey bee research scientists at the Weslaco laboratory have been working overtime to find chemicals, techniques, pheromones, or other methods of controlling the beetle. Time is of the essence, as a control must be found immediately as all the bee colonies in the Western Hemisphere are at risk.

Additionally, the Weslaco lab is responsible for finding new and improved methods for control of other parasitic mites as well as solving beekeeping problems that interfere with honey production and effective crop pollination, and determining the impact and spread of Africanized honey bees.

The uncertainty of continued funding is hampering the efforts of the Weslaco laboratory in finding a solution to our most pressing problems. They cannot operate effectively with a reduction of $200,000 in its baseline appropriation. These funds need to be restored.

(3) *Research at the ARS Baton Rouge, Louisiana, Laboratory.*—The Association supports the request of the Administration for an increase of $300,000 in the appropriation for the ARS laboratory at Baton Rouge, Louisiana. The Baton Rouge lab is the only laboratory world wide focusing on the development of long-term, genetics-based solutions to the varroa mite. Their research programs have taken them to the far corners of the world looking for mite resistant bees. In eastern Russia, they found bees that have co-existed for decades with the mites and survived. The bees were brought to the United States and are in the process of being evaluated to assure that the resistance holds up under a wide range of environmental and beekeeping conditions. Attributes such as vigor, pollination, and honey production must be tested. There is an immediate need to propagate the resistant queen bees in large numbers for wide scale distribution to beekeepers so that this evaluation can be accomplished. The work is slow and tedious. It is also costly. The requested appropriation will accelerate the research, development, and transfer of queen bee stock resistant to varroa mites to U.S. beekeepers.

(4) *Summary.*—In conclusion, we wish to thank you again for your support of honey bee research in the past. We would appreciate your continued support by approving restoration of the $200,000 that the Administration would cut from the fiscal year 2000 appropriation for the Weslaco, Texas, lab and by otherwise supporting the Administrations's request for bee research. This would include the increased appropriation recommended for the AES Baton Rouge, Louisiana, lab, as discussed previously in this statement. Only through research can we achieve and maintain profitability in U.S. beekeeping industry and continue to provide stable and affordable supplies of bee pollinated crops which make up fully one-third of the U.S. diet.

I would be pleased to respond to any questions that you may have.

PREPARED STATEMENT OF THE AMERICAN INDIAN HIGHER EDUCATION CONSORTIUM

I. Introduction

Mr. Chairman and Members of the Subcommittee, on behalf of the American Indian Higher Education Consortium (AIHEC) and the 30 Tribal Colleges that comprise the AIHEC land-grant institutions, we thank you for this opportunity to share our funding requests for fiscal year 2000. On behalf of the Tribal Colleges, we respectfully request full funding of our original four land-grant programs, along with funding under the Agriculture Research Reauthorization. Specifically, we request: $4.6 million for the Tribal College endowment; $1,552,000 for the equity grant program; $5 million for the extension program; $1.7 million for institution capacity building grants; and $10 million for research.

This statement will cover three key points: First, it will provide a brief background on the Tribal Colleges and our long-awaited inclusion in this nation's land-grant system; second, it lays out Tribal Colleges' ambitious efforts through extension services to fulfill the agricultural potential of American Indian communities and to ensure that American Indians have the skills needed to maximize the economic development potential of our resources; and third, it describes and justifies our other program requests for fiscal year 2000.

II. Background on Tribal Colleges

Today, almost 140 years after enactment of the first land-grant legislation, Tribal Colleges, more so than any other institutions, truly exemplify the original intent of the land-grant legislation. The first Morrill Act was enacted in 1862 specifically to bring education to the people and to serve their fundamental needs. Mr. Chairman, this is the definition and mission of the Tribal Colleges. We truly are institutions by, of, and for our people.

The dismal statistics concerning the American Indian experience in education brought tribal leaders to the realization that only through local, culturally-based education could many American Indians succeed in higher education and help bring desperately needed economic development to the reservations. In the late 1960s and early 1970s, the first Tribal Colleges were chartered on remote reservations by their respective tribal governments, to be governed by boards of local tribal people. In 1972, the first six tribally-controlled institutions came together to form the American Indian Higher Education Consortium. Today, AIHEC is a cooperatively sponsored effort on the part of 32 member institutions in the United States and Canada, 30 of which are the 1994 Land-grant Institutions. AIHEC has become the premier national voice of the Tribal College movement and Indian higher education.

Tribal Colleges now serve more than 25,000 students each year, offering primarily two-year degrees, with some colleges offering four-year and graduate degrees. Since their inception, the Tribal Colleges have helped address the problems and challenges of our welfare system. Tribal Colleges provide GED, other college preparatory courses and have high success rates in student job training and placement. Our mission requires us to help move American Indians toward self-sufficiency and help make American Indians productive, tax-paying members of our society. Fulfilling this obligation will become even more difficult over the next several years as Tribal Colleges feel the impact of the welfare reform laws. Already, our colleges are seeing increasing numbers of welfare recipients turning to the colleges for training and employment opportunities. Also, Tribal Colleges serve as community centers, providing libraries, tribal archives, career centers, economic development and business centers, public meeting places, and child care centers.

Despite our many obligations, functions, and notable achievements, Tribal Colleges remain the most poorly funded institutions of higher education in this country. Historically, states do not have an obligation to American Indian lands because our reservations are trust lands under federal jurisdiction. Unlike mainstream land-grant institutions, we cannot depend on state and local governments to match or surpass the federal investment. Our core funding under the Tribally-Controlled College or University Assistance Act of 1978 remains grossly inadequate; and total funding for the agriculture programs authorized for all 30 of the 1994 Institutions combined is less than the amount the Department of Agriculture gives to just one state land-grant institution each year.

III. Extension Services—Ambitious Efforts to Reach Economic Development Potential

Although current land-grant programs at the Tribal Colleges are modest, our 1994 authorizing legislation is vitally important to us because of the nature of our land base. Of the 54.5 million acres that comprise American Indian reservations, 75 percent are agricultural lands and 15 percent are forestry holdings. In fact, Indian agricultural production has been valued at nine times the production potential of oil and gas resources.

Tragically, due to lack of expertise and training, millions of acres lie fallow, under-used, or are developed through methods that render the resources non-renewable. The Educational Equity in Land-Grant Status Act of 1994 is our hope for turning this situation around. It is absolutely critical that American Indians learn more about new and evolving technologies for managing our lands. We are committed to becoming, as we were when your forefathers came to this land centuries ago, productive contributors to this nation's—and the world's—agricultural base.

Recent years show impressive efforts to address economic development through land use, as Tribal Colleges entered into partnerships with 1862 Land-grant Institutions through extension services. The Extension program represents an ideal combination of federal resources and Tribal College-state institution expertise, with the overall impact being far greater than the sum of the parts. Some examples of the innovative programs that are funded under extension services include:

—Northwest Indian College, Bellingham WA and Washington State University are partnering in a special emphasis grant project entitled: "Honor the Gift of Food". The objective of this undertaking is to support and expand a distance-learning nutrition education program for Pacific Northwest Tribal communities. The overall goal will be to develop nutrition education modules and support materials to train nutrition assistants in tribal communities.

—Fort Peck Community College in Poplar, MT and Montana State University-Bozeman, are collaborating on a project focusing on development of institutional infrastructure and capacity building from which FPCC will provide extension services in the areas of "Community Resource and Economic Development" and "Family Development and Resource Management". Specifically, program objectives associated with these areas are designed to strengthen existing employers and attract new enterprises and local entrepreneurship.

Additional funding to support such efforts is needed because extension services provided by the states on our reservations are woefully inadequate, and the Tribal Colleges need to fill that void. It is important to note that this program is not duplicative of ongoing extension activities, as it is specifically designed to complement and build upon the Indian Reservation Extension Agent program. In Fiscal 1999, the 1994 institutions were awarded $2,060,000 for extension services. In fiscal 2000, we are requesting that Congress build on the $3.5 million proposed in the President's budget, and raise funding to $5 million, the fully authorized level for this program. The increase recommended in the President's request emanates from the strong relationship we have with USDA and is evidence of our successes in this program.

IV. Other Funding Requests For Tribal College Program

The thirty 1994 Institutions' appropriations request for fiscal year 2000 are extremely modest when compared with the annual appropriations to each existing land-grant institution. Along with our request of $5 million for our cooperative extension program, we are seeking the following amounts for the four other authorized programs for 1994 Institutions: $4.6 million for the Tribal College endowment (not scored as budget outlay); $1.552 million for the equity grant program; and $1.7 million for institution capacity building grants; and $10 million for research.

The Tribal Colleges are grateful for the Subcommittee's past support of the three programs that have been funded. These small programs catalyzed the 1994 Institutions' crucial first steps in initiating and strengthening agriculture and natural resource programs in our communities. However, it is critical that we build on the momentum we have gained. Justifications for our requested funding levels are as follows:

(1) $1.7 million Institutional Capacity Building Grant Program.—This competitive grant program, which requires a non-federal match, would provide the 1994 Institutions with the investment necessary to allow us to strengthen and more fully develop our educational infrastructure. Facilities maintenance and improvement are urgently needed at many of the Tribal Colleges, which are currently operating in donated, abandoned and even condemned buildings. Hazards include leaking roofs, asbestos insulation, exposed wiring, and crumbling foundations. In a recent needs assessment, nine of the Tribal Colleges identified facility maintenance and renovation as a high priority, at an estimated cost of $8.3 million. Many of these facility improvements are needed to provide American Indian students with the education necessary to fully compete in the modern agricultural world.

(2) $4.6 million Endowment Fund for 1994 Land-Grant Institutions.—This endowment installment remains with the U.S. Treasury, and only the interest is distributed to the 1994 Institutions. It is important to note that this program is not scored as budget outlay or authority. Just as other land-grant institutions historically received large grants of land or endowments in lieu of land, this sum assists the 1994 Institutions in establishing and strengthening our academic programs in such areas as curricula development, faculty preparation, and instruction delivery. The third year interest payment totaled $673,678, which was distributed among all of the 1994 Land-grant Institutions on a formula basis.

(3) $1.552 million Tribal College Educational Equity Grant Program.—Closely linked with the endowment fund, this program last year provided almost $52,000 per 1994 Institution to assist in academic programs. The 1994 Institutions are in their third year of funding under this program. Through the funding made available since fiscal year 1996, the Tribal Colleges were able to begin to support vital courses and planning activities specifically targeted to meet the unique needs of our respective reservations. Examples of these programs include:

—Fond du Lac Tribal and Community College's Environmental Institute, located in Cloquet, MN is entering the third phase of its Environmental Science Delivery Project that is designed to attract students to environmental studies by combining the latest and most sophisticated technologies and teaching methodologies with the historical perspective of American Indian culture. One additional goal of this phase of the project is to expand the Environmental Study Area to include an Environmental Interpretative Center. The college intends to continue current projects as well as implement new collaborative environmental

projects with various public and private agencies to promote student education and research opportunities.

—Southwestern Indian Polytechnic Institute (SIPI), in Albuquerque, NM has used the education equity grants to build the SIPI Agricultural Science, Engineering and Technology (ASET) Development Project. The overall goal of the SIPI–ASET project involves the establishment of a comprehensive Agricultural Science, Extension and Technology program which serves the immediate and long-term economic needs of the National Indian Community, and also provides a bridge to regional university programs in science, engineering and agricultural technologies.

Other Tribal Colleges have started natural resource management courses; nutrition and dietetic programs; environmental sciences curricula; comprehensive horticulture programs; and courses on sustainable development, forestry, and buffalo production and management.

Funding for Research.—In addition, we are requesting funding for our newly authorized research program, which was authorized at "such sums as necessary" as an amendment to the Agriculture Research, Extension, and Education Reform Act of 1998. With 30 institutions competing in this new research authority, we feel the President's suggested level of $667,000 is simply not adequate to address the pressing agricultural and nutritional research needs of our colleges and their communities. Therefore, we respectfully request an appropriation level of $10 million.

This authority, and its corresponding appropriation, is vital to ensuring that Tribal Colleges finally have the opportunity to become full partners in this nation's land-grant system of colleges and universities. Many of our institutions are currently conducting applied agriculture-based research, yet they struggle to finance this research and meet their community's other research needs. Some of the research in progress includes soil and water quality research; amphibian propagation; pesticide and wildlife research; range cattle species enhancement; and native plant preservation for medicinal and economic purposes. We urge the committee to fund this program at an appropriate level to allow our institutions to develop and strengthen their research potential.

V. Conclusion

The 1994 Institutions are efficient and effective tools for bringing education to American Indians and bringing opportunity and hope for self-sufficiency to this nation's poorest regions. The modest federal investment in the Tribal Colleges has paid great dividends in terms of employment, education, and economic development, and continuation of this investment makes sound moral and fiscal sense. No communities are in greater need of land-grant programs than American Indian reservations, and no institutions better exemplify the original intent of land-grant institutions than the Tribal Colleges.

Mr. Chairman and Members of the Subcommittee, we appreciate your long-standing support of the Tribal Colleges and are grateful for your commitment to bring self-sufficiency to our communities. We look forward to continuing a partnership with you, the U.S. Department of Agriculture, and the mainstream land-grant system—a partnership that will bring equal educational, agricultural, and economic opportunities to Native America. Thank you again for inviting us to present our statement to you.

PREPARED STATEMENT OF THE AMERICAN SEED TRADE ASSOCIATION

Mr. Chairman and members of the Subcommittee, we appreciate this opportunity to provide you with our views on the fiscal year 2000 agricultural appropriations bill. The American Seed Trade Association (ASTA), founded in 1883, is one of the oldest trade associations in the United States. With 850 members, the ASTA is the premiere advocate for the seed industry and related interests. ASTA's diverse membership consists of the leading companies that are developing, providing, supporting, and promoting new varieties that hold tremendous promise and opportunity for farmers and consumers everywhere. ASTA strongly urges you to provide, at least, a $5 million increase in fiscal year 2000 funding for the National Plant Germplasm System (NPGS).

Our request for a $5 million increase for the NPGS is the number one appropriations issue and the number one legislative issue for ASTA. This increase will allow seed companies to meet the diverse challenges facing our customers. Support for significant increases to the NPGS goes well beyond industry; we, also, have the support of our customers and the scientific community since they recognize that this will pay huge dividends. We recognize the tight budget constraints under which the

Subcommittee must operate; however, we believe a significant increase in funding for the NPGS is integral to U.S. agriculture reaping the full benefits of biotechnology and the ongoing genomics revolution.

Over the past few years, much attention has been focused on the enormous potential that biotechnology offers to American agriculture and the Nation's consumers. Many of the challenges confronting the U.S. can be met through the application of plant-based technologies. With sufficient genetic resources, we will have an abundant, safe, nutritious, and affordable supply of food and fiber that is produced in an environmentally friendly manner and that ensures a reasonable return for our farmers and livestock producers. In an editorial in Science magazine last year, Philip H. Abelson stated that "ultimately, the world will obtain most of its food, fuel, fiber, chemical feedstocks, and some of its pharmaceuticals from genetically altered vegetation and trees." (Science, Vol. 279). We agree that biotechnology can revolutionize American agriculture and can provide continually renewable resources for all of these products, if diverse genetic resources are available and accessible to U.S. scientists and plant breeders. Molecular biotechnology has given us new opportunities to tap genetic resources more effectively and efficiently, if the resources have been preserved and are accessible.

To take full advantage of modern biotechnology, we must have access to diverse genetic resources that will allow us to develop the varieties necessary to meet new and changing needs. The improvement of plants is based on the utilization of genetic diversity. Without a wide diversity of genetic resources, there will be nothing available, eventually, to improve plants or to prevent plants from becoming genetically susceptible to plant pathogens. Narrow genetic bases can result in widespread crop losses. For example, in 1970, Southern corn leaf blight cost farmers 15 percent of the corn crop; in the 1950s and early 1960s, about 70 percent of the wheat crop in the Pacific Northwest was wiped out by stripe rust; and the Irish potato famine of the 1840s was the result of the reliance on only a single variety of the potato. Breeders must have open access to extensive, well-maintained, and well-documented genetic resources.

Preserving the genetic diversity of plants is essential to the future of agriculture as the genes to add new traits, such as tolerance to diseases and resistance to insects, are often present in wild relatives of the major crops. Wild ancestors and relatives of cultivated plants give us the sustained ability to develop new varieties. Most of the U.S. crops raised and used for food, fiber, ornamentals, and industrial feed stocks originated from outside of the U.S. Consequently, the plant breeding community is highly dependent upon germplasm from other countries, some of which is endangered. Once lost, the germplasm cannot be fully reconstructed. These sources of productive capacity and efficiency and sources for potential resistance to pests and environmental stresses may be lost forever. Continued use of and access to a broad diversity of germplasm is necessary, if we are to develop varieties to meet new and changing circumstances and if we are to sustain agricultural productivity.

The NPGS germplasm collections underpin crop breeding efforts throughout the U.S. Preservation of and filling gaps in the base collections is a unique Federal responsibility. The major activities of the NPGS include (1) acquiring germplasm; (2) developing and documenting information on the germplasm in its collections (including entering the information into the Germplasm Resources Information Network); (3) preservation and distribution of the germplasm; and (4) maintenance of quarantine facilities for testing of imported germplasm for pests and pathogens before introduction in the U.S. The NPGS maintains over 440,000 germplasm samples for over 85 crops.

To ensure that these genetic resources are accessible and that they remain available, the NPGS must obtain a significant increase in funding over the next few years. Last year, recognizing the crucial importance of diverse genetic resources, the ASTA board of directors passed a resolution that calls for approximately a doubling, by 2002, of the annual Agricultural Research Service (ARS) budget for the NPGS. This would result in a minimum level of $40 million for the NPGS by 2002. While this may seem to be an exceptionally large request, the same amount has been called for since 1991. In that year, the NPGS reported that an annual budget of $40 million would be required, over a ten-year period, to remedy shortfalls in secure storage, back-up, evaluation, and development of core germplasm collections. According to a recent GAO report (GAO/RCED–98–20), ARS funding for the NPGS between 1992 and 1996 declined by 14 percent, in constant dollars, while germplasm collections increased by more than 10 percent. The picture is even more bleak when one takes into consideration the substantial reduction in non-salary dollars available for NPGS operations (including acquisitions), equipment, supplies, and facilities. For fiscal year 1999, only 15 percent of the budget is available for these critical aspects of the program.

The steady decline in available funding has had an extremely negative impact on the NPGS. To fulfill its mission to provide access to diverse genetic resources, the NPGS must have a balanced program that includes (1) acquisition of germplasm to fill gaps in the collections and to preserve endangered germplasm; (2) maintenance and preservation of germplasm with secure back-ups to prevent loss; (3) adequate documentation and characterization of the germplasm; (4) sufficient supplies of viable seeds to allow for distribution; and (5) quarantine facilities that make germplasm available in a timely manner.

Unfortunately, the lack of resources has placed the NPGS in a dire state. Insufficient funding, as well as the increasing difficulties encountered while attempting to acquire germplasm from developing countries, has limited germplasm acquisitions. Today, additions to the collections have slowed to one-fourth of the level they were at in 1993. And, according to the above referenced GAO report, even when NPGS acquires germplasm, its release to breeders and scientists is often delayed as a result of the management of the quarantine process.

Further, seed and clonal collections are without secure back-ups, adequate evaluation, documentation, and viability. For genetic resources to be useful, sufficient information concerning the germplasm must be available. The lack of germplasm passport information, documenting the geographic origin and ecological condition of the origin site, makes it difficult to utilize, fully, the sample and it precludes the development of long-range planning for the acquisition of germplasm. Currently, two-thirds of the NPGS germplasm lacks passport data on its location of origin. In many cases, even when data on traits such as plant structure and color have been developed, the information has not been entered into the database.

One of the primary purposes of gene banks is to preserve, and provide accessibility to, germplasm forever. To ensure that germplasm maintains viability, germination must be tested and the germplasm must be regenerated in a timely manner. The seeds of some plants remain viable for only a few years and without regeneration, they may be lost forever. Backlogs in regeneration can result in loss of diversity and, in some cases, the loss of resources that cannot be duplicated. According to the GAO, preservation activities—including viability testing, regeneration, and secure, long-term back-up storage of germplasm—have not kept pace with the preservation needs. When resources are restricted, administrative staff have no choice but to focus most of the budget on maintaining and preserving the current germplasm collections. Although 75 percent, or more, of the NPGS budget is devoted to maintenance and regeneration, the NPGS simply does not have enough funding to keep up with regeneration needs. According to the GAO report referenced above, at two of the plant introduction stations (Griffin, GA, and Pullman, WA), it may take 75 to 100 years for the samples to be regenerated, assuming current funding levels. With these kinds of backlogs, it is very likely that important germplasm will be lost.

Germplasm must be available for distribution for it to be beneficial. The NPGS distributes germplasm to plant breeders and scientists from all over the world. A minimum of 10,000 seeds is required before a particular germplasm sample can be distributed. In some cases, germplasm is not available, currently, because the NPGS has not had sufficient resources to generate or regenerate enough samples to allow for distribution.

In addition to the requirements for regeneration, it is essential to have back-ups of the collection. While NPGS policy requires back-up at the National Seed Storage Laboratory, over one-third of the accessions are not. In 1992, over 2,000 germplasm samples were lost at the Miami facility following Hurricane Andrew. Since these samples were not backed-up at another facility, they were lost.

The above problems are just a few of the many that are plaguing the NPGS due to the lack of adequate funding. These problems, however, are jeopardizing the security of the U.S. food and fiber system. As some plant breeders have stated, genetic diversity is the engine that drives plant breeding. Without new sources of genetic variation, plant breeders cannot make improvements. Without improvements, we will be unable to ensure the continued economic viability and security of our food and fiber system.

The NPGS is a fundamental, strategic resource that we cannot afford to jeopardize. Without a significant infusion of funds, the NPGS will not be able to ensure the preservation of important germplasm. We strongly, urge you to provide a minimum increase of $5 million for fiscal year 2000 and to double the funding for the NPGS by fiscal year 2002. We recognize that this will be difficult and that there are many competing priorities for limited resources; however, we cannot afford to be complacent. We believe that a $5 million increase for next year will send a signal that the Congress is committed to preserving this vital, strategic resource.

We, also, understand that the American Soybean Association has requested a $500,000 appropriation for an ARS soybean pathogen collection. ASTA believes that microbial germplasm collections are, also, important, and we, therefore, support that request.

Thank you for the opportunity to present ASTA's views on the importance of the National Plant Germplasm System. We look forward to working with you to ensure that the NPGS is able to provide the germplasm necessary for U.S. agriculture to meet the demands and challenges of the 21st Century.

PREPARED STATEMENT OF THE AMERICAN SHEEP INDUSTRY ASSOCIATION, INC.

The American Sheep Industry Association (ASI) is a federation of state member associations representing the nearly 80,000 sheep producers in the United States. The sheep industry views numerous agencies and programs of the U.S. Department of Agriculture as important to lamb and wool production. Sheep industry priorities include rebuilding and strengthening our infrastructure, critical predator control activities, maintaining and expanding research capabilities and animal health efforts.

The rapid changes that have occurred in the domestic sheep industry and continue to take place put further emphasis on the importance of adequately funding the U.S. Department of Agriculture programs important to lamb and wool producers.

We appreciate this opportunity to comment on those portions of the USDA fiscal year 2000 budget.

ANIMAL AND PLANT HEALTH INSPECTION SERVICE (APHIS)

The mission of APHIS, "to protect U.S. animal and plant resources from diseases and pests," is very important to the sheep industry of the nation.

Wildlife Services

With the loss of 520,000 sheep and lambs to predators each year, the Wildlife Services (WS) program of USDA-APHIS is vital to the economic survival of the sheep industry. The value of sheep and lambs lost to predators and predator control expenses are second only to feed costs for sheep production. Costs associated with predation currently exceed our industry's veterinary, labor and transportation costs.

The sheep industry adamantly disagrees with the Administration's budget proposal to reduce the Wildlife Services operations budget $1.8 million and to decrease methods development funding $776,000. If salary increases, which are rarely funded by Congress, are included, the total budget cut recommended by the President total $3.47 million. Add the $1.2 million in funds that is redirected and existing programs will be impacted $4.7 million. Such reductions will have devastating impacts on agriculture and other programs.

Budget recommendations should not punish agriculture for providing wildlife, belonging to the American public, with habitat. According to the International Association of Fish & Wildlife Agencies, agriculture and private landowners provide over 70 percent of the habitat for the American public's wildlife. The National Agricultural Statistics Service estimates that two-thirds of the nation's farms suffer some form of wildlife damage each year. The Berryman Institute for Wildlife Damage Management estimates wildlife damage is costing agricultural producers over $4 billion annually.

Wildlife Services has over 1,400 cooperative agreements with agriculture, forestry groups, private industry, state game and fish departments, departments of health, schools, county and local governments and others to mitigate the damage and danger that the public's wildlife can inflict on private property and public health and safety. This budget proposal not only cuts federal cooperative dollars, but also endangers cooperative funding raised through these agreements. Such cuts mean fewer Wildlife Services professionals will be available to not only assist agriculture, but other areas including human health and safety and endangered species management.

Wildlife Service's cooperative nature has made it the most cost effective and efficient program within federal government in the areas of wildlife damage management and public health and safety. WS is one of the few federal programs that has been consistently at or above the 50:50 federal to cooperative funding ratios. If you discount Congressional Directives, cooperative entities provided 55 percent of the total funding in fiscal year 1997, while the federal appropriations made up 45 percent of the cooperative dollars. The President's recommendation that a 50:50 ratio of cooperator funding be applied at the state and local level has no justification in statute, regulation or policy. Efforts by the administration to micromanage this suc-

cessful cooperative program will only serve to take away needed flexibility of WS managers and will inhibit Wildlife Service's ability to accomplish its mission as mandated by the Animal Damage Control Act, NEPA and the Government Performance and Results Act.

Although funding for Wildlife Services has seen slight increases in past years, most increases were in the form of Congressional Directives aimed at specific problems. Inflation has slowly eaten away at funds used to support general operations programs. ASI strongly supports the funding for fiscal year 2000 to be set at $32,346,000, an increase of $2,349,000 over the fiscal year 1999 level.

Aerial hunting is one of Wildlife Service's most efficient and cost-effective core programs. It is used not only to protect livestock, but is also critical for protection of wildlife such as mule deer in Utah and in endangered species programs such as those for the wolf and grizzly. A lack of funding for adequate safety was found to have contributed to a number of accidents experienced within the program. To implement core aerial safety provisions, a total of $2.457 million is needed. This is an increase of $1.257 million over the fiscal year 1999 budget.

In fiscal year 1999, Congress provided $350,000 for wolf management in Rocky Mountain region and Minnesota. A total of $742,000, a $392,000 increase over last year's budget, is needed to properly manage wolves. Wolf numbers have doubled in Montana, Wyoming and Idaho, and wolf predation on livestock consumed the funds provided by USDA and DOI by June of 1998. ASI asks Congress to fully fund the $175,000 directive for wolf management in the fiscal year 2000 budget, plus add an additional $72,000 to cover last year's shortfall in the program. Minnesota, Wisconsin and Michigan are experiencing similar rates of increase in wolf numbers and predation. ASI asks that Congress increase the funding for wolf management in Minnesota and Wisconsin $145,000 over the funds provided in fiscal year 1999.

The President's budget recommends that $1.5 million for rabies control be cut. The control of rabies is vital to human health and safety in a number of states and ASI asks Congress to restore these funds in the budget.

Last year, Congress redirected $700,000 for brown tree snake control in Hawaii. This program should be fully funded by Congress. While ASI is supportive of civilian airport safety, Congress should fund new airport safety programs it feels necessary rather than redirect existing program funds.

ASI asks Congress to fund Wildlife Service's Methods and Development at the fiscal year 1999 level of $10,365,000. Budget cuts suggested by the President will stop or reduce a number of important programs including rate damage in Hawaii, blackbird work on rice in Louisiana, sunflower work in the Dakotas and mammal contraceptive and predation work in Utah.

Emergency Management

The ability to manage animal health emergencies is crucial to the survival and well being of U.S. animal agriculture and the security of the nation's food supply. We are encouraged by the administration's request of $1 million for a "national animal health emergency management system". We believe that this is an important first step in developing a more modern, functional system that will improve and build upon state programs and industry initiatives.

Scrapie

Adequate funding of the Voluntary Scrapie Flock Certification Program and other scrapie control measures through USDA–APHIS is of critical importance to the sheep industry, as well as all segments of the livestock industries. ASI appreciates this Subcommittee's efforts in recognizing the seriousness of this devastating disease and the real need for control and eradication. ASI and others have urged APHIS to step up its efforts in scrapie control/eradication through a more aggressive regulatory approach. We request that the scrapie control/eradication program be funded more adequately in fiscal year 2000 as requested by the administration.

No country has, to date, conducted an active surveillance study of scrapie. ASI has requested that APHIS conduct a national surveillance study of scrapie since our industry's ability to compete in the market place is encumbered by both existence of scrapie in our flock and the lack of quantitative data about the disease. ASI has committed to investing producer funds to help cover laboratory costs associated with the study. Additional appropriations up to $600,000 are supported by the industry to insure completion of this critical surveillance effort.

AGRICULTURAL MARKETING SERVICE

Lamb Market Information and Price Discovery Systems

The sheep industry strongly supports the fiscal year 2000 budget of $22,166,000 for Market News of USDA-Agricultural Marketing Service. The increased appropria-

tions of $820,000 is critical for the agency to conduct the increased international market reporting and activities associated with the concentration in the livestock industry. The sheep industry has requested a review and update to the lamb and lamb meat market reporting system in the U.S. and inclusion of imported lamb product prices in the market news.

FOREIGN AGRICULTURAL SERVICE (FAS)

The sheep industry participates in FAS programs such as the Market Access Program (MAP) and the Foreign Market Development Program. ASI strongly supports continued appropriations at the fiscal year 1998 level for these critical Foreign Agricultural Service programs. ASI is the cooperator for American wool and sheep genetics and has achieved remarkable success in increasing exports of domestic wool, breeding sheep and semen. Wool exports have increased 170 percent over the last five years with the aid of this funding. American lamb sales also benefit from the Foreign Market Development Program through increased international efforts.

NATURAL RESOURCES CONSERVATION SERVICE (NRCS)

ASI urges increased appropriations for the range programs of the Soil Conservation Service to benefit the private range and pasture lands of the United States with conservation assistance. We support the budget item and recommend an increased level for the Grazing Lands Conservation Initiative that ASI has worked with, along with other livestock and range management organizations, to address this important effort for rangelands in the U.S.

RESEARCH, EDUCATION AND ECONOMICS

The sheep industry recognizes that it must become globally competitive. We are also striving to be profitable and sustainable as a user of and contributor to our natural resource base. Research, both basic and applied, and modern educational programming is essential if we are to succeed. We are disappointed in the decline in resources USDA is targeting toward sheep research and educational programs. With approximately $15 million in ARS funding increases for animal systems in fiscal year 1999, there was an actual reduction in the planned expenditure for sheep with all other livestock categories receiving significant increases. In the Administration's fiscal year 2000 budget, ARS has a planned expenditure of less that $200,000, again out of an approximate $15 million increase for animal systems with other livestock species targeted for significant increases.

In order for the sheep industry specifically and U.S. agriculture in general to be globally competitive and environmentally sound in the future, we must invest in the discovery and adoption of new technologies for producing, processing and marketing food and fiber. We urge the subcommittee to send a strong message to USDA supporting sheep research and education funding increases.

Agricultural Research Service

ASI urges an increase in funding of the scrapie research initiatives at Pullman, Washington in the following areas: (1) defining the relationships between prion genetics, resistance to infection and linkage to production traits and (2) the further development of and the validation of pre-clinical, live-animal diagnostic tests. A collaborative relationship has been developed between the ARS laboratory at Pullman, Washington and the U.S. Sheep Experiment Station at Dubois, Idaho which will combine the appropriate resources to begin answering the above mentioned needs. An additional $400,000 appropriation is needed to do this work.

We also urge the subcommittee to recommend an additional appropriation to study ovine progressive pneumonia (OPP) in the area of immunogenetics and host resistance in sheep as a collaborative study between the ARS laboratories at Pullman, Washington and the U.S. Sheep Experiment Station at Dubois, Idaho. OPP is endemic in U.S. sheep population, causes economic damage to the industry and is an impediment to trade with some countries. An additional $300,000 is needed to begin this study.

Research into Johne's disease has received additional funding through ARS over the past two years, focusing on cattle. Johne's disease is also endemic in the U.S. sheep population and is not well understood as a sheep disease. The same concerns exist regarding food safety and other countries are aggressively addressing Johne's in sheep regulatorily. We urge the subcommittee to send a strong message to ARS that Johne's disease in sheep should receive more attention with an emphasis on diagnostics.

We also strongly support the administration's request for emerging diseases and we urge significant appropriations for the animal component of this line item.

COOPERATIVE STATE RESEARCH EDUCATION AND EXTENSION SERVICE (CSREES)

We strongly support the National Research Initiative (NRI) and we appreciate the Administration's request of $200 million. The competitive grants awarded under its program are for the highest quality research addressing the goals and objectives of FAIR 1995.

Ongoing research in wool is critically important to the sheep industry. ASI supports continued funding of $212,000 for fiscal year 2000 through the special grants program of the CSREES.

We urge the subcommittee to appropriate both intramural and extramural funding for research to measure the well being of livestock. Animal well being is an emotional issue; in order to consider new management strategies for the enhancement of animals, we need improved methods of measurement.

The industry greatly appreciates this opportunity to discuss these programs and appropriations important to the sheep industry.

PREPARED STATEMENT OF THE AMERICAN SOCIETY FOR NUTRITIONAL SCIENCES

The American Society for Nutritional Sciences (ASNS) is the principal professional organization of nutrition research scientists in the United States representing 3,500 members whose purpose is to develop and extend the knowledge and application of nutrition science. ASNS members include scientists involved in human as well as animal nutrition research. Our members hold positions in virtually every land grant and private institution engaged in nutrition-related research in the United States as well as industrial enterprises conducting nutrition and food related research.

ASNS wants to express gratitude for the work that this committee did last year, on both sides of the aisle, to help increase competitively awarded agricultural research in the National Research Initiative Competitive Grants Program. Another significant increase in fiscal year 2000 for the NRI would help set the course for providing increased emphasis in the critically emerging areas such as genomics and genetics. While genomics is being studied under NIH and NSF funded grants, they have not addressed the areas of the genetic influence on nutrient requirements of individuals, nutrient gene interactions, and nutrient metabolism on the genetic basis of diseases in their intramural grants programs. These areas easily fit into the purview the of USDA's NRI mission. ASNS supports these and other key elements that will enhance cross-cutting areas of nutrition research having broad health outcomes.

The President's Budget for fiscal year 2000 calls for a net increase of $81 million above fiscal year 1999 funding for the NRI. We strongly endorse this substantially needed investment.

While we endorse the proposed increase, we do not believe that the President's budget supports the original intended priorities outlined in Section 401 of the Agricultural Research, Extension and Education Reform Act (AREERA) of 1998 for the Initiative for Future Agricultural and Food Systems. The President's Budget has transposed these priorities into the NRI. We know there are concerns from this Committee and the Congress about the new competitive grants programs. At this time we offer some suggestions as to how USDA's CSREES may incorporate such an increase so that the funds are effectively managed for the best possible health research outcomes. ASNS encourages Congress to urge department officials to consider administering all ongoing and new initiatives through a centralized office. This allows new grant administrators to take advantage of the investment and experience of an established program. ASNS stresses that the NRI use the model of other federal agencies that have more than one review cycle per year. Two or three cycles per year would allow for timely resubmission and encourage institutions to provide bridging funds for quality programs. Currently only 25 percent of qualified grants receive funding. Inadequate funding limits the productivity of researchers that the NRICGP is able to fund. NRI awards are small, averaging $133,210 in fiscal year 1998, and short, averaging 2.2 years for a total average support of about $60,000 each year. Additionally a 14 percent cap on indirect (facilities and administrative) costs deters many capable investigators from seeking NRI grants. These caps are detrimental and we urge you to reexamine the 14 percent cap on indirect costs.

A recent report from the National Association State Universities and Land Grant Colleges (NASULGC) stated that research and development funding for space exploration, the environment, basic science research, and health research has increased in constant dollars from 23 to 58 percent over the last ten years. But during this same time period, the funding for agricultural research and extension programs, the lifeblood of our food supply system, has shrunk by eight percent in constant dollars.

Base funds have eroded by 16 percent. These funds support the scientists and extension educators who can respond quickly and effectively to unexpected problems that arise for producers and consumers. The benefit is a food system that enables the consumer dollar and the welfare family's food stamps to purchase inexpensive, safe, and nutritious food. A food system that creates jobs, competes worldwide, and conserves its natural resources base.[1]

RESEARCH FUNDING MECHANISMS AND ISSUES

Competitive Grants

A competitive system for allocating government research funds is the most effective and efficient mechanism for focusing efforts on cutting edge research aimed at improving the health of the American people. Competitive grants provides the most effective, efficient and economic return to the public. ASNS strongly supports the competitive grants process as reflected in the National Research Initiative and believes that an open, merit and peer review process, applied as extensively as possible throughout the research system, is the best way to distribute research funds among qualified scientists.

Special Grants

ASNS strongly believes that the best research results come from research that is peer reviewed. That is why researchers funded by federal agencies, such as the NIH and the NSF, that award grants on merit have made such great progress. There is a potential danger that special grants and earmarked research funds from USDA may be awarded on the basis of politics rather than merit, priority or research need. Therefore, the perception might be that the integrity of the research system and agricultural science is undermined. Last year special grants were appropriated at $78 million even though the Administration's request for this year was less than half of that figure. We recognize that there is pressure to maintain these special grants. While special grants have their place to address emergency needs of national priority such as food safety, they may also be used to address research that is not deemed of the highest priority or merit. Thus, the proportion of special grants in comparison to the total research budget at USDA should be decreased.

Initiative for Future Agriculture and Food Systems

The Initiative, despite being signed into law, had no funds appropriated for fiscal year 1999. The legislation, calls for priority mission areas to be addressed: food genome; food safety; food technology and human nutrition; new and alternative uses and production of agricultural commodities and products; agricultural biotechnology; and natural resource management. The Initiative also includes provisions that allow merit/peer review and lets those who benefit from agricultural research provide input about the priority setting process. ASNS supports this Initiative and urges members of this sub-committee make it a funding priority.

National Needs Initiative

Another important area where funding has remained stagnant is the National Needs Initiative (NNI) of the Graduate Fellowship Program at the Higher Education Office of the USDA. This program fills an important need to help train the next generation of agricultural researchers. Despite its importance, funding for the NNI has seen a dramatic decline in recent years. ASNS supports the FASEB recommendation of $5 million for the NNI so that it may be restored to its previous funding levels. We also support the review and subsequent reorganization of USDA-sponsored graduate training.

THE NEED FOR NUTRITION-RELATED RESEARCH

The need for nutrition science and research is critical within the USDA. Nutrition and agricultural research are areas that impact the constituents of every congressional district in the nation. New technologies are demanded to reduce the likelihood of pathogen transmission by food, to improve the quality of processed foods, and to deliver greater nutritional value in foods. Additionally the economic impact on society in healthcare costs produced by advances in nutrition research is significant in the number of dollars saved by the American taxpayer. As health costs continue to rise, it is imperative that our medical practices take a preventive approach. This requires a thorough understanding of the role of nutrients in foods in preventing chronic illnesses such as heart disease, cancer and diabetes.

[1] Investments that Make a Difference, National Association of State Universities and Land-Grant Colleges, Fiscal Year 2000 Budget Proposal.

The USDA has a unique role in the area of nutrition research, particularly as it applies to human nutrition. For example, although there is a serious and obvious commitment to the funding of disease-related research within the National Institutes of Health, issues important to the basic mechanisms of nutrient function and the safety of the food supply have traditionally been the purview of USDA funded research. Most of the recent work on nutrient content and availability in various foods has come from USDA–NRI supported research. From a consumer perspective, it is this type of information that is often the most useful.

FOOD SECURITY AND BEHAVIORS

A 1994 Institute of Medicine Report stated that reducing foodborne illness will require research in all aspects of the food system, from production to consumption.[2] For example, identifying the foods most involved in foodborne illnesses, characterizing new foodborne pathogens, and developing new monitoring protocols are some ways to detect pathogens or toxicants responsible for outbreaks and minimize their impacts. Studies are also needed to identify food behaviors and nutritional effects in relation to more vulnerable populations such as infants and the elderly. Also, knowing more about health protectants will enable individuals to maximize the nutrition and "healthfulness" of their food choices relative to the prevention of disease. The need also exists to better understand the biology and behavior of food choices. Here we also need to study consumption related to risk analysis which demands better data on food consumption.

BIOTECHNOLOGY AND NUTRITION

Increased interest in enhancing the nutritional quality of the food supply has sparked ways to design foods not just for disease prevention but also for health promotion. For example, opportunities exist to influence food habits and food choices, by using technology to enhance healthful foods.

Ultimately we will want to know what compositional changes in crop plants have the best nutritional value. There are many basic questions left unanswered on the role of diet in health and disease when it comes to phytonutrients in plants.

USDA is encouraged to collaborate with other federal agencies in the area of nutrition whenever possible. This objective naturally spans research done in both the USDA and NIH.

GENETICS AND NUTRITION

Studying genetic interactions will allow us to address several issues at once. For example, what intakes of nutrients are needed to achieve optimal health and minimal risk of various diseases associated with diet? Do requirements differ depending on genetics? How do genetics influence efficiency of metabolism and does this affect nutrient requirements? What are metabolic and health consequences of inadequate nutritional status, as affected by genetics? Many research opportunities exist in this area.

GENOMICS AND NUTRITION

ASNS supports a recent report from the Federation of American Societies for Experimental Biology that states, increased funding should bring an emphasis on all aspects of genomics. Such an initiative would significantly enhance existing programs within the NRI. One example might be functional genomics. ASNS has provided detailed scientific background about this kind of research to USDA program directors at a recent stakeholders meeting.

Research and resources devoted to unraveling the genomes of a few selected organisms have been expanding dramatically in recent years. While the administration of large-scale programs has been placed in agencies other than USDA, the power and long-term impact of a large-scale genome initiative directed toward agriculturally important organisms-including animals, plants, and microbes (plant, animal and human pathogens)—represents a major opportunity and fulfills an important need in agriculture.

USDA's NRICGP is well positioned to use genomic data to address programs in agriculturally important organisms. However, given its present budget—and even with the most optimistic incremental increases—the NRICGP currently lacks the re-

[2] Opportunities in the Nutrition and Food Sciences, Institute of Medicine, 1994, p. 111.

source depth to meet this challenge. ASNS endorses the allocation of at least $50 million in new money to be directed toward an agricultural genomics program.[3]

ANIMAL WELFARE ACT

Research using animals has been crucial to virtually every advance in medicine in the past century. Agents for control of high blood pressure and the management of diabetes, vaccines for the control of poliomyelitis and mumps, development of artificial joints and heart-lung machines, and many more medical advances have depended on animal research.

USDA's Animal and Plant Health Inspection Service (APHIS) is charged by Congress to enforce the Animal Welfare Act (AWA). Under the AWA, USDA licenses dealers to buy and sell random-source animals to research facilities that are unable to obtain them from municipal pounds and shelters. This provides access to a critical supply of animals since animals bred specifically for research often lack characteristics needed by researchers studying health-related problems. Much of their work relies on older, larger, and genetically diverse animals.

ASNS recommends that Congress provide APHIS with adequate funding for enforcement of the Animal Welfare Act in fiscal year 2000 so that it can continue to ensure compliance with the AWA.

Most recently an issue has emerged that will impact researchers and their institutions using rats, birds, and mice. ASNS strongly opposes a proposal to include rats, mice, and birds as part of the USDA regulatory efforts under the AWA. At this time the vast majority of the rats and mice used in research in the United States are in institutions that follow the guide for the Care and Use of Research Animals, the guidelines published by the Institute of Laboratory Animal Research (ILAR) of the National Academy of Sciences. With its limited resources in USDA's APHIS, the burden of adding rats, mice, and birds to its responsibilities would have a negative effect on overall AWA enforcement. This increased regulatory burden imposed on researchers and their institutions by introducing redundant regulations will have a detrimental effect to the efforts of the research being conducted. If this regulation is expanded to require new responsibilities, APHIS will need several million more dollars each year to extend its AWA coverage to rats, birds and mice. ASNS feels such allocations of funds are not in the public interest. Such resources could be more effectively used elsewhere within the USDA's competitive research grants program.

CONCLUSION

Agriculture is and will continue to be important to human health in terms of food that provides proper nutrition for healthier people. As the future challenges us with more complicated diseases, research must expand outside the traditional disciplines and approaches, such as the work that is being done is plant and animal genomics. New approaches must be implemented to address new societal concerns. For example, despite our hard efforts to plan healthy diets for school children much of this food is being wasted. Nutritionists are constantly challenged to develop nutrient-balanced meals that will encourage our children to choose more healthful foods. New demands to fit busy lifestyles is another example. Issues such as product convenience, uniformity of products, ease of preparation, "automatic" nutrient balancing, and packaging are all areas scientists must address. Research in areas of how our food is produced, pesticide usage, animal care and food handling issues also present demands to our scientists. These demands and opportunities must be answered in a way that sustains or enhances our quality of life. Although greater challenges lie ahead, agricultural research funding continues to have slow growth despite significant increases at other research agencies such as the NIH and NSF.

It is for these reasons that ASNS reiterates the following recommendations to the sub-committee:

—Increase funding for USDA's NRICGP from $119 million to $200 million, of which $50 million will be used for a genomics initiative.
—ASNS recommends $120 million for the Initiative for Future Agriculture and Food Systems in which human nutrition research remains a research priority.
—Provide an increase of $5 million to the National Needs Initiative so that it may be restored to its previous funding levels.
—Reexamine the 14 percent cap on indirect (facilities and administrative) costs in NRI grants.

[3] Federal Funding for Biomedical and Related Life Sciences Research Fiscal Year 2000, Federation of American Societies for Experimental Biology, 1999, p. 53–54.

PREPARED STATEMENT OF THE ASSOCIATION OF RESEARCH DIRECTORS 1890 LAND-GRANT UNIVERSITIES

Senator Thad Cochran, Chairman, and other distinguished members of the Committee, my name is Samuel L. Donald, Regional Research Director for the seventeen Historically Black 1890 Land-Grant Universities, including Tuskegee University (hereafter referred to as the 1890s). Mr. Chairman, I submit, on behalf of the 1890 community, this written testimony in support of the fiscal year 2000 Budget recommendations for the 1890s.

GENERAL INFORMATION

Mr. Chairman, today, the rich legacy of the land-grant tradition remains prominent on the campuses of the 1890s. These institutions are increasingly serving as economic instruments of the state and the nation. They have their extraordinary influence on the lives of all citizens including African Americans and other minority groups. While enduring inequities in state and federal funding, the 1890s serve as exemplary role models; provide educational access to those who may otherwise be denied the opportunity to pursue a college education; and foster an unyielding commitment to academic excellence, social equality and the assurance of a decent future for all students including those from the lowest economic strata of the nation. These universities have been in the forefront of educating youth-at-risk, producing research vital to the quality of life and the environment, and addressing the social and economic needs of urban and rural communities. Teaching, research and extension remain prominent on the campuses of the 1890s.

ACCOMPLISHMENTS AND IMPACTS

Historically Public Black Colleges and Universities (HPBCUs) constitute some of the largest and most prestigious institutions of higher education in the nation. Among them, two of the largest are 1890 HPBCUs. Several of the 1890s offer doctoral degrees and/or professional degrees in engineering, food science, toxicology, environmental science, and other areas of national need. Three of the top five HPBCUs in the nation contributing to the production of African American doctorates are 1890s. Annually, six HPBCUs produce nearly 20 percent of all African American bachelor degree recipients in engineering and the 1890s graduate over 80 percent of all Black recipients of bachelor degrees in agricultural sciences. Tuskegee University alone has trained more than 80 percent of the nation's Black veterinarians. The 1890s depend heavily on federal support for sustaining their academic, research, and extension programs. These institutions contributions to science and other accomplishments are reasons for maintaining and expanding the federal partnership. For the purposes of improved food quality and food safety, improved and sustained agriculture production, improved quality of life for rural people, etc., some of the more recent accomplishments of the 1890s are:

—Tested water samples from wells of rural families for nitrates and pesticides residues.
—Determined soil loss coefficients for fruits and vegetables.
—Developed new invitro systems for enhancing root system development of pine and hardwood trees.
—Found that increased production of rapeseed will provide an efficient domestic source of erucic acid oil, reduce expensive imports of rapeseed oil, help control environmental pollution resulting from use of inorganic pesticides, and assist in the development of sustainable crop production.
—Found that N-methyl aspartate enhanced growth and reduced fat in swine and chickens.
—Demonstrated that gamma irradiation of broilers eliminated 99 percent of microbial contamination.
—Found that self-rating by 9–12 grade students in 19 rural schools mirrored the reward systems in the schools.
—Developed Simmental cattle with a high rate of twinning.
—Determined that lambs and kids produced on cowpeas are lean and low in fat and preferred by consumers.
—Developed a simplified field test for water engineers and seafood producers and processors of two major flavor contaminants.
—Developed a new vegetable-legume cropping system for small-scale farmers in the Southeast.
—Established seed and tissue culture systems to grow peanut and sweet potato *invitro.*
—Developed a screening system to detect aflatoxins in peanut.

—Developed a database that provides information used by the swine industry, agencies and educational institutions.
—Demonstrated a direct relationship between diet and exercise on hypertension and diabetic African American women.
—Determine that dietary omega-3 polyunsaturated fats have beneficial properties to change physical and biochemical processes to control blood pressure.
—Developed technology to improve goat meat and fiber production.
—Developed intensified "Farm Planning Program" for farmers to improve profitability from crops, livestock, and alternative farm enterprises.
—Assisted fish farmers to develop viable aquaculture operations.
—Conducted senior citizens conferences on consumer fraud, security, energy conservation, and modification of dwellings for handicapped use and access.

The above accomplishments had major impacts on improving (a) the quality of lives of people served and (b) the entrepreneurial skills and farming operations of farmers served. The bottom line is, due primarily to federal appropriated dollars to the 1890s, many under-served clientele, customers and stakeholders have a "brighter" tomorrow.

BUDGET RECOMMENDATIONS

The 1890s support the fiscal year 2000 budget recommendations of the National Association of State Universities and Land-Grant Colleges (NASULGC) which emphasizes modest increased funding for the research, extension, and academic programs. This is especially the case for formula/base funded programs, that is, a requested 6–8 percent increase not a decrease as recommended in the President's budget. Mr. Chairman, the 1890s urge the Committee to strongly support the NASULGC recommendations which includes the following for the 1890s:

Evans-Allen Research Program ($31.976 Million)

The 1890s request a marginal increase in base funds for research. These funds will enhance the capacity of these institutions to become more competitive in the private sector and in domestic and international research endeavors designed to undergird the vitality of the nation's agricultural enterprise. This support will enhance the ability of the 1890s to compete for grants and contracts in a wider variety of programs in the U.S. Department of Agriculture, other federal agencies, and the private sector.

Capacity Building Grants Program ($10 Million)

The Capacity Building Grants Program is making a major difference in the quality and quantity of teaching and research programs in food and agricultural sciences and technology on the campuses of the 1890s. Since the creation of this enormously important program, the 1890 leadership has strongly advocated a substantial and sustained increase in funding at more than $25 million annually. This level of funding would allow these institutions to significantly improve the range and level of academic programs offered, enhance the performance and productivity of faculty in the sciences and increase research opportunities for undergraduate and graduate students. However, consistent with the NASULGC's recommendation, the 1890s support the request of $10 million.

Extension and Research Facilities Grants Program ($12 Million)

The 1890s unequivocally support the $12 million facilities funding request in the NASULGC as well as the President's budgets for renovation, maintenance and overall improvement of the infrastructure on our campuses. The 1890s face nearly insurmountable barriers in attracting public and private support for enhancement of facilities. Although this level of funding will not fully address the critical facility needs of our institutions, it will complement existing efforts to make major improvements.

Extension Program ($27.943 Million)

The 1890s support a modest increase in base funding requested by NASULGC for extension activities. This marginal increase will allow our institutions to sustain program activity at current levels and respond more efficiently to the growing demand for services in severely depressed and under-served communities.

CLOSING COMMENTS

Mr. Chairman, based on past accomplishments and visionary approach, the 1890s are positioning themselves to enter the 21st Century with a renewed commitment and capacity to implement their land-grant mission of teaching, research and extension. Full appropriations of the fiscal year 2000 budget recommendations as stated

above will facilitate this and is vital to the 1890 Land-Grant Universities. If there is a need for additional information, you may contact me as indicated below.

PREPARED STATEMENT OF THE ASTA CORN & SORGHUM BASIC RESEARCH COMMITTEE

SUMMARY

We are requesting $500,000 be appropriated annually for enhancing corn germplasm.

1. Corn is a key resource providing food, industrial uses, livestock feed, and export.
2. Corn production in the U.S. is based on less than 5 percent of corn germplasm available in the world. Broadening the germplasm base would provide genes to improve yields and protect against new disease, insect and environmental stresses. Exotic germplasm would also be a source for changes in grain quality being demanded by export markets, industrial processors, and other end users.
3. Most exotic germplasm is unadapted to growing conditions in the U.S. This proposal is a joint USDA/ARS, university, and industry effort to adapt this material, so that it can be used by commercial breeders in the development of new hybrids to meet the demands of the American consumer and our foreign markets.
4. We greatly appreciate the $500,000 previously appropriated for this research, beginning with the 1995 federal budget. This funding is supporting the two main USDA/ARS locations involved in this research (Iowa and North Carolina), as well as USDA/ARS and university locations in Delaware, Illinois, Iowa, Missouri, Ohio, New York, Tennessee, Texas and Wisconsin. Industry is providing $450,000 in-kind support annually for this effort.
5. The additional appropriation of $500,000 annually would enable the Iowa and North Carolina locations to purchase equipment and add staff necessary for carrying out this research. It would also provide funding for the increased germplasm evaluation and breeding necessary to test and enhance the exotic materials available.

BACKGROUND

Corn is the major crop on the cultivated land of the USA where approximately 75 million acres are planted each year. U.S. corn production, accounting for about half of the world's annual production, adds over $16 billion of value to the American economy as a raw material. About 20 percent ($3.2 billion) of this production is exported each year, thereby providing a positive contribution to the nation's trade balance. Approximately 17 percent of the yearly corn crop is industrially refined. A portion of the refined products is exported resulting in an additional $1.4 billion in export. Through feeding livestock, the rest of the crop is processed into meat and dairy products that affect everyone in our society. Corn is a key resource within our country.

CONCERNS

All of this production is based on using less than 5 percent of the corn germplasm available in the world. Less than 1 percent of our commercial corn is of exotic (foreign) origin, and tropical exotic germplasm is only a fraction of that. This situation exists because private sector corn breeders have generally concentrated on genetically narrow based, or elite by elite, sources for their breeding efforts, since their use results in getting hybrids to the marketplace faster.

Traditionally, corn has been treated as a commodity. In recent years corn grain users and processors have become more interested in the quality characteristics of the grain itself and how this affects their business. Since much of the exotic germplasm has undergone selection for many indigenous uses (foods, beverages, etc.) by various cultures, it seems likely that new grain quality characteristics will be found in exotic germplasm rather than the narrow-based germplasm now used. A small increase in value to the grain, such as 10 cents per bushel, would increase its annual value by $800 million for an eight billion bushel harvest.[1]

Breeders must still be concerned with breeding for higher yields so that U.S. corn farmers can remain competitive. Tapping into the broader germplasm pool could provide new sources of genes for higher yield and other performance traits, such as disease and insect tolerance or improved stalk and root strength.

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[1] Salhuana, Pollak, Tiffany 1994. Public/Private Collaboration Proposed to Strengthen Quality and Production of U.S. corn through Maize Germplasm Enhancement, Diversity Vol. 9, No. 4, 1993/Vol. 10, No. 1, 1994.

A further concern with a narrow genetic base is the potential for widespread disease or insect damage due to new diseases or insect species spreading into U.S. corn growing areas. It is more likely that resistance to these dangers would be found in genetically diverse exotic germplasm sources than in our breeding material. One major benefit would be reduced pesticide use. In addition to protection against diseases and insects, these exotic materials provide insurance for unforeseen climatic or environmental problems.

A great deal of excitement has been generated over the new techniques of biotechnology, especially over the potential value to the corn industry of gene transformation using genetic engineering. Research conducted on exotic germplasm could yield many beneficial genes that genetic engineers could quickly transfer to commercial hybrids.

LAMP PROJECT

What would be the source of this exotic germplasm? Over the years, collections of corn have been made from farmers' fields and other sources all over the world, and are stored in various germplasm banks. In 1987, the Latin American Maize Project (LAMP) was initiated to evaluate these corn collections (accessions). It was a cooperative effort among 12 countries to identify accessions that might provide valuable source material for further improvement in hybrid and open-pollinated cultivars in the U.S.A. and other areas. Pioneer Hi-Bred International gave USDA/ARS $1.5 million to fund the LAMP research.

Nearly 12,000 maize (corn) germplasm accessions were evaluated. In successive stages, the project identified the top 268 accessions. The environmental areas of adaptation for these 268 "elite" populations range from temperate to tropical, and are prime candidates for enhancing the U.S.A. corn germplasm base.

GERMPLASM ENHANCEMENT

Most of this germplasm is unadapted to growing conditions in the U.S. and requires genetic enhancement to make it adapted, or able to grow and mature in our environmental conditions. Enhancement basically means that these exotic materials will be bred with U.S. adapted materials and breeders will select progeny that carry the desired exotic traits and are also adapted to U.S. growing conditions. This will require a concerted long-term breeding approach by corn breeders at numerous locations (environments) throughout the U.S. Only after this process of enhancement will these exotic materials be ready to enter commercial corn breeding channels and be effectively utilized by a broad cross-section of the industry in the development of new hybrids for farmers and corn users.

The total process of enhancement is too large and long-term for public institutions and/or seed companies to accomplish individually. An ambitious task of this nature can only be completed through a coordinated and cooperative effort between the USDA/ARS, land-grant universities, and industry.

The Corn and Sorghum Basic Research Committee of the American Seed Trade Association has been concerned that enhancement of this exotic germplasm would proceed. The Committee consists of representatives from about 30 companies actively involved in the corn and sorghum seed industry, and at the committee's request, Dr. Linda Pollak, Research Geneticist, USDA/ARS, et al, developed a proposal for enhancing exotic germplasm starting with materials which will include the elite LAMP accessions as noted above. This proposal has developed into the U.S. GEM (Germplasm Enhancement of Maize) Project.

U.S. GEM PROJECT OUTLINE

Since this project serves a national need, the primary effort and direction has come from the USDA/ARS. Two permanent USDA/ARS locations are being used as primary sites for enhancement breeding and coordination. One is in Ames, Iowa, where the USDA/ARS currently conducts corn evaluation and enhancement efforts. Dr. Linda Pollak, Research Geneticist, is located there. Dr. Pollak was the Principal Investigator of the U.S.A. for LAMP, and is the lead scientist for this project.

The other permanent site is the USDA/ARS location in North Carolina. This site has responsibility for initial evaluation and conversion of the tropical materials. Tropical corn populations normally will not reach maturity in the Corn Belt, but will produce seed in North Carolina. After initial enhancement of the tropical materials in the South, they will be sent to Ames for further enhancement and testing in Corn Belt conditions. Dr. Marty Carson is in charge of this program.

A number of corn researchers at various land-grant universities and other ARS locations are also taking part in the enhancement and evaluation of this exotic germplasm. This cooperative effort is very important and serves not only as a source

of improved germplasm but also provides excellent training for future plant scientists.

Industry is also involved. A total of 23 companies have pledged research nursery and yield trial plots to be used in this breeding effort. This in-kind support is valued at $450,000 per year.

An important component of the project is an annual meeting of all cooperators to evaluate progress and plan strategies. An information network has been established to keep everyone up-to-date. A U.S. GEM Technical Steering Group consisting of members from USDA/ARS, University, and Industry has been formed for guidance and administration of this cooperative effort.

This germplasm enhancement project is public and is open to all public sector institutions as well as private seed companies. Information will be freely available and publicly developed materials will remain in the public domain, accessible to all.

ACCOMPLISHMENTS 1996–1998

Following is a description of accomplishments and research conducted at various locations using 1996–1998 funding.

Ames, Iowa.—Priorities for the corn enhancement work at this location are overall project coordination, data analysis and management, management and release of enhanced germplasm, analysis of materials for value-added traits, and as one of the many breeding sites. To date, 200 hybrids from crosses with GEM breeding lines have beaten the average of commercial check hybrids in trials analyzed in Ames.

The laboratory is continuing to evaluate oil, starch, and protein in the exotic accessions and in the breeding populations made up of exotic materials crossed to proprietary corn belt inbreds. In results from 1996, a line from one breeding cross measured total protein of 16 percent (corn belt germplasm has 10 percent) and total oil level of 6 percent (corn belt is 4 percent). It is extremely unique to find increased levels for both of these traits in the same line, and it is potentially very useful for food and feed applications. In 1997, lines were identified with unique starch characteristics, which may be beneficial for human food products. In 1998, three lines were identified with high percent retrogradation, which may have applications as a new source of dietary fiber or as a dry lubricant. Other lines were found to exhibit certain potentially useful traits, such as low protein (5.1 percent), high protein (15.4 percent) and high starch content (73.6 percent).

GEM's World Wide Web site opened on July 15, 1996. From this site cooperators can obtain the latest data from yield tests, disease and insect screening, and value-added trait research, as well as news and upcoming events.

Raleigh, North Carolina.—The focus of this location is twofold. One priority is to develop enhanced material adapted to the Southern U.S. corn growing conditions. The second is to be a stepping stone for adapting tropical material to Midwest conditions.

Breeding populations were tested for resistance to various leaf diseases and stalk rots. Selections were made for improved material with resistance to these diseases as well as for improved yield, standability, and adaptation to North Carolina conditions. For example, in 1997 significant resistance to Fusarium ear rot was found in four GEM breeding populations. Resistance to Aspergillus ear rot was also found in two of these same four populations. Hybrids of about 55 advanced breeding lines developed from tropical by elite breeding populations yielded equal to or outyielded the mean of commercial check hybrids over two years. These lines are now candidates for release.

Other public cooperators conducted evaluations in 1998 as follows: Drought resistance in Delaware. Yield data accumulation in Georgia, North Carolina, Maryland, Tennessee, Kentucky Missouri, Texas and Delaware. Grain yield and disease resistance in Illinois. Fusarium ear rot resistance in Iowa. Zein content, wet milling properties, starch functionality, and other value added grain traits in Iowa. Resistance to corn rootworm and corn borer in Missouri. Resistance to anthracnose stalk rot in New York. Breeding in Tennessee. Evaluation of silage quality in Wisconsin.

Demonstration nurseries were planted at Iowa and North Carolina for viewing by cooperators. Fall field days were held at Iowa and North Carolina.

In 1998, private cooperators continued the breeding and adaptation of about 15 accessions following the protocol developed by the GEM Technical Steering Group. Companies increased their nursery and yield trial in-kind support by approximately 25 percent in 1996.

RESEARCH IN 1999

Research will continue at the various USDA/ARS, university, and company locations similar to 1998.

EFFECTS OF INCREASED FUNDING BEGINNING IN 2000

Appropriation of the additional $500,000 annually would provide funds to increase research in the following ways:

Ames, Iowa.—The addition of a database manager (GS–11) would allow GEM to meet the increasing demand for value added trait and other data from the GEM project, and link this data with genomic data, benefiting the Corn Genome Project. Continuation of the postdoctoral position for value added trait research would provide for the study of food technology aspects of the unique traits being discovered. A graduate research assistant would study the inheritance of these value added traits, developing invaluable information for the breeding effort. By nearly tripling the amount for public cooperators, it would greatly enhance the data gathering and adaptation breeding of these materials.

Raleigh, North Carolina.—This location has a number of equipment needs, such as a seed storage unit, because current facilities are filled to capacity and a minivan for transportation (see "Budget" document). A technician would be added to handle the expanded field work. Current resources restrict testing and development work to relatively few breeding populations. With the increased funding, the number of breeding crosses could be increased, greatly speeding up the introduction of adapted GEM material into private and public breeding programs. Additional funding would provide for yield trial testing at more locations and more extensive disease and insect resistance screening, greatly increasing the precision in selecting materials that are high yielding and have high levels of pest resistance.

Other Public Cooperators.—The increase in funding for public cooperators would allow for full evaluation and development of new breeding materials improved for productivity as well as disease and insect resistance and value-added traits. It would also provide for the use of biotechnology tools in this development work. Most public cooperators are willing to participate, but cannot unless they have at least partial funding. There are approximately 30 public cooperators now, and as the project develops we are likely to have more.

CONCLUSION

Corn hybrids in the U.S. have a very narrow genetic base, utilizing only a small percentage of all available corn germplasm. This greatly increases vulnerability to unforeseen pest problems, and may lead to an eventual yield cap. Exotic corn germplasm could provide genes for resistance to pest problems and for increased yields. These exotic materials may also contain quality traits to meet new market demands. This will help ensure the U.S. maintains its world leadership in providing the best raw materials to meet the demand for the production of meat, eggs, milk, and many other food and industrial uses.

The LAMP project identified the top 268 corn accessions from among 12,000 populations evaluated. The present proposal represents a joint USDA/ARS, land-grant university, and industry effort to enhance these and other exotic accessions so that they can enter commercial corn breeding programs. The result of this cooperation will be an increase in the productivity, quality, and marketability of hybrid corn in the U.S. and for export, benefiting the farmer, the feed and processing industries, and the consumer.

Therefore, the ASTA Corn and Sorghum Basic Research Committee hereby requests the 106th Congress of the United States to add funding of $500,000 (in addition to the $500,000 appropriated initially in 1997, for a total of $1,000,000) annually for this corn germplasm enhancement project beginning with the 2000 federal budget.

BUDGET SUMMARY

This is a summary of the operational and capital budgets for 1999, 2000, and 2001; 2001 will only be operational. The budget is divided into the Corn Belt Location and corresponds to Ames, Iowa (USDA–ARS) and the cooperators in the Corn Belt area. The Southern Location corresponds with Raleigh, North Carolina (USDA–ARS) and the cooperators in the states in the South. For a complete copy of the budget, please contact Dr. David Harper, Holden's Foundation Seeds LLC, Box 839, Williamsburg, IA 52361 or 319–668–1100.

Items	1999	2000	2001
Corn Belt Location			
Board Reductions	$19,100	$20,105	$21,185
Personnel	164,550	243,990	312,832

Items	1999	2000	2001
Office/Field	44,900	85,125	89,381
Capital Equipment	11,450	81,780	7,602
Specific Agreements for Public Cooperators [1]	60,000	169,000	169,000
Total for Corn Belt Location	300,000	600,000	600,000
Southern Location			
Personnel	68,200	111,600	114,000
Indirect Costs	16,213	13,363	13,363
Office/Field	30,587	45,037	46,637
Capital Equipment	5,000	65,000	41,000
Specific Agreements for Public Cooperators [1]	30,000	65,000	85,000
Total for Southern Location	150,000	300,000	300,000
SUMMARY			
Corn Belt Location	300,000	600,000	600,000
Southern Location	150,000	300,000	300,000
USDA/ARS Overhead	50,000	100,000	100,000
Grand Total	500,000	1,000,000	1,000,000

[1] Specific Agreements for Public Cooperators: Agreements for public cooperation can be made with universities and ARS scientists in many locations which could include the following states: Delaware, Ohio, Pennsylvania, Indiana, Illinois, Wisconsin, Kentucky, Missouri, New York, Iowa, Michigan, Minnesota, North Dakota, South Dakota, Nebraska, North Carolina, Mississippi, Georgia, Louisiana, Texas and Tennessee. Research at these locations would include selection for disease and insect resistance, evaluation for value added traits, and yield trials.

Prepared Statement of the California Industry and Government Coalition on PM–10/PM–2.5

Mr. Chairman and Members of the Subcommittee: On behalf of the California Industry and Government Coalition on PM–10/PM–2.5, we are pleased to submit this statement for the record in support of our fiscal year 2000 funding request of $436,500 (one-half of the historical baseline split of $873,000 between California and Washington) from CSREES, for the California Regional PM–10/PM–2.5 Air Quality Study.

The San Joaquin Valley of California and surrounding regions exceed both state and federal clean air standards for small particulate matter, designated PM–10/PM–2.5. The 1990 federal Clean Air Act Amendments require these areas to attain federal PM–10/PM–2.5 standards by December 31, 2001. Attainment of these standards requires effective and equitable distribution of pollution controls that cannot be determined without a major study of this issue.

According to EPA and the California Air Resources Board, existing research data show that air quality caused by the PM–10/PM–2.5 problem has the potential to threaten the health of more than 3 million people living in the region, reduce visibility, and impact negatively on the quality of life. Unless the causes, effects and problems associated with PM–10/PM–2.5 are better addressed and understood, many industries will suffer due to production and transportation problems, diminishing natural resources, and increasing costs of fighting a problem that begs for a soundly researched solution.

PM–10/PM–2.5 problems stem from a variety of industry and other sources, and they are a significant problem in the areas that are characteristic of much of California. Typical PM–10/PM–2.5 sources are dust stirred up by vehicles on unpaved roads, and dirt loosened and carried by wind during cultivation of agricultural land. Soil erosion through wind and other agents also leads to aggravation of PM–10/PM–2.5 air pollution problems.

The agriculture portion of this study is developing specific types of information, tools and techniques needed to develop an inventory and the management practices that will most likely be part of the control strategies. They are: (1) validate method or methods for accurately measuring fugitive PM–10/PM–2.5 emission rates from an individual site or operation; (2) a method to easily and quickly estimate PM–10/PM–2.5 emissions; (3) an accurate inventory of fugitive PM–10/PM–2.5 dust sources by individual farming operations; (4) validated (field tested) best management practices; (5) a clear understanding of significant factors that effect PM–10/PM–2.5 emissions; and (6) a workable, validated model or models for predicting PM–10/PM–2.5 emission, based on operational parameters.

The primary focus of the short-term objectives is on those soils, practices, and conditions presumed to have the highest PM–10/PM–2.5 emissions. Priority for this work will be focused on the following situations, practices, and crops within the study area.

Almond, Walnut and Fig Harvest: Preparation for harvest; Shaking trees; Windrowing; Picking up nuts; and Ambient conditions before and after.

Dairy Industry: Dairy Lagoons; and Livestock Corrals.

Cotton Harvest: 1Harvesting—1st and 2nd picking; Shredding of stalks; Stalk incorporation; and Ambient conditions before and after.

Feedlots: Feedlot activities.

Fall/Spring Land Preparation: Deep tillage; Discing; Land planning; Bed formation; and Ambient conditions before and after.

Grain Harvesting: Harvesting; Stubble incorporation; Discing; and Burning.

Land Leveling: Appropriate practices.

The importance of this study on PM–10/PM–2.5 is underscored by the need for more information on how the federal Clean Air Act Amendments standards can be met effectively by the business community, as well as by agencies of federal, state and local government whose activities contribute to the problem, and who are subject to the requirements of Title V of the Clean Air Act. There is a void in our current understanding of the amount and impact each source of PM–10/PM–2.5 actually contributes to the overall problem. Without a better understanding and more information—which this study is providing—industry and government will be unable to develop an effective attainment plan and control measures.

Agriculture wants to be a part of the effort to solve this major problem, but to do so, we need federal assistance to support research and efforts to deal effectively with what is essentially an unfunded federal mandate.

Agriculture and industry, in concert with the State of California and local government entities, are attempting to do our part, and we come to the appropriations process to request assistance in obtaining a fair federal share of financial support for this important research effort. In 1990, our Coalition joined forces to undertake a study essential to the development of an effective attainment plan and effective control measures for the San Joaquin Valley of California. This unique cooperative partnership involving federal, state and local government, as well as private industry, has raised more than $24 million to date to fund research and planning for a comprehensive PM–10/PM–2.5 air quality study. Our cooperative effort on this issue continues, and our hope is that private industry and federal, state and local governments will be able to raise the final $4.6 million needed to complete the funding for this important study.

To date, this study project has benefited from federal funding provided through USDA's, DOT's, DOD's, EPA's, and Interior's budgets—a total of $13.3 million in federal funding, including $436,500 from USDA (one-half of CSREES amount provided for California and Washington) in each of the last four fiscal years. State and industry funding has matched this amount virtually dollar for dollar.

The UC Davis research into the contribution of agriculture to airborne PM–10 in the San Joaquin Valley has produced a number of interim results. Some of these results have already been incorporated into the San Joaquin Valley Unified Air Pollution Control District's planning, and additional research efforts have been planned in consultation with district personnel.

The agricultural emissions research is critical to the district's efforts to understand and control PM–10 in the valley. The San Joaquin Valley is a serious nonattainment area for PM–10 and also experiences high concentrations of PM–2.5. The district's strategies toward PM–10 emissions from agriculture focus on research to identify activities that significantly contribute to the PM–10 problem, and then to develop feasible methods of controlling emissions from those sources. Without this information, the district could be demanded to control agricultural sources in ways that may or may not be effective at reducing PM–10. Effective control plans are those that actually reduce PM–10 concentrations, so that there is some assurance that the cost of implementing them is well-placed.

UC Davis research has produced much better emission factors for the harvesting of cotton than were previously available, and has produced the only available emission factors to date for harvesting almonds. These emission factors were obtained under actual harvest conditions, so should be representative of agricultural operations in the San Joaquin Valley. UC Davis research has also investigated the emissions generated from harvesting figs and walnuts, and the burning of raisin trays. For raisin trays, the results indicate that the emissions are not significant. For fig and walnut harvesting, the results also show that the emissions are not highly significant. Moreover, actions taken to reduce almond harvest emissions will be effec-

tive at controlling emissions from fig and walnut harvesting, as these crops use the same harvesting equipment.

UC Davis has initiated research into the emission of ammonia from livestock facilities in the San Joaquin Valley, primarily dairies and feedlots. Approximately half of all ammonia emissions in the San Joaquin Valley is thought to come from animals. This research is significant because ammonia combines with NO in the atmosphere to produce fine particles in the PM–2.5 size range. Further, the ammonia emissions are not well characterized for the livestock management practices prevalent in the San Joaquin Valley, so new information is needed. Some preliminary results have been obtained, but they need to be confirmed with additional measurements.

The currently available fugitive dust emission factors approved for use by the U.S. EPA rely on the dry silt content of the soil, defined as the fraction that passes through a 75 PM sieve. The emission factors were developed empirically, and there is scientific disagreement over their utility as a predictive tool. UC Davis research is exploring other methods of defining the potential of a soil to emit PM–10 and has developed laboratory procedures to measure an index of PM–10 emission potential in a repeatable manner. Additional research is ongoing to develop this as a useful tool.

The fugitive dust emissions UC Davis has measured from agricultural operations so far has relied on physically collecting the dust from the plumes on filters. UC Davis has developed a remote sensing LIDAR (light detection and ranging) instrument to characterize the extent of a dust plume from afar. This instrument has been used successfully in the field to collect information on the size and shape of dust plumes. Additional research is ongoing to calibrate it and use it to quantitatively measure the dust concentrations. The device will be particularly useful under conditions when it is not possible to collect a valid sample on filters.

During the coming year, UC Davis will focus on the following research areas:

—*Fugitive dust emission from land preparation activities*.—Land preparation is common to nearly all agricultural crops in the valley, but the emission factors from this activity are very poorly defined in the current methods. There is tremendous value in developing better emission factors from this activity.

—*Controlled testing of almond harvesting. Almond harvesting is one of the dustiest activities examined to date*.—This summer, UC Davis plans to test several different harvesters on the same orchard, including the latest harvester from each of the two companies that produce them, as well as the most commonly used harvester of each manufacturer.

—*Initiate emissions testing of garlic harvesting*.—This crop is expanding in the San Joaquin Valley, and is potentially very dusty. A few pilot tests will provide information on how much further this crop should be examined.

—*Emissions from livestock management*.—UC Davis has conducted preliminary testing of dust and ammonia emissions from dairies and feedlots; additional research is needed to acquire a valid database for analysis.

The support of the Department of Agriculture has been indispensable to the completion of the work performed to date. Continued support for this research is essential to assure that decisions made on behalf of improved air quality are based on scientifically valid information, and that the interests of agriculture are considered in the process.

For fiscal year 2000, our Coalition is seeking federal funding once again through the U.S. Department of Agriculture to support continuation of this vital study in California. In the budget for the Cooperative State Research, Education, and Extension Service (CSREES), we request $436,500, representing one-half of the $873,000 historical baseline split between California and Washington in the past four budget cycles.

The California Regional PM–10/PM–2.5 study will not only provide vital information for a region identified as having particularly acute PM–10/PM–2.5 problems, it will also serve as a model for other regions of the country that are experiencing similar problems. The results of this study will provide improved methods and tools for air quality monitoring, emission estimations, and effective control strategies nationwide. Consequently, the beneficial results of this research will contribute to national policy as well.

The Coalition appreciates the Subcommittee's consideration of this request for a fiscal year 2000 appropriation of $436,500 for U.S.D.A. to support the California Regional Region PM–10/PM–2.5 Air Quality Study. U.S.D.A's past contributions have helped ensure the success of the study. The coalition thanks you for your support of this important program.

PREPARED STATEMENT OF THE COALITION FOR AFFORDABLE PHARMACEUTICALS

Mr. Chairman and Members of the Subcommittee, the Coalition for Affordable Pharmaceuticals (CAP) is pleased to have the opportunity to present these comments on the fiscal year 2000 budget request for the Food and Drug Administration, on behalf of its members. CAP is a coalition of three national trade associations representing manufacturers and distributors of finished multi-source generic pharmaceuticals, manufacturers and distributors of bulk active pharmaceutical chemicals, and suppliers of other goods and services to the generic drug industry. CAP's combined membership encompasses virtually the entire U.S. generic pharmaceutical industry.

I. Generic Drugs Create Significant Health Care Cost Savings

As in recent years, the generic drug industry addresses this Subcommittee in order to request that appropriations be allocated to FDA's Office of Generic Drugs (OGD). OGD is the agency's office with responsibility for reviewing and approving generic pharmaceutical applications, called abbreviated new drug applications (ANDAs). Unlike past years, however, our testimony does not stand alone but, rather, supports the Administration's $1.9 million appropriations request for OGD. CAP is pleased that the Administration is advocating increased funding for OGD, which will lead to faster generic drug approvals.

Generic drugs continue to represent one of the most effective means of curbing spiralling healthcare costs in the U.S.[1] For example, the cost of prescription drugs increased by 22 percent in 1998 according to the Office of Personnel Management,[2] for a total of $94 billion spent on prescription drugs.[3] In the federal health program, one out of every five health care dollars is spent on prescription medicine.[4] In the face of these costs, competition from generics in the prescription drug market has saved American consumers, taxpayers, and Federal and state governments billions of dollars since 1984 when the Hatch-Waxman Act was passed. According to a July 1998 Congressional Budget Office study, purchasers of pharmaceuticals at retail pharmacies saved $8—$10 billion in 1994 alone.[5] These savings occur because generic drugs typically enter the market at 25 percent—30 percent below the brand price and, within two years, decline to 60 percent—70 percent of the brand price.[6] This price discount creates a substantial savings for taxpayers and consumers, which is especially important to those seniors and the uninsured who have difficulty meeting their health care needs.

While cost-effective generic pharmaceuticals have reduced health care costs in this country, the savings could be even greater if FDA took final action on generic applications within the statutorily required six months.[7] This Subcommittee previously has emphasized the importance of accelerating generic drug approvals.[8] Due in large part to the appropriations designated in 1998 and 1999, OGD has successfully focused on this mandate. Nevertheless, the Subcommittee must continue its support

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[1] According to surveys conducted by Hewitt Associates, Towers Perrin, and Buck Consultants, companies can expect increases in their health care costs ranging from 7 to 10 percent in 1999. That increase is double the 4 percent average increase in health care costs in 1998. Great-West Executive Says Self-Funded Insurance Offers Businesses an Alternative to Traditional Health Care Plans, PR Newswire, Mar. 3, 1999, at 2061. Moreover, after record financial losses in 1998, managed care companies and health maintenance organizations reportedly intend to "ratchet up premiums to restore profit margins." Joseph McCafferty, Critical Condition, CFO, The Magazine for Senior Financial Executives, Jan. 1999, at 63.

[2] Joseph McCafferty, Critical Condition, CFO, The Magazine for Senior Financial Executives, Jan. 1999, at 63. Without citing the basis for its figures, another industry analyst reports that 1998 drug sales rose 17 percent. Industry Watch, Sales & Marketing Management, Jan. 1999, at 18.

[3] Substitutions Ahead Slightly as Share of New Rx's, Generic Line, Feb. 24, 1999, at 1–2.

[4] Joseph McCafferty, Critical Condition, CFO, The Magazine for Senior Financial Executives, Jan. 1999, at 63.

[5] CBO Report, "How Increased Competition from Generic Drugs has Affected Prices and Returns in the Pharmaceutical Industry" (July 1998), at Summary.

[6] CBO Report, "How Increased Competition from Generic Drugs has Affected Prices and Returns in the Pharmaceutical Industry" (July 1998), at Summary; "Economic Impact of GATT Patent Extension on Currently Marketed Drugs," PRIME Institute, College of Pharmacy, University of Minnesota (Mar. 1995), at Executive Summary; SBC Warburg Dillon Read Inc., "Industry Report—Specialty Pharmaceuticals: Generic Drugs, May 20, 1998, at 22.

[7] Under the law, FDA must take final action on generic drug applications within 180 days. 21 U.S.C. 355(j)(5). In 1998, the median time to approval for ANDAs was 18 months—three times the length mandated by statute. Comments of Douglas L. Sporn, Director, OGD, "Update on the Office of Generic Drugs," at the NAPM 1999 Annual Meeting & Education Conference (Feb. 3, 1999).

[8] S. Rep. No. 105–212 (1998) at 121.

for OGD, ensuring that the agency has adequate funding to approve safe and effective generic drugs promptly and efficiently.

II. CAP Recommends Increased Funding To Expedite Generic Drug Approvals

We encourage the Subcommittee to continue this initiative by providing additional funds that will allow OGD to progress further toward meeting the six month statutory period for final agency action on ANDAs. Specifically, we recommend that the Subcommittee take the following actions: Grant the Administration's request for a direct appropriation of $1.9 million for the Office of Generic Drugs, in addition to its fiscal year 1999 funding level; and Continue to insist that FDA provide detailed and accurate information about agency expenditures specifically for, and by OGD.

Not only would the appropriations assist in reducing approval times, but also the funds would aid OGD in addressing artificial barriers to competition that are continuously erected by the brand drug industry, as is explained further below.

III. With Increased Appropriations, OGD Can Hire Additional Staff To Meet Its Workload

Among the most pressing needs at OGD is one for additional staff members to review generic applications. While the Administration reports that a majority of the $1 million appropriated to OGD in 1999 will be used to fund FTE's, the current appropriations request would add another 11 FTE's to the office.[9] These staff members are essential to handling OGD's ever increasing workload. In 1998, OGD received an unprecedented 564 ANDAs, up from 464 in 1997.[10] This increase in application submissions will likely continue. In fact, over the next five years, approximately $22 billion in annual prescription drug sales will be open to generic competition due to patent expirations.[11]

Further compounding these numbers, the Administration asserts that the fiscal year 2000 funding will enable them to meet only the modest goal of a 3.2 percent increase in the average monthly number of OGD actions (which include approvals, tentative approvals, not approvals and facsimile requests).[12] The modest nature of this goal highlights the need for additional funding to continue OGD's efforts toward accelerating generic drug approval times. Thus, Congress has the opportunity now to positively impact OGD's workload and speed generic drugs to consumers.

IV. With Additional Funding And Staff, OGD Can Address Troublesome Citizen Petitions

OGD's priorities should be expanded to address the misuse of citizen petitions for challenging FDA's scientific decisions related to generic drug applications. At least 50 citizen petitions have been filed since 1990 seeking actions that would result in a delay in approval of generic drugs.[13] In response, scarce OGD resources are used to review these petitions, many of which are frivolous, anti-competitive actions. While FDA has worked tirelessly to close out these petitions, the agency falls further behind as more petitions are filed. For instance, although FDA completed its review of eight petitions related to generic drugs in 1998, 10 more were filed by the brand industry that year.[14] OGD senior scientists who otherwise would be reviewing ANDAs must turn their attention to these petitions, delaying ANDA review times even further.[15] With additional funds, OGD could hire senior scientists that would devote much of their time to clearing the backlog of petitions that delay generic approvals.

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[9] HHS fiscal year 2000 Justification of Estimates for Appropriations Committees and Performance Plan, at 40 and 82.

[10] Comments of Douglas L. Sporn, Director, OGD, "Update on the Office of Generic Drugs," at the NAPM 1999 Annual Meeting & Education Conference (Feb. 3, 1999).

[11] SBC Warburg Dillon Read Inc., "Industry Report—Specialty Pharmaceuticals: Generic Drugs, May 20, 1998, at 32

[12] HHS fiscal year 2000 Justification of Estimates for Appropriations Committees and Performance Plan, at 83.

[13] A detailed chart describing 51 citizen petitions is available on request. It is titled, "Citizen Petitions That Request FDA Actions Against Generic Drug Applications (ANDAs), 1990—Present."

[14] Id.

[15] Douglas Sporn, Director of FDA's Office of Generic Drugs, has stated that the "speed of [ANDA] approvals depends on how much reviewers are distracted by citizen petitions . . . ." Sporn Updates Generic Drug Industry on Forthcoming Guidances, FDA Week (Apr. 2, 1999), at 11 (comments at GPIA Annual Meeting, March 1999).

V. Additional Funds Could Be Used To Educate The Public About Generic Equivalence

An increase in appropriations also could be used by FDA to counter inaccurate claims made by some brand companies that the substitution of generic drugs for brand drugs poses a health risk for patients.[16] While this scare tactic is belied by sound science, it serves to undermine the public's confidence in the value of FDA's decisions about the safety and effectiveness of generic drug products. With additional funding, OGD could provide accurate information to educate consumers, policy makers, and state government officials about the scientific integrity of the ANDA process and FDA's therapeutic equivalence decisions.

VI. Conclusion

In summary, we request that Congress continue to guide FDA's priorities by appropriating and allocating resources directly to OGD. As medical treatment becomes even more expensive, it is important that generic drug applications move through the approval process as quickly as scientifically sound reviews for bioequivalence permit. Although generic drug median approval times have improved tremendously, the agency's review period is still three times longer than the six month statutory requirement.[17] Every day that a generic drug is delayed from entering the market, Americans pay millions of dollars more for their prescription drug products. Without additional appropriated funds, and with million-dollar drugs coming off patent, the delay in approval is likely to increase—an unacceptable scenario. Only Congressional mandates can ensure that FDA will continue to invest the resources necessary to ensure timely generic approvals which, in turn, will continue to provide a check on prescription drug prices. Mr. Chairman, the Coalition for Affordable Pharmaceuticals would like to thank you and the Subcommittee for its time and attention concerning this critical aspect to FDA's fiscal year 2000 budget request. We look forward to continuing our work with you and members of the Subcommittee to bring safe, effective and more affordable pharmaceuticals to the American public.

PREPARED STATEMENT OF THE COALITION OF AGRICULTURAL MEDIATION PROGRAMS

We request that you include $4 million in the fiscal year 2000 Agriculture Appropriations bill for the certified state mediation grant program. This is the minimum funding level needed for state mediation programs to operate and provide meaningful services. The mediation program has been successfully used by thousands of producers, creditors and USDA to resolve disputes without costly litigation. Most importantly, mediation has allowed all the parties to resolve the disputes themselves according to their own best interests.

The President's budget for fiscal year 2000 requests $4 million for the grant program, which is consistent with his Proclamation dated May 1, 1998 encouraging greater use of mediation and other Alternative Dispute Resolution techniques throughout the executive branch. USDA has the benefit of well-developed and experienced certified mediation programs in over 20 states. What it now needs is adequate funding to ensure the continuation of these programs, and the development of programs in more states.

The Coalition of Agricultural Mediation Programs (CAMP) is comprised of the states that have had their mediation programs certified by USDA. In fiscal year 1999 the twenty-two state programs requested grants totaling around $3.3 million. With only $2 million appropriated, all state program grants were pro-rated to only 60 percent of their needs. At the same time, the on-going economic crisis in agriculture is increasing the demand in established state mediation programs, while interest in establishing new programs in additional states is growing. In fact, it is entirely possible that the requested $4 million appropriation may fall short if the agricultural economic crisis persists.

Certified state mediation programs were originally authorized under the Agricultural Credit Act of 1987 as a way to assist agricultural producers and their creditors resolve disputes through mediation, reducing the cost of administrative appeals, litigation and bankruptcy to all parties. Agricultural mediation played a very important role in resolving financial disputes between farmers/ranchers and lenders during the farm economic crisis in the 1980s. As you are well aware, many agricultural

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[16] A detailed chart describing the state lobbying initiatives undertaken by the brand industry is available on request. It is titled, "Anti-Generic Challenges Before State Formularies (Other Than Coumadin(/NTI Challenges)."

[17] Comments of Douglas L. Sporn, Director, OGD, "Update on the Office of Generic Drugs," at the NAPM 1999 Annual Meeting & Education Conference (Feb. 3, 1999).

producers in our country are once again facing economic crises. Financial problems for producers translates into problems for local banks, co-ops, feed suppliers, etc. This will create a greater need for state mediation services in fiscal year 2000.

Adequate funding for this program has been recognized and recommended as one of the measures to help address the challenges being experienced by the nation's farmers, their lenders, and others.

—Governors and agriculture officials from 15 states gathered for the Plains States Rural Crisis Summit in Oklahoma City on August 6–7, 1998. Adequate funding for the USDA Certified Mediation Grants Program was one of nine emergency recommendations that were forwarded to Congress.

—On September 28, 1998, the National Association of State Departments of Agriculture (NASDA) included adequate resources for mediation, financial analysis, and related services as part of its recommended disaster assistance package.

—By letter dated March 1, 1999, NASDA urged Congress to appropriate supplemental funding for Farm Service Agency loan programs and mediation grants.

The financial restrictions, increasing demand for mediation services and current economic conditions make it critical that the $4 million appropriation be granted. Please give me a call at (618) 453–5181 if you have any questions. Thank you for your attention to this important issue.

PREPARED STATEMENT OF DR. ROBERT A. ALTENKIRCH, VICE PRESIDENT FOR RESEARCH, MISSISSIPPI STATE UNIVERSITY

Mr. Chairman and Members of the Subcommittee, thank you for the opportunity to submit this testimony on behalf of the Coalition of EPSCoR States [1] regarding the U.S. Department of Agriculture Experimental Program to Stimulate Competitive Research (USDA EPSCoR). USDA EPSCoR is extremely important to agricultural research in the state of Mississippi and in our nation. I appreciate the opportunity to submit this testimony.

I would also like to extend my appreciation to you, Mr. Chairman, for your strong support of USDA EPSCoR. This important program is having a significant impact in Mississippi and in the other USDA EPSCoR states. Your support and the support of this Subcommittee have been absolutely crucial in establishing and maintaining this important program. Mr. Chairman, those of us committed to improving Mississippi's research and development capability deeply appreciate your support and your effort. Thank you for your fine work representing Mississippi in the United States Senate.

Seven federal agencies have EPSCoR or EPSCoR-like programs, including USDA. EPSCoR works to improve our country's science and technology capability by funding activities of talented researchers in states that have historically not received significant federal R&D funding. USDA EPSCoR was established in fiscal year 1992 with a goal of increasing the amount of agricultural research at academic institutions within states that have had limited success obtaining competitive funds from USDA.

The Mississippi EPSCoR program began in 1988 with the naming of the state EPSCoR Committee by the Governor. Mississippi EPSCoR obtained its first funding in 1989 from USDA EPSCoR's sister program in the National Science Foundation. Since that time, EPSCoR has had an enormously positive impact within the state and at the four research institutions and their affiliates.

Because of the multi-institutional framework of EPSCoR and of the commitment of the state EPSCoR Committee to creating a critical mass of scientists and engineers around specific issues as well as a more fully developed statewide infrastructure, Mississippi EPSCoR has produced a stronger, more competitive research community and closer working relationships among the institutions that participate in the federal EPSCoR programs: Jackson State University, Mississippi State University, the University of Mississippi, the University of Southern Mississippi, and the University of Mississippi Medical Center.

Mr. Chairman, USDA EPSCoR is helping to improve the quality and competitiveness of agriculture research in Mississippi. Since the program was established in 1992, 64 Mississippi researchers have received USDA EPSCoR Strengthening Awards. These investigators have been located at Mississippi State University, the University of Mississippi Medical Center, and the University of Southern Mississippi. The amount of USDA research funds received by Mississippi increased by

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[1] Alabama, Arkansas, Idaho, Kansas, Kentucky, Louisiana, Maine, Mississippi, Montana, Nebraska, Nevada, North Dakota, Oklahoma, Puerto Rico, South Carolina, South Dakota, Vermont, West Virginia, and Wyoming

more than 500 percent between 1990 and 1996, a clear indication that Mississippi researchers are becoming more effective.

Important examples of Mississippi's research include studies in such areas as: kenaf processing, which is a potential economic opportunity for rural states; rapid detection of E coli, an important factor in food safety; and disease mechanisms in channel catfish, which impacts a significant cash crop across the southern part of the country. These projects and many, many others address issues important to rural states and to the rest of the nation. USDA EPSCoR allows researchers across our country to contribute to our economy and our agricultural research knowledge base.

USDA EPSCoR states are those whose funding ranks no higher than the 38th percentile of all states, based on a three year rolling average. For fiscal year 1999, the following states are eligible: Alaska, Arkansas, Connecticut, Delaware, Hawaii, Idaho, Maine, Mississippi, Montana, Nevada, New Hampshire, New Mexico, North Dakota, Rhode Island, South Carolina, South Dakota, Utah, Vermont, West Virginia, Wyoming, and the Commonwealth of Puerto Rico. Let me stress that EPSCoR relies on rigorous merit review in order to ensure that it funds only high-quality research.

USDA makes four types of competitive awards through USDA EPSCoR: Research Career Enhancement Awards, Equipment Grants, Seed Grants, and Strengthening Standard Research Project Awards. Proposals must be related to the program priorities of the National Research Initiative Competitive Grants Program, which address critical issues facing agriculture today.

—Research Career Enhancement Awards help faculty enhance their research capabilities by funding sabbatical leaves. Applicants may not have received a NRICGP competitive research grant within the past five years.

—Equipment Grants strengthen the research capacity of institutions in USDA EPSCoR states. The grant cannot exceed 50 percent of the cost of the equipment. The principal investigator for this grant is responsible for securing non-Federal matching funds.

—Seed Grants enable researchers to collect preliminary data in preparation for applying for a standard research grant. Seed Grant awards are limited to a total cost of $50,000, including indirect costs, and are non-renewable. Applicants must indicate how the research will enhance future competitiveness in applying for standard research grants.

—Strengthening Standard Research Project Awards fund standard research projects of investigators who have not received a NRICGP grant within the past five years.

Through USDA EPSCoR, Mississippi and the other USDA EPSCoR States contribute more effectively to our nation's science and technology capability, and help provide our country with needed, high-quality, peer-reviewed research. This program allows all regions of our country to contribute to our nation's science and technology capability while allowing flexibility to meet regional research needs. USDA EPSCoR is a sound investment of taxpayer dollars.

Mr. Chairman, the Subcommittee has for several years directed USDA to set aside 10 percent of USDA NRICGP funds for USDA EPSCoR. Those funds have provided significant opportunity and significant success in Mississippi and the other EPSCoR states. I request that the Subcommittee once again include report language directing USDA to set aside 10 percent of its NRI competitive grant funds in fiscal year 2000 for an EPSCoR program. These funds will allow the EPSCoR states to continue providing for the agricultural research needs of rural America and of our nation.

I thank the Subcommittee for the opportunity to submit this testimony.

PREPARED STATEMENT OF THE COALITION TO PROMOTE U.S. AGRICULTURAL EXPORTS

As members of the Coalition to Promote U.S. Agricultural Exports, we commend the Chairman and members of the Subcommittee for their interest and support of U.S. agriculture and express our appreciation for this opportunity to share our views.

The Coalition to Promote U.S. Agricultural Exports is an ad hoc coalition of over 80 organizations, representing farmers and ranchers, cooperatives, small businesses, regional trade organizations, and the State Departments of Agriculture. We believe the U.S. must continue to have in place policies and programs that help maintain the ability of American agriculture to compete effectively in a global marketplace still characterized by subsidized foreign competition.

This is especially true as the Federal Agriculture Improvement and Reform Act of 1996 (FAIR Act), that resulted in the most sweeping reforms in farm policy in over 60 years, continues to be implemented. Under this legislation, farm income and the economic well being of American agriculture are now dependent more than ever on continued access to foreign markets and maintaining and strengthening U.S. agricultural exports.

American agriculture and American workers, however, continue to be threatened by subsidized foreign competition. Recent trade agreements, including NAFTA and the Uruguay Round Agreement on GATT, did not eliminate the use of export subsidies or other forms of export assistance. According to a recent analysis by USDA, the European Union (EU) and other foreign competitors are outspending the U.S. by a factor of 20 to 1 with regard to the use of export subsidies and other expenditures for export promotion.

The same study showed that such countries are spending over $100 million just to promote sales of their products in the United States. In other words, they are spending more to promote their agricultural exports to the United States, than the U.S. is currently spending ($90 million) to promote American agricultural exports worldwide!

According to the same study by USDA, the U.S. faces a growing challenge in the area of market promotion. In 1997, in addition to spending over $7.2 billion in export subsidies, our leading foreign competitors spent a combined $924 million on various activities to promote their exports of agricultural, forestry, and fishery products, including some $365 million by the EU.

USDA's study goes on to say that "because market promotion is a permitted 'green box' activity under World Trade Organization (WTO) rules, with no limit on public or producer funding, it is increasingly seen as a centerpiece of a winning strategy in the future trade battleground. Many competitor countries have announced ambitious trade goals and are shaping export programs to target promising growth markets and bring new companies into the export arena * * *" European countries are expanding their promotional activities in Asia, Latin America, and Eastern Europe. Canada, Australia and New Zealand have also sharply bolstered their export promotion expenditures in recent years. Clearly, our foreign competitors are aggressively seeking to maintain and increase their share of the world market at the expense of U.S. producers.

For this reason, we believe the Administration and Congress should give serious consideration to strengthening funding for MAP and other export programs, and ensuring that such programs are fully and aggressively utilized. Since MAP was originally authorized, funding has been gradually reduced from a high of $200 million to its current level of $90 million—a reduction of more than 50 percent. Again, given what our foreign trade competitors are doing, we believe it's time to restore funding for this vitally important program to its original level.

We also urge that funding for USDA's Foreign Market Development (FMD) Cooperator Program be maintained at no less than the current year level. In addition, we want to express our strong support for ensuring adequate funding for USDA's Foreign Agricultural Service (FAS) to help meet critical export goals and objectives. Such action is essential to America's overall trade strategy and economic interests.

Both MAP and FMD, which are administered on a cost-share basis, remain one of the few tools specifically allowed under the Uruguay Round Agreement to help American agriculture and American workers remain competitive in a global marketplace still characterized by subsidized foreign competition. By any measure, they have been tremendously successful and extremely cost-effective in helping maintain and expand U.S. agricultural exports, countering subsidized foreign competition, protecting American jobs and strengthening farm income. American agriculture is the most competitive industry in the world, but it can not and should not be expected to compete alone against the treasuries of foreign governments.

For all these reasons, we want to emphasize again the need to help strengthen the ability of U.S. agriculture to compete effectively in a global marketplace still characterized by subsidized foreign competition. As a nation, we can work to export our products, or we can export our jobs. USDA's export programs, such as MAP and FMD, are a key part of an overall trade strategy that is pro-growth, pro-trade and pro-job.

Again, as members of the Coalition to Promote U.S. Agricultural Exports, we appreciate very much this opportunity to share our views and we ask this statement be included in the official hearing record.

PREPARED STATEMENT OF THE COLORADO RIVER BASIN SALINITY CONTROL FORUM

The Congress concluded that the Colorado River Basin Salinity Control Program should be implemented in the most cost-effective way and realizing that agricultural on-farm strategies were some of the most cost-effective strategies authorized a program for the Department of Agriculture. With the enactment of the Federal Agriculture Improvement and Reform Act of 1996 (FAIRA), the Congress concluded that the Salinity Control Program could be most effectively implemented as one of the components of the Environmental Quality Incentives Program. Since the enactment of FAIRA, the Salinity Control Program has not been funded at a level adequate to ensure that water quality standards in the Colorado River, with respect to total dissolved solids (salinity), will be honored, nor is the funding sufficient to prevent salt loading from irrigated farms from impacting the quality of water delivered to Mexico under a minute of the International Boundary and Water Commission, United States and Mexico.

The problem rests with the Department of Agriculture concluding that it should not designate any area of the country as a national priority area at this time. The Salinity Control Program has been subsumed into the EQIP program without the Secretary of Agriculture giving adequate recognition to the requirement in Section 202(c) in the Colorado River Basin Salinity Control Act to carry out salinity control measures. Further, the Administration has concluded that the expenditure of EQIP funds shall be determined by initiatives developed at the grassroots level. Under USDA directives, this means that Upper Basin agricultural communities advance salinity control proposals for the salinity control program. The proposal must be implemented in the Upper Basin, as that is where the salt loading is occurring. Water users hundreds of miles downstream are the beneficiaries of this water quality improvement program. Agriculturalists in the Upper Basin, however, see local benefits as well as downstream benefits and have submitted cost-effective proposals to the State Conservationists in Utah, Wyoming and Colorado. A majority of the EQIP funds are designated to be used in priority areas which are normally small geographic watersheds. Priority Area proposals for EQIP funding are ranked in each state under the direction of the NRCS State Conservationist. The existing ranking criteria, however, does not consider downstream benefits (particularly out of state benefits) when proposals are being evaluated.

If the Department of Agriculture believes that it is directed by the Congress to implement the Salinity Control Program, then it is incomprehensible that the program that is designed to provide downstream benefits cannot receive credit in ranking criteria for the accomplishment of the downstream benefits. The solution to the problem is simple. Grassroots in the Colorado River Basin with respect to salinity control means at the states level and review of proposals should take place at the seven Colorado River Basin states level through the Forum. The states, through the efforts of the Salinity Control Forum, have adopted a program approved by EPA. The Forum should be recognized as the grassroots level for the Salinity Control Program and the Forum should serve as the Technical Advisory Committee (local work group) to Administration officials as to the need for and the expenditure of funds for the Salinity Control Program. The Colorado River Basin is covered by two NRCS regions and the program must be coordinated at a high administration level. A national priority designation is needed. Numerous requests have gone to the Department of Agriculture to make this designation, and the response has been that there are not adequate funds in the EQIP program to go beyond the initially adopted "grassroots" effort. Therefore, the Forum is pleased with the Administration's statement that it intends to expend $300,000,000 in fiscal year 2000 on the EQIP program.

The Basin states were led to believe by Congressional staff that when the EQIP program was created, the $200,000,000 annual Commodity Credit Corporation (CCC) borrowing authority given to the Secretary would ensure that through the year 2002 at least this amount of funding would be expended for the EQIP program. The Forum was very dismayed when last year this committee acted to reduce the fiscal year 1999 funding to $174,000,000. This level of funding is not adequate for this most important nationwide program and the Administration does not believe that it provides sufficient funds to implement National Priority Areas as allowed by Congress under FAIRA. The Forum urges that the funding for EQIP for fiscal year 2000 total $300,000,000.

This last year, the Natural Resources Conservation Service (NRCS) set aside Congressionally earmarked funds to use in areas of special interest in the Colorado River drainage and in Mississippi. The Forum commends this designation and believes this is a first step towards designation of National Priority Areas. However, under NRCS earmarked designation, not enough funds were made available to ade-

quately implement the needed program in the Colorado River Basin. The Forum fears that adequate funding may not be made available by the Secretary until the Congress increases, in a significant way, the funds to be spent in the EQIP.

The Basin states have cost sharing dollars available to participate in on-farm salinity control efforts in the cost-sharing fashion provided by the Congress. The agricultural producers in the Upper Basin are waiting for their applications to be considered so that they might also cost share in the program. When all of the cost sharing is tabulated, the federal cost of the program is less than 50 percent. However, because of the structure of the EQIP and the associated authorized cost sharing under the Colorado River Basin Salinity Control Act, these funds cannot be expended in this cooperative effort until federal funds are made available.

The Forum urges that this committee support the funding of $300,000,000 from the CCC in fiscal year 2000 for EQIP. The Forum also requests that this Committee advise the Administration that $12,000,000 of these funds be designated for the Colorado River Basin Salinity Control Program.

OVERVIEW

The Colorado River Basin Salinity Control Program was authorized by Congress in 1974. The Title I portion of the Colorado River Basin Salinity Control Act responded to commitments that the United States made, through a minute of the International Boundary and Water Commission, to Mexico with respect to the quality of water being delivered to Mexico below Imperial Dam. Title II of the Act established a program to respond to salinity control needs of Colorado River water users in the United States and to comply with the mandates of the then newly legislated Clean Water Act. Initially, the Secretary of the Interior and the Bureau of Reclamation were given the lead federal role by the Congress. This testimony is in support of funding for the Title II program.

After a decade of investigative and implementation efforts, the Basin states concluded that the Salinity Control Act needed to be amended. Congress revised the Act in 1984. That revision, while keeping the Secretary of the Interior as lead coordinator for Colorado River Basin salinity control efforts, also gave new salinity control responsibilities to the Department of Agriculture, and to a sister agency of the Bureau of Reclamation—the Bureau of Land Management. Congress has charged the Administration with implementing the most cost-effective program practicable (measured in dollars per ton of salt removed). The Basin states are strongly supportive of that concept as the Basin states consider cost sharing 30 percent of federal expenditures up-front for the salinity control program, in addition to proceeding to implement their own salinity control efforts in the Colorado River Basin.

Since the Congressional mandates of nearly two decades ago, much has been learned about the impact of salts in the Colorado River system. The Bureau of Reclamation has recently completed studies on the economic impact of these salts. Reclamation recognizes that the damages to United States' water users alone may soon be approaching $1 billion per year.

The Colorado River Basin Salinity Control Forum (Forum) is composed of Gubernatorial appointees from Arizona, California, Colorado, Nevada, New Mexico, Utah and Wyoming. The Forum has become the seven-state coordinating body for interfacing with federal agencies and Congress to support the implementation of a program necessary to control the salinity of the river system. In close cooperation with the Environmental Protection Agency (EPA) and under requirements of the Clean Water Act, every three years the Forum prepares a formal report analyzing the salinity of the Colorado River, anticipated future salinity, and the program necessary to keep the salinities at or below the levels measured in the river system in 1972.

In setting water quality standards for the Colorado River system, the salinity concentrations measured at Imperial, and below Parker, and Hoover Dams in 1972 have been identified as the numeric criteria. The plan necessary for controlling salinity has been captioned the "plan of implementation." The 1996 Review of water quality standards includes an updated plan of implementation. The level of appropriation requested in this testimony is in keeping with the agreed to plan. If adequate funds are not appropriated, state and federal agencies involved are in agreement that the numeric criteria will be exceeded and damage from the high salt levels in the water will be widespread in the United States and Mexico and will be very significant.

ADDITIONAL FUNDING NEEDS

The authorized cost sharing by the Basin states was at first difficult to implement as attorneys for USDA concluded that the Basin states were authorized by FAIRA to cost share in the effort, but the Congress had not given USDA authority to re-

ceive the Basin states' funds. After almost a year of exploring every possible solution as to how the cost sharing was to occur, the states, in agreement with the Bureau of Reclamation, with state officials in Utah, Colorado and Wyoming and with NRCS State Conservationists in Utah, Colorado and Wyoming, agreed upon a parallel program wherein the states' cost sharing funds will be used. We are now in the third year of that program and, at this moment in time, this solution to how cost sharing can be implemented appears to be a good one.

With respect to the states' cost sharing funds, the Basin states felt that it was most essential that a portion of the program be associated with technical assistance and education activities in the field. Without this necessary support, there is no advanced planning, proposals are not well thought out, assertions in the proposals cannot be verified, implementation of contracts cannot be observed, and the most valuable partnering and education efforts cannot occur. Recognizing these values, the parallel state cost sharing program spends 40 percent of the funds available on these support activities. Initially, it was acknowledged that the federal portion of the salinity control program funded through EQIP was starved with respect to needed technical assistance and education support. The Forum is encouraged with the Administration's recent determination that 19 percent of the EQIP funds will be used for technical assistance. The Forum urges this Committee to appropriate adequate funds for these support activities rather than to direct NRCS to borrow these needed funds from the CCC.

PREPARED STATEMENT OF THE COLORADO RIVER BOARD OF CALIFORNIA

Your support and leadership are needed in securing adequate funding for the U.S. Department of Agriculture with respect to it's on-farm Colorado River Basin salinity control program for fiscal year 2000. This program has been carried out through the Colorado River Basin Salinity Control Act, which was initially enacted by Congress in 1974. With the enactment of the Federal Agricultural Improvement and Reform Act (FAIRA) in 1996, specific funding for salinity control projects in the Colorado River Basin were eliminated from the federal budget, and aggregated into the newly created Department of Agriculture Environmental Quality Incentive Program (EQIP) as one of its program components. With the enactment of the FAIRA, Congress concluded that the salinity control program could be more effectively implemented as one of the components of the EQIP. In the past, the Department of Agriculture had specific line item funding for salinity control projects as high as $14.7 million but in recent years it has advanced only $3.4 to $4.6 million which is inadequate to ensure that water quality standards in the Colorado River, with regards to salinity can be met. It has been estimated through previous federal studies that the Lower Basin States' (Arizona, California, and Nevada) Colorado River water users were suffering economic damages estimated to be in excess of $750 million per year in 1995 due to the salts in the River system. Most of that damage is occurring in California. The potential impact of failing to move forward with the plan of implementation for salinity control would be to permit these damages in the Lower Basin to reach an estimated $1.25 billion annually by the year 2015.

The Colorado River Board of California (Colorado River Board) is the state agency charged with protecting California's interests and rights in the water and power resources of the Colorado River System. In this capacity, California along with the other Basin States through the Colorado River Basin Salinity Control Forum (Forum), the interstate organization responsible for coordinating the Basin States' salinity control efforts, established, in June 1975, numeric criteria for salinity concentrations in the River. These criteria were established to lessen the future damages in the Lower Basin States as well as assist the United States in delivering water of adequate quality to Mexico in accordance with Minute 242 of the International Boundary and Water Commission. The goal of the Colorado River Basin salinity control program is to offset the effects of water resource development in the Colorado River basin after 1972 rather than to reduce the salinity of the River below levels that were caused by natural variations in river flows or human activities prior to 1972. To maintain these levels, the salinity control program must remove 1.48 million tons of salt loading from the River by year 2015. To date, only 717,000 tons of salt load reduction have been achieved. In the Forum's last report entitled *1996 Review, Water Quality Standards for Salinity, Colorado River System* released in June 1996, the Forum found that additional salinity control measures were necessary to meet the implementation plan that had been adopted by the seven Colorado River Basin States and approved by the Environmental Protection Agency. Since implementation of the EQIP, federal allocations by the Department of Agriculture have not equaled the Forum's identified funding needs for the Depart-

ment of Agriculture's portion of the program. The Forum identified a "backlog" of salinity control measures which stands at 312,000 tons. This is in addition to future controls designed to lower the River's salt loading by 437,000 tons by 2015 in order to meet the established salinity standards. Very simply, there is a need for at least 47,000 tons of new salinity control measures to be implemented each year until 2015. The Forum has presented testimony to Congress recommending that the salinity control efforts through EQIP be accelerated to continue to meet the salinity standards through 2015.

The President's proposed budget for fiscal year 2000 contains funding of $300 million for implementation of EQIP, up $100 million from the $200 million Commodity Credit Corporation borrowing authority provided the Secretary of Agriculture by FAIRA. The Colorado River Board is pleased with the Administration's statement that it intends to expend $300 million in fiscal year 2000 through EQIP. Of the amount to be appropriated for EQIP, the Colorado River Basin Salinity Control Forum, at its meeting in Santa Fe, New Mexico, during October 1998, recommended a funding level of $12.0 million for on-farm salinity control in the Colorado River Basin for fiscal year 2000 to maintain water quality consistent with the established standards. These federal dollars if earmarked would be augmented by state cost sharing of 30 percent with an additional 30 percent provided by the agricultural producer with whom the Department of Agriculture contracts for salinity control. The Colorado River Board supports the recommendation of the Forum. The salinity control program has proven to be a very cost effective approach to help mitigate the impacts of higher salinity. Continued federal funding of the program is essential.

In addition, the Colorado River Board recognizes that the federal government has made significant commitments to the Republic of Mexico and to the seven Colorado River Basin States with regard to the delivery of adequate quality water to Mexico. In order for those commitments to be honored, it is essential that in fiscal year 2000 and in future fiscal years, the Congress provide funds to the Department of Agriculture to allow it to continue providing technical support in the Basin for salinity control.

The Colorado River is, and will continue to be, a major and vital water resource to the 17 million residents of southern California as well as throughout the Lower Colorado River Basin. As stated earlier, preservation of its quality through an effective salinity control program will avoid the additional economic damages to users of Colorado River water in California, Arizona, and Nevada.

The Colorado River Board greatly appreciates your support of the federal/state Colorado River Basin Salinity Control Program and again asks for your assistance and leadership in securing adequate funding for this program.

PREPARED STATEMENT OF THE USDA UVB RADIATION MONITORING PROGRAM, NATURAL RESOURCE ECOLOGY LABORATORY, COLORADO STATE UNIVERSITY

Discovery of the Antarctic ozone hole in 1985, accompanied by a large increase in surface UVB radiation has raised serious questions about the continued protection by the stratospheric ozone layer of the earth's living systems from the harmful effects of UVB radiation. In the northern hemisphere estimates based primarily on satellite and limited ground based measurements indicate that stratospheric ozone is decreasing at the rate of 3–5 percent per decade. While these decreases will result in increased solar ultraviolet radiation penetrating the stratosphere, it is not fully understood how this will affect the amount of UVB radiation reaching the earth's surface. If stratospheric ozone depletion does result in increased surface radiation, it is not clear what the consequences will be for the earth's plant and animal as well as human populations. To help in answering this question, the USDA is supporting a program to develop a national UVB radiation climatology, to determine future trends in UVB, and to conduct research to better understand factors effecting UVB radiation at the earth's surface. Measurements are required in agricultural and rural areas of the U.S. in order to provide a record of climatology and trends relevant to potential impacts on agricultural productivity. Also, agriculture cannot rely on the commitment of other agencies to make measurements which meet their needs nor to sustain a long-term monitoring program (for example, the closing of weather stations critical to agriculture). The network is thus an integral part of the overall effort of the USDA to meet its obligation to assure the future productivity of American agriculture. The unique requirements of agriculture have been recognized by the ultraviolet radiation measurements community and the USDA monitoring program is an integral component of United States Global Change Research Program (USGCRP) as outlined in the 1995 report (USGCRP–95–01) titled "The U.S. Interagency UV-Monitoring Network Plan".

The USDA UVB Radiation Monitoring program at Colorado State University (CSU) was initiated in 1992 with funding from the USDA CSREES Special Research Grants program. The network now consists of 27 sites across the U.S. including Hawaii. The network was scheduled to expand to a planned 30–40 sites. This is now delayed as a result of budget reductions. Each of these sites has a seven wavelength UV spectral instrument (interference filters with 2 nm bandpass at 300, 305, 311, 317, 325, 332, and 368 nm) equipped with a shadowband which permits the simultaneous measurement of the total horizontal, diffuse, and direct normal irradiance at each wavelength. Each site is also equipped with a similar instrument with wavelengths in the visible (415, 500, 610, 665, 862, and 940 nm) to provide ancillary information to aid in interpreting factors effecting UVB irradiance. In order to provide data for comparison with many who are using less expensive broadband instruments, each site is equipped with a broadband radiometer. Data from all of the instrumentation are stored on a data logger and downloaded over a phone line nightly and stored on a database file server.

The USDA requested that a UVB radiation monitoring program be designed to include the agricultural areas of the U.S., to provide information to support UVB effects research and to serve as an "early warning" system for agriculture. Subsequently, realizing that such a network could serve a broader role for the benefit of the American public, the objectives were expanded to include UVB radiation information to support human health studies and atmospheric science research related to causes of ozone depletion. Specifically the program objectives are to:

—Provide information to the agricultural community and others about the climatology, geographical distribution and long-term trends in UVB irradiance in order to relate changes in stratospheric ozone to UVB flux at the earths surface, to support research on UVB effects on agricultural crops as well as natural ecosystems, human health and materials.

—Provide data which will support research to increase our understanding of the factors controlling surface UVB irradiance—serve as ground truth for calculations of UVB irradiance based on radiative transfer model calculations and measurements from satellites—techniques which will aid in our ability to forecast future UVB radiation levels.

To meet these objectives, the USDA UVB Radiation Monitoring program at CSU has established a network to measure UVB radiation along with other ancillary measurements required to interpret variations in UVB levels. A research effort is necessary to understand the role of ozone and other absorbing gasses, as well as scattering by clouds and aerosols (turbidity) in controlling UVB radiation before it is possible to forecast the effect of stratospheric ozone changes on UVB levels at the earth's surface. This network is providing, for the first time, comparable measurements of surface UVB radiation (as well as visible) over the continental United States and Hawaii and will eventually include Alaska and Puerto Rico if budgets permit. Latitudinal differences as well as seasonality of UVB levels are now being documented in a standardized manner (See Attachment I). These data are now available within one day of collection to the scientific community, policy makers and others through a World-Wide-Web server or by contacting the monitoring program office. Those interested in only viewing the data will find daily plots of UVB radiation measured every three minutes. The USDA network is the only network in the U.S. providing this information. The USDA UVB Web site address is: http://uvb.nrel.colostate.edu/.

Realizing that historical measurements of UVB as well as many contemporary measurements both in the U.S. and internationally have suffered from inadequate instrumentation and lack of attention to data quality (primarily instrument calibration and documentation of procedures), the USDA program has made a major commitment to assuring high quality. In order to meet this goal, the program at CSU has a staff of nine including quality assurance specialists, fields technicians, computer programmers, and scientists to assure that the production of data is of the highest possible quality. This effort has resulted in 95 percent data capture from all sites which is not duplicated in any other long-term radiation monitoring program. In addition, the program has committed over 30 percent of its budget to instrument characterization and calibration and partial support for the development of a high resolution spectroradiometer. The USDA program initiated the development and has provided primary support for a national calibration facility operated by the National Oceanic and Atmospheric Administration (NOAA) in Boulder, CO, with oversight by the National Institute of Standards and Technology (NIST). It has provided for the development of a high-resolution spectroradiometer to serve as a reference instrument, six of which will be placed at research sites to validate the performance of the climatological network instruments, to provide the most reliable information to access trends, and to provide high resolution spectral data to serve

additional research needs. The first of the high resolution spectroradiometers has been installed at a NOAA/NIST research site north of Boulder Colorado. The specifications and quality of this spectroradiometer far exceeds that of any other instrument in the world. This phase of the program is under the direction of Dr. Lee Harrison at the Atmospheric Sciences Research Center, SUNY, Albany, NY.

In 1997, the USDA UVB Radiation Monitoring Program Web site was accessed by 5,130 users who remained on the site for one hour or more or who downloaded data. For example, U.S. government accounted for 276, higher education, 814, U.S. commercial, 974, and international, 1,105. It should also be noted that the ancillary measurements taken at each site to aid in interpretation of the UVB radiation levels are also of primary interest to other scientists—primarily NASA, DOE, and NOAA—interested in measuring turbidity (aerosols). Joint research programs have been developed with these agencies. The U.S. Weather Service (NOAA) is using the data to validate the forecasted UV Index and NASA to validate satellite measurements (see Attachment II). To assure data comparability with Canada, two sites have been collocated with the Canadian UVB monitoring network. This will permit the development of a North American data base. A research site at Mauna Loa Observatory, Hawaii permits additional comparisons and joint studies not only with Canadian but also with New Zealand programs. In addition, the USDA program maintains close cooperation with NOAA and the Environmental Protection Agency through instrument collocation.

ATTACHMENT I

CURRENT DATA USES

UV Radiation Measurements

1. Validate UV Index (US Weather Service)
2. Study of large smoke events (with NASA)
3. Validate TOMS satellite UV irradiances (NASA)
4. Urban pollution studies (California Air Resources Board)
5. Studies of plant canopy penetration (U. of Nebraska)
6. Establish background levels for effects Research (Utah State Univ., USDA/ARS at Beltsville, MD)

Visible Radiation Measurements

1. Aerosol optical depths (NASA and DOE)
2. Corrections for remote sensing of vegetation reflectance (USDA project by Boeing)
3. Studies of cloud transmission (NASA)
4. Study of large smoke events (with NASA)

ATTACHMENT II

ADVANTAGES OF GROUND-BASED MEASUREMENTS OF UV VERSUS SATELLITE RETRIEVALS

1. Ground-based (GB) UV radiometers actually measure UV irradiance at the earth's surface. Satellites like TOMS measure back-scattered UV and use a model to infer UV irradiances. The models need input on aerosol and cloud properties which are limited.
2. GB UV radiometers make measurements continuously whereas satellites make at most a few overpasses near local noon. Therefore, GB measurements of daily totals are much more accurate than satellite retrievals.
3. Satellite footprints are typically 50 x 50 km. A satellite is therefore unable to distinguish sub-pixel inhomogeneity due to spatial variations in cloud, aerosol, albedo. This often results in inaccurate satellite retrievals of GB UV.

PREPARED STATEMENT OF COLUMBIA UNIVERSITY

Mr. Chairman, and Members of the Subcommittee, thank you for the opportunity to submit a statement for inclusion in the hearing volume for outside witnesses. My statement concerns USDA fiscal year 2000 funding related to climate change. USDA's Budget Request includes $15,300,000 for research in support of Global Change Research. An existing institution, the International Research Institute For Climate Prediction (IRI), through a Cooperative Agreement with NOAA of the Department of Commerce, has conducted a great deal of the research in the USDA proposal. Moreover, the IRI has begun three interrelated projects in water, agriculture and health from which USDA could benefit in their proposed fiscal year 2000 pro-

gram. This statement provides a brief outline of IRI activities, and makes the case for IRI involvement in USDA's global change research program. Our joint effort will promote cooperation and collaboration and encourage the avoidance of duplication of effort.

Columbia University and the IRI support full funding of the fiscal year 2000 USDA initiative for Global Change Research. The proposal is based on sound scientific and public policy principles. With the results of the proposed plan of research, USDA will contribute to the body of knowledge on climate change and provide better tools for decision making.

THE INTERNATIONAL RESEARCH INSTITUTE FOR CLIMATE PREDICTION (IRI)

Columbia University's Lamont-Doherty Earth Observatory (LDEO), in conjunction with The Scripps Institution of Oceanography (SIO) of the University of California at San Diego, has entered into a Cooperative Agreement with NOAA to establish and manage the International Research Institute for Climate Prediction (IRI).

The IRI's mission is to provide experimental climate forecast guidance on seasonal-to-inter annual time scales for use by affected communities around the world. Working with an extensive network of domestic and international research and applications centers worldwide, the IRI will provide the necessary scientific institutional focus for a multi-national "end-to-end" prediction program. This "end-to-end" prediction program supports the development and production of forecasts of changing physical conditions (temperature and precipitation) on year-to-year time scales, assessments of the regional consequences of those variations, and the application of this information to support practical decision making in critical sectors such as agriculture, water resources, fisheries, emergency preparedness, and public heath and safety.

FISCAL YEAR 1999 ACTIVITIES

The fiscal year 1999 program level for the IRI (through Department of Commerce funding) is $6 million. Since the IRI was initially funded by NOAA, Columbia and Scripps have invested heavily in capital and research efforts. The ratio of private to public investment has been on the order of 3 to 1. The fiscal year 1999 Appropriations Act was the first year in which the Congress fully funded NOAA's request for the Office of Global Programs, through which the IRI receives Federal funding. The realization of the severity of impact that climate events can cause was demonstrated by the 100-year El Nino of 1997–1998. The back-to-back occurrence of this year's 50-year La Nina will further demonstrate our vulnerability to climate variability.

The IRI has conducted several studies over the past five years through contract with prominent agricultural economists for impact assessments and analyses of climate change on US agriculture. The economists who conducted the studies previously occupied senior level positions in USDA as policy and program officials. They possess credentials as highly respected academics as well as public policy practitioners.

The IRI has expertise and experience in the areas of proposed research that USDA has outlined in the fiscal year 2000 Budget Request. The IRI offers to collaborate with the USDA effort, and assist USDA officials in launching the projects where IRI expertise would be helpful.

The IRI has incorporated the findings and results of these studies into a program of work that will move the use of science to a new stage. The focus of the IRI applications will be in the interrelated areas of water, agriculture, and health. A discussion of this integrated effort follows.

PROJECT PARTICIPATION

In 1999, the IRI will progress to a new phase of research. The research from this growth will focus on the integrated modeling of water, agriculture, and public health. Because the IRI modeling deals primarily with temperature and moisture, the link of water modeling with agriculture and health modeling can be accomplished by building on the same database and utilizing similar approaches.

The most complex modeling relates to water modeling. It is the basis and foundation, however, of the agriculture modeling, and must be developed prior to agriculture modeling. Once the water modeling has been developed, and trial forecasts have validated the model, the agriculture modeling component can be built as a component to the water model.

This ambitious multifaceted modeling project will provide a unique contribution to climate change studies world-wide. Because the IRI specializes in end-to-end inter annual to seasonal forecasts, the water and agriculture models that will be developed will be resource for regional and country forecast efforts. As USDA begins to

develop the agriculture assessment and impact analysis, the IRI could become a valuable tool toward more conclusive research.

WORLD SUPPLY AND DEMAND ESTIMATES

For operational purposes, and USDA's statutory responsibilities for providing world supply and demand estimates, USDA could make good use of the IRI's improved modeling on moisture and temperature. The longer lead time on climate variability, with a higher degree of accuracy, could provide governments and private decision makers improved knowledge on probable growing conditions. With this improved source of information, more accurate forecasting could result in reduced famine, timely shipments for international trade, and more stable world commodity markets. The improved IRI modeling will permit rationale agricultural decisions based on information and more certain probabilities, rather than speculation based on guesses.

FUNDING REQUEST

The IRI effort cannot proceed without some infusion of Federal funds. For this reason, and for the programmatic relevance to USDA's efforts outlined above, The IRI respectfully requests $300,000 in support from USDA for fiscal year 2000.

CONCLUSION

Mr. Chairman, the IRI could provide a great deal of expertise and assistance to USDA if involved in the USDA Climate Program initiatives in fiscal year 2000. The IRI has the unique responsibilities in climate change forecasting necessary to conduct USDA's million. The new initiatives in water and agriculture modeling will be of great use to USDA in fully completing the agriculture assessment in fiscal year 2000 and beyond. If the IRI were to be a part of the USDA effort, it is estimated that the costs associated with participation would total $300,000 in fiscal year 2000.

Thank you for the opportunity to present this statement for the Committee's consideration in funding decisions you will make for the fiscal year 2000 Agriculture Appropriations Act.

PREPARED STATEMENT OF THE COUNCIL ON FOOD, AGRICULTURAL AND RESOURCE ECONOMICS (CFARE) AND THE CONSORTIUM OF SOCIAL SCIENCE ASSOCIATIONS (COSSA)

Mr. Chairman and members of the subcommittee, it is a pleasure to submit this testimony to you on behalf of the Council on Food, Agricultural and Resources Economics (C–FARE) and the Consortium of Social Science Associations (COSSA). C–FARE is a non-profit association actively working to represent the agricultural economics profession in matters of science policy, priority setting, and budget determination at the federal level, and to collaborate with other agricultural science groups and government agencies in these activities. COSSA is an advocacy organization supported by over 100 professional associations, scientific societies, universities and research institutes, that promotes attention to and federal funding for the social and behavioral sciences.

Our recommendations are summarized below:

1. Promote and support accountability for USDA programs by providing funding for an innovative study on performance measurement guidelines for agricultural research, extension and education programs. Such a study was authorized in Title VI, Subtitle C—Studies, Section 631 of the Agriculture Research, Extension and Education Reform Act of 1998, and would cost less than $500,000.

2. Increase social science funding within the National Research Initiative Competitive Grants Program (NRI). Double funding for the Markets, Trade and Rural Development Division to $9.2 million. And, increase the Natural Resources and the Environment Division to $32 million to generate new knowledge about the economic and social consequences of environmental regulation. We support increasing funding for the NRI to a total of $200 million.

3. Further expand competitive research grants programs at USDA by either: (1) allowing $120 million in funding for The Initiative for Future Agriculture and Food Systems, or (2) expanding the NRI to $320 million by targeting $120 million towards integrated critical and emerging issues on topics related to biotechnology, genomics, food safety, natural resources and the environment, farm efficiency and profitability, and precision agriculture.

4. Increase support for USDA agencies that promote the development and use of economic and social science tools to guide decision making.

—Increase the Economic Research Service budget for research and analysis to $60 million, plus $14 million to evaluate the food and nutrition programs.
—Increase the National Agricultural Statistical Service budget to $86 million for agriculture estimates and research, and $17 million for periodic Census of Agriculture.
—Increase the Natural Resources Conservation Service (NRCS) Budget to $1,415 million to maintain existing programs, and enhance economic and social science analysis.

5. Increase funding for the Cooperative State Research, Education and Extension Service base research and extension programs by $40 million (includes Hatch Act, McIntire-Stennis, Evans-Allen, Animal Health, Smith-Lever Formula 3 (b) and (c), 1890 Colleges and Tuskegee).

Recommendation One: Promote and support accountability for USDA programs by providing funding for an innovative study on performance measurement guidelines of the agricultural research, extension and education programs. Such a study was authorized in Title VI, Subtitle C—Studies, Section 631 of the Agriculture Research, Extension and Education Reform Act of 1998.

Research accountability, assessment, evaluation, and impact analysis are receiving considerable attention in light of pressures on public budgets, a need to link benefits with costs, and the search for better strategic planning of research and education. Despite the Government Performance and Results Act of 1993 and ongoing USDA responses, no clear consensus exists about the most effective approaches to evaluate agricultural research, extension and education programs supported by USDA or within the land grant system.

A special study is needed to produce a consensus-based set of guidelines to evaluate the performance of agricultural research, extension and education programs. These guidelines should cover the spectrum from broad programs to specific projects and activities, basic to applied work, and across the social, biological and physical sciences. The guidelines should also address research evaluation on both ex-ante and ex-post bases, as well as progress toward goal attainment during the research process. The study team should draw from recognized university experts and USDA representatives implementing GPRA.

Recommendation Two: Increase social science funding within the National Research Initiative Competitive Grants Program (NRI). Double funding for the Markets, Trade and Rural Development Division to $9.2 million. And, increase the Natural Resources and the Environment Division to $32 million to generate new knowledge about the economic and social consequences of environmental regulation. We support increasing funding for the NRI to a total of $200 million.

We urge you to double the amount of spending in the Markets, Trade and Rural Development Division of the National Research Initiative from $4.6 million to $9.2 million. The economic and social research funded in this division develops new knowledge and enhances our understanding of the economic and social forces on our agriculture and food system. The research is of high quality and value.

HIGHLIGHTS OF NRI-FUNDED RESEARCH

International Trade Liberalization and Global Competitiveness

Research on international trade liberalization and global competitiveness has greatly improved our understanding of the demand for US products and how to access it. There is an improved understanding of the costs and benefits of increased trade, and of different kinds of trade restrictions imposed by the U.S. and other countries. Innovative policies have been studied to estimate how to stimulate demand for U.S. agricultural exports and, consequently, improve farm income. We also have an improved understanding of currency volatilities and other pitfalls of globalization and expanded trade.

Risk Management Policies and Programs

NRI-funded economics research has made substantial and important progress in analyzing existing and new insurance programs that may help producers protect themselves against crop and revenue losses. Innovative credit programs have been developed, and incentives for supply management programs have been analyzed.

Understanding the Implications of an Industrializing Agricultural Sector

Through NRI-funded economics and social science research we have a better understanding of the economic drivers of increasing consolidation of production units, and greater coordination and concentration among stages of the food system. Social science research is helping producers and others understand how to survive and take advantage of change, whether through contracts, alliances, cooperative arrangements or other innovative business forms. Agriculture's relationships with the

environment, communities and independent farmers have changed with the structure of agriculture. To understand these changes, we need more economics and social science research.

We support an increase in funding for the Natural Resources and the Environment (NRE) Division of the NRI to $32 million with the following caveat: the increased funds will be used to generate new knowledge about the economic and social consequences of environmental regulation. This recommendation is consistent with the number one research priority generated by a national priority-setting activity conducted by scientists involved in and stakeholders of our food and agriculture system.

In its current form, the NRE Division of the NRI supports virtually no social science research. In 1996 (the most recent year complete data are available), only one project of 96 had any social science involvement. In addition, only 7 percent of the projects funded involved interdisciplinary teams usually defined as teams of applied biologists, microbiologists and molecular biologists. This narrow definition limits our ability to solve important economically- and socially driven problems in the agriculture and food system.

Recommendation Three: Expand competitive research grants programs at USDA by either: (1) allowing $120 million in funding for The Initiative for Future Agriculture and Food Systems, or (2) expanding the NRI to $320 million by targeting $120 million towards critical and emerging issues on topics related to biotechnology, genomics, food safety, natural resources and the environment, farm efficiency and profitability, and precision agriculture.

Increased spending on agricultural research is the cornerstone of a productive and profitable agricultural sector. Current estimates of the rate of return on public spending on agricultural research, education and extension are extremely high (40–60 percent per year or higher). A recent report by the Economic Research Service finds that 75 percent of the productivity gains in agriculture can be traced to public spending on agricultural research.

Economic and social science research is needed in the following priority areas.

Develop New Knowledge About Economic and Social Consequences of Environmental Regulation.—Economics and social science research programs are needed to: (1) enhance existing and develop new methods to assess the benefits and costs of government regulation, (2) develop, design and evaluate integrated policies and institutions to mitigate negative environmental impacts of production agriculture, and (3) expand scientific knowledge about quantitative and qualitative assessment tools that can be applied to non-market goods.

Enhance Knowledge and Improve Understanding of the Economic and Social Impacts of Biotechnology and Genomics.—Economists and social scientists can develop integrated models to analyze how biotechnology affects farm size, production efficiency, competitiveness, trade potential, and other elements of economic performance in agriculture. Economics can be used to understand how the consolidation among agricultural chemical, seed and biotechnology companies will affect producers, consumers and environmental quality. Economic and social science research methods can promote understanding of how changes in the industry will affect the types of technologies produced and who benefits from these products.

There are at least three important contributions economists and social scientists can make to a national genomics research program. First, economic methods can be developed to help select target species for gene sequencing. Second, economic models can be developed to answer questions about the trade-offs consumers are willing to make between food characteristics such as taste, nutritional value, and shelf life. Third, the social sciences can examine and develop new knowledge about the potential social, economic and ethical consequences of various types of genomics research.

Expand the Science and Application of Economics to Improve Food Safety.—Economics can improve our understanding of the benefits and costs of options to reduce food borne illness from pathogens, and pesticide residues in fresh and processed foods. Agricultural economists can generate new knowledge about how changes in consumer demand affect food safety, health and nutrition. Economic models could then be developed to evaluate the effectiveness of public and private efforts to promote safer food production, transportation, handling and preparation.

Improve Farm Income and Risk Management Tools: Farm Efficiency and Profitability.—Agricultural economics research can improve the efficiency of farm income and risk management tools. Economics can enhance our understanding of how to measure and manage risk in a new, globalized, vertically coordinated food system for an expanded clientele base. Economics can be used to develop new knowledge about risk management strategies, instruments, and portfolios and adapt them to meet current challenges with in the agriculture sector. Finally, economics can im-

prove producers' ability to manage complex financial accounting and reporting systems.

Examine the Impacts of the Changing Farm and Agribusiness Structure.—The impacts of the changing farm and agribusiness structure are profound. Economic and social science research can improve our understanding of the forces driving structural change and concentration, and the impacts of this change on the economic performance of vertically coordinated farming and agribusiness. Economic and social science models of vertically coordinated systems can answer important questions about market access, bargaining power, concentration, location of production, financial arrangements, rural communities and the environment.

Recommendation Four: Increase support for USDA agencies that promote the development and use of economic and social science tools to guide decision making.

Increase the Economic Research Service (ERS) budget for economic analysis and research to $60 million, plus $14 million to evaluate the food and nutrition programs. ERS is the principal intramural social science research agency for USDA. ERS provides timely short and long run economic and social science information and analyses to public and private sector decision makers including farmers. The trend towards a more market-driven agricultural sector heightens the needs for increased spending on economic and social science analysis and research. Sixty million dollars for economic analysis and research is needed to maintain innovate, on-going programs and to support a number of critical initiatives such as carbon sequestration research, global climate change, enhanced commodity market analysis, and addressing the information needs of small and limited resource farmers.

We ask that you continue giving ERS the responsibility and funding for Food Assistance Program Evaluation. We believe that program evaluation and analysis will be most effective when it is conducted and managed by an agency separate from the one implementing the program itself. An increase to $14 million in funding for fiscal year 2000 will greatly improve basic knowledge and understanding of the forces affecting poverty, the impacts of welfare reform, the long-term effects of assistance programs, and waste, fraud and abuse in the food stamp program.

Increase the National Agricultural and Statistical Service (NASS) Budget to $86 million for agriculture estimates and research, and $17 million for the periodic census of agriculture. NASS provides the official USDA production, economic, and environmental forecasts and estimates on agriculture and rural America. NASS' objective and accurate statistical information is highly valued by stakeholders of the agricultural research and education. A funding increase is needed to maintain and enhance existing programs, and to support new initiatives such as the Agricultural Economics and Land Ownership Survey, the establishment of a field office in Puerto Rico, and an expansion of the pesticide use survey to include commercial nursery and greenhouse operations.

Increase the Natural Resources Conservation Service (NRCS) Budget to $1.415 billion to maintain existing programs, and enhance economic and social science analysis. NRCS provides national leadership in partnerships to help people conserve, improve, and sustain the Nation's natural resources and environment. NRCS technical experts help land managers and communities take a comprehensive approach in planning the use and protection of soil, water, and related resources on private and non-Federal lands, in rural, suburban, urban, and developing areas. A funding increase is needed to enhance Conservation Technical Assistance programs to meet increased demand for conservation services. This would include economic analysis of resource problems associated with conservation assistance for animal feeding operations, non-point source pollution, misapplication of fertilizers and pesticides, and land use changes. Increased funding is also needed for economic and social science analysis of thousands of important watershed dams that will reach the end of their design life this decade.

Recommendation Five: Increase funding for Cooperative State Research, Education and Extension Service base research and extension programs by $40 million (includes Hatch Act, McIntire-Stennis, Evans-Allen, Animal Health, Smith-Lever Formula 3 (b) and (c), 1890 Colleges and Tuskegee).

An increase in base research and extension programs is needed to maintain and enhance mission-linked multi-disciplinary, multi-function projects and programs in a number of critical and emerging areas. For example, integrated research, extension and education programs are needed to address problems and challenges related to the changing structure of American agriculture, agricultural genome and germplasm preservation, expanded food nutrition and education programs, agricultural waste management, water quality, carbon sequestration, and children, youth and families at risk.

Base programs are an important and productive component of the federal research, education and extension system. Combined with other federal funding mech-

anisms such as competitive and special grants, base programs have provided state experiment stations and extension systems with an effective balance of resource stability, flexibility in planning, regional collaboration, and a linkage between national and local priority setting.

Thank you for the opportunity to present these views. Please contact us with any questions. Tracy Irwin Hewitt, Executive Director, C–FARE, 703–524–2145; Peter Barry, Chair, C–FARE, 217–333–1827; Howard Silver, Executive Director, COSSA, 202–842–3525.

PREPARED STATEMENT OF THE COSMETIC, TOILETRY, AND FRAGRANCE ASSOCIATION

The Cosmetic, Toiletry, and Fragrance Association (CTFA)[1] respectfully urges you to grant the Food and Drug Administration's fiscal year 2000 budget request for $5.2 million for the Office of Cosmetics and Colors in the Center for Food Safety and Applied Nutrition (CFSAN). This level of funding is comparable to that provided by the Congress for fiscal year 1999 and includes a restoration approved by Congress last year of $2.5 million that the administration had proposed in cuts for the Office. We believe that it will enable the agency to maintain in CFSAN the kind of credible cosmetic regulatory program needed to ensure confidence in the safety of cosmetic products.

CTFA members provide consumers with a wide variety of safe cosmetic products, such as makeup preparations, shampoos, deodorants, toothpastes, mouthwashes, perfumes, shaving creams, and skin lotions. These products promote personal hygiene. They help people look and feel their best, thereby increasing self assurance and self esteem. Virtually every man, woman, and child in this country uses cosmetics routinely. Because of FDA's effectiveness and the voluntary safety programs undertaken by the cosmetic industry—often with the agency's cooperation and participation—they do so safely and with confidence. Failure to fund the agency's Office of Cosmetics and Colors adequately would undercut a vital component of a safety system that serves consumers well.

Moreover, the economic well-being of the $25 billion cosmetic and personal care product industry depends on a strong FDA regulatory program. Our industry relies on the FDA compliance function. Without compliance, unscrupulous competitors can not only defraud the public, but undermine legitimate industry as well. The cosmetic industry needs a level playing field. We need to know what regulatory requirements apply. We want to be certain that the FDA law and regulations will be enforced consistently against all marketed products, whether imported or produced domestically.

A strong FDA Office of Cosmetics and Colors exerts national leadership, maintains appropriate standards to assure the safety and proper labeling of cosmetics throughout the nation, and ensures that Americans can enjoy a nationwide marketing system with adequate public protection and uniform enforcement in every part of the country. If the FDA's cosmetic program were diminished, the states might be encouraged to ignore the agency and establish their own, potentially conflicting, regulatory requirements for cosmetics. Such a patchwork of state mandates could only confuse consumers and wreak havoc on our industry's ability to operate in interstate commerce.

The FDA is currently recognized as the preeminent international body in the field of cosmetic regulation. A visible and vigorous Office of Cosmetics and Colors is necessary to maintain this international leadership and to move even more quickly toward the goal of international harmonization, which the Congress established as an FDA priority for cosmetics and other regulated products under Section 410 of the FDA Modernization Act of 1997.

We are not asking for increased funding or new programs. We are merely seeking the continuation of a level of stable funding for the Office of Cosmetics and Colors that will help ensure the maintenance of an effective FDA regulatory program for cosmetics. We strongly support the FDA's fiscal year 2000 budget request for $5.2 million for the Office of Cosmetics and Colors. Thank you for considering our views.

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[1] CTFA is the national trade association representing the cosmetic and personal care product industry. Founded in 1894, CTFA has an active membership of more than 285 companies, which manufacture or distribute the vast majority of the finished cosmetic and personal care products marketed in the United States. The Association also has approximately 300 associate members, which provide services, equipment, or supplies, such as raw materials and packaging components, to our active members.

PREPARED STATEMENT OF THE COUNCIL FOR AGRICULTURAL RESEARCH, EXTENSION, AND TEACHING

Thank you, Mr. Chairman. I appreciate the opportunity to again provide testimony this year in support of the Land-Grant system.

My name is Sam Minor, Chairman of the Council for Agricultural Research, Extension, and Teaching, commonly called CARET. CARET is a national focal group of lay support persons working on behalf of the land-grant university system. The CARET group was formed a number of years ago for the expressed purpose of enhancing national support and understanding of the important role played by the land-grant colleges in the food and agriculture systems, as well as the role of this system in enhancing the quality of life for all citizens of the nation.

As I have emphasized in each of the last two years in which I have given testimony to the Congress, I take part in this activity with a great amount of pride and commitment. Our family and I know first hand of the important role played by our land-grant institutions.

I do not want to again take your time this year in discussing all of the contributions that the land-grant system has made to us as a family or to our farming and farm retail business. I would, however, want to emphasize that this contribution has been very significant. The same can be said about the contribution of our land-grant universities to hundreds of thousands of farm families across this country.

The land-grant system is a very unique system of research, education, and extension. It is a system that has brought together a partnership of federal, state, local (or county), and now private resources to contribute so significantly to building an agricultural industry that is truly the envy of the world. This system, this agricultural industry, at the national level continues to have a tremendous impact on our economy, our balance of trade, our workforce, and the health and quality of life of our society. Yet, in many ways, it is an industry that is taken for granted.

Too little do we hear or talk about the significance of the research and education that has provided the scientific basis to allow 1.8 million U.S. farms, such as ours in southwestern Pennsylvania, to produce a record in excess of $200 billion of food and fiber. Too little do we recognize the records that have been set in export agricultural sales that have contributed so significantly to a positive balance of agricultural trade. To infrequently do we acknowledge that this food and agriculture industry provides almost 20 percent, one out of every five, of the jobs in this country and accounts for 16 percent of our gross national product. Yet, the consuming public spends less of their disposal income, just over 10 percent, for their food needs than any other country in the entire world. I do recognize that these are familiar numbers. They do, however, continue to be significant today.

Now, as we have entered a new era in agriculture and the role that government plays in this industry, we believe that the need for an agriculture that is based on research and science is greater than ever before.

We are, for many reasons, in a very rapidly changing agriculture. Some call it an industrialization of agriculture. We are seeing a consolidation of our agriculture enterprises. This is occurring at the farm level and in our processing and distribution systems. This change, this consolidation, this industrialization, is today having a tremendous impact on farm families, farm businesses, and rural communities across this country. The significance of this impact will be even greater in the weeks and months ahead.

The impact of these changes has been even further accentuated as we are experiencing the affects of lessened government participation in the pricing mechanism. And this is all occurring at a time when we are experiencing considerable destabilization of the financial markets in many parts of the world. Some are now beginning to talk about the reoccurrence of a "farm crisis." It is apparent that consideration at the federal level is being given to ways to assist during this transition period.

As we go through this transition period we are seeing a rapid implementation of new emerging technologies. Information of all kinds that enhances the ability to make more rapid and more correct decisions is increasingly available. New plant and animal species, varieties, and characteristics are emerging from the rapid advancement of the biotechnological sciences. These changes and advancements have come about, to a very great extent, because of the past investment in agriculture research and education, much of it from public sources.

As we consider this transition in the framework of new work that is now being done and the new scientific advancements that are just on the threshold of disclosure, one has to think that our opportunities are greater today than at any time in the past. It will, however, take dollars to bring these opportunities to fruition. It will be a continuation and expansion of the federal, state, local, and private part-

nership that can best provide these dollars critically needed for this work. Your decisions in the coming months to increase the federal outlay for agricultural research can provide some much needed leadership for this effort. The federal funds are the heart of this partnership.

Specifically, the federally-supported programs in cooperation with our state land-grant colleges and universities are crucial for us to retain and expand the U.S. competitive edge in the world-wide marketplace. Additionally, these research and extension programs that result from this federal, state, local, and private partnership are very crucial at this time to assure strength and stability at the family farm level and to assure continuity in our rural communities.

This testimony is principally to request support for the fiscal year 2000 budget recommendations of the National Association of State Universities and Land-Grant Colleges' (NASULGC) Board on Agriculture of $1.098 million, an increase of $174.2 million. This increased amount is consistent with the amount of increase proposed in the President's proposed budget for the fiscal year 2000 for the Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture (CSREES, USDA). We strongly endorse this critically needed added investment.

While we do endorse the President's proposed increase, we are recommending a different mix of funding mechanisms that we feel will best address the critical issues that need to be addressed in fiscal year 2000. We do recognize that at this stage there is not complete agreement between the Administration, the Congress, and all interested stakeholders on how this increased funding should be best structured. Most important, however, is that there is an immediate, urgent need for this additional "critical issue"-oriented research, extension, and education funding.

In saying this, we do realize that the Congress is facing a tight fiscal year and that the House and Senate Agricultural Appropriations Subcommittees will address a number of complex and challenging issues facing farmers, ranchers, and rural communities. However, there is no doubt, from our experience, that these targeted investments proposed for the land-grant system is one of the very best ways to address these challenging problems in the long run.

After a great amount of interaction with the land-grant system and a broad number of stakeholders from the agriculture community the NASULGC Board on Agriculture Budget Committee has some 22 critical issues that have been identified for special emphasis in this fiscal year 2000 budget request. These issues have been organized within the five goals developed by the Department of Agriculture as part of their process for responding to the Government Performance and Results Act (GPRA). These proposed activities are organized within the five categories to facilitate future reporting on accomplishments. This is a key component to assure the Congress that these funds are being utilized effectively to solve today's most critical problems and to best prepare for tomorrow's greatest opportunities.

To re-emphasize, NASULGC and CARET support the President's bottom line of 2.6 percent increased funds for research, education, and extension funding. NASULGC does, however, recommend that from this increase an additional $40 million go to an increase in base or formula funds. Base program funding is unmatched as a vehicle to foster multi-year programs essential to the science of agriculture. These base funds allow the colleges and universities to invest in long-term research activities where continuity is critical for success. These funds also support the infrastructure and faculty that are necessary for successful completion of the research and extension activities. Additionally, these base funds are essential for leveraging external resources.

An additional increase of $120 million is also proposed for competitive grants. This is very consistent with the President's proposed increase in the National Research Initiative. It is also consistent with the establishment of the Fund of Rural America two years ago and is especially consistent with the new initiative that was authorized as a part of the Research and Science (Title VIII) of the Farm Bill last year. We do know there may be different thoughts on how to work through the grant or funding mechanisms for this expanded new competitive funding approach. The Land-Grant University community stands ready to work with the Congress to find ways to resolve current questions and to effectively utilize the available mix of competitive grants programs. Most importantly, there is an immediate and urgent need for new, integrated problem-solving competitive grants to address real-world problems.

An additional increase of $14.2 million is also proposed as a mix of targeted mechanisms that would provide an opportunity to address immediate areas of critical concern.

The Council on Agricultural Research, Extension, and Teaching is very pleased to support this request for an additional funding of $174.2 million on behalf of the land-grant university system. This land-grant partnership working in close coopera-

tion with the USDA Cooperative State Research, Education, and Extension Service is a very important and very strong relationship. This is a partnership that undergirds the research and science of a successful agriculture in the United States, a partnership and an industry that is the envy of the entire world.

This is a partnership that our CARET organization believes should be financially supported to the fullest possible extent at both the federal and at the state levels. We ask that you give this request your fullest possible consideration this year.

As an individual farmer and a member of the agriculture community, I am proud of what the federal, state, and local partnership has provided to us. At the same time, agricultural research and education must be an important part of our long-term agricultural policy. We must continue to strengthen our financial commitment to assure that these basic programs of the land-grant system will be prepared to meet the emerging needs of the food and fiber sector.

We in agriculture and the country as a whole want to enhance our production, processing, and marketing capabilities. We also want to be prepared to take full advantage of the further opening of global markets. We in agriculture also want to understand and to effectively apply risk management programs to gain the greatest returns from our commodities. And we want to be prepared to fully adopt and utilize new scientific breakthroughs in the production, processing, and marketing of these products. It is also our goal that all of this be done in a way that effectively preserves the environment while continuing to provide the most nutritious and safe food supply in this country and those markets served worldwide. These all provide unprecedented opportunity to continue to put science and education to work for mankind.

Thank you for this opportunity to provide this testimony in support of the appropriations for our land-grant system.

PREPARED STATEMENT OF THE COUNCIL FOR RESPONSIBLE NUTRITION

Mr. Chairman, the Council for Responsible Nutrition (CRN) appreciates the opportunity to testify as the Committee reviews the fiscal year 2000 Appropriations for the Food and Drug Administration (FDA). CRN represents 100 companies that manufacture dietary supplements, including vitamins, minerals, herbs, and botanical products. These products account for a large share of the $15 billion in sales anticipated for this industry in 1999—products which are used by more than half of our nation's population.

CRN and its members are committed to improving the public's health through improved nutrition, including the appropriate use of dietary supplements. Like FDA, we are committed to science-based products and decisions. We also recognize that even the most responsible industry needs fair and appropriate regulations in order to ensure consumer protection as well as to encourage good business practices and facilitate fair trade. The Food and Drug Administration critically needs adequate resources to perform these functions.

The Dietary Supplement Health and Education Act of 1994 (DSHEA) was passed because FDA had, for several decades, pursued a regulatory agenda that was not appropriate for dietary supplements. DSHEA established a new regulatory framework which is working well, but which could work even more effectively if FDA had the resources needed to fully implement the intent of Congress. CRN urges Congress to appropriate adequate resources to support FDA action in the following areas relating to dietary supplements. Urgent needs include:

—Establishing a Dietary Supplement Advisory Committee.
—Timely review of 75-day notices for new dietary supplement ingredients.
—Promulgating Good Manufacturing Practice Regulations appropriate to dietary supplements.
—Improving the adverse reporting system.
—Strengthening FDA's capabilities in international regulatory activities.
—Withdrawing the proposed structure/function rule.

Allow me to elaborate on these urgent requirements.

ESTABLISH A DIETARY SUPPLEMENT ADVISORY COMMITTEE

FDA must deal with a wide variety of critical issues affecting dietary supplements. In the past several years, three out of six meetings of the existing Food Advisory Committee have been devoted to consideration of dietary supplement issues. Unfortunately, the Food Advisory Committee does not have the appropriate expertise to deal with dietary supplements, and FDA has found it necessary to convene other experts to participate in evaluating dietary supplement issues, including the safety of ephedra, necessary provisions of Good Manufacturing Practices, improving

postmarket surveillance, and evaluating consumer understanding of dietary supplement labels.

CRN believes FDA urgently needs a Dietary Supplement Advisory Committee, comprised of individuals with a wide range of backgrounds, possessing expertise in dietary supplement products and knowledgeable about the scientific evidence relating to dietary supplement ingredients. Funding to establish, staff, and support this critical advisory committee is essential, and should be included in the fiscal year 2000 appropriations for FDA.

REVIEW OF NOTICES FOR NEW DIETARY INGREDIENTS

DSHEA places a great deal of responsibility on the industry to ensure that only safe ingredients are marketed in dietary supplements. Ingredients that were marketed in dietary supplements before October 15, 1994, are "grandfathered" and may continue to be marketed. However, even grandfathered ingredients may be considered adulterated if they are injurious to health or if they are not reasonably expected to be safe under the intended conditions of use.

DSHEA requires any marketer of a new dietary ingredient (one first marketed on or after October 15, 1994) to submit a notification to FDA at least 75 days prior to marketing. The notification is to include a statement of the manufacturer's basis for concluding that the ingredient is reasonably expected to be safe. FDA reviews the notifications, and the file is placed on public display approximately 90 days following its receipt.

For example, a new dietary ingredient notification was recently filed for gamma butyrolactone (GBL), a precursor to gamma hydroxybutyrate (GHB), a substance with activity similar to the so-called "date rape" drug. Based on the information submitted and based on other information available in the scientific literature, CRN believes FDA was right to object to the marketing of GBL, and CRN supported the agency's recent action in requesting a recall. The companies contacted by FDA have apparently complied with the request for a recall, but we note that there are still numerous Internet sites promoting and selling both GBL and GHB.

Further actions need to be taken against such marketing, and it is essential that FDA have adequate resources to review new ingredient notifications and to respond promptly and effectively to curtail the marketing of adulterated (unsafe) dietary supplement ingredients.

GOOD MANUFACTURING PRACTICES

DSHEA authorized FDA to establish Good Manufacturing Practice (GMP) regulations for dietary supplements, modeled after GMP regulations for foods. CRN took the lead immediately following DSHEA in drafting appropriate GMPs for dietary supplements, based on CRN's existing GMPs. CRN invited other associations to join in this effort, and several industry groups jointly submitted a GMP draft to FDA in November 1995. These GMPs incorporate virtually all provisions of the existing food GMPs and would also require every manufacturer to have a strong quality control unit with authority to accept or reject bulk ingredients and finished products that fail to meet appropriate standards.

Fifteen months later, in February 1997, FDA published the industry draft as an Advance Notice of Proposed Rulemaking and numerous comments were received. One year after that date, in February 1998, FDA asked its Food Advisory Committee for recommendations regarding certain provisions that would be covered by GMPs, including appropriate tests for product identity. At that Committee meeting, CRN urged FDA to establish a working group including industry members with the necessary expertise to consider these issues, and the agency did so. That working group has recently submitted its report.

Mr. Chairman, FDA must have sufficient resources to move this process along at a faster pace, so that new dietary supplement GMPs can be in place as soon as possible. These GMPs will provide vital consumer protection by requiring manufacturers to have adequate procedures in place to ensure product quality, as envisioned by DSHEA. While many responsible manufacturers already have such procedures in place, it is essential to ensure a standard for the industry as a whole.

ADVERSE EVENT REPORTING

The Office of Special Nutritionals at FDA established an Adverse Event Reporting System (AERS) five years ago to compile adverse event reports related to medical foods, infant formula, and dietary supplements. At this time, there are 2,621 adverse reports in the system. Many are minor complaints, but some are serious, and there are some reported deaths.

During 1998, the reports were put on the FDA website. Unfortunately, a company can find itself in the position of having its company name and brand associated with a serious adverse event posted on the Web without having any prior warning that such an event has occurred. Further, the background information on the case is unlikely to be available under FOIA, because FDA does not have adequate staff to purge personal case information not releasable under FOIA. In addition, FDA does not have adequate staff or other resources to properly evaluate the adverse event reports, and the reports are released with no comment regarding the likelihood of any actual causal relationship between the product named and the event which occurred. This puts every company at risk of being held "guilty until proven innocent," without investigation. The industry is at risk of being charged with causing a large number of adverse events, many of which may be minor complaints and many of which may not in fact be due to dietary supplement use.

It is essential that some scientific evaluation be applied to the adverse event reports dealing with dietary supplements, in order to identify those areas where a genuine safety issue exists, so that FDA and industry can take appropriate action. Criteria have already been established for determining the likelihood of a causal relationship between a product and an adverse event, and FDA applies such evaluations in some other product areas.

For example, FDA received about 3,000 adverse event reports in 1997 regarding veterinary drugs. Scientific evaluation revealed that only 1 percent of the veterinary adverse events were definitely associated with product use; 31 percent were probably associated, 45 percent were possibly associated, and 12 percent were definitely not related to the product. In 11 percent of the cases, there was inadequate information to evaluate likely causality. A similar analysis of the adverse event reports on special nutritionals would be valuable in better understanding the likelihood of a causal relationship between the dietary supplements used and the adverse events reported. Criteria used in evaluating likely causality include whether the effects are consistent with the known pharmacology of the product, whether there are other explanations for the event, whether the timing of the event suggests a relationship to use of the product, and whether the effects went away when use of the product was stopped or reappeared if the product was given again.

It is essential for FDA to have sufficient resources to update the special nutritionals adverse event reporting system on a regular basis and to be able to screen and release background information on the case reports before they are made publicly available. Finally, FDA must have the capacity to evaluate the likely association between the events that occurred and the products that were used.

FULFILLING INTERNATIONAL OBLIGATIONS

FDA currently participates in many international policy-setting activities, and sometimes leads the U.S. delegation on specific issues. These international efforts, including those relating to the Codex Alimentarius, can have a significant impact on world trade, including trade involving dietary supplements. CRN is an officially designated Non-Government Organization (NGO) at these international meetings and has worked with FDA, USDA, USTR, the Department of Commerce, and the State Department in developing consensus regarding the U.S. position on various issues. To augment current efforts, we strongly urge that FDA be provided with the necessary resources to train U.S. delegates in the communication and negotiation skills critical for a forum such as Codex. Further, we believe that the FDA budget should include funding to provide the additional resources required to employ and contract for the necessary legal, academic, technical, or scientific expertise to supplement delegate skills and substantiate U.S. positions. We also urge FDA to fully cooperate with other U.S. agencies and to support industry/government dialogue in the international arena such as collateral international efforts to regulate dietary supplements by playing an active role in the TransAtlantic Business Dialogue (TABD) and the Transatlantic Economic Partnership (TEP).

Mr. Chairman, I would like to comment on the importance of new cooperative efforts. The FDA Modernization Act of 1997 (FDAMA) directed FDA to work more cooperatively with all of its stakeholders. Now is the time for the agency and the dietary supplement industry to begin a new era of working together. For its part, CRN is committed to doing everything in its power to help FDA obtain adequate funding to fulfill its duties under DSHEA, including finalizing GMPs for dietary supplements, enforcing the requirements applicable to new dietary ingredients, and improving the adverse reaction reporting system.

FDA would send a powerful signal of goodwill to dietary supplement manufacturers and consumers if the agency withdrew or drastically modified the March 1998 proposal regarding structure/function statements. This proposed rule seeks to define

what are permissible statements under DSHEA that deal with the structure and function of the human body. However, the proposed rule includes an overly broad definition of "disease" which encompasses many structure/function effects. FDA should not interpret "disease" so broadly that meaningful information about the health benefits of dietary supplements cannot be provided, as intended by DSHEA.

The proposed structure/function rule has drawn a large number of comments, including almost 200,000 consumer letters. The overwhelming majority of the comments are critical of the proposal. We believe that the U.S. Department of Agriculture's response to public comment on the misguided "organic" proposal would serve as a good model for FDA on this issue. As USDA did with the "organic" proposal, FDA should simply withdraw the structure/function proposal. Instead of creating a new regulation, FDA could simply continue to rely on the provisions of DSHEA, which clearly states that statements of nutritional support cannot mention a disease. Beyond that, all statements that are literally about affecting the structure or function of the body should be permitted.

CRN and its member companies appreciate this opportunity to testify regarding the urgent need for adequate resources to permit FDA to fully implement the intent of DSHEA. We believe responsible regulation through DSHEA is needed for the health of the industry as well as the health of American consumers, and we support fair and appropriate regulation. We would welcome the opportunity to celebrate the new millennium by entering into a new era of cooperation with FDA, based on mutual respect and grounded in science.

PREPARED STATEMENT OF EASTER SEALS

EASTER SEAL RECOMMENDATIONS FOR USDA AGRABILITY PROGRAM

Easter Seals appreciates the opportunity to report on the notable accomplishments of the USDA Cooperative State Research, Education, and Extension Service (CSREES) AgrAbility Program and to recommend that funding for the AgrAbility Program be increased to $4.6 million in fiscal year 2000.

The AgrAbility Program is an essential, unduplicated, hands-on resource for farmers, ranchers, and farmworkers with disabilities. It is the only USDA program dedicated exclusively to helping agricultural producers with disabilities. It demonstrates the value of public-private partnership by securing donations of funds, talent, and materials to magnify the impact of a modest federal investment. The fiscal year 1999 appropriation is $2,055,000, which funds 18 state programs.

Disability and Agriculture

Agricultural production is one of the nation's most hazardous occupations. Each year, approximately 200,000 people working in agriculture experience injuries that limit their ability to perform essential farm tasks. Tens of thousands more become disabled as a result of non-farm injuries, illnesses, other health conditions, and the aging process. Nationwide, approximately 500,000 agricultural workers have physical disabilities that prevent them from performing one or more essential farm tasks.

For many of these individuals, the presence of a disability jeopardizes their rural and agricultural futures. Rural isolation, a tradition of self-reliance, and gaps in rural service delivery systems frequently prevent agricultural workers with disabilities from taking advantage of growing expertise in modifying farm operations, adapting equipment, promoting farmstead accessibility, and using assistive technologies to safely accommodate disability in agricultural and rural settings. Yet, with some assistance, the majority of disabled agricultural workers can continue to earn their livelihoods in agriculture and participate fully in rural community life.

AgrAbility's Role and Record of Success

Since 1991, thirty-one states have been served by AgrAbility projects. AgrAbility has:

—Provided direct on-farm assistance to more than 4,700 farmers, ranchers, and farmworkers with disabilities and their families.
—Provided information and advice to 10,000 persons with disabilities employed in agriculture and related occupations.
—Educated more than 160,000 agricultural, rehabilitation, and rural health professionals on safely accommodating disability in agriculture.
—Recruited and trained more than 3,500 volunteers to assist agricultural producers with disabilities and their families.

—Reached approximately 8.4 million people through 3,800 exhibits, displays, and demonstrations to increase awareness of the challenges affecting and resources available to people with disabilities who work in agriculture.

The AgrAbility Program was established under the 1990 Farm Bill in response to the needs of farmers with disabilities. The Farm Bill authorizes the Secretary of Agriculture to make grants to Extension Services for conducting collaborative education and assistance programs for farmers with disabilities through state demonstration projects and related national training, technical assistance, and information dissemination. Easter Seals is proud to be a partner with Purdue University's Breaking New Ground Program in providing the national training and technical assistance portion of AgrAbility. Thousands of people in states with and without state AgrAbility projects are aided through this initiative.

AgrAbility combines the know-how of Extension Service and national disability organizations to provide people with disabilities working in agriculture the specialized services that they need to safely accommodate their disabilities in everyday farm operations. AgrAbility received strong bipartisan support during the 1998 reauthorization of the USDA research and education programs, and was extended through fiscal year 2004. The $6 million authorization level for AgrAbility was continued.

Under the statute, state and multi-state AgrAbility projects engage Extension Service agents, disability experts, rural professionals, and volunteers in offering an array of services, including: identifying and referring farmers with disabilities; providing on-the-farm technical assistance for agricultural workers on adapting and using farm equipment, buildings, and tools; restructuring farm operations: providing agriculture-based education to prevent further injury and disability; and, upgrading the skills of Extension Service agents and other rural professionals to better promote success in agricultural production for people disabilities.

In 1998, USDA received an allocation of $2,055,000 to support eighteen state projects in Colorado, Delaware, Illinois, Indiana, Iowa, Kentucky, Minnesota, Mississippi, Missouri, Nebraska, North Carolina, North Dakota, Pennsylvania, South Dakota, Tennessee, Texas, Utah, and Wisconsin. For the 1998 grant cycle, USDA received applications from twenty states for the fourteen available AgrAbility project slots.

AgrAbility provides customized assistance to farmers, ranchers, and farmworkers with disabilities and their families. The nature and degree of assistance depends on the individual's disability needs and agricultural operation. For example: The Mississippi AgrAbility Project has been working with a 23-year old farmer from Bentonia, Mississippi who uses a wheelchair because of the effects of Spina Bifda. He works on his family's beef cattle and hay operation, and needed help continuing to safely and effectively complete all the farm chores. The Mississippi AgrAbility Project helped locate hand controls for the family's Kawasaki Mule utility vehicle that allow him to remain a vital part of the daily farm activities. The state partnership was particularly fruitful in this case, because Easter Seals Mississippi, the nonprofit disability partner, was able to provide assistance in purchasing the hand controls through their Special Assistance Fund. This Mississippi AgrAbility project has also partnered with the T.K. Martin Center for Technology and Disability to provide assistance to this young man regarding accessible and proper seating for farm equipment.

Rodney Lane of Harrison Valley, Pennsylvania has operated a farm in the Harrison Valley since 1979. He has a dairy herd and over 500 acres of crops. He lost his left arm below the elbow and part of three fingers on his right hand in a corn picker accident. He uses a prosthesis on his left arm when tending his cows. AgrAbility for Pennsylvanians worked with the Pennsylvania Office of Vocational Rehabilitation to acquire a mixed ration wagon that eliminates the need for multiple trips to and from the grain bin and reduces the need for heavy lifting. Rodney has this to say about his modification, "Assistive technology has made things easier so that I can farm more self-sufficiently."

A third generation farmer, Don Wolford of Franklin County, Iowa, farms about 1,100 acres, cares for 40 head of beef cattle, finishes 560 head of hogs, and maintains a 24-stall farrowing building. In 1992, he had surgery to remove a tumor along his spine, which left him paralyzed from the waist down. AgrAbility staff first met with him in the hospital and showed him videos of farmers with disabilities using modifications, and recommended modifications he could make to his operation. After he returned home, AgrAbility staff wrote a proposal that helped get funding for Don to purchase an all terrain vehicle that was adapted for him using a kit from the manufacturer in order to provide him with a means of moving equipment and supplies on his farm. A friend designed hand brakes for both his tractors and pick-ups. AgrAbility provided him with plans for installing a lift on his tractor, which local welders were able to install. Since his injury, Don has been elected president of the

Franklin County Farm Bureau and named 1997 Franklin County Master Pork Producer. He has also been volunteering his time as an AgrAbility peer counselor to help other farmers with disabilities in similar situations.

Ron Brown from Edgar, Wisconsin, sought help from AgrAbility because a 1981 injury that limited the use of his arm and arthritis in his knees was making it increasingly difficult to accomplish the chores on his 40 to 50 head dairy farm. AgrAbility staff worked with Ron and enlisted the help of the state Division of Vocational Rehabilitation to create solutions to allow Ron to stay active in farming. AgrAbility staff recommended new types of equipment to minimize the stress on Ron's knees and arm. A John Deere "Gator" utility vehicle allows Ron to get around the farm easily, helping him herd cows, fix fences and do other chores. Ron did some of the modification work himself. The added extra steps and handrails he added to his tractors allow him to get on and off more easily and safely. Ron says that the partnership has helped make farming "a little better, and easier to do." Ron now travels the state talking to other farmers with disabilities about AgrAbility.

Impact of Current Funding Levels

AgrAbility projects are underfunded relative to need and objective. At $85,000 per state, only a few staff can be hired to provide statewide education and assistance to farmers with disabilities, educate rural professionals, recruit volunteers, and work with rural businesses on disability-related issues. Despite AgrAbility's proven record of success, rising demand for services and the great distances that must be traveled to reach farmers and ranchers have severely strained even the most dedicated of AgrAbility's outstanding staff. Easter Seals fears that failure to invest adequately in this worthwhile program will ultimately cause it to falter.

In the 1990 Farm Bill, a funding floor of $150,000 per state was set to assure that the state programs were successfully implemented. However, because funding has not approached the $6 million authorized level, state projects have been funded at only $85,000 per state. In the 1998 reauthorization of the USDA research and education programs, the Committee reaffirmed a commitment to that $150,000 per state floor. Easter Seals strongly supports full funding of state programs to assure that they continue to be effective for farmers with disabilities. Without a related increase in appropriations, fully funding state projects at $150,000 per state would result in a loss of almost half of the existing AgrAbility projects. The fiscal year 2000 request of $4.6 million would bring all current states up to the $150,000 level and would allow eight currently unserved states to implement AgrAbility programs.

One of the consequences of limited funding is that in every grant cycle, some states that have existing AgrAbility programs, and can demonstrate a legitimate need for services, are not renewed and forced to discontinue services to farmers with disabilities in that state and often have difficulty getting the access to the limited state and private funding sources that the federal seed money granted them. More than a dozen states have sought AgrAbility funding without success. Other states, including Louisiana, Michigan, New Hampshire, South Carolina, and Vermont, had USDA-funded AgrAbility projects in the past and seek to re-establish their programs. Each of these states can demonstrate significant unmet needs among farm and ranch families affected by disability that AgrAbility could potentially address. In the 1998–1999 grant cycle projects in Ohio, New York, Idaho/Montana, and New Jersey ceased to receive federal support. The need for the program in these once-funded states is exemplified by the fact that last year the technical assistance telephone line operated by AgrAbility staff at Breaking New Ground Resource Center at Purdue University logged over 268 calls for assistance from these nine states alone. Any loss of programs will greatly affect farmers with disabilities in states for whom AgrAbility is the primary resource through which they seek information and assistance on farming with a disability.

The need for AgrAbility services has never been greater, and its accomplishments to date are remarkable by any standard. Easter Seals is proud to contribute to the ongoing success of the USDA–CSREES AgrAbility Program. Please support the allocation of at least $4.6 million for AgrAbility in fiscal year 1999 to ensure that this valuable public-private partnership continues to serve rural Americans with disabilities and their families. Thank you for considering Easter Seals' views and recommendations.

PREPARED STATEMENT OF FARM*A*SYST/HOME*A*SYST

Thank you for the opportunity to submit a written statement to the Subcommittee on the issue of appropriations for agricultural research. education and economics. Our statement will address the importance of providing base support to education

and other CSREES programs of proven merit, the function of GPRA standards in assessing the merits of these programs, and the application of GPRA standards to Farm*A*Syst/Home*A*Syst, an education program that receives funding through CSREES. At the outset, we would like to acknowledge the support of the National Association of State Universities and Land Grant Colleges and our program coordinators in fifty states including Alaska, California, Iowa, Illinois, Kentucky, Mississippi, Missouri, Montana, North Dakota, Pennsylvania, Washington and Wisconsin.

There are those who believe that the country can best address a host of agricultural concerns including pollution by expanding competitively-funded projects at the expense of base funding for programs. Certainly projects funded through competitive grants are an essential component of research, education and extension, particularly when such projects seek to integrate these three activities, but the benefits of competitively-funded projects will be greatly diminished without adequate support to maintain the infrastructure designed to transfer research findings to the agricultural community and provide education to improve agricultural practices. This infrastructure was built with base support for programs of proven value.

Without base support for effective programs, there is an inadequate framework in place to respond to issues of the moment. For example, the newly-crafted AFO strategy has elevated nutrient management to new levels of importance. Had Congress failed to make its annual commitment to support the national network of Extension specialists and agents, we as a nation would not have the ready-made capacity to effectively implement this strategy. By providing base support for effective programs, moreover, Congress can increase the benefits of competitively-funded projects. The latest research findings regarding nutrient management would never leave the laboratory without a mechanism such as Cooperative Extension to translate research findings into information useful to farmers. By shifting funds away from base program support, Congress not only dismantles the support system that delivers research findings to the public, it reduces the capacity to continue projects that have used competitive funds to effectively address issues of significance. In regard to the latter situation, Farm*A*Syst/Home*A*Syst is in this position, needing base support to maintain a national network of voluntary pollution prevention programs built with competitive funds.

While competitively-funded projects offer certain levels of accountability, they cannot provide policy makers with complete and detailed information to make spending decisions. Whether the decision involves competitively-funded projects or base funding for programs, there must be a more fundamental analysis that tests programs and projects by the same benchmarks of efficiency, effectiveness and accountability.

In fact, Congress recognized the fundamental importance of this analysis when it enacted the Government Performance and Results Act (GPRA) of 1993, Public Law 103–62. GPRA provides a structure for measuring efficiency, effectiveness, and accountability in federal spending by directing CSREES and other agencies to develop and use performance-based planning, reporting, and budgeting. This structure improves program delivery by fundamentally shifting the focus of federal management from inputs, such as staffing and activity levels, to the outputs and outcomes of federal programs.

Most importantly for this discussion, GPRA provides Congress with a basis for making spending decisions whether they involve programs or projects. A September 1998 Report to Congress "Unlocking Our Future Toward a New National Science Policy submitted by the House Committee on Science (www.house.gov/science/science—policy—report.htm) indicates that GPRA can be applied to insure accountability of federally-funded research, including investigator-driven grant projects. By applying the same tests to funding questions involving projects and programs, Congress can establish a basis of comparison to evaluate its spending options.

When the GPRA yardstick is used to measure a program such a Farm*A*Syst/Home*A*Syst, the results show that the program is an outstanding example of how Land Grant Universities and CSREES are providing high quality and effective programming to address issues of national importance. The following section documents Farm*A*Syst/Home*A*Syst's performance in regard to the CSREES 1997–2002 Strategic Plan (www.reeusda.gov/part/gpra/stratpl.htm) developed in accordance with GPRA requirements.

FARM*A*SYST/HOME*A*SYST PERFORMS UNDER GPRA STANDARDS

Farm*A*Syst/Home*A*Syst fulfills these key elements of the CSREES Strategic Plan, including 4 of the 5 goals which form the core of agency procedural and program strategies:

1. Farm*A*Syst/Home*A*Syst provides strong leadership in voluntary pollution prevention to address national water quality priorities; fosters collaboration through a network of state delivery teams that emphasize interagency and private sector partnerships; and increases access to, transfer of, and dissemination of education and research-based information targeted to customer needs.

2. Farm*A*Syst/Home*A*Syst increases harmony between agriculture and the environment by:

a. nationwide program implementation involving locally-modified materials and innovative delivery approaches that increase awareness. knowledge and use of voluntary actions among:

—livestock producers to reduce pollution risks from animal waste.

—agricultural producers to improve cropland practices including nutrient management.

—agricultural producers to protect ground and surface water used for drinking and other functions.

—forest managers to ensure water quality, ecosystems integrity and biodiversity.

b. improving the quality of information about agricultural pollution risks, thereby enhancing the decision-making on public policies related to agriculture and the environment.

3. Farm*A*Syst/Home*A*Syst improves food safety by increasing agricultural producer awareness, knowledge and use of voluntary actions to control or eliminate food-borne risks (e.g. microbial and pesticide) through integrated pest management, the control of pesticide application, water quality protection measures, and animal waste management.

4. Farm*A*Syst/Home*A*Syst promotes health by increasing individual awareness, knowledge and use of voluntary actions to reduce health risks related to drinking water from private wells, indoor air quality, exposure to lead, and hazardous products management.

5. Farm*A*Syst/Home*A*Syst increases the capacity of communities, families, and individuals to improve their own quality of life by helping:

—communities protect public drinking water supplies through tools to manage farm and residential pollution.

—limited resource and other under-served audiences reduce pollution risks with simplified materials for use in homes and on farms.

—government programs such food and nutrition efforts provide additional benefits through education that helps participants protect their health and the environment.

This high level of performance results from contributions of a network of 50 state Farm*A*Syst/Home*A*Syst programs and a national office that coordinates this network. Organized according to the five categories listed above, the following represent highlights of these contributions.

1. STRONG MODEL OF EFFECTIVE PROGRAMMING AND PARTNERSHIPS

In this recent statement, Colien Hefferan, Acting Administrator, CSREES, captures the program contributions in this area:

"The Farm*A*Syst/Home*A*Syst program is an cutting-edge example of effective programming—translating technical research information into easily understood, hands-on education that empowers private citizens to take actions that prevent pollution.

"Its proven ability to foster partnerships among local, state and federal agencies and the private sector presents a strong model for future Extension programs."

2A. TOOL THAT SUPPORTS VOLUNTARY ACTION TO IMPROVE ANIMAL WASTE AND NUTRIENT MANAGEMENT

Wisconsin and California have developed model materials for land application of manure and other aspects of nutrient management that have been shared with many state Farm*A*Syst/Home*A*Syst programs.

A pilot study of the Nebraska livestock systems worksheet had these results: 45 of 95 livestock producers (averaging 1346 swine, 1218 beef cattle and 238 dairy cattle) made or anticipate making improvements in manure removal from pens and lagoons, manure use (e.g. incorporation, soil sampling, manure testing), odor control. equipment and facilities. These producers will voluntarily invest between $2,100–8,400 to make these improvements.

In California, an EQIP-funded project the Environmental Stewardship Short Course has incorporated Farm*A*Syst to improve education of dairy producers. Delivered to 900 dairy producers in 19 locations, the course uses Farm*A*Syst worksheets on livestock lots, manure storage and nutrient management to identify com-

pliance issues. Over 90 percent of the participants would recommend the course to other producers and plan to make management changes.

In Pennsylvania, an eco-labeling program, The Environmental Quality Initiative, uses Farm*A*Syst in a market-based approach to reducing pollution from dairy operations. Farm*A*Syst is the tool to measure environmental performance of the voluntary participants. Those who pass the test are rewarded with a premium from milk sales through Fresh Fields.

A Wisconsin project with the Milk & Dairy Beef Quality Assurance Center will modify Farm*A*Syst for deliver by veterinarians. Using these materials, this project will educate dairy producers about the links between pollution and health risks.

In states such as Missouri, Farm*A*Syst is recognized as an alternative to satisfy the industry-sponsored National Pork Producers Council's Environmental Quality Assurance Program.

Arkansas is actively supporting EQIP with a web site "Arkansas Farm*A*Syst An Environmental Quality Incentives Program (EQIP) Tool For Agriculture" (www.uaex.edu/natural/eqip4/eqiphome.htm).

New York's specialized worksheet on pathogens improves herd management to minimize pathogens among calves and reduces risks of pathogen contamination of water bodies.

2B. TOOL THAT SUPPORTS VOLUNTARY ACTION TO PROTECT WATER QUALITY

Iowa Farm Bureau Federation is providing leadership to implement Farm*A*Syst to help producers understand environmental requirements, identify pollution risks that threaten water quality, and stimulate market-based incentives such as loan discounts and reduced insurance premiums for Farm*A*Syst users. (Rick Robinson. Why Iowa Farm*A*Syst, Iowa Farm*A*Syst Newsletter, Fall 1998).

A Mississippi project known as Delta FARM (Farmers Advocating Resource Management) has made use of Farm*A*Syst materials to increase adoption of BMPs specifically tailored to the unique farming conditions in a region that runs from Memphis to Vicksburg.

Illinois FarmASyst has developed a program that works with rural landowners living in recharge zones for community wells. By helping these individuals protect their private wells from pollution, the program minimizes the risk of contamination threats to public supplies.

In Wisconsin's Buffalo and Grant Counties, EQIP-funded projects using Farm*A*Syst's computerized assessments can aggregate data from individual farm sites to develop watershed pollution profiles, and provide a reliable basis to target future spending and evaluate program impacts.

The program's effectiveness in protecting water quality was documented in the *Journal of Soil and Water Conservation* 53(1), 4–10 (1998) by ERS economist, Marc Ribaudo in his assessment of USDA agricultural nonpoint source programs:

"If a link between farming activities and personal health can be clearly demonstrated, evidence suggests that farmers are more likely to take action. A successful program for educating farmers about the relationship between their activities and personal health is Farm*A*Syst . . . It has been effective in getting individuals to take cost-effective, voluntary actions to remediate and prevent problems such as leaking fuel storage tanks, pesticide spills, and poor well maintenance."

3. TOOL THAT SUPPORTS VOLUNTARY ACTION TO IMPROVE FOOD SAFETY

In California, Georgia and Wisconsin, private sector organizations are supporting commodity-specific worksheets to promote responsible pesticide use among growers of wine grapes, cotton and potatoes.

Several states such as Texas have model materials to improve pesticide use and support integrated pest management available on the web (e.g. waterhome.tamu.edu/texasyst/index.html).

4. TOOL THAT SUPPORTS VOLUNTARY ACTION TO PROMOTE FAMILY HEALTH

States such as Kentucky and Illinois have modified Home*A*Syst to address health risks related to drinking water from private wells, indoor air quality, exposure to lead, and hazardous products management.

Mississippi and New York are using Home*A*Syst to expand the health benefits of EFNEP, a food and nutrition program.

Montana Home*A*Syst is working with the Low-Income Weatherization program to remove mercury from the home by replacing and recycling mercury thermostats.

In Washington state Home*A*Syst is teaming with the Women, Infants and Children (WIC) program to educate at-risk individuals on how drinking water contamination impacts family health.

5. TOOL THAT HELPS PEOPLE IMPROVE THEIR QUALITY OF LIFE

Arkansas and Montana Farm*A*Syst and Home*A*Syst are linked into state agency efforts to promote source water protection among communities.

Missouri Farm*A*Syst is ready to support source water protection activities with a web site "Missouri Farm*A*Syst: A Tool for Source Water Protection" (www.wisc.edu/farmasyst/contact/mos/wp.html).

North Dakota has extensively used Farm*A*Syst in education and outreach programs involving school children and vocational students.

In Alaska, Home*A*Syst will be a key part of educational efforts to improve sanitation and protect water quality in traditional Alaskan villages.

CONCLUSION

It is vital to CSREES to provide base support to education and other CSREES programs of proven merit. These form the critical elements of an infrastructure that makes our Extension Service the envy of the world. Congress can apply GPRA standards to assess the efficiency, effectiveness and accountability of these programs, and make spending decisions that intelligently balance support for programs and projects. By way of example, applying GPRA standards to Farm*A*Syst/Home*A*Syst, it is clear that the program is enabling CSREES to achieve priorities and goals in its Strategic Plan.

Furthermore, Farm*A*Syst/Home*A*Syst is enhancing the programmatic activities of NRCS and US EPA—the agencies that partner with CSREES to support Farm*A*Syst/Home*A*Syst. In terms of NRCS, the contributions to EQIP are evident in several of the examples provided above. Pearlie Reed, Chief, NRCS, also notes that "Farm*A*Syst is an excellent tool for resource planning," adding that the program "offers us opportunities for partnerships and encourages voluntary, locally-led conservation." EPA has recognized that Farm*A*Syst is a tool in promoting voluntary pollution prevention among AFO openers and operators. More generally. Farm*A*Syst/Home*A*Syst is making contributions to reduce nonpoint source pollution from agricultural activities outside livestock production and from residential sources such as septic systems. Farm*A*Syst/Home*A*Syst has demonstrated that it can be more than a tool to help protect private wells. As the program highlights suggest, it has shown promise as a tool to help protect public drinking water supplies. In the future, Farm*A*Syst/Home*A*Syst can play an important role in addressing TMDLs, as highlighted by the Conservation Technology Information Center (www.ctic.purdue.edu/KYW/TMDLFact.html).

In light of these significant contributions, it makes sense that funds not only be set aside in the CSREES budgets to support Farm*A*Syst/Home*A*Syst, but that funds also be identified in the budgets of EPA and NRCS to support the program.

PREPARED STATEMENT OF THE FEDERATION OF AMERICAN SOCIETIES FOR EXPERIMENTAL BIOLOGY (FASEB)

Mr. Chairman, Mr. Kohl, Members of the Subcommittee: I am Dr. William Brinkley, Vice President for Graduate Sciences and Dean of the Graduate School of Biomedical Sciences at Baylor College of Medicine in Houston, Texas. I am a cell biologist who conducts research on cell division and genomic instability in tumor cells. This year I also serve as the President of the Federation of American Societies for Experimental Biology, FASEB. Founded in 1912, FASEB is the largest organization of life scientists in the United States with a combined membership of more than 56,000 researchers. Our members include scientists involved in a wide array of agricultural research including human and animal nutrition, plant science, animal physiology and reproduction. These scientists hold positions in virtually every land grant and private institution engaged in nutrition-related research in the United States, as well as in industrial and biotechnology enterprises conducting nutrition and food related research.

FASEB maintains, as we believe this committee does, that research sponsored by the Department of Agriculture and conducted at universities throughout the United States generates vitally important new knowledge. These advances ensure an affordable, abundant and wholesome supply of food and fiber, as well as promoting the competitive position of U.S. agriculture in the global marketplace. As the world's population grows, societies everywhere are becoming more dependent on the productivity of U.S. farmers. Consequently, life sciences research is one of the keys to the improvements in agriculture which are required to feed and clothe the world, to reduce environmental pollution, to increase food safety and to improve nutrition.

The USDA supports basic and applied research through its Research, Education, and Extension (REE) budget and through its intramural research arm, the Agricultural Research Service (ARS). Half of the total REE budget supports the Cooperative State Research, Education, and Extension Service (CSREES). CSREES targets its funding to national and regional priorities by using a variety of mechanisms to allocate resources, including "base funding" of mission-oriented research, education, and extension programs. Base-program funding maintains the cooperative partnership between the USDA and universities, sustaining the university-based agricultural research and education system as well as supporting the infrastructure necessary to address important national, state, and county issues.

NATIONAL RESEARCH INITIATIVE COMPETITIVE GRANTS PROGRAM (NRICGP)

The National Research Initiative Competitive Grants Program (NRICGP), a CSREES base program, funds competitive extramural research projects at public and private universities and colleges. Research proposals are reviewed for merit by panels of experts, and those attaining the best scores are funded. The NRICGP, the largest national competitive research grant program in the USDA, was authorized at $500 million at its inception in 1990, but annual funding has never exceeded $119 million. FASEB's recommendations for the USDA focus principally on the NRICGP. Some examples of the program's recent accomplishments are:

—Basic studies in the genetics, growth, and development of plants have enabled scientists to develop transgenic plants containing agronomically important genes. These procedures facilitate the improvement of disease resistance, productivity, and nutritional quality.

—Human nutritionists have developed improved techniques for evaluating the absorption and metabolism of nutrients, and for assessing the nutritional status of human beings. Researchers using such techniques yielded evidence that the requirements of calcium and folic acid were substantially higher than previously believed, which has led to the development of new dietary recommendations for these essential nutrients.

—Research funded by the NRI Food Safety program has led to a greater understanding of the food processing and storage procedures needed to reduce the risk of food-borne illness from bacteria such as Salmonella and E. coli. Such research also has led to the development of rapid genetic and immunological methods for detecting such microorganisms.

The competitive and highly productive merit-reviewed research program of the NRICGP is vital to the future of U.S. agriculture, yet its share of the USDA budget is hardly commensurate with the importance of its mission. Indeed, only 5.4 percent of the USDA's $1.8 billion research budget is devoted to nationally competitive grants. Congress recognized the value of the research being conducted by the NRICGP, and increased its funding in fiscal year 1998 and again in fiscal year 1999. FASEB applauds Congress for these actions, given that they represent an important change from the fiscal year 1994 through fiscal year 1997 period when funding for the NRICGP was decreased.

Yet, even with these additional resources, critical agricultural research is still underfunded. Currently, only 25 percent of qualified grants receive funding. Inadequate support limits the productivity of researchers that the NRICGP is able to fund. NRICGP awards are small, averaging $133,210 in fiscal year 1998, and short, averaging 2.2 years (i.e., a total support of about $60,000 per year). Researchers are forced to limit the scope of their work or spend valuable time writing additional grant proposals.

FASEB believes that research support for areas such as animal, plant and microbial genomics; human nutrition; food safety; plant biochemistry; environmental impact of animal pollutants; integrated agricultural systems; and infrastructure should be augmented. The funds now available for these areas of critical research are insufficient to enable them to reach their full potential. FASEB makes the following recommendations.

—In 1990, Congress established the NRICGP with the goal that it be incrementally increased to $500 million within 5 years. The increase in fiscal year 1999 brought NRICGP funding to only $119.3 million, well below the originally intended level for this critical program. FASEB recommends that the base funding for the NRICGP be increased to the level recommended in the president's fiscal year 2000 budget, $200 million.

—To provide the foundation for the technology-intensive agriculture of the 21st century, FASEB reaffirms its support for NRICGP funding reaching the originally authorized $500 million goal as soon as budgetary resources can be found for this investment.

—NRI grants provide a vital funding opportunity for first-time investigators. FASEB supports the ongoing NRI process for enhancing the funding of new investigators, and encourages the NRI to expand the number of these awards.
—FASEB recommends that efforts be made within NRI to fund grants at levels and for periods sufficient to achieve their peer-reviewed, recommended aims.
—FASEB endorses the policy of using funds from the NRI program to nominate and fund young investigators for the President's Early Career Award for Scientists and Engineers.
—FASEB commends and supports the USDA and NRI for their successful collaboration with other federal agencies on issues such as the Plant Genome Project and the Food Safety Institute. These relationships reduce duplication, allow for rapid response to emerging opportunities and crises, and assure the public that tax dollars are being spent wisely.
—FASEB urges Congress to reexamine the 14 percent cap on indirect (facilities and administrative) costs for NRI grants.

EDUCATION—THE NATIONAL NEEDS INITIATIVE

The National Needs Initiative (NNI), the Graduate Fellowship Program of the Higher Education Office, and several other USDA programs contribute to the training mission of the USDA. Despite its importance, funding for the NNI has seen a dramatic decline in recent years. In fiscal year 1996, the NNI budget was $5 million; this amount was decreased $1 million in each of the following two years. The program received $3 million in fiscal year 1999, the same as the previous year.

—FASEB specifically recommends that NNI funding be restored to its previous level of $5 million in fiscal year 2000 because of the critical need to train the next generation of agricultural researchers.
—To insure the optimal development of the future supply of agricultural researchers, FASEB continues to call for a review and subsequent reorganization of USDA-sponsored graduate training.

INITIATIVE FOR FUTURE AGRICULTURE AND FOOD SYSTEMS

Last year, Congress authorized the Initiative for Future Agriculture and Food Systems, a new mandatory spending program that would fund competitively awarded research grants at the USDA to support large, multidisciplinary, multicenter programs beyond the scope of the NRI. Financial resources for this initiative were to be drawn from a provision that reduced federal spending for Food Stamp Program administration by $600 million over five years. Unfortunately, due to financial constraints on the Congress last fall no funds were appropriated in fiscal year 1999.

Had funds been made available, priority mission areas to be addressed in the first year would have been (1) the food genome; (2) food safety, food technology and human nutrition; (3) new and alternative uses and production of agricultural commodities and products; (4) agricultural biotechnology; and (5) natural resource management. The initiative also includes provisions for merit/peer-review and for input into the priority-setting process from those who benefit from agricultural research.

—FASEB strongly endorses the Initiative for Future Agriculture and Food Systems and recommends that full funding authorized under current law be provided in fiscal year 2000.

USE OF ANIMALS IN RESEARCH

Research using animals has been crucial to most of the major medical advances of the past century. Reasonable guidelines concerning how animals are used in research provide safeguards and ensure public confidence. One area of particular concern has been the supply of dogs and cats that were not specifically bred for research. The USDA's Animal and Plant Health Inspection Service (APHIS) is charged by Congress with enforcing provisions of the Animal Welfare Act (AWA) standard to ensure that these "random source" dogs and cats needed for research can be acquired by licensed dealers through legitimate channels. FASEB commends the USDA for its diligent enforcement efforts, including "trace backs" of the ownership records that dealers are required to keep. In recent years USDA has issued steep fines against dealers whose records were incomplete or false, and putting out of business several who were guilty of serious violations.

FASEB recommends that Congress provide the Animal and Plant Health Inspection Service with adequate funding for enforcement of the Animal Welfare Act in fiscal year 2000, so as to ensure compliance with this law.

FACILITIES FOR AGRICULTURAL RESEARCH

A hallmark of American success in agricultural research has been the central role of land-grant universities. Federal funds for construction of agricultural research facilities at land-grant universities, however, have been severely curtailed. The growth of facilities at these institutions has not matched the explosion of the biotechnology research that has occurred in the late 1990's. The 1996 Farm Bill wisely required the development of a long-range plan for all federally supported facilities and this planning requirement should be extended to university-based agricultural research facilities.

—FASEB supports a long-range plan for renewing agricultural research facilities at land-grant universities, which will parallel research needs and funding opportunities. This plan should include a merit-review process.

Mr. Chairman, these are FASEB's recommendations as you and the Committee begin the task of deciding how best to increase the base funding for the 26 research programs of the NRICGP. We have also made other policy recommendations in our FASEB Report on Federal Funding for Biomedical and Related Life Sciences Research for fiscal year 2000, distributed earlier to members of this subcommittee, and we hope you will review this report carefully.

In conclusion, Mr. Chairman, we believe this is an opportunity to expand our country's historic effort to improve America's health and productivity through agricultural research.

PREPARED STATEMENT OF FLORIDA STATE UNIVERSITY

Mr. Chairman, thank you and the Members of the Subcommittee for this opportunity to present testimony. I would like to take a moment to acquaint you with Florida State University. Located in the state capitol of Tallahassee, we have been a university since 1950; prior to that, we had a long and proud history as a seminary, a college, and a women's college. While widely known for our athletics teams, we have a rapidly emerging reputation as one of the Nation's top public universities. Having been designated as a Carnegie Research I University several years ago, Florida State University currently exceeds $100 million per year in research expenditures. With no agricultural or medical school, few institutions can boast of that kind of success. We are strong in both the sciences and the arts. We have high quality students; we rank in the top 25 among U.S. colleges and universities in attracting National Merit Scholars. Our scientists and engineers do excellent research, and they work closely with industry to commercialize those results. Florida State ranks fourth this year among all U.S. universities in royalties collected from its patents and licenses, and first among individual public universities. In short, Florida State University is an exciting and rapidly changing institution.

Mr. Chairman, let me describe three projects that FSU is pursuing this year. The first is a major collaborative effort which draws upon the expertise of three outstanding Florida universities. Focusing on climate variability in the State of Florida and the Southeast (SE), the objectives include exploring the value of climate data based on the El Nino-Southern Oscillation (ENSO) and developing practical applications for climate forecasts, particularly for agriculture.

This consortium draws upon the expertise of scientists at FSU, who have the technical capability to deliver detailed climate variability knowledge; the University of Florida, who possess technical expertise in agricultural engineering, modeling, agricultural decision support and information delivery; and the University of Miami, who have expertise in implementing the knowledge into the agricultural community.

Abundant evidence illustrates the economic importance to farmers of early climate forecasts of extreme weather events. The unanticipated January 1997 freeze that cost the winter vegetable industry in South Florida more than $200 million is just one reminder. Storms, drought and flooding associated with the unusually strong El Nino event of 1982–83 that cost thousands of lives and an estimated $13 million in crops globally is another reminder.

ENSO-based forecasts can now provide useful weather information in many regions at the required lead times. Short- and long-term forecasts could provide the agricultural industry with a range of opportunities for mitigating adverse impacts of bad weather, as well as taking advantage of favorable weather.

During the initial phase of this effort, the FSU team described qualitatively the impact of El Nino (and the other extreme, La Nina) on temperature and precipitation patterns across the SE. Additionally, the team found a geographic shift in tornadic activity associated with El Nino events. A new climate forecast system to provide predictions of seasonal temperatures and precipitation with longer lead times and improved skill now is in the testing phase. Improvements are due in part

to the coupled nature (i.e., the linking of the ocean and atmosphere so they respond to each other dynamically) of the forecast system.

Our colleagues at the University of Florida identified several crops in Florida that are vulnerable to shifts in weather patterns associated with El Nino and La Nina, and further noted that the impact is not uniform in nature across the state.

Continuing this collaboration, the consortium hopes to estimate the economic advantages of incorporating information from climate forecasts into farming management systems, and to eventually work with sector representatives in developing guidance products for the agricultural community.

The National Oceanic and Atmospheric Administration provided the initial funding for this project. We are seeking $2.5 million to continue this worthwhile effort in fiscal year 2000.

Our next two projects involve marine aquaculture efforts. The opportunity for the U.S. aquaculture industry to meet the increasing demand for seafood has never been greater than it is today. The majority of the world's marine aquaculture production takes place in coastal ponds or sea cages. U.S. aquaculture industry development has been inhibited by the high cost and limited availability of coastal lands, high production costs, restricted growing season and governmental regulations. In order for U.S. marine aquaculture production to expand and develop, innovative approaches to address the constraints being faced by the emerging aquaculture industry must be found.

Florida State University (FSU) and Harbor Branch Oceanographic Institution (HBOI) have formed a collaboration to design and develop engineered, intensive recirculating culture systems for marine species in new environments. Expanding marine aquaculture opportunities to inland sites through species that can be adapted to fresh water, designing low-cost, recirculating production systems, and the development of energy efficient (i.e., solar) production systems provide solutions to several of the production and regulatory constraints faced by U.S. producers. If progress is made in these areas, aquaculture offers a new business opportunity for economically disadvantaged communities.

There is an increasing global awareness of the need for sustainable aquaculture development. By the year 2025 global population is projected to be nearly 8.5 billion people, with a projected demand for seafood of 120 million metric tons (MMT). Seafood fisheries reached carrying capacity ten years ago with a capture of 60 MMT but demand for seafood has shown no signs of abating. The Food and Agriculture Organization (FAO) reported that by 1995, aquaculture only accounted for 26 percent of the total world harvest of food fish. In 1997, U.S. seafood imports increased both in volume and value with shrimp topping the list at 278,600 metric tons valued at $2.7 billion dollars. Shrimp imports continue to be the second largest contributor to the U.S. trade deficit and it is expected that finfish imports will follow the same scenario. There remains a great need for U.S. aquaculture production to fill this void and relieve some of the harvest pressure on natural stocks.

Competition for access to the now limited U.S. coastal land resources requires innovative approaches to develop and expand marine aquaculture into new environments. HBOI has work underway that suggests many saltwater species thrive in freshwater systems with the appropriate chemical makeup. Another issue is environmental protection of coastal waters and biosecurity to protect both wild and farmed aquatic resources from disease and exotic introductions, which necessitates the development of cost-effective recirculating production systems. In many locations around the U.S., regulatory constraints already require the use recirculating aquaculture systems. HBOI has designed an intensive recirculating, production system to culture marine finfish species in fresh or brackish water. FSU's Department of Oceanography and the FSU/FAMU College of Engineering are teaming with HBOI to conduct parallel experiments to determine the optimal production parameters using hard freshwater in Florida. FSU's research on solar technologies will be utilized to design more energy efficient systems for this effort as well. All of this work will expand U.S. aquaculture production of saltwater species into new locals, result in better utilization of land resources and reduce the demand for imported aquaculture products.

The two collaborating institutions are seeking $1.2 million in fiscal year 2000 from the U.S. Department of Agriculture to initiate this project.

Our second aquaculture effort involves sustaining aquaculture opportunities through distance learning. To meet the needs of the growing aquaculture industry in Florida and across the Nation, Florida State University (FSU) is partnering with Harbor Branch Oceanographic Institution (HBOI) to develop materials that would be employed in an outreach training program in the field of aquaculture though the use of distance learning technologies.

Aquaculture may provide the opportunity for the U.S. aquaculture industry to expand and meet the increasing demand for seafood. Worldwide commercial harvest of fish and shellfish has remained essentially unchanged from 100 million metric tons since 1989. Nearly 70 percent of conventional commercial species are now fully exploited or over exploited. Yet U.S. marine aquaculture development has lagged behind overseas competition.

In 1997, HBOI initiated a short and long-term training program related to aquaculture. Working with faculty at FSU, new technological capacities will allow these two groups—separated by several hundred miles—to rely on distant learning technology to facilitate communication between research staff and faculty, and provide increased aquaculture instructional opportunities for students.

With this technology in place and materials related to aquaculture, its opportunities, and its challenges being developed, the two institutions will build upon a successful program established nearly a decade ago through HBOI's successful implementation of community-based training programs in clam and oyster aquaculture. The programs spanned from 1989 to 1998 and focused on training fishermen and women in shellfish farming, thereby allowing them to maintain their way of life on the water. The number of clam farmers has grown from a handful in the mid-1980s to nearly 600 today. A number of other aquaculture business opportunities exist for rural communities throughout Florida, but their implementation requires that the training and technical support be provided in the home community. Through a combination of distance learning technology and satellite education and support hubs, we propose to provide aquaculture training, technical support, and appropriate economic information to rural communities throughout Florida. As materials are being developed in the first phase of this project, the collaborators will work with such groups as the Panhandle Library Access Network, a collection of 47 libraries in 13 rural Florida Panhandle counties, agricultural extension agents, and local economic development officials to develop a comprehensive dissemination network for this information.

FSU and HBOI are requesting $470,000 for this initial phase of this work in fiscal year 2000 from the U.S. Department of Agriculture.

Mr. Chairman, these are just a few of the exciting activities going on at Florida State University that will make important contributions to solving some key problems and concerns our Nation faces today. Your support would be appreciated, and, again, thank you for an opportunity to present these views for your consideration.

PREPARED STATEMENT OF THE FRIENDS OF AGRICULTURAL RESEARCH—BELTSVILLE

Mr. Chairman, and Members of the Subcommittee, thank you for the opportunity to present this statement in support of funding for agricultural research. We are requesting your support for programs of the Agricultural Research Service (ARS) and its world renowned Beltsville Agricultural Research Center in Maryland.

The Friends of Agricultural Research—Beltsville (FAR–B) is a private non-profit organization dedicated to supporting and promoting excellence in agricultural research, especially the ARS research programs at Beltsville. FAR–B provides supplementary private funds for both research and education. The Friends co-sponsor symposia, conferences, and workshops on topics of current scientific interest. Financial assistance is provided for Beltsville scientists to spend time at other research centers here and abroad to update their technical skills. Funds are provided to cohost international scientists who visit Beltsville each year to discuss cooperative programs and exchange scientific information. This public/private partnership promotes excellence, helps to ensure that useful new BARC technology is put into practice, and is supportive of the mission and goals of the Agency.

The productivity of American agriculture is the envy of the world. The outstanding performance of U.S. agriculture and the unprecedented gains in productivity during this century can be attributed in large measure to the dynamic research and development system in this nation. Scientists and engineers contribute a continuing stream of new knowledge, technological innovations, and new products to sustain the U.S. agricultural enterprise. Public investments in agricultural research have been critical to the success of U.S. agriculture. In return, the public has reaped substantial benefits. Studies show that every tax dollar invested has paid back at least $1.35. These returns have been broadly shared through lower prices for American consumers, increased international competitiveness for farmers, jobs for working families, and increased profitability in agricultural industries. Funds for research are sound investments.

The U.S. Department of Agriculture (USDA) is a major player in basic and applied research to solve problems and to keep America's food and fiber system com-

petitive in the global marketplace. The Agricultural Research Service is the principal in-house research Agency of USDA. It has a lead role in solving high-priority problems of broad national significance. The Beltsville Agricultural Research Center is the flagship research facility of ARS.

BELTSVILLE

The Beltsville Agricultural Research Center (BARC) is a comprehensive research complex consisting of 47 laboratories and a staff of 1,500 scientists, engineers, technicians, and other support personnel. Research programs range from conservation of soil and water resources to human nutrition. Beltsville scientists do basic and applied research in plant and animal genetics, physiology, and chemistry, as well as a wide range of projects in other areas, including new instrumentation, germplasm databases, and computer modeling of complete production systems.

In recent years, the research program at BARC has expanded to encompass biotechnology, genome mapping, and fundamental research on biological control of plant and animal diseases,insects, nematodes, and weeds. Major emphasis is focused on environmental issues, food safety and health, and sustainable agriculture.

Beltsville's record of accomplishments and ongoing programs have made it a world leader in agricultural research. Its international reputation attracts thousands of visitors each year from the United States and abroad. The world renowned National Agricultural Library—the largest agricultural library in the world and the Nation's chief resource of agricultural information—is also located on the BARC campus.

PRIORITY RESEARCH ISSUES

A number of important issues confront American agriculture and are of deep concern to the public. Central among them are the quality of the environment and the nutritional quality and safety of our food. The fiscal year 2000 Budget for ARS proposes new funds and increased initiatives to address these vital challenges. Beltsville scientists are currently engaged in research in these critical areas and will expand their efforts if the proposed budget thrusts are funded.

Biologically-Based Integrated Pest Management.—The reliance on chemical-based pesticides, the increasing occurrence of pesticide resistance, particularly in insect pests, and the threat of agricultural chemicals for polluting the environment have presented an important challenge to the agricultural community. ARS has risen to this challenge by increasing its research to develop a broad array of strategies for use in integrated pest management (IPM), i.e., a system that relies on a variety of control techniques as alternatives to total dependency on chemical pesticides in order to reduce health risks, sustain natural resources, protect the fragile ecosystem, and at the same time maintain a viable agricultural enterprise. The goal of USDA is to have IPM in practice on 75 percent of U.S. agricultural acres by the year 2000.

The search for new and more effective ways to implement IPM programs has led to greater emphasis on biological control. There is great potential for research and development in this area. Knowledge of the basic biology of insects, viruses, bacteria, fungi, nematodes, and weeds is essential for identifying, developing, and using biological control agents successfully.

Beltsville scientists have pioneered in fundamental and applied research on both the chemical and biological processes associated with the behavior and development of insects. They have been in the forefront of basic studies of pheromones, attractants, repellents, deterrents, and growth regulators derived from insect, plant or synthetic origin. Such research has led to practical new techniques for the control of a variety of insect pests such as the Mediterranean fruit fly, gypsy moth, Japanese beetle, corn earworm, and many other pests of economic importance.

The fiscal year 2000 budget proposes increased funding for Beltsville to develop attractants for invasive pest species, such as the Asian long horned beetle, a potential new and devastating threat to forests and urban trees nationwide. New research is needed to develop attractants and traps necessary to detect and monitor populations so that appropriate remedial action can be taken. This Beltsville research program is currently significantly underfunded to carry out this work and is at risk of losing its critical mass of scientific expertise in this important mission area. This is a top priority funding need.

National Nutrient Database.—Many studies have implicated dietary factors in the cause and prevention of important diseases, including cancer, coronary heart disease, diabetes mellitus, birth defects, and cataracts. For diseases linked strongly to diet, the cost of medical treatment and care is estimated to exceed $200 billion a year. Clearly, this is an important issue for those in human nutrition research; the ARS human nutrition research program seeks to address this public concern.

An important and essential component of the ARS human nutrition program is the National Nutrient Database maintained by the Beltsville Human Nutrition Research Center. This database of foods consumed in this country is the foundation for food consumption tables throughout the world. In spite of its position as the preeminent nutrient database, many food items are not included due to rapid changes that have taken place in food production, processing, and preparation in recent years. Some data are as much as 30 years out of date. There is a critical need to update data to ensure that nutrition research is based on a solid understanding of the nutrient content of foods and that information provided to producers, the food industry, and consumers is accurate and reliable. The ARS budget proposes $2.2 million for Beltsville to update this mission-critical resource.

Food Composition Methods.—The value of the National Nutrient Database depends upon the accuracy and reliability of methods used to develop the data. The Food Composition Laboratory at Beltsville has a staff which develops and refines methods that will allow chemists to measure the nutrients and contaminants among thousands of compounds in foods. Scientists have found that many analytical methods for specific components are lacking or inaccurate. Either existing technology or new techniques must be developed for the unique requirements of the complex biological samples that need to be evaluated. For example, a food compound can have many forms. Some are more biologically active than others. Chemists take food apart—molecule by molecule. To develop a definitive method, it is important to know how the body uses different forms of the compound. Researchers are especially interested in the active plant compounds—or phytonutrients—that are associated with lower incidence of cancer and cardiovascular disease in populations that eat plenty of fruits, vegetables, and other food plants. Scientists at the Beltsville Human Nutrition Research Center have been collaborating with colleagues at the National Cancer Institute and the National Heart, Lung, and Blood Institute since the 1970's to develop better analytical methods and to more completely understand the relationships between the composition of foods and the biological effects from a nutrition perspective. Sound dietary decisions depend upon good analytical methods.

The fiscal year 2000 budget for ARS proposes an increase of $1.2 million to develop sophisticated and reliable analytical methods that will be needed to determine the concentration of nutrients in foods, with particular emphasis on nutrients that are being newly discovered in fruits, vegetables, and other food plants. This is an important priority.

Risk Assessment/Agricultural Waste.—The public is very concerned about the risks associated with agricultural wastes that enter into the water supply. Livestock manure and fertilizers are excellent sources of essential plant nutrients. However, excessive application or poor management practices can contribute to the contamination of streams, ponds, and ground water. ARS is increasing its research to better understand the relationships between agricultural practices and water quality. A major portion of the research on animal waste and nutrient management is at Beltsville, where the emphasis is on an integrated approach to crop and animal production systems.

The budget proposes an increase in funding at BARC to develop predictive models for assessing the risk of transmission of zoonotic parasites through farm management systems, animal wastes, and water runoff. This will strengthen research on pathogen transmission as a part of the ongoing animal waste/management program. The emphasis is on the Cryptosporidium parvum, a single celled parasite excreted in animal wastes that can contaminate water supplies. Healthy individuals infected with this parasite may suffer symptoms of diarrhea, dehydration, abdominal pain, nausea, and fatigue. A person whose immune system is compromised can also suffer damage to the liver, pancreas, or lungs. BARC is a major center of excellence on cryptosporidium research. Studies will focus on the life cycle of this parasite, its impact on humans, and methods for combating and reducing the risk of transmission. We hope that the Committee will see fit to support increased funding for this program.

MODERNIZATION OF FACILITIES

A recent General Accounting Office report found widespread problems with aging Federal facilities around the country and recommended a massive overhaul of these facilities, especially of those built over 50 years ago. With the support of this Committee, modernization of the facilities at Beltsville began in 1988. Significant progress has been made in upgrading and modernizing the facilities, equipment and infrastructure at BARC. We are grateful for this support. This has been critical to

keeping research at Beltsville in the forefront of science and competitive with other international research centers.

The current highest priority in the modernization plan is to upgrade the facilities for the Beltsville Human Nutrition Research Center (BHNRC). The Department proposes in the fiscal year 2000 Budget funding for the construction of a new facility for human nutrition research at Beltsville. Current facilities are among the oldest in USDA and are, thus, in the greatest need of overhaul or replacement. This Committee provided in fiscal year 1997 $1.7 million for planning and design of new BHNRC facilities. The design is now underway. Funding is now needed to complete the construction in a timely and efficient manner. Costs to fully fund the new facility are estimated at $22 million. BHNRC scientists have made many significant contributions to Federal nutrition programs, including uninterrupted input over the past 30 years to the establishment of the Federal government's Recommended Daily Allowance (RDA) for dietary intake by the U.S. population. Modernization of these research facilities will promote continued scientific excellence well into the next century.

Mr. Chairman, FAR–B thanks you and the Committee for your interest, leadership, and generous support of ARS and the Beltsville Agricultural Research Center. We recognize that finding funds for Federal agricultural research programs and facilities is a difficult challenge no matter how important the work is to the health, safety, prosperity, and well being of the Nation. This Committee has met the challenge over the years, and we encourage your continued efforts. We look forward to working with you in any way you may desire to serve the interests of American agriculture.

PREPARED STATEMENT OF FRIENDS OF THE NATIONAL ARBORETUM

Mr. Chairman and Members of the Subcommittee, I am grateful for this opportunity to present testimony on behalf of Friends of the U.S. National Arboretum (FONA), in support of FONA's fiscal year 2000 request for $500,000 for engineering and design to implement the new Master Plan and $500,000 for information technology support to expand the National Arboretum's internet service.

Thanks to your Committee, and after some years of preparation, your U.S. National Arboretum is poised to move into the 21st Century and enhance its mission of horticultural education mandated by Congress. With the private support and encouragement of FONA, the Agricultural Research Service (ARS) has contracted for a new Master Plan to modernize the National Arboretum and make it a more viable and significant educational resource and attraction. Because the new Master Plan commissioned by the ARS is scheduled to be completed before fiscal year 2000, FONA is requesting design funds in the amount of $500,000 so work on modernizing the U.S. National Arboretum will not be delayed yet another year. The new Master Plan was not sufficiently developed in time to enable these funds to be included in the President's budget.

The new Master Plan is being prepared under the leadership of Geoffrey L. Rausch, of Environmental Planning & Design (EDP), an internationally acclaimed designer of arboreta and botanic gardens. The Plan envisions four major conceptual developments at the U.S. National Arboretum to enhance the Arboretum's singular role as a source of horticultural education and as a national showcase of advances in horticulture. All four concepts have the strong support of FONA.

First, the new Master Plan envisions a new entrance to the National Arboretum off Bladensburg Road. The most used current entrance is through a residential neighborhood on R Street. For a number of years the National Arboretum has sought to improve the New York Avenue entrance but this has been rejected by District of Columbia authorities because of the traffic volume on New York Avenue. The recommended entrance off Bladensburg Road is a superior solution.

Second, the new Master Plan envisions a walkable central core to the National Arboretum which would contain enhanced garden displays and offer the educational opportunity of interactive video explaining the meaning and significance of the displays. This core concept is critical to making the National Arboretum more attractive to visitors in order to stimulate interest and education in horticulture. Gardening is the nation's favorite hobby and horticulture the fastest growing segment of the agricultural industry.

Third, the new Master Plan envisions a new visitors center adjacent to the walkable core which would provide orientation, exhibit space and offer the potential of electronic classrooms for horticultural education similar to the classrooms at the National Museum of Natural History. This is also critical to enhancing the education mission of the U.S. National Arboretum.

Fourth, the new Master Plan envisions tram service to provide further orientation and service to collections beyond the central core. This would improve educational opportunities and alleviate traffic congestion at peak visitation periods.

In further development of the new Master Plan, engineering and design for the Grounds/Site Work requires long lead time. As detailed on Exhibit 1, this engineering and design is estimated to cost $500,000. The figures on Exhibit 1 were prepared by the National Arboretum in conjunction with EDP at the request of FONA.

It is significant that the new Master Plan contains a number of projects such as the new entrance, the visitors center and new collections in the core which are candidates for private financing. FONA intends to include these projects in a capital campaign if approved.

With the private support of FONA, the National Arboretum has also developed a website and a home page displaying horticultural information on the internet. This internet site has shown a dramatic increase in national and international use in the first year and one half of operation. Of the $500,000 requested for information technology, $250,000 would be devoted to the National Arboretum's horticultural library including a full-time professional librarian to help support the data being added to and made available on the National Arboretum's home page. The remaining $250,000 would be devoted to support a full-time Web Master for the Arboretum's home page and to maintain its Local Area Network computer system.

Your U.S. National Arboretum is repository of a huge backlog of useful horticultural information to place on its home page. It has a talented staff the fruits of whose labors should be available on the Internet. Ultimately, the home page and server, with interactive systems, can be your National Arboretum's major method for dispensing horticultural information and providing horticultural education to constituents across the United States and indeed world-wide.

While the missions of the U.S. National Arboretum mandated by Congress are research and education, the improvements described in this testimony are sorely needed to enhance its capability to fulfill its mission of education and to promote our research capabilities.

FONA is most appreciative of the efforts of your Subcommittee on behalf of your National Arboretum and on behalf of horticultural research and education.

PREPARED STATEMENT OF THE GROCERY MANUFACTURERS OF AMERICA

GMA appreciates the opportunity to submit testimony to the Senate Agriculture Appropriations Subcommittee on the President's fiscal year 2000 budget. GMA is the world's largest association of food, beverage and consumer product companies. With U.S. sales of more than $450 billion, GMA members employ more than 2.5 million workers in all 50 states. The organization applies legal, scientific and political expertise from its member companies to vital food, nutrition and public policy issues affecting the industry. Led by a board of 44 Chief Executive Officers, GMA speaks for food and consumer product manufacturers at the state, federal and international levels on legislative and regulatory issues.

USER FEES

The Food Safety and Inspection Service (FSIS)

We are disappointed that the proposed budget would again include "user fees" to fund FSIS, even though the Administration, for the first time, has at least developed an alternative approach to assuming user fees in the budget. It also recognizes the fact that any user fee must be agreed to by all stakeholders and then authorized before it can be considered. Because of the nature of the anticipated authorizing language, we continue to have concerns about the Administration's lack of understanding of what exactly constitutes a true user fee. User fees, by definition, are intended to reimburse agencies for specific private benefits they provide to identifiable companies. Public funds and not user fees should pay for regulatory activities such as inspection. As Congress itself has repeatedly pointed out in previous years, these regulatory activities are designed to protect the public health and should not be funded by new taxes on the regulated industries.

The Food and Drug Administration (FDA)

For the first time in many years, the President's proposed budget does not impose general purpose user fees to fund the FDA. However, it does include a proposal to implement a user fee above the baseline for premarket approval of direct and indirect additives. We have not taken a position on the proposal at this time because we have not seen legislative language.

We were also pleased to see that, in the Center for Food Safety and Applied Nutrition's 1999 list of priorities, the premarket review of food ingredients was included on the "A" list. As GMA has said, beginning with the June, 1995 hearing before the House Human Resources Subcommittee, this is an area of FDA which has been dramatically overlooked, and must be reformed. In fact, the industry has made this a high priority and is in discussions with the Food and Drug Administration about how to best proceed on reforming the food additive approval process. GMA is legitimately concerned about the length of time it takes for an additive to be approved. The process needs continued attention of FDA senior management and more resources.

THE PRESIDENT'S FOOD SAFETY INITIATIVE

The President's proposed fiscal year 2000 budget includes an increase of $74.8 million to fund the President's Food Safety Initiative. We applaud the efforts of the Administration to place such a high priority on enhancing the U.S. food safety system. GMA has long believed that consumers and the food industry are best served by strong food safety agencies. which develop policy based on sound science.

Since the announcement of the President's food safety initiative in May, 1997 GMA has actively engaged in discussions within its industry, with Congress and with the Administration on the U.S. food safety system. In response to the Congressional directive, to the National Academy of Sciences to study ways in which the U.S. food safety system might be improved, GMA formed a food safety task force in December, 1997, composed of 15 major food industry associations representing hundreds of manufacturers, marketers, wholesalers, retailers and restaurants. Over the next several months, the task force developed a series of white papers the industry felt were critical to a constructive evaluation of the current food safety system. The Task Force's papers were provided to the NAS committee for its consideration.

GMA found that, while the current food safety system is not perfect, it is effective. The current system can and should be enhanced but not replaced. The goals of the President's Food Safety Initiative are admirable and are focused in the right direction. The U.S. food safety system must have more resources to identify and fight the true causes of foodborne illness with the right scientific weapons. Resources must be targeted toward laboratory research and practical testing food safety research which should receive high priority and funding.

Second, we also support increased funding for educational programs. Everyone who handles food from the farm to the table must be educated about their roles in helping to reduce the risk of foodborne illness. We support the President's Food Safety Initiative's focus on the development of education programs for food service workers and educational programs that target high-risk under-served populations. Using the Fight BAC Program and other methods will achieve the goal of teaching all Americans how to handle and prepare food safely.

Finally, GMA supports the efforts of the President's newly formed Food Safety Council, which has begun work on a unified food safety budget as well as a long term strategic plan, scheduled for release in January, 2000. Better communication, coordination and elimination of duplicate government food safety programs is needed.

SUMMARY

To summarize, GMA supports increased funding for the President's Food Safety Initiative, and opposes any general purpose food user fees. We appreciate the opportunity to submit testimony for the record.

PREPARED STATEMENT OF THE HEALTH INDUSTRY MANUFACTURERS ASSOCIATION

SUMMARY

This testimony is submitted on behalf of the Health Industry Manufacturers Association (HIMA) and the more than 800 manufacturers we represent. HIMA is the largest medical technology trade association in the world. Our members manufacture nearly 90 percent of the $58 billion of health care technology products purchased annually in the United States and more than 50 percent of the $137 billion purchased annually around the world. We welcome the opportunity to comment on issues surrounding FDA's funding for the next fiscal year.

This year marks a departure from the position HIMA has taken on funding for FDA for the past few years. This year, we believe there should be an increase in funding for the Center for Devices and Radiological Health (CDRH) that is specifically targeted to the following activities:

—Premarket review process
—Activities associated with mutual recognition agreements and international harmonization, and
—The Sentinel Reporting System

With regard to additional recommendations for increased funding contained in the President's fiscal year 2000 budget and FDA's budget accountability, our position is as follows:

—Congress should (1) ensure the optimal design of the Adverse Event Reporting System and (2) direct the agency to invite participation by interested parties in its design.
—Congress should direct the agency to invite participation by interested parties in the design of the Sentinel Reporting System.
—Congress should continue to press for greater budget accountability from FDA.
—We remain opposed to user fees and believe Congress should provide sufficient funds to enable the agency to review device applications within the time frames mandated by law.

BASIS FOR INCREASED FUNDING FOR DEVICES

In the past, we have supported level funding for CDRH. However, this year, there are several factors that convince us that, unless CDRH receives additional funds for the premarket review process, review times could increase thus depriving patients access to beneficial medical technology. Moreover, we believe FDA needs to invest resources now in initiatives that will ultimately result in a harmonized worldwide regulatory system. We do not wish to see a return to the circumstances of several years ago when products were regularly available to people outside the United States years before American citizens could benefit from them.

Among the reasons for our support of a targeted increase in funding is that FDA itself has announced loudly and clearly that it cannot carry out its statutory obligations without additional resources. Moreover, the agency has taken on new responsibilities-notably in the tobacco and food safety areas-without full funding. The Food and Drug Administration Modernization Act of 1997 (FDAMA) has been implemented without any additional funding.

At the Food and Drug Law Institute's annual educational conference in December of 1998, FDA's Associate Commissioner for Strategic Management, Linda Suydam, estimated that the agency is $165 million short of what it actually needs to do its job. She stated that "The agency has been effected by . . . new programs, which were not fully funded and flat-lined budgets which did not allow for the cost of inflation on personnel and procurement dollars. These numbers clearly illustrate that there's less money to do our core responsibilities." Those core responsibilities include device reviews, she stated.

In the "FDA Compliance Plan" required by FDAMA and its budget justification documents, the agency projects that its review times for fiscal year 1999 will increase from fiscal years 1997 and 1998. In the plan, the agency cites insufficient funds as well as the increased complexity of medical technology for the longer review times. This is an alarming statement and one that is completely counter to the underlying goal of FDAMA to create efficiencies that help speed beneficial technology to patients.

We strongly believe that FDA should have the resources to meet its statutory time frames. This means the completion of final actions for PreMarket Approval Applications (PMAs) within 180 days and 510(k)s within 90 days. The agency has been expressing its review goals in terms of completion of first actions within the statutory time frames. The "Compliance Plan" mandated by FDAMA required the agency to tell Congress how it was going to meet all of its obligations under the Federal Food, Drug, and Cosmetic Act—including the obligation to complete reviews within established limits. We believe the agency should let Congress know exactly what resources are needed in order to meet the statutory time frames set forth in the law. We support a funding plan that will ultimately result in full compliance with the law's time limits.

STREAMLINING THE REGULATORY PROCESS

Although we support increased funding targeted to device reviews, we believe that the need for increased funds should diminish in future years. Through full implementation of FDAMA, continued reengineering, effective execution of mutual recognition agreements, and aggressive international harmonization activities, FDA should be moving steadily toward a regulatory system that will be more efficient, faster, and less costly. This system should reduce unnecessary governmental procedures, eliminate regulatory redundancy, provide a uniform framework for protecting

and promoting public health worldwide, and recognize and adapt to the realities of the global economy.

FDAMA mechanisms that, when fully implemented, will reduce regulatory burden include adoption and use of national and international standards, reliance on the declaration of conformity to standards, exemptions from 510(k), and adoption of a sentinel reporting system. In addition, FDAMA's requirement that FDA consider the "least burdensome" appropriate means of demonstrating effectiveness has yet to be fully defined and incorporated into standard operating procedure. This should, over time, together with the new collaboration requirements of FDAMA, result in a net savings of resources although more time may be spent at the beginning of the premarket approval process while the parties come to a meeting of the minds on the blueprint for device approval. Similarly, the agency has a variety of reengineering initiatives in the early stages of implementation that have the potential to ripen into substantial resource savings tools. Examples include the special and abbreviated 510(k)s, guidance on when to file a PMA modification, and the product development protocol. Congress should direct the agency to aggressively and fully implement the tools of FDAMA and the agency's own reengineering mechanisms.

GLOBAL HARMONIZATION

While the above initiatives concern the current processes for device review, FDA should not discount the potential savings to be realized from ongoing and future mutual recognition agreements and international harmonization activities. The need for federal funds will be reduced as devices approved offshore in accordance with harmonized requirements will not need to be re-reviewed by FDA.

This past year, the United States and the European Union entered into a Mutual Recognition Agreement (MRA). This agreement authorizes its signatories to review and approve devices based on the requirements of the other parties to the agreement, thus providing a forum for one-stop shopping for manufacturers. The agency is in the midst of determining the level of resources to be devoted to a confidence-building period required by the MRA. Through this activity, U.S. and European officials will learn about each other's requirements for regulating medical devices. This type of learning among nations is an important building block to a new global system that will reduce unnecessary, time-consuming, and costly regulatory redundancy. Investing the time and resources now to build a foundation of trust and respect will contribute enormously to the long-term goal of harmonizing regulatory requirements with Europe and provide valuable lessons for other global harmonization initiatives.

Ultimately, the forces of the global marketplace will drive nations of the world to recognize the economic value and efficiencies of a unitary worldwide regulatory system. Such a system will reduce if not eliminate duplicative reviews and inspections, with the added benefit of standardizing public health protection for patients throughout the world. The United States does not have a monopoly on what is the best approach to protecting and promoting the public health. In fact, there is some evidence to suggest that the European device approval process is faster and more efficient than our system with no demonstrable loss of product safety or quality. Aggressive and full participation by FDA in discussions with nations on a common sense approach to regulatory requirements worldwide will hasten the day when international harmonization becomes a reality. And, while we recognize that this type of activity costs money in the short term, in the long term, it should reduce the financial burden to U.S. taxpayers as other nations share responsibilities formerly performed exclusively by FDA.

THE PRESIDENT'S FISCAL YEAR 2000 BUDGET

We note that the President's fiscal year 2000 budget requests an increase of $26 million for the device program—$7 million in user fees for premarket reviews and $19 million for improved inspections, MRA implementation, compliance activities, the Sentinel Surveillance System, and adverse event reporting.

HIMA opposes user fees for the medical device industry and believes Congress should provide sufficient funds to the agency to enable it to review applications within the time frames mandated by law. This core statutory obligation is essential to ensuring patient access to the benefits of medical technology.

With regard to inspections, we applaud the agency's recent efforts to streamline the inspection process.[1] The industry has worked with the agency in a "grass-roots"

[1] One pending change that we strongly support is an agency proposal to "credit" time spent by field personnel in educational and outreach activities that promote voluntary compliance by the industry rather than focusing solely on actual inspection time as a performance measure.

initiative to bring common sense changes to key aspects of the inspection process.1 We believe that there are additional efficiencies that can be realized through continued agency-industry discussions. At the FDAMA-mandated stakeholders meeting of August 18, 1998, we suggested that the agency take into account inspections conducted by internationally recognized organizations in executing a risk-based inspection strategy. We continue to believe that ISO (International Standards Organization) certification should provide some level of assurance to FDA that good manufacturing practices are being followed.

In addition, we note that the agency itself has questioned the biennial inspection requirement in the statute for certain manufacturers.[2] We support giving FDA the flexibility to exercise its own discretion in determining the frequency of reviews necessary to assure safety, based on the risk presented. Other types of flexibility may also be desirable.

The Sentinel Surveillance System—designed to replace reporting of adverse events by device user facilities (hospitals, nursing homes, etc.)—is one that holds great promise for improving the ability to collect meaningful information about device-user interaction. We believe it also has the potential to eliminate medical device reports from manufacturers. We support increased funds devoted to this system. However, we believe that it is important for the system to be well designed and provide optimal benefits for the provider, the agency, and the manufacturer. We recommend that the agency participate in a tripartite working group to engage in discussions as to how such a system can best meet the needs of the various interested parties.

The agency's proposal for increased funds for the Adverse Event Reporting System (AERS)—totaling $15.3 million agency-wide—raises questions about whether such an expensive system will produce the intended results. We know little about the system and simply urge Congress to ensure that (1) there is a real need for this system and (2) its benefits will justify its costs. We believe that the system could benefit from an open airing of the agency's plans early in the design stages. Such an airing would enable industry and other interested parties to provide valuable observations and comments to help ensure that taxpayer dollars are being spent wisely.

On a process-related matter, we strongly support this Subcommittee's efforts to seek greater accountability from the agency on the allocation and use of taxpayer dollars appropriated by Congress. The submission of detailed operating plans from the agency to this subcommittee is key to ensuring appropriate execution of the laws of the land. We are grateful for your initiative in this area and urge the continuation of this important process.

CONCLUSION

In conclusion, we support a funding increase for FDA for fiscal year 2000 that is specifically targeted to device review functions, MRA confidence building, international harmonization activities, and the Sentinel Surveillance System. We ask Congress to ensure that such funds are not diverted to other agency activities. We believe this increase will help the agency meet its statutory obligations, advance the long range harmonization goal, and provide the means whereby the agency can achieve its FDAMA-mandated mission to "promote the public health by promptly and efficiently reviewing clinical research and taking appropriate action on the marketing of regulated products in a timely manner." We further believe the Congress should encourage the agency to continue to seek improvements in the inspection process—including consideration of legislation to enable the agency to exercise discretion in the frequency of inspections. We urge Congress to help open the agency to input and ideas from interested parties on key initiatives such as the Sentinel Surveillance System and the Adverse Event Reporting System. We oppose user fees for the medical device industry. Finally, we support this subcommittee's continued efforts to seek greater budget accountability from FDA.

Thank you for the opportunity to present our views.

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[2] In the FDAMA-mandated "FDA Plan for Statutory Compliance" published in the Federal Register on November 21, 1998, the agency said, in a section on inspections, "Because all public and private sector organizations in the future will be subject to the same resource-constrained environment, FDA may have to consider that even a highly collaborative inspectional network may not be adequate to completely meet existing statutory inspection requirements. A strategic reassessment may be in order to determine the kinds of statutory flexibility that would be desirable to preserve the comprehensive consumer protection intent of the FD&C Act, and at the same time, allow FDA to address the most critical health and safety priorities."

PREPARED STATEMENT OF THE HUMANE SOCIETY OF THE UNITED STATES

We appreciate the opportunity to provide testimony to the Agriculture and Rural Development Subcommittee on two funding items of great importance to the Humane Society of the United States and its 6.7 million members and constituents. As the largest animal protection organization in the country, we urge the Committee to address these priority issues in the fiscal year 2000 budget.

THE ANIMAL WELFARE ACT

The Animal Welfare Act, the federal law designed to protect animals in research, exhibition, and commercial breeding facilities, as well as animals transported in interstate commerce, is in danger of becoming an empty promise. Due to a serious shortfall in the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS)/Animal Care budget, regulated facilities and the public cannot depend upon having the high quality inspection program and consistent enforcement of federal animal welfare regulations that are vital to demonstrating compliance with the law. Funding of $13 million for APHIS/Animal Care is urgently needed in fiscal year 2000 to protect animals as Congress mandated and the public expects.

Funding for enforcement of the Animal Welfare Act has been stagnant since 1991. The Animal Care (AC) unit received $9.175 million in fiscal year 1999 to cover, among other things, inspections of more than 10,500 separate locations at regulated entities—research facilities; exhibitors such as zoos and circuses; animal dealers and breeders; and animal carriers such as airlines and ground freight handlers.

The AC funding situation has reached a crisis point, not only jeopardizing the well-being—indeed the very lives of millions of animals—but also threatening consumer protection and public health. USDA Inspector General audits over the last decade have confirmed our organization's concerns that APHIS cannot ensure humane care and treatment of animals at all facilities covered by the Animal Welfare Act as Congress intended with the resources currently provided.

In a commendable effort to streamline the unit, AC headquarters administrative and support staff have already been reduced by 35 percent and five sector offices are being consolidated into two. At this point, the erosion in AC's funding is compromising the quality and quantity of its inspectors and other direct enforcement efforts. Despite the need for at least 100 well-trained inspectors around the country, Animal Care had only 88 at its maximum in fiscal year 1991 and the number has continued to decline due to budget limitations. This year, the field staff will be cut to 70 inspectors.

Because of staff and other resource reductions, the number of inspections has declined by nearly 50 percent between fiscal year 1993 (AC's most productive year to date) and fiscal year 1998. Diminishing AC funds have also caused inspections to be increasingly complaint driven, meaning that AC is responding to situations where animal well-being may already be severely compromised. True animal welfare depends on a proactive approach that prevents animal abuse by assuring compliance with the law, rather than on a reactive enforcement process that starts only after animal abuse has occurred.

The Humane Society of the United States is pleased to join forces on this request with an unprecedented coalition of approximately 400 national and grassroots organizations representing regulated facilities and animal interests. We urge the Committee to appropriate $13 million for the APHIS Animal Care unit in fiscal year 2000 to begin addressing these urgent needs.

THE HORSE PROTECTION ACT

Enacted by Congress in 1970, the Horse Protection Act was passed to end the obvious cruelty of physically soring the feet and legs of horses. In an effort to exaggerate the high-stepping gate of Tennessee Walking Horses, unscrupulous trainers use a variety of methods to inflict pain on sensitive areas of the feet and legs for the effect of the leg-jerk reaction that is popular among many in the show-horse industry.

Just as in 1970 the practice of soring was rampant, in 1999 the practice continues unabated by the well intentioned but woefully underfunded, understaffed APHIS inspection program. The authorization limit for enforcement of the Act has been frozen at $500,000 since the enactment of the law, and the annual appropriation of $350,000 has been consistently inadequate for proper enforcement of the law.

In April of 1998, the *Tennessean* ran a front page story reporting that USDA veterinarians had found 673 cases of soring since 1987, despite the fact that they were able to attend only 10 percent of the shows. They also found that nine of the last 16 winners of the Trainer of the Year award had either been suspended from show-

ing or have cases pending for soring. The practice of soring is more entrenched today than when Congress originally acted in 1970. In response to a questionnaire from the Tennessee Walking Horse Breeders and Exhibitors Association, the head of the largest industry competition held annually in Shelbyville, TN stated that every trainer of Tennessee Walking Horses sores them with chemical irritants, heavy chains, or painful shoeing practices. The will of Congress has clearly been thwarted.

In a less than magnanimous gesture to the cash-strapped APHIS enforcement authority, in 1976, Horse Industry Organizations pushed for and won greater self-regulating authority. Unfortunately, the individuals trained to be Designated Qualified Persons (DQP) have not been willing or able to responsibly enforce the act. Industry inspectors consistently report fewer than half the number of violations cited when APHIS personnel are present. As a result, thousands of horses continue to suffer an outdated torture under the guise of training.

Since the day that the Horse Protection Act was passed, Horse Industry Organizations have sought to undermine the spirit of the law by managing soring with loopholes and road blocks instead of ending the cruel practice. Given past enforcement funding levels, Congress also has failed to ensure meaningful enforcement of the Horse Protection Act. To end the practice of soring, APHIS must receive adequate funding to carry out the provisions of the Act. The Humane Society of the United States urges the Committee to approve a modest increase of $150,000 in fiscal year 2000, to achieve the full $500,000 annual appropriation of funds authorized under the Horse Protection Act.

Again, we appreciate the opportunity to share our views and priorities for the Agriculture and Related Development Appropriation Act of fiscal year 2000. We hope the Committee will be able to accommodate these modest funding requests to address some very pressing problems affecting millions of animals in the United States. Thank you for your consideration.

PREPARED STATEMENT OF ILLINOIS INSTITUTE OF TECHNOLOGY

Chairman Cochran, Senator Kohl, Senator Durbin and members of the subcommittee, I am Darsh Wasan, Ph.D, Vice President and Motorala Chair at the Illinois Institute of Technology ("IIT"), Chicago, Illinois. I want to thank the subcommittee for the opportunity to submit this testimony for the record on behalf of IIT's National Center for Food Safety and Technology (the "Center") located at our Moffett Campus in Summit-Argo, Illinois. The Center is a unique collaboration of government, academia and industry scientists, all focused on the safety of the food on our tables.

I am submitting this statement primarily to thank you, Mr. Chairman, Senator Kohl, our home state senator, Senator Richard Durbin, and the rest of the subcommittee for your past support of the Center. I also want to update you on the work the Center is performing with its principal partner, the United States Food and Drug Administration ("FDA"), through the FDA's Center for Food Safety and Applied Nutrition ("CFSAN"). The Center supports the FDA in its mission to ensure the safety of all food products other than meat and poultry. The Center works with FDA to develop methods to detect and prevent life threatening pathogens from contaminating our nation's food supply. The recent deadly outbreak of Listeria that killed 20 people emphasizes the importance of food safety. Although not directly involved with this Listeria outbreak, as it involved processed meats, the Center routinely conducts research and education programs to decrease the incidence of Listeria, E.coli and Salmonella in other types of food.

The Center's collaboration between government, academia and the food industry—to develop methods to detect and prevent contamination of foods—is what makes the Center so unique. The Center was founded on the belief that open communication among government regulators, the scientific community and the food industry is the best way to establish a current knowledge base for food safety and for ensuring compliance with FDA regulations. This makes the Center not only a laboratory for scientific research. It is also makes the Center a laboratory in public policy. It is a laboratory where technologies for safer foods are transferred to the private sector, where food safety standards are defined and improved and where the "regulated" work with the "regulators" in a non-adversarial setting. Indeed, a recent National Academy of Sciences report, Ensuring Safe Food, lists this type of collaboration as essential for an effective federal food safety system.

IIT manages the Center. Our on-site Director is Charles Sizer, Ph.D., a highly regarded food scientist with years of experience in private industry and academia. I oversee the Center from IIT's Main Campus. I take great pride in the fact that I

helped create the Center eleven years ago, in 1988. We started with a grant of $3.7 million from the FDA and a gift of a pilot plant and five buildings from Corn Products International in Summit-Argo. Since then, we have had "Cooperative Agreements" with the FDA through which we have operated the Center. The effectiveness of this concept has made for a satisfying long-term relationship for both IIT and me. This public-private partnership will be even more successful with the new FDA Commissioner, Dr. Jane Henney. Dr. Henney recently visited the Center. We were impressed by her commitment and interest in food safety.

Most of the Center's research on food safety has been incorporated as part of the Clinton Administration's Food Safety Initiative. The Center presently has 18 of its own food science researchers working along side scientists from the FDA's Division of Food Processing and Packaging, which reports to Joseph A. Levitt, Director of CFSAN in Washington, D.C. NCFST and FDA scientists use the Center's facilities and laboratories to conduct their research side by side with private industry scientists.

The Center receives $2 million annually from the FDA. The Center uses this funding for the salaries and expenses of its own food scientists, the operation of laboratories and scientific equipment and the maintenance of its buildings and facilities. Those facilities include a "pilot plant" in which the Center has a "pathogen containment" laboratory for validating commercial-scale food processing equipment. The Center's budget includes another $1.5 million from corporate members, outside grants, and program income.

Presently, 47 food industry companies are members of the Center, including Kraft Foods, Inc., Corn Products, Inc., Bestfoods, Inc., General Mills, Inc., FMC Corporation, and Quaker Oats. Representatives of member companies serve with representatives of the FDA and academia on committees that direct the Center's activities, including selection and oversight of research projects. The research projects provide information for the FDA to use as it makes its regulatory decisions.

This collaboration has resulted in cutting edge research and development in food safety. The NCFST's accomplishments include the following:

(1) Developed a test for rapidly detecting E. coli O157:H7 in foods. This procedure is currently being used in food plants to improve product safety;

(2) Established a pilot-scale pathogen containment laboratory for testing commercial-size food processing systems. This laboratory has the actual process operations to demonstrate the inactivation of pathogens like Salmonella and Listeria;

(3) Organized a Sprout Safety Task Force with the International Sprout Growers Association to develop techniques for improving the safety of alfalfa sprouts. (The American Medical Association recently declared alfalfa sprouts "high risk" for Salmonella poisoning.);

(4) Conducted industry-wide research to develop protocols for the safe use of recycled packaging material;

(5) Conducted a workshop resulting in the establishment of guidelines for a new process to eliminate pathogens in liquid foods containing particles such as soups and stews;

(6) Formed a Task Force of 20 leading industrial partners to obtain approval of specific polymer packages to be used with irradiated foods. These packages will be used to protect red meats and poultry from contamination after they have been irradiated;

(7) Assisted industry in establishing the criteria for the safe processing of aseptically processed entrees in convenient packages. Aseptically processed foods provide the highest level of safety for convenience foods and home meal replacements;

(8) Contributed to the development of a high pressure process to make raw oysters safe to eat by eliminating Vibrio vulnificus bacteria; and

(9) Developed high pressure and ultra-violet light processes to kill pathogens in fresh fruit juices.

We believe these accomplishments are only a preview of the Center's future potential. We are proud to be part of the Administration's "Food Safety Initiative" that will help us maximize our potential. As part of that initiative, the Administration is proposing an additional $75 million in its fiscal year 2000 budget. The FDA would receive $30 million of that, $3.7 million of which would go to accelerating food safety research.

In the future, the Center will work with its government and industry partners to obtain more commercial size food equipment so that its research continues to produce practical and realistic benefits. The Center will also expand its outreach and collaboration with the food industry. For example, the Center will interact more with small-to-medium sized food companies. Many small food processors and packagers do not have the resources to address the complex technical and regulatory

issues associated with food safety. The smaller enterprises desperately need to leverage the Center's knowledge and facilities to test the integrity of their processes. The Center will also continue implementation of a unique new membership category called "Task Force Member." This new membership will allow the Center to rapidly mobilize industry resources to respond to public health hazards. A "Task Force" participant becomes a temporary member of the Center for the duration of the project. Resources for the project are raised by the Task Force and funds are allocated by "Task Force" members. This alliance exemplifies the Center's effort to bring government, academia and private industry together to respond rapidly to the causes of food borne outbreaks.

Mr. Chairman, the National Center for Food Safety and Technology hopes that it can continue to contribute to the integrity of the nation's food supply. Commissioner Henney, CFSAN Director Levitt and their FDA colleagues give us reason for that hope. Our industry members also give us reason for optimism. With your leadership and support, and that of Senator Kohl's and Senator Durbin's, the National Center for Food Safety and Technology will become an example to other federal agencies of how limited federal monies can be spent with maximum benefit to the taxpayers. It will become an example of how cooperation, rather than contest, can produce the maximum benefit to the public health.

Thank you again for the opportunity to submit this testimony for the record.

PREPARED STATEMENT OF THE ILLINOIS SOYBEAN ASSOCIATION

Mr. Chairman and distinguished members of the Agriculture, Rural Development, FDA, and Related Agencies Subcommittee: We represent the Illinois Soybean Association, an organization of approximately 3,200 leading soybean farmers. Among other goals, we foster well-coordinated public and private research leading to safe, nutritious, healthy, affordable, and convenient soy products for consumers and sustainable competitive advantage for the U.S. and Illinois soy industries.

We request that $3.5 million in federal funds be authorized to plan and construct a Soybean Disease Biotechnology Research Center within the National Soybean Research Laboratory (NSRL) located at the University of Illinois. If federal funds are secured, the Illinois Soybean Checkoff Board will contribute $500,000 in program support initially and entertain proposals for additional support. We will ask the University of Illinois to provide approximately 8000 square feet of shell space within the building housing the National Soybean Research Laboratory and will seek $500,000 in state funds to equip the Center. We will also ask the University to provide access to utilities and connections for a big-containment greenhouse proposed as part of the Center and, henceforth, to staff, operate, and maintain the Center in support of soybean disease biotechnology research.

ROLE OF THE CENTER

The Soybean Disease Biotechnology Research Center will be the first line of defense against major soybean diseases that threaten the U.S. soybean industry, and to programmatically attack current disease problems, such as the soybean cyst nematode (SCN). It will provide outstanding research talent and state-of-the-art facilities, equipment, and support services for cutting-edge biotechnology research on major soybean diseases. The Center will bring the power of the new sciences of structural, comparative, and functional genomics and genetic transformation to bear on SCN and other current and potential disease threats, including major diseases not yet in the U.S., such as soybean rust.

Center researchers will identify and create new and improved mechanisms of disease escape, tolerance, and resistance. The aim is to protect the soybean crop and increase its profitability throughout the industry. Genetic disease control mechanisms in the germplasm and genetic stocks of the National Soybean Germplasm Collection, located at the University of Illinois, will be a unique, readily accessible resource for the Center. In addition, genetic mechanisms of escape, resistance, and tolerance in other species will be identified and transferred to the soybean. Accordingly, highly effective disease control genes can be used for "stacking" in soybean varieties. This will assure the realization of gains from other genetic improvements, such as unique quality traits.

SETTING FOR SOYBEAN DISEASE BIOTECHNOLOGY RESEARCH

Researchers in the Soybean Disease Biotechnology Research Center will use the support services of the University of Illinois' new Keck Center for Comparative and Functional Genomics, with its high throughput genetic sequencing and unequaled

bioinformatics capabilities. This will greatly facilitate evaluation of materials in the National Soybean Germplasm Collection. Researchers will also have ready access to the University of Illinois Biotechnology Center, which provides recombinant DNA and protein science services, immunological resources, flow cytometry, high capacity transgenic plant production, and cell and tissue culture, among other valuable support services.

There will be direct access to superb conventional greenhouse and controlled environment facilities in adjacent, connected structures. As part of this project, a big-containment greenhouse will be constructed specifically to provide the levels of isolation and protection required for sophisticated disease biotechnology research. An elaborate system of research farms will be available for testing new developments in a wide range of soil, climatic, and socio-economic conditions.

The Center will complement and connect with the new St. Louis-headquartered Danforth Plant Science Center and participate in the Illinois Missouri Biotechnology Alliance. By virtue of the Center's location within the federal-state-industry-sponsored NSRL, work at the Center will be strategically integrated with other public and private efforts to conceive, plan, and implement soybean production and marketing systems of the future. This will foster interdisciplinary and cross-functional efforts that speed development and adoption of new technology and gain competitive advantage for the U.S. soybean industry.

NSRL is a major interface between the soybean industry, as represented by state and national soybean organizations and checkoff boards, and university research and education programs. NSRL was created by a USDA special grant of $5 million, which was used to renovate 30,000 square feet of space in a University of Illinois building and provide facilities for NSRL research and education programs. NSRL is directed by a Chair Professor of Agricultural Strategy, the only so-named professorship in the nation. The Chair position was endowed by the soybean industry, which contributes $40 to $80 million annually to soybean research.

NSRL fosters strategic public/private alliances within the soybean industry and with other commodity-based industries. It achieves extraordinary levels of communication, coordination, and integration of publicly and privately financed research and educational programs across the nation. As developer of STRATSOY, the most sophisticated and useful commodity website, NSRL provided the soybean industry with a powerful tool for uniting its far-flung checkoff funded programs, disseminating information, eliminating redundancy, sharpening strategic focus, and increasing the return on both public and private investment in soy research.

Its location within NSRL will assure that research in the Soybean Disease Biotechnology Research Center will fully complement and benefit from other soy research programs across the nation and world. It will assure that the results of fundamental soybean disease biotechnology research are quickly translated into practical technology, useful information, and sustainable competitive advantage for the industry. The NSRL mission of increasing the volume of profitable, sustainable business in the soy industry will become the mission of the Soybean Disease Biotechnology Research Center.

This is an excellent time to establish the proposed Center because the University is initiating its Postgenomic Biotechnology Program in fiscal year 2000. A multi-million investment of state funds will provide 25 new biotechnology positions in functional genomics, bioinformatics, developmental biology, microanalytic systems, and cellular and molecular bioengineering. Within this framework, new positions in plant disease biotechnology will be filled with outstanding scientist/educators who already have established impressive track records. Under this program, leading biotechnology scientists will be recruited for the Soybean Disease Biotechnology Research Center.

GOALS OF THE CENTER

The Soybean Disease Biotechnology Research Center will:

1. Provide a superb setting for cutting-edge soybean disease biotechnology research.
2. Foster and support the very best soybean disease biotechnology research team in the world.
3. Assure that effective soybean disease escape, resistance, and tolerance genes are available for "stacking" in top U.S. soybean varieties.
4. Eliminate the soybean cyst nematode as a major threat to the U.S. soybean industry and prevent harm from introduction of foreign disease organisms.
5. Enable molecular soybean pathology research through which the Illinois and U.S. soybean industries will achieve and maintain preeminence in global and domestic markets for soybeans and soybean products.

6. Enable the U.S. soy industry to capture proprietary benefits from soybean biotechnology research and other research conducted all over the world.

7. Enhance the global and strategic significance of the National Soybean Research Laboratory and empower its scientists, thus maximizing its benefits for the nation.

CREATING THE SOYBEAN DISEASE BIOTECHNOLOGY CENTER

The Soybean Disease Biotechnology Research Center will be created by extensively remodeling approximately 8000 square feet of currently undeveloped space within the NSRL. This will provide elaborate laboratories, a bio-containment greenhouse in the adjacent greenhouse complex, instrument rooms, coldrooms, other workrooms, support facilities, and offices dedicated to soybean disease biotechnology research. To the extent feasible, physical connections will be established between the NSRL and the greenhouse complex linking the Soybean Disease Biotechnology Center to interconnected buildings housing the Keck Center, Biotechnology Center, and the University of Illinois' existing food and agriculture biotechnology research on animals, microbes, and other plants.

SUMMARY

We request that $3.5 million be authorized to plan and construct a Soybean Disease Biotechnology Center within the National Soybean Research Laboratory at the University of Illinois.

PREPARED STATEMENT OF THE STATE OF ILLINOIS

As you begin to finalize your appropriations priorities for fiscal year 2000, I am submitting for your review, the enclosed book of appropriations goals and requests for the State of Illinois. I am hopeful that these requests can be included and accommodated in the upcoming appropriations process.

These items reflect the input of the various state agencies, cities, and counties of Illinois. As you will see in the enclosed briefing book, the appropriations requests are organized by the appropriate subcommittee. In addition, these requests include both ongoing federal funding needs and new funding requests.

For additional information about these requests, please call any member of my DC staff at 624–7760. Thank you very much for giving these requests your fullest consideration and your enthusiastic support.

AGRICULTURE, RURAL DEVELOPMENT AND RELATED AGENCIES

AGRICULTURE

Special supplemental nutrition program for WIC

Request: Support the Administration's proposed increase in the Special Supplemental Nutrition Program of $281 million.

This will amount to an additional $15 million for Illinois.

Farmer's market nutrition program (FMNP) for WIC

Request: Support funding for FMNP at the requested level of $20 million.

This is an increase of $5 million over the fiscal year 1999 appropriation. This will expand the reach of FMNP to many Illinois communities. The current regulations require a 30 percent state match of the total award. The Illinois Department of Human Services supports changing the match to 30 percent of the administrative costs.

Infant formula rebate funds

Request: Support language that would grant states the flexibility to use a portion of the infant formula rebate funds for infrastructure needs such as clinic expansion.

Illinois currently receives $55 million annually in infant formula rebate funds.

Food stamp quality control system

Request: Support language that would change Food Stamp regulations to allow standards to be adopted that would judge and compare state performance more effectively than the current single measure for payment accuracy.

Under the current regulations, samples are taken in a single month to determine the correct food stamp allotment. Sanctions are levied if the state's payment error rate exceeds the average of all other states. This could result in millions of dollars in sanctions.

National corn to ethanol research pilot plant (NCERPP)

Request: Support funding of $14 million for the National Corn to Ethanol Research Pilot Plant (NCERPP) in the fiscal year 2000 Agriculture Appropriations bill.

The State of Illinois has appropriated $6 million for construction of the NCERPP at Southern Illinois University-Edwardsville. The total cost of constructing the project is estimated at $20 million. The cost of operating the facility will be borne by industry and university research conducted at the plant.

Congress appropriated $2 million for the Agriculture Research Service (ARS) for design work in the fiscal year 1996 and fiscal year 1997 budgets.

Pseudorabies swine slaughter

Request: Support full funding for Animal Plant and Health Inspection Service (APHIS). Illinois supports an appropriation of $75,000 from APHIS to institute a pseudorabies swine slaughter surveillance collection point at Johnsonville Packing, Momence, Illinois. The Administration is planning to cut funding for APHIS by $3.1 million for fiscal year 2000.

Extrapolating from a recent survey of an average four-week kill, approximately 14,000 animals are processed at this plant every month. Of this kill, 32 percent of the swine were traced back to Illinois, 18 percent to Iowa, and 17½ percent to Indiana. The cost of collecting the backtagged animals at this plant has been estimated to be $20,000, calculating 70 cent/sample. The laboratory testing would cost $55,000, making the total expenditure $75,000 to collect at the Momence Plant. This figure does not include shipping cost.

Currently, Illinois is struggling to acquire an adequate number of slaughter surveillance samples to maintain the compliance established by the National Program Standards. Last year, first point testing was conducted at the end of the year to achieve the required numbers. It has been established that slaughter surveillance of cull sows and boars is the superior method of determining the PRV status in herds at the grassroots level.

Failure to collect the needed number of surveillance samples will result in the need to initiate more costly methods of swine surveillance (i.e. first point testing or down the road testing). Swine producers from Illinois and neighboring states would benefit from the collection.

Voluntary Johne's disease herd certification program

Request: Support full funding for Animal Plant and Health Inspection Service (APHIS).

Illinois supports a one-time appropriation from APHIS for $200,000 for the purpose of defraying the cost to producers wishing to enroll in the Voluntary Johne's Disease Herd Certification Program. This program allows a producer to do testing for the presence of *Mycobacterium paratuberculosis.*

Johne's is an incurable wasting disease of cattle, sheep, goats and cervidae, contracted through direct contact with infected animals. Animals are generally infected at a young age, but may not exhibit signs of the disease until they are four or five years of age. It has been estimated that economic losses can amount to $227 per cow. A recent National Animal Health Monitoring System (NAHMS) sampling of Illinois dairy cows indicated a prevalence of at least 10 percent in the cull cows from the dairy herds tested.

A positive serology test normally indicates the animal has Johne's Disease, at a lab cost of $5.00. To do a whole-herd test for a 100-cow operation, it would cost a producer $500 in laboratory costs alone. (A more accurate, time-consuming confirmatory test may also be run following a positive serum test, with a lab cost of about $7.00.) Both tests are run by the Illinois Department of Agriculture's two animal diagnostic laboratories at Centralia and Galesburg, and the diagnostic laboratory at the University of Illinois College of Veterinary Medicine.

There are approximately 1,750 dairy farm families, 26,000 beef producers, and 3,100 sheep and lamb producers in Illinois. We have about 475,000 beef cows, 145,000 milk cows, 79,000 sheep and lambs, and an undetermined number of goat and cervid herds, which would qualify in this voluntary program.

Under this proposed program, the producer would still be responsible for veterinary costs associated with acquiring the samples. This funding would offset the costs of the testing to the producer and encourage enrollment in this program. Animals certified under this program should be worth more money. Producers purchasing these animals would have a high degree of certainty the animals are free of Johne's Disease.

Swine producer laboratory testing

Request: Support full funding for Animal Plant and Health Inspection Service (APHIS). Illinois supports a one-time appropriation from APHIS for $100,000 to defray the cost for swine producers conducting laboratory testing necessary to diagnose or maintain the health of their swine herds.

With the current low prices for hogs, many producers are either foregoing diagnostic or preventative health measures in an effort to obtain some profit from their animals. Maintaining a healthy swine herd helps the producer produce his product in a more efficient manner. Providing this assistance would insure that animals that are unhealthful and diseased would have access to proper diagnosis and eliminate potential disease situations arising in the herd and possible spread within the swine industry. In 1997, Illinois produced 1.82 billion pounds of pork, placing it fourth in US hog production. The number of hog producers in Illinois continues to drop: 8,800 hog farms in 1996; 7,500 hog farms in 1997; and 7,000 hog farms in 1998.

APHIS—Gypsy Moth "Slow the Spread" program

Request: Support fiscal year 1999 funding levels to provide Illinois with $200,000 for the APHIS program.

The Illinois Department of Agriculture, under authorities provided in the Insect Pest and Plant Disease Act, annually cooperates with APHIS and various units of local and county government to identify and control the Gypsy Moth in Illinois. The annual program includes both the identification of gypsy moth infestations as well as a treatment control program. In the past, no funding has been transferred between agencies. In the trapping (identification) program, the APHIS has concentrated on the Chicago Metropolitan area and the Illinois Department of Agriculture has worked in the balance of the state. Once an area is identified as being in need of a treatment control, the APHIS has provided the biological pesticide, the local unit of government has provided funding for the applicator and the Illinois Department of Agriculture has provided overall project oversight and coordination. In fiscal year 1999, the APHIS provided funding to states for an expansion of the trapping (identification) program to attempt to further reduce the spread of the insect.

Invasive species program

Request: Support the Administration's proposed $16 million increase to U.S. Department of Agriculture programs intended to combat invasive species (plants and animals non-indigenous to the U.S.) which are negatively impacting many areas of the nation.

The recent detection and eradication efforts associated with the Asian long-horned beetle in Chicago and New York are examples of the types of programs to be supported through this new initiative. No further information is available relative to the possible transfer of funds to states at this time. However, this initiative could have a significant impact of the Illinois Department of Agriculture's administration of the Insect Pest and Plant Disease Act as well as the Illinois Nursery Industry.

Natural Resources Conservation Service (NRCS) budget shortfall due to section 11 cap

Request: Support for Amendment Number 115 to S. 544 Supplemental Appropriations. This amendment provides $28 million in additional funding under the Section 11 cap to deal with the States (Illinois is one) where NRCS has severe budget shortfalls for fiscal year 1999 which will seriously impact the delivery of Farm Bill Programs.

In Illinois, the NRCS has a budget deficit of $1.8 million in fiscal year 1999. If Amendment 115 to S.544 does not pass, the state NRCS will furlough all Illinois NRCS employees at least 35 days. This will have a devastating impact on all Illinois conservation and watershed programs. It will directly impact 1,825 program applications, 480 Illinois conservation projects, 1,257 conservation and resource plans and over 401,100 rural and urban Illinois constituents. There is no State funded Agency or entity who can fill the void in the technical assistance that will be lost. No other federal agency can deliver the local technical assistance that NRCS has provided for in each county of the State. NRCS has worked very closely with the Soil and Water Conservation Districts (SWCDs) to help maintain and improve natural resources in every county. The State has committed $48 million dollars to the Illinois River Conservation Reserve Enhancement Program (CREP) which will be severely hampered if NRCS furloughs employees. All other conservation and watershed programs statewide will also be hampered.

Illinois groundwater consortium

Request: Illinois supports $3,000,000 for the Department of Agriculture to restore and expand funding for the Illinois Groundwater Consortium (IGC).

Funding for the Consortium was not included in the fiscal year 1999 USDA budget. Restoration and an increase to the requested level in fiscal year 2000 will enable the Consortium to continue and expand research and outreach programs that provide a scientific base for management and regulatory decisions on the use and protection of water and land resources.

In 1990, Southern Illinois University at Carbondale joined forces with Illinois State Geological Survey, Illinois State Water Survey, Southern Illinois University at Edwardsville, University of Illinois Cooperative Extension Service, and the University of Illinois Agricultural Experiment Station to form the Illinois Groundwater Consortium. From direct appropriations in the USDA budget for 8 years, the IGC awarded competitively selected grants to support collaborative and interdisciplinary research and outreach projects focused on scientific and policy issues relating to groundwater protection, fate and transport of agricultural chemicals, and the impacts of natural disasters (e.g., flooding) on surface- and ground-water, soils, and biodiversity. The members of the consortium have provided significant resources to the IGC from their own appropriations so that the state's contribution has approximately equaled the annual federal appropriations. It is expected that the match will continue.

Throughout its history, the IGC has primarily funded research seeking answers to questions raised by public policy makers working on land use and water protection issues. Results of the work of the Consortium have impacts statewide. The members of the Illinois Groundwater Consortium are uniquely positioned to conduct investigations on issues of economic, ecological and political importance to all the people of Illinois.

Analyses of environmental restoration programs for the Illinois River

Request: Illinois supports a fiscal year 2000 appropriation of $1,500,000 from the U.S. Department of Agriculture for analyses of environmental restoration programs for the Illinois River. The outyear appropriation request is $1,500,000 per year for 7 years.

The Illinois River Conservation Reserve Program (CREP) is a $500 million, 15-year joint federal and state initiative to restore the Illinois River watershed. The proposed appropriation will fund monitoring and scientific assessment of the land management benefits of CREP, leading to the development of sound land management strategies that will improve the efficiency of CREP and other future programs. These actions will jointly benefit agricultural production and water quality in Illinois, and promote the overall health of the Illinois River's ecosystem and the 11 million residents of its watershed. The benefits would be to demonstrate the effectiveness of a $500 million program. State matching funds: $158,700 (fiscal year 2000)

Agriculture research service USDA recordkeeping cooperative agreement

Request: Support the fiscal year 1999 level of funding to promote $13 million to Illinois. The Illinois Department of Agriculture annually enters into a cooperative agreement with the U.S. Department of Agriculture's Agricultural Marketing Service (AMS) to monitor certified private pesticide applicator's restricted-use pesticide recordkeeping. The Food, Agriculture, Conservation, and Trade (FACT) Act of 1990, otherwise known as the 1990 Farm Bill, required the Secretary of Agriculture (USDA) to require certified private applicators to maintain records regarding the use of federally restricted use pesticides. Under the cooperative agreement, the Illinois Department of Agriculture annually conducts approximately 188 randomly-selected applicator records checks to ensure compliance with these requirements.

Agriculture Research Service—Greenhouse Facility at University of Illinois

Request: Earmark $4.4 million for a Greenhouse Facility at Illinois University

Funds will be used for the construction of a Greenhouse Facility at the Urbana-Champaign campus. The facility will operate in support of the Maize Genetics Stocks and National Soybean Germplasm collections maintained at the University. Federal investment in biotechnology research are important to the future of the food and agricultural sectors and consumers in Illinois.

OTHER ISSUES AND PROGRAMS

Tobacco Recoupment

Request: Tobacco Agreement funds be distributed to the states without HCFA claiming a share and with no limitations on the use of the money.

Illinois will receive approximately $9.1 billion over 25 years from the recent settlement with tobacco companies. Governor Ryan believes that all of the funds should be utilized pursuant to discussions among state and local elected public officials. To that end he supports measures to prohibit the Secretary of HHS from recouping a portion of the settlement and opposes any limitation placed on the use of the money by the federal government.

The states accepted all of the risks and expense of this litigation and the federal government choose not to participate, despite a direct invitation to Attorney General Reno.

Advocates for a federal share of these funds justify their claim on federal Medicaid payments. However, the settlement agreement does not mention Medicaid and many states did not employ the Medicaid expense argument as part of their cause of action. Generally, state causes of action were predicated on consumer protection, fraud, racketeering, antitrust violations and health related costs—only some of which are Medicaid.

In addition, the legislative intent of the Medicaid law provides for recovery of overpayments to healthcare providers or to compensate for fraud and abuse, and not to provide a basis for any such federal claim.

Requiring states to spend some of these funds on programs such as smoking cessation has been suggested. The settlement already requires the tobacco industry to fund a charitable trust in the amount of $2.5 billion to conduct research about reducing smoking and creates a $1.45 billion national public education fund for tobacco cessation efforts. In Additional the settlement has many provisions, which should reduce, smoking such as bans on advertising designed to appeal to you adults.

The U.S. Senate-passed Supplemental includes the provisions desired by Illinois.

Low Income Housing Tax Credits (LIHTC)

Request: Raise the allotted amount of LIHTC to $1.75 per capita from its current level of $1.25 per capita and index it for inflation.

Illinois will gain $6 million in increased tax credits. The LIHTC program was established as part of the Tax Reform Act of 1986. Tax credits are awarded to developers of qualifying affordable housing projects who then sell the tax credit to private investors to raise equity for the development. The credit is used by the buyer as a reduction in their tax liability for a ten year period after the successful completion of the project. Over 90 percent of all affordable housing in the United States is funded by the LIHTC program, including 30,000 units in Illinois alone. However, current demand for affordable housing for senior citizens and working families exceeds our tax credit resources by a 3 to 1 ratio. Since being codified, the per capita allotment has not been increased, and as a result of inflation, has lost approximately 45 percent of its original value.

PREPARED STATEMENT OF THE ILLINOIS-MISSOURI ALLIANCE FOR AGRICULTURAL BIOTECHNOLOGY

Mr. Chairman and distinguished members of the Senate Agriculture, Rural Development, and Related Agencies Subcommittee: Our testimony is on behalf of the federally-funded project entitled the Illinois-Missouri Alliance for Agricultural Biotechnology (IMBA). A special grant of $1.3 million was provided to launch this effort in fiscal year 1995. Additional grants of $1.3 million in fiscal year 1996 and fiscal year 1997, $1.2 million for fiscal year 1998, and $1.1 million for fiscal year 1999 were provided. An innovative management plan was developed, refined, approved by the Cooperative States Research, Education, and Extension Service (CSREES), and implemented. Updated plans have been submitted to CSREES each year and approved. Several important research and development projects are underway.

Request: In order to sustain, expand, and enhance this productive and strategically essential program, we request that $3.0 million be appropriated for IMBA for fiscal year 2000. The increased appropriation will allow us to fund a larger proportion of the superb proposals being submitted to IMBA. It will allow us to implement fully the unique, IMBA performance-based management strategy, which addresses the major concerns of stakeholders concerning management of federal competitive grants programs. It will allow the program to go into continuous mode, as explained below, rather than annual cycles, and fully implement the "virtual" research institute concept. An increased appropriation will provide significant economies of scale and scope, thus disproportionately increasing the funds directly available for research. In addition, it will increase the annual leveraged contributions from about $4 million to at least $9 million.

Needs and opportunities: It is now evident that the Illinois Missouri Biotechnology Alliance is focused on the world's most important agricultural problem/opportunity. Rapidly growing population, urbanization, and affluence, especially in southeast Asia, are causing a dramatic increase in the consumption of animal protein. These factors are fostering unprecedented growth in large scale animal production facilities and in global markets for animal products.

Corn and soybeans are superior economically, nutritionally, and for logistical reasons to other grain crops for feeding almost all classes of livestock, but especially swine, beef, dairy, poultry, and confined fish. These classes of livestock are undergoing the most rapid increase and inevitably will be produced in large scale, confinement facilities around the world. With superior technology, Illinois, Missouri, and surrounding corn belt states can be the principal suppliers not only of corn and soybeans but also of livestock products and other value-added products produced from corn and soybeans. To reap the potential benefits, however, the U. S. will have to compete vigorously against sophisticated producers, primarily in Latin America, for these emerging markets.

Likewise, to keep the food situation from ravaging both agricultural and natural environments around the world, it is imperative that corn and soybean yield and quality, production efficiency, and efficiency of conversion into animal products and other high quality food and non-food products be increased at rates never achieved before. These are principal objectives of IMBA.

Mission, objectives, and strategy: The mission of the IMBA is to increase the volume of profitable business in the U. S. food and agriculture sector by improving the diversity, quality, safety, affordability, and convenience of products and services marketed by the sector. The IMBA is accomplishing this mission by supporting cutting-edge biotechnology research conducted as part of strategically sound, competitively funded, research and development projects organized around clearly defined, practical objectives.

A steering committee made up of Roger Mitchell, Dean of the University of Missouri College of Agriculture, Food, and Natural Resources; Frank Stokes, Director of Policy and Planning, Monsanto Company; James McGuire, Dean of the Southern Illinois University College of Agriculture; and Don Holt, then Director of Research, University of Illinois College of Agriculture, prepared the original management plan for IMBA. The plan was implemented to create and coordinate a market-driven, mission-linked, practical-goal-focused research and development program characterized by public/private cooperation. The plan is aligned with the performance-based management philosophy of the Government Performance and Results Act (GPRA).

When the management plan is approved each year, program funds are transferred to the Illinois Agricultural Experiment Station, which serves as repository until the funds are dispersed within the program. To avoid spreading the IMBA research investment too thinly, we limited the practical scope of the program to the corn and soybean industries; geographical scope to Illinois, Missouri, and other Midwestern states; and disciplinary scope to biotechnology.

Day-to-day operations of IMBA are managed by a Program Manager, Dr. Bruce Bullock, Professor of Agricultural Economics, University of Missouri, and former Director of the Missouri Agricultural Experiment Station. The University of Illinois contracts with the University of Missouri-Columbia for Dr. Bullock's services. An Executive Committee is made up of Program Manager Bullock, new Missouri Dean Thomas Payne, Dean McGuire, new Illinois Associate Dean for Research Steven Pueppke, and Senior Associate Dean Holt, who serves as principal investigator on the project. The Executive Committee oversees the program and approves all major expenditures of IMBA funds.

IMBA-funded biotechnology research grants are awarded competitively, based on relevance to IMBA objectives, soundness of the proposed research and development strategy, and scientific merit. Proposals are evaluated by both scientific peers and industry experts to assure that the best science and the best business strategies are brought to bear on agricultural problems and opportunities that are important to the region. The Program Manager works with the Executive Committee to design and develop a biotechnology research investment portfolio that addresses the following objectives.

1. Develop new and improved uses for corn and soybeans and products that can be manufactured profitably from them.
2. Increase the value of corn and soybeans as raw materials for manufacturing food, feed, fiber, fuel, and chemical feedstocks.
3. Lower the unit cost of producing, processing, distributing, retailing, and utilizing corn, soybeans, and products manufactured from them.
4. Maximize positive effects and minimize negative effects of the corn and soybean industries on the environment.

5. Conserve non-renewable resources consumed in the corn and soybean industries.

In designing the IMBA research portfolio, the Executive Committee defines and seeks an appropriate balance among the above objectives, among projects with varying degrees of uncertainty and risk, and among objectives that can be achieved in relatively short and long periods of time. On the high risk side, provision is made for some funding of promising but unproven scientists with good ideas.

Innovative management: The IMBA Management Plan includes several innovations that differentiate IMBA from other major public agricultural research grant programs. IMBA proposals are solicited and projects organized around desired practical outcomes. Success is measured in terms of achieving practical objectives. Only biotechnology research projects that are fully integrated into strategically sound research and development projects are funded. Participating institutions, agencies, and private firms are expected to share project costs through direct and in-kind contributions. It appears that public and private direct and in-kind matching contributions will continue to exceed the IMBA investment by a factor of two or more.

We intend to operate the program in continuous, parallel mode rather than in linear, stepwise sequences, repeated yearly. This approach should speed the R&D process while reducing cost. Information technology is being employed to bring an exceptional level of communication and coordination to each project. Each IMBA project involves public/private cooperation to achieve a useful practical outcome. The IMBA program manager is expected to take a more hands-on approach to research coordination than the usual grants manager.

Achievements of IMBA research: IMBA-supported researchers accomplished the following during the past year: (1) refined genetically engineered baculovirus insecticides (produced in earlier IMBA work) by adding additional insect-specific toxins that increased virulence against corn borer and several other species of harmful insects. These viruses offer backup and alternatives to the bt approach; (2) developed and are patenting a unique genetic transformation process that increases lysine in corn proteins, thus markedly increasing corn protein quality. Two companies are seeking access to this technology; (3) produced gene constructs that should enable scientists and plant breeders to modify soybean oil quantity and quality at will so as to emulate desirable characteristics of competing oils, and, at the same time, studied market channels to see where it would be most profitable to market these modified soybeans and resulting products; (4) successfully transformed soybean plants, using the unique approach that will be used to introduce and target heat-stable phytase genes discovered in earlier IMBA work. Successful introduction of phytase genes to crop plants and use of heat-stable phytase in processing will reduce the cost of phosphate supplementation of animal rations and greatly reduce the passage of plant phosphate through animals into water sources, where it is a major pollutant.

In projects launched more recently, scientists accomplished the following; (1) through genetic transformation, produced corn hybrids with increased nitrogen use efficiency, 10 percent greater grain yield, and 10 percent greater biomass yield, measured in field experiments. As a side benefit, the GDH (glutamate dehydrogenase) gene incorporated into inbreds used to produce these superior plants was found to enhance considerably the so-called Liberty-Link herbicide resistance. The GDH gene promises to reduce the environmental impact of corn production by enabling the corn plant to thrive on the ammonium rather than the nitrate form of nitrogen. Garst and Monsanto tests of GDH-transformed corn were promising; (2) in a project to introduce a new mechanism of resistance to the most serious pest of soybeans, the cyst nematode, scientists isolated a gene that is being patented. The details are confidential at this point, but this gene plays an important role in plant development and may be manipulated to benefit U.S. agriculture.

In addition, IMBA supported scientists: (3) developed the first databases of genes regulated by calorie level in foods; specific nutrients, such as lipids; and non-nutritive dietary chemicals, such as pytochemicals. With knowledge of these genes, it should be possible to identify each individual's unique food-related genetic profile, anticipate certain responses to food, and adjust eating habits accordingly. These tests will also facilitate treatment of various chronic and acute food-related disorders, including obesity, some forms of cancer, and heart disease. The food-related gene database will permit more accurate interpretation of toxological, drug, and disease gene expression experiments. Results of this work are being commercialized by a new firm, Electropharmacolocy, Inc., which has partnerships with major pharmaceutical and biotechnology companies.

During the past year, an IMBA-funded group produced an online journal, AgBioForum, two issues of which are already on the web. The journal addresses important biotechnology issues such as mergers and acquisitions within the bio-

technology industry and European resistance to genetically modified organisms. Response to this journal has far exceeded expectations. Over 20,000 people from all over the world accessed the journal and 600 became members of the journal association in the first four months it was on the web.

The group that developed AgBioForum is also redesigning the IMBA web page to increase its utility an important mechanism of communication and coordination among biotechnologists. Besides providing IMBA background, project lists, and requests for proposals, the IMBA home page now contains over 100 "hot links" to the home pages of other biotechnology-related institutions, agencies, organizations, and firms. The IMBA home page will become the hub of a "virtual" research institute focused on IMBA objectives.

New projects underway include efforts to: (1) genetically engineer corn to produce genistein, one of a class of phytochemicals thought to prevent cancer and provide other health benefits; (2) develop an automated system for screening large numbers of seed samples and detecting and selecting superior resistance to soybean sudden death syndrome, thus saving years of field testing, (3) Isolate apomixis genes and transfer them to major crops, thus enabling "permanent" hybridization, in which the progeny of hybrids have the same genetic makeup as parents. This would make it practical to save corn produced on hybrid plants for seed; and (4) develop high oil, high oleic acid, value-added corn hybrids.

Cooperators: Current cooperators in IMBA projects include the Universities of Illinois and Missouri, Southern Illinois University, Iowa State University, and the USDA-Agricultural Research Service group at Woodward, Oklahoma. Private, nonprofit cooperators include Sapient's Institute and Northwestern University. Private sector commercial firms cooperating or involved in negotiations include Monsanto Company, Garst Seeds, Pioneer Hybrids, ADM-Growmark, Clarkson Grain, Cargill, Dupont, Biosys, Zeneca Agrochemicals, Novartis, DowElanco, GeneTech, Healthtech, and Electropharmacology, and others. Each phase 1 project is generating potential new and improved projects. Private firms are evaluating the commercial potential of each product of IMBA research, and, in some cases, gearing up to produce these products.

Summary: We believe IMBA projects constitute an outstanding portfolio of promising research investments focused on the major problems and opportunities associated with the U.S. corn and soybean industries and the world food situation. Because of the economically important subject matter being addressed by the Illinois-Missouri Biotechnology Alliance, the unique capabilities of participating institutions, and the innovative research management approach being employed, we believe the project will continue to be unusually productive and will generate an unusually high return on the federal investment. This will be more than justify the $6.2 million appropriated to date and the $3.0 million requested to continue the project in fiscal year 2000.

PREPARED STATEMENT OF THE INTERNATIONAL ASSOCIATION OF FISH AND WILDLIFE AGENCIES

NATURAL RESOURCE CONSERVATION SERVICE (NRCS)

The Natural Resource Conservation Service has immense responsibilities for implementing the conservation provisions of the 1985 Food Security Act (FSA), the 1990 Food, Agriculture, Conservation and Trade (FACT) Act, and the Federal Agricultural Improvement and Reform (FAIR) Act of 1996.

Technical Assistance.—The USDA publication "Geography of Hope" identifies that the need for general conservation technical assistance for America's private landowner will continue to increase to 2002 and beyond. Additionally, a fiscal year 1999 workload analysis indicated the need for an additional $300 million for technical assistance. The Association supports the $31 million requested increase in conservation operations but is extremely concerned about the substitution of new initiatives without adequate present funding levels to meet existing needs. The Association is further strongly concerned about the decrease of 1,055 field level staff when all indicators point to the need for more field level staff to provide technical assistance required for existing programs as well as the Administration's proposed new initiatives.

In addition to increasing general (non-programmatic) technical assistance, increased technical assistance funds are needed to implement increasingly popular provisions of the 1996 FAIR Act. The budget for the Wetlands Reserve Program (WRP), Wildlife Habitat Incentives Program (WHIP), and the Farmland Protection Program (FPP) all include the customary 19 percent to 20 percent for technical as-

sistance. The Association strongly supports this level of funding provided to ensure that optimum agriculture and natural resource benefits will accrue from these programs. Notably absent from the list of programs provided adequate levels of technical assistance is the Environmental Quality Incentives Program (EQIP). The proposed fiscal year 2000 budget raises EQIP from $200 million to $300 million, which the Association applauds. It is not clear, however, that additional funds are available to provide the required technical assistance to a field level program with a 50 percent increase. Some Programs (CRP, WRP, CFO and FPP) have a technical assistance cap set by Section 11 of the CCC Charter Act at the 1995 spending level. No such constraint exists on EQIP. The Association therefore strongly urges the restoration of the customary 19 percent for technical assistance on EQIP.

State Technical Committees (STC).—The 1990 FACT Act required that State Technical Committees (STC) be established to facilitate interagency cooperation and coordination of technical guidelines for the conservation programs. Further, the USDA 1995 Reorganization Act specifically exempted the STC from the Federal Advisory Committee Act (FACA). The 1996 FAIR Act further added additional members to the STC. Federal-State coordination is an ongoing normal function that is required with or without a formal State Technical Committee. We commend the strong efforts of NRCS that has ensured the establishment of the State Technical Committees in each State with representation from the respective State fish and wildlife agency.

Wetland Determination.—We believe the need for wetland determination, certification, and mapping is great and urge NRCS to proceed as soon as possible, under the guidance of the FAIR Act of 1996. The Association urges expeditious completion of the wetland determinations required to implement the Swampbuster provisions of the 1985 FSA, 1990 FACT Act, and the 1996 FAIR Act as well as the FAIR Act directed interagency cooperation, whereby NRCS assumed responsibility for wetland designation for Section 404 (Clean Water Act) purposes on farmland, including tree farms, rangelands, native pasture, and other private lands used to produce or support the production of livestock. The Association and individual states wish to continue to work with NRCS to help achieve these goals.

Public Law 566.—The Association generally supports the small watershed (Public Law 566) Projects. That support is based upon continued emphasis on updated watershed planning and management. Such efforts could utilize and expand upon existing Public Law 566 plans examined in light of present day issues of wetland protection, water quality enhancement and fish and wildlife habitat. The greatest potential for these programs is for land treatment measures that retain the water on the land, improve infiltration, improve water quantity and quality, and provide fish and wildlife habitat. Structural and non-structural land treatment activities require state and local matching funds and are therefore leveraged to provide greater conservation benefits for each federal dollar spent while promoting valuable partnerships among states, local agencies, and other organizations.

National Buffer Initiative.—NRCS has implemented the initiative in cooperation with industry and other partners. The Association is pleased to be a sponsor of this innovative approach. The National Academy of Sciences has found that buffer strips can reduce off-field pollution by 70 percent, thus also contributing to meeting nonpoint source remediation goals under the Clean Water Act. Unfortunately, the level of sign-up by producers remains very low. NRCS has committed special emphasis and a major effort to use the strip practices covered by the continuous CRP sign-up in a more targeted fashion. Unlike the large or whole field CRP retirements, buffer strips will require extensive outreach plus the much more attractive rental rate now available. The Association supports the allocation of increased funds specifically for outreach to increase participation in the various buffer strip practices. In addition, a review and evaluation of why sign-up is low is strongly recommended. Increased activity on the Buffer Initiative (continuous CRP sign-up) will require an increase in field staff for technical assistance rather than a decrease as proposed.

Forest Incentive Program (FIP).—The Forest Incentive Programs (FIP) has multiple resource values for fish, forests, wildlife, clean water and erosion control. The Association opposes the NRCS proposed intention to drop FIP funding and strongly recommends that the fiscal year 1999 level of $16.325 million be continued in the fiscal year 2000 budget.

Capped Programs.—The Wetlands Reserve Program (WRP), Wildlife Habitat Incentives Program (WHIP), and the Farmland Protection Program (FPP) have all reached or are near authorized acreage or appropriation caps. The Association continues to recognize and support the benefits to our natural resources from these programs. We believe that due to the overwhelming success, customer acceptance and public benefits of these programs, they should be re-authorized. We applaud the NRCS proposal to continue the WHIP at $10 million annually through 2002 with

legislation removing the appropriations can. The Association likewise applauds the proposal to budget $27.5 million for continuation of the Farmland Protection Program. The Association strongly suggests that similar efforts be made to remove the 975,000 acre can on WRP before that cap is reached in fiscal year 2000.

Program Delivery.—Continued erosion of field staff with the additional staff reduction proposal in fiscal year 2000 is inconsistent with the needs demonstrated by the recent workload analysis. That analysis determined the need for $300 million for additional field staff for implementation of existing programs. The addition of new initiatives (worthy as they are) simply exacerbates the shortage of sufficient field staff providing technical assistance.

The Association is very strongly concerned about this continued erosion of technical staff and equally strongly recommends the addition of $300 million in fiscal year 2000 to help meet this critical need for technical assistance for effective program delivery of these vital conservation programs.

FARM SERVICE AGENCY (FSA)

An adequately funded budget for the FSA is essential to implement those conservation related programs and provisions under FSA administration and/or in cooperation with NRCS as a result of passage of the Federal Agricultural Improvement and Reform (FAIR) Act of 1996. The Association strongly advocates that the budget include sufficient personnel funding to service a very active program and strongly believes that the continued erosion of personnel with the additional proposed reduction of 752 employees is inconsistent with program needs.

FSA programs have tremendous quantifiable impacts on natural resources, and yield substantial public as well as private benefits. Building on the Provisions of the 1985 FSA the 1990 FACT Act, and the 1996 FAIR Act, the Association wants to ensure that each program accomplishes the broadest Possible range of natural resource objectives, and encourages close cooperation between FSA. NRCS and the State Technical Committees in implementing the 1996 FAIR Act.

Flood Risk Reduction Program.—We believe this program has great potential to mesh with the Army Corp of Engineers Rivers Ecosystem Restoration and Flood Hazard Mitigation Project which is a part of the President's Clean Water Initiative. We urge FSA to prepare regulations and budget for implementation and make every effort to ensure that language used in its easements and agreements provide a streamlined basis for appropriate administration and are user-friendly. The Association is disappointed that no budget is requested and urges that a start-up budget be initiated to assist in the President's Clean Water initiative.

Conservation Reserve Program.—The continued administration of CRP under the guidelines of the 1996 FAIR Act is a very significant and valuable commitment of USDA and the FSA. The Association applauds FSA efforts to fund and extend CRP contracts for the multiple benefits that accrue to the public as well as the landowner. The Association is especially pleased to note the commitment to reach as soon as practical and maintain the authorized 36 million acres in CRP. The Association provides special thanks to FSA for the continuous CRP sign-up of high value environmental practices and urges a special effort to advertise and increase landowner participation.

The commitment of FSA to provide high wildlife benefits in CRP contracts was most obvious in the 15th and 16th sign-up. The Association applauds FSA in those efforts with their special emphasis on native grass species and enlightened pine planting and management strategies for maximum wildlife benefits.

WILDLIFE SERVICES/ANIMAL AND PLANT HEALTH INSPECTION SERVICE (APHIS)

The President's fiscal year 2000 proposed budget for the APHIS Wildlife Services Operations is $28.15 million and reflects a $1.845 million decrease from the fiscal year 1999 level. For Methods Development, the proposed budget is $9.59 million, a $776,000 reduction from the fiscal year 1999 level. Additionally, if $655,000 in pay costs is not appropriated for Operations and $194,000 for Methods Development, this will amount to a further reduction for the program from the fiscal year 1999 enacted level. The Association continues to be strongly concerned about the steady erosion of funding in the President's budget request for Wildlife Services.

Wildlife Services (WS), a unit of APHIS, is the Federal agency responsible for controlling wildlife damage to agriculture, aquaculture, forest, range and other natural resources; for protecting public health and safety through the control of wildlife-bone diseases; and wildlife control at airports. Its control activities are based on the principles of wildlife management and integrated damage management and are carried out cooperatively with State fish and wildlife agencies. Most APHIS-WS operational

work is cost shared between the Federal WS program, State and county governments, agricultural producers, and other cooperators.

The cooperation and support of the public and the agricultural community are essential to maintaining wildlife populations because much of the Nation's wildlife exists on private agricultural lands. A progressive wildlife damage management program which reduces the adverse impact of wildlife populations is necessary to maintain the support of the agrarian community and to counter increasing pressures for indemnity due to wildlife damage.

Since Congress transferred the WS program to USDA in 1986, the Association has worked closely with this program on numerous issues critical to the State fish and wildlife agencies. The Association commends the WS program for its continuing effort to be attuned to the changing public values related to the Nation's wildlife, while remaining responsive to emerging wildlife problems.

The Association is concerned with the Administration's proposed reduction in both the WS Operations and Methods Development programs for fiscal year 2000. Many wildlife populations such as mammalian predators (e.g., coyotes) and mid-sized carnivores (e.g., raccoons), some species of waterfowl (e.g., resident Canada geese, snow geese), fish-eating birds (e.g., double-crested cormorants), white-tailed deer, and beavers are at all-time highs. Human/wildlife conflicts and requests for assistance are also at record numbers. The Association strongly requests the WS appropriation be restored to at least the fiscal year 1999 level to adequately address these increasing wildlife overabundance problems.

The fiscal year 2000 budget also contains $875,000 in unfunded Congressional directives regarding wolf control in the northern Rocky Mountains and brown tree snake control efforts and the establishment of a State office in Hawaii. The Association agrees that these are priority issues and recommends that $875,000 for these directives be Provided to WS to conduct these activities.

The wolf population in the upper Midwest is growing at a rapid rate. Wolves have increased their range into new areas in Minnesota, as well as Wisconsin and Michigan. The Association recognizes the impacts of wolf recovery on the WS program both from the standpoint of the workload increase from escalating complaints regarding predation, and the reduction in WS' ability to provide damage protection to the livestock industry from other predators in the wolf recovery area because of restrictions on management tools. The Association supports increase of $100,000 to adequately address wolf depredations in Minnesota, Wisconsin, and Michigan. The Association further supports an increase of $150,000 to address livestock/wolf conflicts attributable to wolf reintroduction in the intermountain west, and establishment of a wolf/grizzly conflict resolution position in Wyoming.

We commend Congress for recognizing the need for wildlife damage research when they appropriated funds to begin construction several years ago on what has become the National Wildlife Research Center located in Ft. Collins, Colorado. This state-of-the-art facility is the only one of its kind in the entire world devoted exclusively to the identification and development of effective wildlife damage control methods. The WS research facility places a significant emphasis on non-lethal methods development. The Association supports the effort to develop more socially acceptable wildlife damage management methods and recommends an increase of $800,000 to the WS program to effectively address this area.

The Association strongly supports the request for $450,000 in fiscal year 2000 to continue the trap testing begun in fiscal year 1999 to support the U.S. agreement with the European Union. These funds are critical to fulfilling the agreement to identify and develop the most humane possible traps practicable for taking furbearing animals. As many of these species are overabundant relative to historic conditions (e.g., coyotes, raccoons), this effort is supportive of important wildlife management as well as economic and trade issues.

The Association recognizes the importance of aircraft to WS for both predator control and the distribution of oral vaccine baits for rabies control projects and we commend Congress for providing $1.2 million in fiscal year 1999 to WS to begin implementing improved safety procedures for their aerial operations. However, no funding was proposed in the fiscal year 2000 budget to continue this effort, and the Association recommends that a similar (to fiscal year 1999) amount of funding be provided to address this critical area of the program.

The Association supports the increased emphasis on aircraft/wildlife hazards, but opposes the redirection of funds from other critical needs toward this problem. Therefore, the Association instead recommends the addition of $1.2 million to WS' budget to address this important problem.

The Association is concerned with recent attempts by various organizations and individuals in the past several years to significantly reduce WS' funding for predator control activities in the western United States. The Association opposes attempts to

reduce the WS budget through broad scale or across-the-board funding cuts. Instead the Association encourages WS to continue cooperation through coordinated predator management agreements with western state partners in order to ensure funding and management activities are directed towards the most effective and beneficial predator management strategies.

The Association is pleased with the accomplishments of the Berryman Institute at the Utah State University in Logan, Utah. However, we would like to see the Institute enhance its capabilities to conduct social science research, expand continuing education programs, and start a new high quality scientific journal for wildlife damage management that would be patterned after other established journals. To reach these new Goals. the Association supports an increase of the funding to the Berryman Institute by an additional $300,000.

COOPERATIVE STATE RESEARCH, EDUCATION, AND EXTENSION SERVICE (CSREES), U.S. DEPARTMENT OF AGRICULTURE

The Association recognizes that the research and educational programs of the CSREES and its Land Grant Partners effect relevant, positive changes in attitudes and implementation of new technologies by private landowners, managers, community decision-makers, and the public. This results in significant benefits to individuals and to the Nation through building and sustaining a more viable and productive natural resource base and a competitive and profitable agriculture. Since over two-thirds of our lands, approximately 1.35 billion acres, are controlled by over 10 million private landowners and managers, it is most appropriate that the CSREES-Land Grant System, with its grass roots credibility and delivery system, be adequately funded to translate and deliver research-based educational programs and new technologies to help the Nation's private landowners and managers move towards a more sustainable society. However, in the President's fiscal year 2000 budget, we see virtually no emphasis on natural resources research and education directed toward helping these clientele. In fact, the total number of farmers based on recent statistics is just slightly over one million, yet the great majority of CSREES' budget is devoted to production agriculture with only $3.192 million budgeted for the Renewable Resources Extension Act to assist the over ten million private landowners and managers who own and manage most of the nation's natural resource base. This amount is infinitesimal in the total CSREES proposed fiscal year 2000 budget of $948.01 million.

The Association recommends that the fiscal year 2000 appropriation for CSREES should redirect funding to accomplish the following goals:

IAFWA recommends that the Renewable Resources Extension Act be funded at a minimum level of $12.0 million in fiscal year 2000. The RREA funds, which are apportioned to State Extension Services, effectively leverage cooperating partnerships at an average of about four to one, with a focus on the development and dissemination of useful and practical educational programs to private landowners (rural and urban) and continuing education of professionals. The increase to $12.0 million would enable the Extension System to accomplish the goals and objectives outlined in the 1991–1995 Report to Congress. The need for RREA educational programs is greater today than ever because of the fragmentation of ownerships, the diversity of landowners needing assistance, and the increasing environmental concerns of society about land use. It is important to note that RREA has been reauthorized through 2002. It was originally authorized at $15 million annually; however, even though it has been proven to be effective in leveraging cooperative state and local funding, it has never been funded at a level beyond $3.4 million. An increase to $12.0 million would enable the Extension Service to expand its capability to assist over 500,000 private landowners annually to improve decision-making and management on an additional 35 million acres while increasing productivity and revenue by $200 million.

IAFWA recommends that Smith-Lever 3(b)&(c) base program funding be increased by 9.0 percent to a level of $280.95 million with an appropriate portion of this increase targeted to Extension's Natural Resource and Environmental Management Programs (NREM). The President's fiscal year 2000 budget requests a reduction of $18,795,000 funding for Smith-Lever 3(b)&(c) funds from the fiscal year 1999 level. IAFWA appreciates that Smith-Lever 3(b)&(c) base programs provide "Block Grant" type funds for land grant universities to provide essential educational outreach based on local needs assessment. This will enable NREM programs to develop the critical mass of expertise at the state and local levels to redirect and leverage limited funding to address critical existing and emerging natural resource and environmental issues that are directly affecting small landowners and farmers in both rural and urban communities nationwide. Expanding Extension programs in natural

resource public issues education on such issues as forest health, wetlands, endangered species, and human/wildlife interactions, as well as to strengthen its programs in urban and community forestry and environmental education, as called for in the 1990 FACT Act, is essential to address natural resource issues that are relevant to the sustainability of these critical resources. Such an increase targeted appropriately would help producers better understand and implement the changes in the 1996 Farm Bill Conservation Provisions. Moreover, we are concerned that appropriate positions in the Natural Resources and Environment Unit have not been retained to provide needed national leadership for critical interdisciplinary resources such as range management.

IAFWA encourages continuation of close cooperation between State CES's and their State Fish and Wildlife agencies, as well as other appropriate state and federal agencies and conservation organizations. Extension 4-H Youth natural resource programs and projects continue to increase with over 1,350,000 youngsters presently enrolled from both urban and rural communities across the Nation. Increased Smith-Lever funds targeted appropriately will enable CSREES to carry out its environmental education and NREM National Strategic Plan obligations nationwide.

IAFWA recommends restoration of the Rangeland Research Grants $500,000 budget for fiscal year 2000. The Association is disappointed that the practical and applied problems addressed by the Rangeland Research Grants (RRG) program were zeroed out in the President's 1998 budget, and totally ignored in the fiscal year 1999 budget and in the fiscal year 2000 budget. Over one half of the land area of the United States is rangeland; and elimination of the only federal competitive grants program for rangelands has serious implications for wildlife, watersheds, and other natural resources. Modest appropriations for RRG in the past have supported some of the most important rangeland research conducted over the past decade, and wildlife issues on rangelands will present some of the more critical rangeland research problems over the next decade. This would help increase the interdisciplinary capacity of research and educational programs to help landowners improve the adoption of forests and rangelands habitat conservation and management recommendations.

IAFWA recommends that an appropriate portion of the total increased appropriation for Pest Management should be dedicated to educational programs for prevention and control of vertebrate pests in urban and rural communities and to address invasive exotic species and noxious weed problems on rangelands for restoring, managing, and sustaining the biological integrity of the Nation's natural resource base upon which the agricultural and natural resource economies depend. IAFWA notes that a combined total increase of almost $15.5 million has been recommended in the President's budget for Pest Management and related research and extension programs over and above increases received in fiscal year 1999 and that a significant increase in plant and animal research in the National Research Initiative of $48 million is included, with no opportunity for addressing vertebrate pests. Yet, vertebrate pests and invasive species have been identified in many states as posing the most significant problems, now and in the future, that agricultural and related crop producers and private landowners face. The targeting of Pest Management funds for research and educational programs to reduce significant losses to vertebrate pests and invasive species would effectively advance the knowledge and capability of landowners and managers to significantly reduce their losses caused by vertebrate pests and invasive species. It would also enable CSREES and its land grant partners to better address the recently announced Executive Order on Invasive Species (1999–02–03).

IAFWA recommends that the Hatch and McIntire-Stennis funds be restored to fiscal year 1999 levels and, if necessary, redirected from the substantial $80.7 million proposed increase in NRI funding. IAFWA is pleased that the Administration proposes a $11.5 million increase in basic research identified under the National Research Initiative (NRI) as Natural Resources and the Environment; however, what is proposed in the current version of the President's Budget does not address natural resource issues and clearly does not address critical natural resource research needs that the Natural Resource Community, the public, and the over 10 million private landowners are vitally concerned about. The Association is alarmed at the significant reduction in both the Hatch Act and McIntire-Stennis research programs of $28.92 million. Both of these research programs, conducted by land grant university partners and other educational institutions, are crucial to addressing natural resource and environmental issues critical to agriculture and natural resource sustainability now and in the future. The Association is extremely disappointed in the Goal 4 Greater Harmony between Agriculture and the Environments which is the only one of the six CSREES Strategic Goals that even purports to address natural resources. There is no mention of research or extension programs to address the erosion of the nation's natural resource base except that alluded to by the Integrated

Research and Extension Water Quality Program. The others are totally focused on agriculture. The nation's agricultural base cannot be sustained if its natural resource base is not sustained.

LETTER FROM THE IOWA SENATE AGRICULTURE COMMITTEE

THE SENATE,
STATE OF IOWA,
Des Moines, Iowa, April 21, 1999.

The Honorable THAD COCHRAN,
Chair, U.S. Senate Appropriations Agriculture Subcommittee, SD–136, U.S. Senate, Washington, D.C.

DEAR SENATOR COCHRAN: I am submitting this letter as an indication that the Food and Agricultural Policy Research Institute (FAPRI) Consortium provides significant analysis and data to state policy makers. As Chairman of the Iowa Senate Agriculture Committee, I have relied on the information and data provided by FAPRI in our deliberations dealing with policy questions on agriculture and trade policy. With events such as the Asian economic difficulties, continuing developments within the European Union, the currency problems in the Southern Hemisphere, and other events throughout the world it becomes essential to have a reliable source of unbiased information and data.

The baseline and other large-scale econometric models developed and maintained by FAPRI have provided analyses enabling us to more accurately project our budgets and determine appropriate policy courses for this state's agriculture, as well as to determine our role in national policies. Additionally, FAPRI forecasts enable agricultural producers and policy makers to form and assess their outlook of national and world markets.

Certainly at this time of concern and difficulty in the farm economy, this type of data and intelligence is extremely valuable to all policy makers at the local, state, and national level. I would hope that this type of support would continue in the future.

Sincerely yours,

E. THURMAN GASKILL,
Chairman of Iowa Senate Agriculture Committee.

PREPARED STATEMENT OF THE JOSLIN DIABETES CENTER

INTRODUCTION

Mr. Chairman, thank you for this opportunity to submit a statement for the public witness hearing record. The subject of this short statement is the continued funding in fiscal year 2000 for the Diabetes Project in the Extension Service of CREES. We have developed a plan for fiscal year 2000 that will require $975,000. This includes costs of Federal Administration, participation expenses of the states of Washington and Hawaii and the personnel, equipment and associated costs of Joslin Diabetes Center within the total cost of the program.

FISCAL YEAR 1999 BACKGROUND

I would like to express Joslin Diabetes Center's sincere appreciation to you and Representative Nethercutt for your leadership in the fiscal year 1999 process in providing $550,000 for the initial year of the Diabetes Project. We know you faced difficult decisions concerning funding priorities. We feel that your allocation of these funds indicates that you share the vision of the growing community role and organizational flexibility of the Extension Service as we enter the 21st Century.

Joslin and Extension personnel have met and agreed to a plan of action in implementing the fiscal year 1999 program. Extension Service officials characterized the concept as a "win-win" program during the first meeting. When initial meetings were held, Extension Service officials immediately embraced the concept of utilizing components of Extension's national partnership infrastructure for a pilot program with Joslin. In fact, Extension was already involved at the state level with the National Diabetes Education Program (NDEP), a joint program of the Centers for Disease Control (CDC) and the National Institutes of Health (NIH), both part of the Department of Health and Human Services. Extension officials recognized that Joslin's non-invasive screening proposal, based on components of the Joslin Vision Network (JVN) brought an important new facet to the NDEP and services to the rural health population. The addition of the Joslin pilot program is of particular im-

portance in providing this new technology to minority rural residents, who suffer a much higher incidence rate than is the national average.

To date, we have been in contact with the State officials of Washington and Hawaii, and have had several visits and conference call sessions with Federal Extension officials. We are at the point of signing a Memorandum of Understanding with the Federal Extension component to launch the full-scale program. We have submitted a plan of action and are incorporating some alterations suggested by both State and Washington personnel. Once the revised plan is completed and approved by Extension, we will deploy the equipment and materials that both Joslin and Extension have been preparing during this period of partnership formalization.

Joslin is eager to commence the program. By the time this hearing volume is published, the program will be underway and operating within both Washington and Hawaii.

FISCAL YEAR 2000 PLAN

For fiscal year 2000, the mission and objectives for the two state pilot program remain the same as for fiscal year 1999. For any project to prove its benefit, at least two years of operational experience must be conducted in order to gather sufficient data to prove the project's value. The Diabetes Project will be fully operational October 1, 1999, the first day of fiscal year 2000. In fiscal year 1999, much of the first six months was devoted to establishing organizational responsibilities, developing proposals in the standard CREES/Extension forms, and coordinating the implementation mechanism necessary to deliver services to the target populations of Washington and Hawaii.

As with first year funding, the following will be accomplished in the second year (fiscal year 2000):

—training of Washington and Hawaii Extension personnel in equipment use will have taken place;
—deployment of the diabetes non invasive screening portion of the project will be completed;
—educational materials will have been devised for the specific target populations of Washington and Hawaii;
—coordination with the NDEP, local and State health officials to handle referrals will have been established;
—preliminary baseline comparisons will have been completed for the first year's operational phase; and
—plans to monitor third year independent operation will have been established.

The evaluation of the two year performance, compared with baseline data, will yield the results of the introduction of the advanced technology and the advanced medical care and prevention techniques that are the subject of this project. When similar testimony is provided to the Committee next year, we hope to have preliminary findings to report to you on this investment in American rural health and the cooperative partnership between the Extension Service and the Joslin Diabetes Center.

Mr. Chairman, this concludes my brief statement. we are submitting a detailed budget for the fiscal year 2000 funds of $975,000 we are seeking to the Extension Service for their review. If you or the Committee staff have any questions we may answer concerning this project, we would be pleased to meet and discuss the details in more detail.

Mr. Chairman, thank you again for your efforts in fiscal year 1999. The Extension Service and Joslin Diabetes Center appreciate your confidence in our capabilities and your focus on the improvement of quality life in rural America. We respectfully request continued funding of $975,000 in fiscal year 2000 to fully demonstrate the benefits and potential national returns that can be derived from this pilot effort.

PREPARED STATEMENT OF THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Chairman Cochran and members of the subcommittee: The Metropolitan Water District of Southern California (MWD) appreciates the opportunity to submit testimony regarding the U.S. Department of Agriculture's (USDA) fiscal year 2000 budget, for the Hearing on Agriculture, Rural Development, Food and Drug Administration and Related Agencies Appropriations. MWD is a public agency created in 1928 to meet supplemental water demands of those people living in what is now portions of a six-county region of southern California. Today, the region served by MWD includes nearly 16 million people living on the coastal plain between Ventura and the international boundary with Mexican border. It is an area larger than the State of

Connecticut and, if it were a separate nation, would rank in the top ten economies of the world.

Included in our region are more than 225 cities and unincorporated areas in the counties of Los Angeles, Orange, San Diego, Riverside, San Bernardino, and Ventura. We provide more than half the water consumed in our 5,200-square-mile service area. MWD's water supplies come from the Colorado River via the district's Colorado River Aqueduct and from northern California via the State Water Project's California Aqueduct.

Introduction

MWD continues to favor USDA implementation of conservation programs, and is especially encouraged by the new actions identified in the recently released Clean Water Action Plan. The Clean Water Action Plan fosters integration of efforts by USDA, the U.S. Environmental Protection Agency, and other federal agencies to improve water quality. MWD firmly believes that inter-agency coordination along with cooperative conservation programs, that are incentive-based and facilitate the development of partnerships are critical to addressing natural resources concerns, such as water quality degradation, wetlands loss and wildlife habitat destruction. It is vital that Congress provide USDA with the funding necessary to successfully carry out its commitment to natural resources conservation.

Our testimony focuses on USDA's conservation programs that are of major importance to MWD. In particular, MWD urges your full support for funding for USDA's Environmental Quality Incentives Program (EQIP). Full funding for this program is essential for achieving Colorado River Basin salinity control objectives through the implementation of salinity control measures as part of EQIP. In addition, MWD requests your full support for the Wildlife Habitat Incentives Program, Conservation Reserve Program, Wetlands Reserve Program, Integrated Pest Management and related programs, and the Water and Waste Disposal Loans and Grants program. Sufficient federal funding for these USDA programs is necessary to achieve wildlife habitat restoration and source water quality protection objectives in the Colorado River Basin and in California's Sacramento/San Joaquin Bay-Delta (Bay-Delta) estuary.

Environmental Quality Incentives Program

The Environmental Quality Incentives Program provides cost-sharing and incentive payments, technical assistance and educational assistance to farmers and ranchers for the implementation of structural practices (e.g., animal waste management facilities, filterstrips) and land management practices (e.g., nutrient management, grazing management) that address the most serious threats to soil, water and related natural resources. EQIP is to be carried out in a manner that maximizes environmental benefits per dollar expended. This assistance is focused in conservation priority areas identified by the Natural Resources Conservation Service's State Conservationists, in conjunction with state technical committees and Farm Service Agency personnel. MWD does have some concern with respect to this aspect of EQIP. Beginning with the first full year of EQIP funding in 1997, USDA's participation in the Colorado River Salinity Control Program has significantly diminished. The mechanism by which funding has been allocated by USDA to date inherently overlooks projects for which benefits are interstate and international in nature. Clearly, Colorado River salinity control has benefits that are not merely local in nature, but continue downstream and EQIP as it is currently administered by USDA does not adequately fund national priorities. MWD supports the recommendation of the Colorado River Basin Salinity Control Forum as a way to remedy this situation. In Public Law 104–127, Congress amended the Colorado River Basin Salinity Control Act to direct the Secretary of Agriculture to carry out salinity control measures in the Colorado River Basin as part of EQIP. Sufficient federal funding for implementation of EQIP is critical in order to achieve Colorado River Basin salinity control objectives as well as source water quality protection and ecosystem restoration objectives in the Bay-Delta estuary and watersheds tributary to the Bay-Delta.

The Colorado River Basin Salinity Control Forum (Forum), the interstate organization responsible for coordinating the Basin states' salinity control efforts, issued its 1996 Review, Water Quality Standards for Salinity, Colorado River System (1996 Review) in June of 1996. The 1996 Review found that additional salinity control was necessary with normal water supply conditions beginning in 1994 to meet the numeric criteria in the water quality standards adopted by the seven Colorado River Basin states and the U.S. Environmental Protection Agency. For the last six years (1994–99), funding for USDA's salinity control program has not equaled the Forum-identified funding need for the portion of the program the Federal Government has the responsibility to implement. It is essential that implementation of Colorado

River Basin salinity control efforts through EQIP be accelerated to permit the numeric criteria to be met again under average annual long-term water supply conditions, making up the shortfall. The Basin states and farmers stand ready to pay their share of the implementation costs of EQIP.

The President's proposed fiscal year 2000 budget contains program funding of $300 million for implementation of EQIP through financing provided by the Commodity Credit Corporation. MWD supports this level of EQIP funding which is also consistent with the USDA actions called for under the Clean Water Action Plan. MWD also support the proposed level of funding for Conservation Technical Assistance included within the Natural Resources Conservation Service's (NRCS) Conservation Operations Program. Conservation technical assistance provides the foundation for implementation of EQIP and other conservation programs. The Forum has determined that allocation of $12 million in EQIP funds in fiscal year 2000 is needed for on-farm measures to control Colorado River salinity. This level of funding is necessary to meet the salinity control activities schedule to maintain the state adopted and federally approved water quality standards.

MWD also supports the proposed level of funding for Conservation Technical Assistance (CTA) included within the Natural Resources Conservation Service's (NRCS) Conservation Operations Program. Conservation technical assistance provides the foundation for implementation of EQIP and other conservation programs. The proposed funding will be used, in part, to assist animal feedlot operation (AFO) owners to develop and implement waste management plans. AFOs are potential sources of pathogens which can impair drinking water sources.

MWD urges you and your Subcommittee to support full funding for EQIP and NRCS CTA as requested in the President's fiscal year 2000 budget for USDA, with the specific earmark allocation of EQIP funds to the Salinity Control Program. MWD also recommends that the Colorado River Basin be designated as a national priority area for salinity control.

Wildlife Habitat Incentives Program

The Wildlife Habitat Incentives Program (WHIP) is a voluntary program, providing technical assistance and cost-sharing, to help landowners develop habitat on their properties that will support wetland wildlife, upland wildlife, threatened and endangered species, fisheries, and other types of wildlife. WHIP offers an opportunity to encourage development of improved wildlife habitat on eligible lands by providing assistance to landowners who wish to integrate wildlife considerations into the overall management of their operations.

WHIP cost-sharing assistance could be utilized to support ongoing interim conservation efforts both in the Bay-Delta estuary and for the Lower Colorado River Multi-Species Conservation Program. The CALFED Bay-Delta Program is a cooperative effort among state and federal agencies and the public to develop a long-term, comprehensive solution to ecosystem and water supply problems in the Bay-Delta. One of the main objectives of the CALFED Bay-Delta Program is to improve and increase aquatic, wetland and riparian habitats so that they can support sustainable populations of wildlife species, by implementing a system-wide ecosystem restoration approach. WHIP could benefit this program by providing cost-share assistance for the development of wildlife habitat on private lands in the Bay-Delta watershed.

The Lower Colorado River Multi-Species Conservation Program (LCR MSCP) is a broad-based partnership of state, federal and private entities in Arizona, California, and Nevada. Participants include water, hydroelectric power and wildlife resource management agencies, Tribal governments, and environmental organizations with interests in the Lower Colorado River. The LCR MSCP is focusing on the conservation of over 70 threatened, endangered and sensitive species and their habitats. WHIP would allow the combination of federal cost-sharing dollars and voluntary agricultural land-use practices to enhance habitat for listed and sensitive species of interest in the Lower Colorado River. This could be a valuable vehicle for gaining further agricultural support for conservation efforts and the goals of the LCR MSCP.

The President's budget requests $210 million for WHIP for fiscal year 2000. MWD recommends that you and your Subcommittee support continued funding of WHIP at the level requested in the President's fiscal year 2000 budget for USDA.

Conservation Reserve Program

Continued support for the Conservation Reserve Program (CRP) is necessary in order to build on the past successes of this USDA conservation program. Under the CRP, incentive payments are provided to producers to remove highly erodible and other environmentally sensitive land from production. This program helps protect the quality of drinking water supplies and facilitates ecosystem restoration efforts

by reducing soil erosion, improving water quality, protecting wildlife habitats, and achieving other natural resource conservation measures. The National Buffer Initiative program will further maximize environmental benefits per dollar expended, and we are supportive of this effort.

Enrollment of eligible agricultural lands that are located in the Bay-Delta estuary and tributary watersheds in the CRP, could provide water quality improvement benefits for this important source of drinking water. We note, however, that the method which determines the rental rate for CRP enrollments effectively precludes the enrollment of much irrigated agriculture land and land with high value crops. As a result, states in the arid west do not benefit from the CRP in proportion to their contribution to agricultural production. While MWD urges you and your Subcommittee to support the President's budget request for the CRP of $1.596 billion for fiscal year 2000, we also strongly request that you review the method for rental rate determination. We understand that one of the key actions under the Clean Water Action Plan is to review and increase, where appropriate, the incentives available for conservation buffers. Such review should also be undertaken for the CRP overall.

Wetlands Reserve Program

The Wetlands Reserve Program (WRP), first authorized in 1990, is a voluntary program providing incentives to landowners for the restoration and protection of wetlands with long-term or permanent easements. Wetlands restoration provides important water quality improvement and wildlife habitat restoration benefits that are important to the Bay-Delta estuary. MWD urges you and your Subcommittee to support appropriation of $209 million for the WRP in fiscal year 2000, as requested in the President's budget. Full support for the WRP is necessary to achieve the Administration's goal of enrolling an additional 199,820 acres into the program currently, for a cumulative enrollment of approximately 825,000 acres by the end of 1999 and 975,000 acres by the end of calendar year 2000.

Conclusion

Thank you for your consideration of our testimony. We believe our comments emphasize the importance of continued funding for USDA's agricultural conservation programs. The USDA's conservation programs are critical for achieving Colorado River Basin salinity control objectives, as well as broader wildlife habitat restoration and source water quality protection objectives in the Colorado River Basin and the Bay-Delta estuary.

LETTER FROM CHARLES E. KRUSE

MISSOURI FARM BUREAU FEDERATION,
Jefferson City, MO, April 21, 1999.

Hon. THAD COCHRAN,
Chair, U.S. Senate Appropriations Agriculture Subcommittee,
Washington, DC.

DEAR SENATOR COCHRAN: On behalf of Missouri Farm Bureau, I am submitting this letter as public record of our support of the agricultural policy research conducted by the Food and Agricultural Policy Research Institute (FAPRI) consortia. As Missouri's largest general farm organization, Farm Bureau maintains a strong working relationship with the FAPRI institutions.

As you know, U.S. farmers and ranchers are currently facing many challenges. Low commodity prices are threatening the viability of agriculture as we know it and it is critical that policy-makers have access to the best analysis possible. Furthermore, producers must utilize this information as they attempt to restore profitability. FAPRI has a well-deserved reputation for conducting objective research; both large-scale econometric and farm-level economic and environmental modeling. Their researchers go to great lengths to validate models using both economic theory and producer input.

Over the years, with the assistance of federal funding, FAPRI has developed a comprehensive modeling system that remains the envy of the world. Their system, capable of quantifying proposed policies from the international to the farm level, is more important than ever. We appreciate their efforts and believe they continue to be a tremendous asset to American agriculture.

Sincerely,

CHARLES E. KRUSE,
President.

PREPARED STATEMENT OF THE NATIONAL ASSOCIATION OF CONSERVATION DISTRICTS

The National Association of Conservation Districts is a nonprofit, nongovernment organization that represents the nation's 3,000 conservation districts and more than 16,000 men and women who serve on their governing boards. Established under state law, conservation districts are local units of state government charged with carrying out programs for the protection and management of natural resources at the local level. Conservation districts work with nearly two-and-a-half million cooperating landowners and operators each year and provide assistance in managing and protecting nearly 70 percent of the private land in the contiguous United States.

NRCS's Conservation Technical Assistance Program, delivered through local conservation districts to cooperators and other land users, is the nation's foremost private lands pollution prevention program. It provides landowners and operators with much needed help in planning and applying conservation treatments to control erosion and improve the quantity and quality of soil resources; improve and conserve water; enhance fish and wildlife habitat; conserve energy; improve woodland, pasture and range conditions; and protect and enhance wetlands. Many federal and state agencies also rely upon the technical expertise unique to NRCS to carry out other conservation programs that complement the NRCS effort not only in the agricultural areas, but in rural, suburban and urban communities as well.

Conservation districts believe that the federal government must provide a basic level of technical assistance funding to maintain its commitment to support locally led conservation initiatives that complement federal efforts to ensure a safe and productive environment. The federal technical presence that NRCS provides is vital to ensuring that sound technical standards are maintained in our nation's conservation programs. It is also critical in the actual implementation of needed conservation practices.

This NRCS technical presence, along with federal cost-share programs, leverages a tremendous investment in conservation by state and local governments. State and local governments contribute nearly $1 billion in personnel and cost-share funding each year to support conservation programs carried out by the partnership. This is roughly equal to NRCS's annual budget and does not include the volunteer time of district officials.. Many states are also working to increase this support, but depend on the federal government to provide its fair share.

In developing funding recommendations for specific agencies and programs, we recognize our own responsibilities to contribute a fair share of resources. NACD's recommendations on federal funding for NRCS conservation programs are based on input from conservation districts, state and local program managers and data from various surveys and reports examining the workload generated by federal, state and local program authorities. Although this statement focuses primarily on the Natural Resources Conservation Service, additional recommendations on other important USDA programs are contained in the attached chart.

CONSERVATION TECHNICAL ASSISTANCE

In September 1998, the Conservation Partnership of NRCS, NACD, the National Association of State Conservation Agencies, National Association of Resource Conservation and Development Councils and the National Conservation Districts Employees Association completed data collection for its first-ever National Field Workload Analysis. The purpose of the study was to examine the staff years of technical support needed at the field level to carry out 29 core work elements in fiscal year 1999 and beyond.

Early analysis of the data show that, nationally, the resources needed exceeded those available to address each of the core work elements, thus revealing a "gap" in the Conservation Partnership's capability to maintain the nation's basic conservation infrastructure. Although the analysis has yet to be finalized, it appears that the gap for NRCS technical assistance is more than 7,000 staff years. Initial reports also indicate that an additional $300 million in funding for conservation technical assistance to support 3,000 new field staff years is needed to provide adequate conservation assistance at the local level.

Even without the National Field Workload Analysis data it is obvious that the responsibilities of NRCS and its partners have increased significantly over the past few years. The 1985, 1990 and 1996 Farm Bills created substantial new demands from farmers and ranchers for conservation assistance. The Clean Water Act and the Safe Drinking Water Act, with their nonpoint source pollution and source water protection initiatives, increased the for assistance to install land treatment measures to protect water quality. The President's Clean Water Action Plan, which includes the Unified Animal Feeding Operations Strategy, will add significantly to the

workload as thousands of producers request assistance in developing comprehensive nutrient management plans. Increasing requests for farmland protection and urban conservation assistance are further burdening an already overstressed conservation delivery system.

All of this is occurring at a time when Congress is ratcheting the budget down and agency budgets are shrinking in real terms. If America is serious about protecting its resource base, however, we must not let our conservation efforts diminish and fall by the wayside. We must demonstrate a renewed commitment to our natural resources, the foundation of the nation's economic prosperity.

Although our National Field Workload Analysis final reports will no doubt show a much greater need to effectively address conservation issues on private lands, our federal partners have reported that an additional $90 million is the bottom line needed just to sustain current efforts and prevent a reduction in staff at the field level. We urge you to support this increase, at a minimum, to maintain the basic infrastructure of private lands conservation efforts.

CONSERVATION TECHNICAL ASSISTANCE AND THE FARM BILL

When Congress passed the Federal Agricultural Improvement and Reform Act of 1996—the 1996 Farm Bill—it signaled a renewed commitment to a locally led, incentive-based approach to private lands conservation. In addition to fine-tuning existing programs, it provided new opportunities to promote voluntary conservation efforts on private lands through the Environmental Quality Incentives Program (EQIP), Farmland Protection Program, Conservation Farm Option and Wildlife Habitat Incentives Program.

Although it fashioned new opportunities, the Farm Bill added significant new responsibilities for USDA and its state and local partners. These new responsibilities, which the Conservation Partnership welcomes, also have unintentionally created problems because there simply are not enough staff and funding resources available to carry out the new programs and still maintain a basic conservation program at the field level.

These federally mandated activities are pulling NRCS staff away from addressing significant local natural resource problems. Often, these federal programs do not adequately address local conservation issues by the federal programs. These new programs have not been accompanied by any increase in staff ceilings or any significant increase in technical assistance funding.

The shortfall in technical assistance is further compounded by the fact that the Farm Bill conservation programs are funded through the USDA Commodity Credit Corporation (CCC). Although Congress intended for the CCC to reimburse NRCS for technical assistance activities in carrying out the Farm Bill programs, it unintentionally created a serious problem by capping the amount of CCC funds that USDA could spend on personnel and administrative services to carry out CCC programs at $36 million—the level spent in 1995, before CCC was responsible for the Farm Bill conservation programs. The unintended result was that NRCS would be responsible for carrying out the CCC-Farm Bill programs, but the Corporation would be severely limited in its ability to fund the technical assistance needed for the effort. Since the passage of the 1996 Farm Bill, much of the funding for conservation technical assistance has come from unspent funds remaining from previous spending authority. These sources for technical assistance to support CCC-funded conservation programs are essentially depleted leaving NRCS with a serious shortfall in technical assistance funding.

WATERSHED PROTECTION AND FLOOD PREVENTION

Through its Small Watersheds Program (Public Law 83–566 and Public Law 78–534), NRCS partners with states, local units of government, tribes and other sponsoring organizations to address water quality and quantity issues and assistance communities in flood prevention activities. More than 2,000 plans, covering 160 million acres in watersheds in every state, Puerto Rico and the Pacific Basin, have been completed or are underway. Land treatment measures have been applied to more than 30 million acres and more than 15,000 individual measures have been installed, resulting in substantial contributions to environmental improvement, economic development, flood prevention and social well being.

However, many of the more than 10,000 structures built over the past 50 years are nearing the end of their lifespan, no longer meet current dam safety standards and need to be upgraded, repaired or decommissioned. Approximately 5,000 of the installed floodwater retarding structures are 30 years old. More than 70 percent of all structures were built before the National Environmental Policy Act of 1970 was fully implemented and thus, may not have considered all environmental impacts.

Over time, the areas surrounding the structures have changed. Populations have grown. Flood plains have been developed. Upstream land use has changed. Sediment pools have filled. Flood-pool capacities have decreased. Structural components and vegetated measures have deteriorated. As a result, public safety, quality of life and community economic stability are being affected.

Under many of the original agreements, local sponsors accepted responsibility for assuring that the structures would function as designed over their lifetime. Sponsors, many of which are conservation districts, and NRCS are now finding that they may have liability almost in perpetuity for the integrity of these structures. In most cases, sponsors have diligently maintained the structures, but because dam-safety requirements have changed dramatically since the 1970s, many find they do not have the resources needed for costly renovations needed to keep them safe, functional and in compliance.

By the year 2000, approximately 2,000 structures built with assistance from the NRCS Small Watershed Program will require significant rehabilitation work to meet current environmental, economic and safety needs. Unless these issues are addressed, the magnitude of the problems will only increase as the infrastructure continues to age. Project sponsors in the 500 active watersheds need technical and financial assistance to implement rehabilitation plans to meet current environmental, economic and safety needs. NRCS estimates that roughly $540 million in federal, state and local resources is needed to protect and upgrade already installed works. To meet its share of that need, conservation districts recommend funding for the NRCS Watershed Protection and Flood Prevention account to $120 million in fiscal year 2000.

In his budget request, the President proposes transferring all technical assistance for Watershed Surveys and Planning and Watershed Protection and Flood Prevention Operations to the Conservation Operations Program after enactment of appropriate legislation. Conservation districts oppose shifting technical assistance out of the Watershed and Flood Prevention Operations account. We believe that action would be the first step toward dismantling this important program and that Public Law 566 funds would likely disappear in future budget proposals.

FORESTRY INCENTIVES PROGRAM

The President's proposal requests no funding for the Forestry Incentives Program (FIP) because it promotes timber production on private lands. Congress transferred FIP from the Farm Service Agency to NRCS as part of a major program restructuring in the Federal Agricultural Improvement and Reform Act of 1996 in recognition of NRCS as the Department's private lands natural resource management agency. Its technical assistance is used primarily to assist America's farmers in production agriculture, as do its conservation cost-share programs. USDA recognizes private lands forestry as a farming activity, and the Internal Revenue Service treats forestry cost-share payments as such. Conservation districts urge Congress to fund the Forestry Incentives Program at $25 million for fiscal year 2000.

RESOURCE CONSERVATION AND DEVELOPMENT PROGRAM

Through its Resource Conservation and Development Program (RC&D), NRCS provides conservation assistance to rural communities. Resource management and rural development initiatives undertaken by local RC&D councils help revitalize economically disadvantaged rural areas. Conservation districts support increasing RC&D funding to $69 million in fiscal year 2000 to support funding for 450 RC&D Councils as authorized under the program's enabling legislation.

FARM BILL PROGRAMS

The 1996 Farm Bill established the Environmental Quality Incentives Program (EQIP), the Conservation Farm Option (CFO), the Wildlife Habitat Incentives Program and the Farmland Protection Program (FPP) and strengthened and re-focused the Conservation Reserve and Wetlands Reserve Programs. Conservation districts continue to be strong supporters of these initiatives that protect soil resources, water quality, wetlands and wildlife habitat.

EQIP, in particular, is a highly targeted program intended in part to help producers comply with the requirements of the Farm Bill and other federal and state conservation programs. Requests from producers for assistance through EQIP have been overwhelming—far exceeding the amount of funds available and further stressing the already overburdened NRCS-conservation district delivery system. With additional funding EQIP has the potential to garner tremendous environmental benefits. It also provides an opportunity to reach out to socially disadvantaged producers who traditionally have not participated in USDA's conservation programs Conserva-

tion districts support the President's budget request to raise EQIP funding to $300 million annually to further enhance the program's outreach, water quality, soil conservation and wildlife habitat benefits. The attached chart includes recommendations for other NRCS conservation financial assistance programs.

The 1996 Farm Bill also authorized the Secretary of Agriculture to establish a grazing lands conservation initiative to provide technical and educational assistance to landowners on the nation's 642 million acres of private grazing lands. Conservation districts support this initiative and urge Congress to provide at least $15 million for its operation in fiscal year 2000.

The Wetlands Reserve Program (WRP) provides assistance to farmers to restore cropped wetlands through easements and cost-share payments. In addition to its environmental and wildlife habitat benefits, this voluntary wetland protection program has been extremely popular among farmers and ranchers. Conservation districts support funding WRP at $207.065 million in fiscal year 2000 to enroll the remaining authorized acreage in the program.

The Conservation Reserve Program similarly provides cost-share assistance and rental payments to farmers to retire highly erodible and environmentally sensitive cropland for 10 to 15 contract periods. In addition to dramatically reducing soil erosion on cropland by as much as 694,062,336 tons per year, it provides myriad other benefits including stemming agricultural runoff and providing critically needed wildlife habitat. Conservation districts strongly support the CRP and recommend funding to enroll the maximum number of acres authorized.

FUNDING FOR COOPERATIVE STATE RESEARCH, EDUCATION & EXTENSION SERVICE

Several extension programs represent critical components are significant in USDA's natural resource management delivery system. For example, the Renewable Resources Extension Act provides educational assistance to help private landowners manage their lands to meet commodity demands and needs. At the same time, it provides many public values associated with the forests and rangelands of our nation

Research also remains one of the keys to the continued vitality of agriculture and effective management of the nation's resource base. U.S. competitiveness in world markets is contingent an aggressive research and development program for agricultural conservation and production techniques. We also recognize that conservation, environmental quality and production research needs vary across the United States. Conservation districts support maintaining strong research programs in NRCS, the Agricultural Research Service, the Cooperative State Research, Education and Extension Service and other agencies as needed.

America's conservation districts fiscal year 2000 funding recommendations begin rebuilding the nation's commitment to helping land managers conserve natural resources on private lands. They represent a commitment to embrace and protect the nation's natural resources for our present and future generations.

We appreciate the opportunity to provide our recommendations to the Subcommittee.

PREPARED STATEMENT OF THE NATIONAL ASSOCIATION OF HOME BUILDERS

The National Association of Home Builders (NAHB), which represents more than 197,000 member firms, offers the following comments on the administration's fiscal year 2000 budget for U.S. Department of Agriculture's Rural Housing Service (RHS) programs.

NAHB believes there is a critical need for affordable housing in rural areas overall. Unfortunately, there are serious obstacles to providing such housing. High among these obstacles are problems with the availability of credit in rural areas compared to urban areas. The flow of capital into rural areas is crucial to the economic health of these rural areas. This position is supported by reports analyzing rural credit markets that were presented to the Senate Agriculture Committee during the 105th Congress by the Economic Research Service, the U.S. General Accounting Office, the Federal Reserve Bank of Kansas City and the Rural Policy Research Institute.

In light of the acknowledged shortage of housing opportunities for rural families with low- and moderate-incomes, NAHB strongly believes that the federal programs designed to provide affordable housing in rural areas, i.e. the programs administered by USDA's Rural Housing Service, are crucial. These programs include both rental housing programs and programs that provide homeownership opportunities through direct loans at below-market interest rates and loan guarantees.

RURAL HOUSING SERVICE MULTIFAMILY PROGRAMS

In the multifamily arena, Congress provided $114 million in direct loans for Section 515 multifamily rental housing production for fiscal year 1999. The Administration has requested a further reduction for fiscal year 2000 to $100 million. The recent budget allocation and requests for the Section 515 program suggest intent to replace it with the Section 538 multifamily loan guarantee program. This would be a serious mistake since the bulk of Section 515 recipients are at incomes too low to qualify for the rents charged to meet the mortgage and other debt service payments necessary for the Section 538 multifamily rental housing loan guarantee program. The two programs simply are not structured to serve families of similar incomes. Therefore, NAHB supports an increase, not a decrease, in current funding for Section 515. A program level of $300 million annually is supportable to meet the needs of rent burdened low-income families in non-urban areas. In view of the desire of many in Congress to maintain the budget caps imposed for fiscal year 2000 by the 1997 Budget Reconciliation Act, and discussions with RHS staff, a level of $300 million for the Section 515 program would be defensible and desirable. NAHB would support this level. Appropriating $300 for the Section 515 program would to a long way toward meeting the serious housing needs of lower income families and the elderly in rural America.

Likewise, the Section 538 program increase requested by the administration, from the $100 appropriated in fiscal year 1999 to $200 million requested for fiscal year 2000, is too minimal. Current low interest rates and continued economic growth support a program level nearer to $300 million per year for this program that costs the government very little to support. As no budget authority is needed to support this program, NAHB believes that it would be a serious mistake to underfund the anticipated demand for the worthwhile Section 538 loan guarantee program.

We also recommend that the $640 million requested for Section 521 Rental Assistance not be split between fiscal year 2000 and 2001 as proposed in the administration's budget. Such an approach could threaten the renewal of expiring rental assistance contracts and might harm efforts to preserve the affordable housing stock in rural areas. The $640 million request should be applied entirely in fiscal year 2000 so as not to create funding allocation problems in future years. Additionally, RHS staff informs us that this level allows for very little new construction activity. Consequently, NAHB would strongly support any increase that Congress might provide.

RURAL HOUSING SERVICE SINGLE FAMILY PROGRAMS

The fiscal year 1999 budgetary authority for the Rural Housing Service Section 502 Guaranteed Rural Housing (GRH) loan program is $3 billion. Through March 2, 13,818 loans have been made under the Section 502 GRH program for a total of $1.304 billion. Funds for future loans are allocated to program users through a reservation system. The exact amount of funds reserved is not publicly known, but NAHB believes that the sum of loans closed and loans reserved is closing in on the $3 billion level authorized for fiscal year 1999. In fact, NAHB understands that RHS will be forced to institute a moratorium on additional reservations for the Section 502 GRH program in May or early June, effectively removing the Section 502 GRH program as a financing option for rural home buyers until the beginning of fiscal year 2000.

Demand for the Section 502 GRH program has proven increasingly popular over the past few years, growing from just 662 loans for $38.4 million in fiscal year 1991 to 39,403 loans totaling $2.82 billion in fiscal year 1998. The withdrawal of the Section 502 GRH program, even temporarily, will have a detrimental effect on families who need the program to qualify to purchase homes, and will cause lenders to have second thoughts regarding future participation in the program. A major source of the rural mortgage credit shortage has been a lack of lender interest and participation in these markets. The Administration has proposed an authorization of $3.2 billion for this program for fiscal year 2000. At a minimum, NAHB believes that a program level of $4 billion should be authorized for the Section 502 Guaranteed Rural Housing loan program to ensure uninterrupted operation and continued lender participation.

The Section 502 Direct loan program has been obligated for 4,783 loans totaling $281.5 million this fiscal year. With a fiscal year 1999 budget of $965 million, it appears on the surface that this program might be adequately funded. Unfortunately, RHS is currently holding additional applications for 24,756 loans totaling $1.666 billion, a good portion of which could be made this year if the budgetary authority were available. Discussions with RHS staff yield a recommended program level of at least $1.5 billion as the minimum level needed to responsibly serve those applications on hand.

Like the Section 502 Direct program, the Section 504 loan and grant programs have backlogs far exceeding the budgeted levels. The Section 504 loan program has seen 1,373 loans closed totaling $6.8 million out of a fiscal year 1999 budget of $25 million. Currently, however, there is a backlog of 4,740 applications totaling $31 million. Almost 2,100 Section 504 grants have been made totaling $9.5 million out of a budget of $20 million. There is a backlog of 11,159 grant requests totaling $22.3 million. NAHB believes that the Section 504 loan and grant programs should each be authorized at $50 million for fiscal year 2000.

In closing, NAHB strongly supports viable Rural Housing Service programs, funded at responsible levels, as we believe both are necessary to help meet the needs for affordable housing for low- and moderate-income families and the elderly living in rural areas. For Congress to allocate federal resources for fiscal year 2000 at the levels requested by the administration for the Rural Housing Service programs will fail to meet current demand on these important programs. Consequently, NAHB respectfully urges funding the rural housing programs at the more responsible levels noted above.

We appreciate your consideration of our views as you formulate the fiscal year 2000 Agriculture Appropriations Bill. Thank you.

Prepared Statement of the National Association of Professional Forestry Schools and Colleges

The National Association of Professional Forestry Schools and Colleges (NAPFSC) is comprised of the 67 universities that conduct the Nation's research, teaching, and extension programs in forestry and related areas of environmental and natural resource management. NAPFSC strongly supports increased funding for federal forestry research programs, including those operated by the USDA's Cooperative State Research Education and Extension Service (CSREES) and the Forest Service. We appreciate this opportunity to comment on the three programs administered by CSREES which greatly enhance the abilities of our member institutions to effectively address forest and natural resource issues facing our nation: the McIntire-Stennis Cooperative Forestry Research Program (McIntire-Stennis), the Renewable Resources Extension Act (RREA), and the National Research Initiative (NRI). All three of these programs have stimulated the development of vital partnerships involving universities, federal agencies, non-governmental organizations and private industry.

USDA-CSREES FORESTRY RELATED PROGRAMS

	FISCAL YEAR—				AUTHORIZED LEVEL
	1998 ENACTED	1999 ENACTED	2000 CLINTON BUDGET	2000 NAPFSC RECOMMENDATION	
MCINTIRE-STENNIS	$20,497,000	$21,932,000	$19,882,000	$23,332,000	(1)
RREA	3,192,000	3,192,000	3,192,000	4,000,000	$15,000,000
NRI	97,200,000	119,300,000	200,000,000	200,000,000	.....

[1] One-half of Forest Service Research Budget (approx. $95 million).

The National Association of Forestry Schools and Colleges believes that university-based education is central to providing the research and landowner education that is needed to address NIPF issues. On February 22–23, NAPFSC co-hosted, along with USDA, a major "Forestry Summit" in Washington, D.C. with over 90 key forestry leaders from across the nation, including tree farmers, representatives from forest landowner associations, forest industry, forestry consultants, and representatives from state and federal agencies and universities.

The outcome of the Summit confirmed the need for increases in forestry research funding with a particular focus on non-industrial private forestlands and forest productivity and an increase in collaborative efforts between university-based research and that of the Forest Service.

The Case for Enhanced Forestry Research Funding.—NAPFSC submits that a "quiet crisis" is rapidly approaching in the nation in terms of the need for more university-based forestry research and extension. The forests and other renewal natural resources of this country are primary contributors to the economic health of the nation; are reservoirs of biodiversity important to the well-being of our citizens; are significant to the maintenance of environmental quality of our atmosphere, water,

and soil resources and provide diverse recreational and spiritual renewal opportunities for a growing population.

Tremendous strains are being placed upon the nation's private forest lands by the combination of increasing demands for forest products coupled with dramatic changes in timber policies concerning our National Forests. Because of the changes in federal forest policy, private forest lands in the United States are now being harvested at rates not seen since the beginning of the 20th century.

Until recently, wood and wood fiber demands have been met in significant part from federal lands. The changes in federal forest timber harvesting policy means the bulk of supply requirements has shifted to privately owned forest lands. To meet this challenge, research priorities must be adjusted to better address the needs of private landowners, and to specifically enhance the productivity of such lands through economically efficient and environmentally sound means. Increased fiber imports are not a viable option as the Nation cannot afford the trade imbalance, loss of jobs, loss of rural economies, or the importing of potentially serious plant, animal, and human diseases and pests. These challenges, however, can be substantially addressed by the university community through the building of integrated research and extension programs assisted by McIntire-Stennis, RREA, and NRI.

Non-industrial private forest (NIPF) landowners provide a large array of goods and services throughout the country. For example, in the East, NIPFs are projected to increase their timber harvests almost 30 percent from the 1986 levels until 2010. Hardwood timber harvests on NIPF lands in the South are actually projected to increase more than 60 percent from 1986 to 2010. These spectacular increases will require larger investments and enhanced public educational programs—and hopefully much more regeneration and intensive timber management—at a scale never before realized on NIPF lands in the U.S.

There are currently approximately 10 million private forestland owners in the U.S. These landowners control nearly 60 percent of all forestland in the country. And it has been to the universities, with strong support from CSREES, that landowners traditionally look for new information about managing their lands. The combination of research conducted by the forestry schools, combined with the dissemination of that research through the cooperative extension network, has never been more essential.

The overwhelming majority of the 10 million private landowners are not currently equipped to practice the sustained forest management that is critical to the health of our environment and economy. Not only are these lands important to the nation's supply of wood and fiber, these same lands provide other substantial benefits to their owners and the nation, including wildlife habitat, clean water and recreation. Enhanced forestry research and extension activities is essential to reach these landowners. Although the McIntire-Stennis, RREA, and NRI programs can help address these concerns, these programs are inadequately funded.

Mr. Chairman, NAPFSC is pleased that Congress provided a small increase in fiscal year 1999 for the McIntire-Stennis program; the first increase in several years. We are very concerned about the more than nine percent reduction proposed in President Clinton's fiscal year 2000 budget for the McIntire-Stennis forestry program. That is the wrong direction when there is such a great need for increased forest research and extension. While much of the President's budget calls for increases in federal research and development funding, agriculture and forestry research were targeted for decreases. We believe that reducing the McIntire-Stennis program is short-sighted. The National Association of State Universities and Land-Grant Colleges (NASULGC) has recommended a McIntire-Stennis funding level of $23,332,000. We strongly support funding at least at this level.

For more than 25 years, McIntire-Stennis funds have been a critical part of University-based forestry research. McIntire-Stennis funds leverage significant additional state and private support and assure long-term forest resource research, graduate training, and outreach across the country. Each dollar in federal appropriations has been leveraged by a factor of up to five in non-federal dollars in support of research programs having state, regional, and national significance.

Importance of Forestry Research and Extension.—Research has improved the understanding of (1) the biology of forest organisms; (2) the structure and function of forest ecosystems; (3) human-forest interactions; (4) wood as a renewable raw material; (5) economics, environmental policy, and business management related to the forest industry; and (6) international trade, competition, and cooperation. McIntire-Stennis programs have advanced our knowledge of the forest ecosystem including the basic chemical, physical, and biological forces that influence forest health and productivity. These programs have also expanded the marketing horizons for environmentally friendly and renewable wood and fiber-based products. Very recent work has examined the economic and ecological benefits of combining agricultural

and forestry practices into integrated land-use systems termed "agroforestry". Furthermore, these programs have significantly aided the development of new forest management systems for multiple-uses including timber, water, wildlife, grazing, recreation, and aesthetic purposes.

The Renewable Resources Extension Act (RREA) provides funds for technology transfer and educational outreach to ensure that the benefits of forestry research are made available to private forestland owners and forest industries through CSREES. More than ever before this program is needed to help private landowners address the increasing challenges facing non-federal forest lands. President Clinton recommended a funding level of $3,192,000 in his fiscal year 1999 budget. NAPFSC recommends funding RREA at a level of $4 million for fiscal year 1999. We urge the Committee to support the NASULGC request. This increase would take RREA to slightly over 25 percent of its authorization level.

RREA funds have created programs and provided expertise that benefit private forestland owners and the forest product industry throughout the country. For example:

—In Arkansas, over $5 million have been estimated to have been earned or saved by forestland owners and the forest products industry because of RREA educational programs.

—In Washington, RREA funding allows the universities to engage in logger training activities. To date, 289 loggers have fulfilled accreditation standards, and regulatory agencies are reporting improved compliance with forest practice rules.

—In Missouri, RREA funding supported a Wildlife Habitat Enhancement Program for Conservation Reserve lands. Participants have already installed practices benefitting 125,000 acres.

Similar stories can be found in all 50 states. It is vital that Congress continue proper funding for this important program for distributing the knowledge gained through our research institutions to the private landowners.

Lastly, we urge your support of the Competitive Grants Program administered under the National Research Initiative of the USDA. Peer competition for grants is at the heart of the university system and this program has become very important to natural resource scientists working within NAPFSC institutions. Research funds from NRI enable NAPFSC institutions to build upon the base provided by McIntire-Stennis. We are pleased that President Clinton's budget calls for a funding level of $200 million for fiscal year 2000, a level also recommended by NASULGC, and we urge your Subcommittee to fund the program at this requested level.

The past, present, and future success of forestry research and extension activities arising from the NAPFSC member institutions results from a unique partnership involving federal, state, and private cooperators. Federal agencies have concentrated on large-scale national issues while state funding has emphasized applied problems and state-specific opportunities. University research in contrast, with the assistance of federal, state and private support, has been able to address a broad array of applied problems related to technology development and fundamental biophysical and socioeconomic issues and problems that cross ownership, state, region, and national boundaries. Schools and colleges with programs in forestry, forest products, and natural resources have the expertise in-house to address a broad range of problems and opportunities related to the forest resource and its use.

We encourage expanded federal participation in this partnership with NAPFSC institutions through McIntire-Stennis, RREA, and NRI. We respectfully urge you to provide much needed increases for fund the McIntire-Stennis Cooperative Forestry Research Program, the Renewable Resources Extension Act, and the National Research Initiative in your fiscal year 2000 Agricultural Appropriations bill.

PREPARED STATEMENT OF THE NATIONAL ASSOCIATION OF STATE UNIVERSITIES AND LAND-GRANT COLLEGES

Mr. Chairman, I am Bob Moser, Vice President for Agricultural Administration at The Ohio State University, and Chair of the National Association of State Universities and Land-Grant Colleges' (NASULGC) fiscal year 2000 Budget Committee. I represent the 105 institutions that work in close partnership with USDA's Cooperative State Research, Education, and Extension Service (CSREES). These universities comprise the State Agricultural Experiment Stations, Cooperative Extension, Forestry, Human Sciences, Veterinary and Academic Programs of the Land-Grant Universities, representing the 1862, 1890, 1994 Colleges, and Hispanic-serving institutions. This testimony also encompasses the views of Thomas Payne, representing

the Experiment Stations Committee on Organization and Policy, and Dick Wootton, representing the Extension Committee on Organization and Policy.

The Land-Grant Universities and USDA's CSREES comprise a federal-state partnership that links new science and technological development directly to the needs and interests of the people. It builds a strong, globally competitive U.S. agricultural system. This dynamic system evaluates environmental impacts of new concepts in production. It protects the health of the nation by producing a highly nutritious and safe food supply. It builds the capacity of the nation to access new information and to educate the coming generation of agricultural scientists, producers, and community leaders.

We employ more than 24,000 professional staff who work directly with more than 40 million Americans each year through our Extension Service. We educate more than 150,000 college students. We conduct research projects central to the nation's interests in food, agriculture, natural resources, the environment, and human development.

The member institutions of NASULGC and I appreciate the on-going support from this Subcommittee and pledge that investment in research, extension, and education programs will continue to benefit both farmers and consumers. Agriculture contributes to the economic well-being of the nation while providing Americans with the cheapest and safest food supply on the planet. Eleven percent of our wages, salaries, rents, and profits stem from food and agricultural-related businesses. Americans spend only 11 percent of their disposable income on food, compared with 15 percent in France, 18 percent in Germany, 33 percent in Mexico, and 51 percent in India. The profitability and quality of tomorrow's agriculture depends on today's research and education system.

Research and development funding for space exploration, the environment, basic science research, and health research has increased in constant dollars from 23 percent to 58 percent over the last 10 years. During that same time, funding for agricultural research and extension programs, the lifeblood of our food supply system, has shrunk by 8 percent in constant dollars. Base funds have eroded by 16 percent. These funds support the scientists and extension educators who can respond quickly and effectively to unexpected problems that arise for producers and consumers.

The President's Budget for fiscal year 2000 proposes a net increase for research, extension and education of $174.2 million above fiscal year 1999 funding for USDA/CSREES. We strongly endorse this critically needed investment. However, we do not believe that the President's budget has identified the best mix of funding mechanisms. It eliminates some $64.5 million from funding lines that Congress typically supports and redirects these funds to other priorities supported by the Administration.

We propose that the $174.2 million increase be distributed with a $40 million increase for base programs, a $120 million increase for competitive grants, and a $14.2 million increase for a mix of targeted mechanisms. Competitive grants and base funding are complementary and both are necessary funding tools. Base funding provides the foundation and stability to assure that needed long-term research and extension programs are supported. Base funds also provide for quick responsiveness to local and regional problems and unexpected crises, such as food safety issues or pest infestations, that could not have been anticipated in the budget preparation process. Competitive grants target high-priority "discovery" research and extension programs, and can operate efficiently with the infrastructure established through base funds.

We will direct this funding toward critical needs and focus areas, determined after numerous meetings with interest groups and stakeholders. The issues mesh with the five goals developed by USDA as part of their process for responding to the Government Performance and Results Act:

GOAL 1. AN AGRICULTURAL PRODUCTION SYSTEM THAT IS HIGHLY COMPETITIVE IN THE GLOBAL ECONOMY

The changing structure of American agriculture: $40.324 million

U.S. farm and ranch families are experiencing financial stress to a degree not matched since the mid-1980s, and they are facing this stress as protection provided by the government diminishes. There are many immediate challenges as a result of weather-related production problems and dramatic changes in international markets, putting many producers in jeopardy. Targeted programs are needed in the states to provide farmers and ranchers with risk management tools and capital management training necessary to make decisions in the short and long term to survive difficult times. Other factors impacting U.S. agriculture include new communication technologies, genetic modifications of plants and animals, vertical integra-

tion of parts of the industry, worldwide population growth and redistribution, a changing global economy, and changing farm policy.

Global competitiveness: $8.0 million

The ability of the United States to compete in global markets will be increased by: (1) developing and disseminating information about market, trade, business, and global finance opportunities; (2) providing information about global agribusiness and investment opportunities; (3) developing and disseminating information about non-tariff trade barriers; (4) identifying niche markets for agricultural products and their derivatives in other nations; and by developing options for improved decision making in global markets, trade, and policy; and linking farmers and agribusiness to international trade providers.

Agricultural genome, germplasm preservation: $45.0 million

The mapping of the human genome has tremendous implications for future health and medical discoveries. In the same manner, mapping the genomes of economically important crops, animals, and microbes has tremendous implications for agricultural production and processing. The result of mapping critical agricultural genomes will also have great impact on food safety and quality, as well as environmental protection. In addition, it is essential that germplasm that has already been developed through the years is adequately preserved and protected. Targeted competitive grants are needed that complement the work of other agencies such as USDA/ARS, DOE, NASA, and NSF.

Ag in the Classroom: $0.268 million

The Ag in the Classroom program plays a critical role in helping students gain some understanding of the realities of production agriculture. At a time when children might believe that milk comes directly from the grocery store, the Ag in the Classroom program assists in providing for a better-informed public-a public that knows that there are real cows, real farms, and real ranch families that help get that milk to the store.

GOAL 2. A SAFE AND SECURE FOOD AND FIBER SYSTEM

Food safety: $9.0 million

(a) *Prevention of food-borne illness ($3 million).*—Research on the actual causes and prevention of food-borne illnesses as well as education on how to handle food safely not only saves money, but also saves lives. Prevention of food-borne illnesses is the responsibility of informed producers, processors, handlers, and consumers of food. Critical points of contamination must be identified and eliminated through targeted research and education programs. While we are in the process of more fully understanding the current list of microbial pathogens and food contaminants with each passing day, there are emerging and unidentified risks facing our food supply.

(b) *Risk assessment and management ($3 million).*—Risk assessment is the relative degree of risk associated with natural and manufactured substances to which humans may become exposed. Safe food depends on broad-based understanding of the causes of food-borne illness, paths to prevention, and commitment to preventive practices employed by producers, processors, handlers, and consumers. Better methods are critically needed for analyzing available data and addressing any uncertainty. Understanding tolerance for risk—real and perceived—is an essential basis for education programs.

(c) *Safety of food imports ($3 million).*—Food imports are increasing dramatically, bringing with them the threat of new and emerging diseases. Contamination could occur at any point in agricultural production, from the farm to the overseas processing plant. There is also the threat of introducing exotic diseases into the U.S. food supply and production systems. Furthermore, the integrity of future agricultural markets will depend on both avoiding domestic crises in food safety and preventing unfair trade barriers. Special attention must be given to cross border flows of safe and healthy food.

Pesticide management and FQPA implementation: $23.776 million

In 1996, Congress passed the Food Quality Protection Act (FQPA), which resulted in many essential changes in food safety and pesticide laws. Included in this legislation was the repeal of the Delaney Clause, which imposed a zero-tolerance of pesticide residues. In its stead, EPA is in the process of reviewing more than 10,000 chemicals used on crops. It appears that some pesticides that have played a key role in current agricultural production practices will not be available to farmers and ranchers in the near future. Immediate steps need to be taken to identify alternative technologies and practices to replace agricultural chemicals that may soon

become unavailable. EPA, USDA and the Land-Grant university community must work quickly to target research and education efforts to provide farmers with ecologically and economically sound alternatives to pesticides that may no longer be available.

GOAL 3. A HEALTHIER, MORE WELL-NOURISHED POPULATION

Expanded Food and Nutrition Education Program (EFNEP): $2.348 million

The Expanded Food and Nutrition Education Program plays a pivotal role in assuring that the recipients of food assistance programs have the training and education that they need to improve the use of their food resources and the nutritional quality of their diets. EFNEP has a well-documented history of developing the ability of food assistance recipients to improve their diets with scarce resources and to fully benefit from the assistance they receive.

Nutrition and health: $6.0 million

The capacity to learn and to contribute to society is traced directly to the quality of health and nutrition from prenatal status through adulthood. Healthy diets minimize illness and disease and reduce medical costs. Assuring a healthy, well-nourished population requires continuing effort toward development of quality research information on nutrient function for maintenance of optimal health, understanding the availability of food for all population groups, especially those at greater risk for nutrition-related diseases, including infants, the elderly, and new immigrant groups. Nutrition education can incorporate research information in a form that is appropriate to each of these segments of the population. Education should include knowledge of how to secure foods to provide adequate nutrition with a commitment to the dietary guidelines. Uses of foods to prevent diseases (e.g., functional foods) and the production of pharmaceuticals from plants are new areas of nutrition research that need to be targeted for support.

GOAL 4. GREATER HARMONY BETWEEN AGRICULTURE AND THE ENVIRONMENT

Agricultural waste management: $14.0 million

In the past several years, outbreaks of microorganisms linked to fish kills and human sickness have focused public attention on better management of nutrients, such as phosphorus and nitrogen. Some scientists believe nutrient runoff from agricultural plant and animal production nourishes algal blooms. In response to public concerns, EPA and USDA have recently developed a draft "Unified National Strategy for Animal Feeding Operations (AFOs)." This unified strategy identifies an array of research, extension, and education activities that need to be addressed. A mix of base support to address research needs in each state is combined with competitive grants to develop integrated research, extension, and education projects.

Water quality and nutrient management: $3.0 million

Water quality and nutrient management encompasses the issues cited in the preceding paragraph. In addition to addressing the issues of agricultural waste, there is an array of pressing issues that need to be addressed, including increased collaboration with other agencies. Farm*a*Syst is a voluntary, science-based extension program that helps farmers and ranchers calculate and manage nutrient loading and run-off on their properties.

Carbon sequestration: $3.4 million

Carbon sequestration could be part of the solution to global climate change. Agricultural crop production uses carbon dioxide from the atmosphere, sequestering the carbon back into plants and the soil. Optimizing the efficiency of agricultural plant production therefore reduces possible threats from global warming. Forest production also plays a pivotal role in carbon sequestration. Base funding for forest research and integrated competitive grants is recommended so that efficient agricultural production can help protect the global environment.

The changing American landscape: $2.0 million

The American urban-suburban-rural interface is rapidly shifting. As a consequence of new demographic patterns, attention needs to be focused on supporting management decisions by local authorities. New knowledge is needed on policy and program options, and the consequences of those choices.

GOAL 5. ENHANCED ECONOMIC OPPORTUNITIES AND QUALITY OF LIFE FOR AMERICANS

The changing structure of rural America: $7.0 million

Rural America includes the vast and dynamic regions of the national landscape that produce our food, fiber, and raw materials that support our industries, recreation, and a valued quality of life. In the twenty-first century, forces that will shape rural America include information technology, genomics, and global information systems and trade policy. Such major forces can cause great stress as well as opportunities. To support rural Americans in adapting to change, three elements of human capacity development are proposed for fiscal year 2000.

(1) *Professional work force preparation*.—Aggressive approaches are needed to attract more people into the science and practices of American agricultural enterprises if they are to advance. Collaborative efforts between universities and private sector laboratories to provide internships can enhance interest and commitment to agricultural sciences. Study abroad experiences can attract graduates into international agriculture.

(2) *Work force transition*.—The national work force preparation initiative coordinates federal, state, and local resources for extension, education, and research to address the training and retraining needs of youth and adults. Economic viability of rural communities with special emphasis on farm and ranch families is of high importance to maintaining the quality of life sought by rural citizens and communities. The initiative focuses on funding support for transitional educational opportunities for farm and ranch families, entrepreneurial job creation, small single-scale manufacturing, value-added food processing, and others.

(3) *Technology transfer*.—Availability of information useful to agricultural producers and practitioners has proliferated with increased access to technology. Greater attention should be given to the use and application of information and technologies that are readily produced by the global agricultural research system. Databases such as those maintained by NASA and the National Research Library should be evaluated as to their utility to the agriculture sector. Attention must be given to assisting users in the verification and management of information specific to their needs.

Children, Youth and Families at Risk: $1.0 million

The national Children, Youth and Families at Risk initiative provides funding to Cooperative Extension Service programs in Land-Grant Universities to develop community based projects that are designed to help at-risk audiences-both children and their families-solve their own problems. Essential to the success of the projects is self-sufficiency. Federal support for the projects extends for a maximum of five years, with states contributing matching funds. This highly successful program addresses parenting skills, building family strengths, community leadership development, health and nutrition education, positive youth development, and more. The return on investment provided by this model program deserves strong continued support and enhancement.

Higher education: $14.750 million

The Administration has proposed a mix of increases and some new programs in the area of higher education, particularly in the area of supporting the needs of minority communities. The Land-Grant Universities support these proposals. In addition, the Land-Grants have targeted much needed increases to the 1890 Institution Capacity Building Grant Program and the Institution Challenge Grants.

Conclusion

Land-Grant Universities are key to the economic, environmental, and social health of our nation. We work one-on-one to help farmers, businesses, communities, and families thrive. We strive to help the United States provide the safest, most abundant, and most affordable food supply in the world. We do all of this in the context of a healthy and protected environment.

With this budget proposal, we have identified the most urgent needs of the people we serve. We believe this mix of basic and competitive dollars, focused on these five priority areas, will best serve agriculture and the general public. Thank you for your consideration.

PREPARED STATEMENT OF THE NATIONAL ASSOCIATION OF STATE UNIVERSITIES AND LAND-GRANT COLLEGES

Mr. Chairman, I am the Assistant Director of the International Agriculture at Cornell University. I am also the current the chair of the International Committee

on Organization and Policy. I testify here in support of the fiscal year 2000 Agriculture Appropriations. Our committee is particularly interested in several programs. These include:

—The proposed Competitive Grants program of USDA/CSREES for Global Competitiveness. The goal of this program is to enhance U.S. competitiveness in global markets through the development and dissemination of information about markets, trade, non-tariff trade barriers, and global agribusiness opportunities. The Agricultural Research, Extension and Education Reform Act (AREERA) of 1998 created a new competitive grants mechanism specifically designed to address these and other tasks.

—Markets, Trade & Rural Development program under the National Research Initiative (NRI)

This program supports the development of innovative research concepts and methods to enhance understanding of the global forces that affect the competitiveness of U.S. agricultural, aquacultural, and forest products sectors in domestic and international markets.

—National Needs Competitive Grants program under Higher Education.

This program supports strengthening of higher education curriculum and teaching. Increasingly, college graduates must be prepared to live and work in a global society. Internationalization of the undergraduate and graduate curricula through coursework and experiential learning is essential. This in turn requires faculty and staff development.

By contributing to a better informed citizenry, these programs will increase U.S. capacity to compete in the global economy.

The impact of current Asian economic turmoil on U.S. agriculture has demonstrated in dramatic fashion the need for sound, research-based understanding of global interdependencies. Studies to assess the impact of national and international public policy, the changing trends in comparative advantages across nations, and the causes and impacts of changing demand patterns are clearly critical to sound public policy and business decision-making. Universities are not only direct sources of high quality research in these areas, but serve as the training grounds for future government and private sector researchers.

Between 1970 and 1995, the fraction of world agricultural production that moved through international markets more than doubled. The United States currently exports over thirty percent of its agricultural output, contributing significantly to the U.S. balance of payments. There is little reason to believe that the international marketplace will decline in importance for U.S. agriculture. U.S. farmers, food industries and consumers are increasingly aware of these trends. The result is a new set of stakeholder expectations for public universities. Land-grant universities across the country are responding, establishing as priority objectives the globalization of research, extension and teaching programs.

In order to compete successfully in global and increasingly free markets, U.S. producers must continue their remarkable progress in improving production efficiency. Increasingly U.S. researchers find genetic resources and ideas to fuel this continued progress through collaboration with overseas scientists. Productivity gains, however, are no longer sufficient to maintain or improve market position. Better understanding of value added opportunities and international market dynamics are now a major determinant of successful competition. It is well known that other countries invest heavily to prepare their future public and private sector leaders to function in an interdependent and competitive world. Large enrollments of foreign students in the universities of the United States and Europe give compelling evidence of this. The U.S. needs to target investments in its own human capital that will better prepare graduates in the food and agricultural sciences for the global economy.

The Global Competitiveness Grants, the National Research Initiative and the National Needs Competitive Grants (Higher Education) programs are designed to help us expand capacity to increase production and marketing efficiencies, and to extend them to users in the food system. The Globalizing Agricultural Science and Education Program for America (GASEPA) Agenda, which is sponsored by our Committee, focuses specifically on how to harness available land-grant university resources, including those to be provided through the above mentioned programs, to increase capacity to compete in global markets. Let me conclude with a brief review of the major components of the GASEPA Agenda.

Under the GASEPA agenda, U.S. land-grant universities will work with various agencies of the U.S. Department of Agriculture to jointly internationalize our staff and programs. We will seek ways to use funds included in the above programs to promote these outcomes.

The GASEPA agenda proposes to initiate and to strengthen globally relevant and useful agricultural teaching, research and outreach programs at land-grant and other qualifying institutions. Specific objectives are:

—Enhancing global competitiveness of U.S. agriculture through human resource development
—Development and dissemination of information about market, trade and business opportunities
—Mutually beneficial collaborative global partnerships
—Promoting trade through global economic development
—Promoting global environmental quality and stewardship of natural resources

It is proposed that at least the first four of these objectives be funded through some combination of the three competitive grants mentioned at the beginning of this testimony. Each of these competitive grant programs will be administered by an agency of the U.S. Department of Agriculture. This framework will ensure that quality standards are maintained and that program activities are integrated with those of other related initiatives.

Among the activities to be supported under the GASEPA agenda are those which will:

—increase the international content of teaching programs;
—provide university faculty and staff with cross-cultural, professional experiences in areas related to their expertise;
—increase the ability of faculty and staff to adapt agricultural technologies developed overseas for use in the U.S.;
—increase faculty, staff and student ability to support the marketing of U.S. agricultural products and services overseas;
—help U.S. agribusiness identify overseas opportunities; and
—provide students in agriculture and related fields with study and work experiences related to international competitiveness.

Land-Grant universities must continue to reorient their higher education, research and extension programs to more effectively address the global dimensions of the agricultural industry. Our stakeholders expect it. The GASEPA agenda seeks to position U.S. agriculture as a major contributor to global food security well into the 21st Century.

Thank you.

PREPARED STATEMENT OF THE NATIONAL ASSOCIATION OF UNIVERSITY FISHERIES AND WILDLIFE PROGRAMS

The National Association of University Fisheries and Wildlife Programs (NAUFWP) submits this statement on the proposed fiscal year 2000 appropriations for the Cooperative State Research, Education, and Extension Services (CSREES), U.S. Department of Agriculture.

Fifty-two universities hold membership in the NAUFWP. They seek to advance the science and practice of fisheries and wildlife ecology and management, and enhance public understanding of natural resources affairs.

Members recognize that information from research and education outreach efforts of the CSREES and its Land Grant University partners help to build public understanding that stimulates uses of new technologies by private landowners, managers, community decision makers, and other segments of the general public. Significant benefits accrue to individuals, the states, and the nation by encouraging sustainable uses of the natural resource base, while simultaneously maintaining a competitive and profitable agricultural industry.

With more than two-thirds of the U.S. lands, or approximately 1.35 billion acres, owned or managed by more than 10 million private individuals, it is essential that the CSREES/Land Grant system be adequately funded. This long-standing partnership delivery system, with its grass roots credibility, must function more effectively in conveying important information to land managers and others. A continuous flow of reliable information is essential to encourage uses of the resource base that are ecologically sound, economically compatible, and socially acceptable. This approach is required to ensure that the natural resource base is used sustainably and yields multiple products, services, and values, including quality of life aspects for people.

The NAUFWP is disappointed in the President's proposed fiscal year 2000 budget. It lacks emphasis on natural resources research and education. For example, the major portion of CSREES's proposed budget is for production agriculture carried out by slightly more than 1 million farmers. Only a very small amount ($3,192,000) is identified for the Renewable Resources Extension Act (RREA), which provides information and technical assistance to the more than 10 million private landowners and

managers who handle most of the U.S. natural resource base. This proposed amount for RREA is inadequate and much too small a percentage of the total $948,012,000 proposed for the CSREES in fiscal year 2000.

Natural resources, upon which our economy and quality of life are based, deserve much more attention and greater consideration. This statement focuses on needed realignments in the President's proposed fiscal year 2000 budget for CSREES. Five recommendations are provided by the NAUFWP.

1. That the Renewable Resources Extension Act be allotted a minimum of $15 million in fiscal year 2000.

RREA funds apportioned to State Extension Services leverage about four dollars from cooperating partners for each appropriated dollar. The major emphasis of this investment is to develop and disseminate practical, useful information to rural and urban landowners and managers. The recommended level of funding was originally authorized at $15 million annually. This level is needed to enable the Extension system to accomplish the goals and objectives set forth in the 1991–1995 RREA Report To Congress.

Needs for RREA information and educational programs are greater now than ever before. Parcels of private land are being fragmented into smaller units, there is greater diversity in landowners needing and requesting assistance, and the general public continues to be increasingly concerned about how land uses are carried out. Funding RREA at $15 million in fiscal year 2000 would permit the Cooperative Extension Service to expand its capabilities to assist more than 500,000 private landowners and managers yearly in bolstering their base of information for carrying out their management and other activities on an estimated 35 million acres, while increasing productivity and revenue by $200 million.

2. That Smith-Lever 3(b) & (c) base program funds should be increased by 9.0 percent to $280,951,000, with an appropriate portion of this increase designated for Extension's Natural Resource and Environmental Management Programs (NREM).

The President's fiscal year 2000 proposal calls for a $18,795,000 reduction for Smith-Lever 3(b) & (c) from the fiscal year 1999 level. This is inconsistent with the goal of enhancing information outreach to individuals with local needs.

The 9.0 percent increase recommended by the NAUFWP would permit developing expertise and services at state and local levels to address existing and emerging natural resource concerns and problems encountered by small landowners and farmers in both rural and urban settings. Extension programs need to be strengthened, particularly on natural resource topics such as forest management, wetlands, threatened and endangered species, and wildlife/human interactions. The designated portion of the 9.0 percent increase would be instrumental in improving landowner understanding of changes and opportunities in conservation provisions of the 1996 Farm Act and to enhance range management.

The NAUFWP strongly recommends that close cooperative working relations be strengthened among representatives of State Extension Services, State Fish and Wildlife Agencies, conservation organizations, and others. More team efforts are needed. One of increasing interest and value is the Extension 4–H youth natural resource program, with more than 1,350,000 youngsters from both urban and rural communities presently enrolled. Enrollments for this fundamental, popular program continue to increase.

Increased Smith-Lever 3(b) & (c) funds, with appropriate targeting, would assist CSREES in carrying out its essential education and service programs, and help meet its NREM National Strategic Plan obligations, nationwide.

3. That the Rangeland Research Grants budget be restored to $500,000 for fiscal year 2000.

In view of the pressing needs to improve management of rangelands, it is disappointing to see this Administration fail to recognize and fund the Rangeland Research Grants Program. More than one-half of the U.S. land area is rangeland, most of which requires increased attention and management, especially to restore and maintain watershed integrity, fish and wildlife, and outdoor recreational opportunities. Providing $500,000 in fiscal year 2000 would reestablish interdisciplinary research and education programs to help landowners and managers restore and perpetuate multiple products, services, and values from these extensive lands.

4. That an appropriate portion of the total increased appropriation for Pest Management be dedicated to educational programs focused on preventing and controlling vertebrate pests in urban and rural communities, and to address invasive exotic species and noxious weed problems on rangelands.

Funds are required to restore, manage, and sustain the ecological integrity of the nation's resource base, upon which the economy and quality of life are based. Regrettably, the President's proposed fiscal year 2000 budget, with substantial increases for Pest Management ($15.5 million) and the National Research Initiative

($48 million for plant and animal research), lacks opportunities to address vertebrate pests. This void needs attention now, to help agricultural producers and other private landowners address vertebrate pests and invasive species, which are the most prevalent problems they encounter in many states.

Targeting a sizeable percentage of Pest Management funds for research and educational programs is needed to enhance the understanding and capabilities of landowners and managers to curtail damages from vertebrate pests and invasive species. It also would enable the CSREES and its Land Grant partners to respond more effectively to the recent Presidential Executive Order on Invasive Species (1999–20–03).

5. That Hatch Act funds be restored at least to the fiscal year 1999 level ($180,545,000), McIntire-Stennis be funded at least to $30 million for fiscal year 2000, and proposed increased funds for the National Research Initiative (NRI) Competitive Grants be reevaluated.

The NAUFWP is deeply concerned over the proposed fiscal year 2000 decrease in funds for the Hatch Act (−$26,873,000) and McIntire-Stennis Cooperative Forestry program (−$2,050,000). These proposed cuts are inconsistent with recognized needs for research and information to address natural resource problems, and to respond to the needs of more than 10 million private landowners and managers. These cuts should not be made.

The NAUFWP is pleased that the President's proposed fiscal year 2000 budget carries a $12,500,000 increase over fiscal year 1999 for NRI research under the category Natural Resources and the Environment. It is recommended that these funds, as well as others, be aligned to address critical natural resource research and information needs, such as those of private landowners and managers. Much greater attention and more funds should be focused on CSREES Strategic Goal 4: Greater Harmony Between Agriculture and the Environment. Soil erosion, water quality, excessive nutrient enrichment, contaminants, and effects of agricultural chemicals on living organisms warrant prompt attention and investment of research, information, and Extension funds. The U.S. land and water base must be maintained in a healthy, productive status.

In summary, the National Association of University Fisheries and Wildlife Programs recommends the following realignments in the President's proposed fiscal year 2000 budget for CSREES.

1. That the Renewable Resources Extension Act be fully funded at $15 million.
2. That Smith-Lever 3(b) & (c) base program funds be increased by 9.0 percent to $280,951,000, with an appropriate portion of this increase designated for Extension's Natural Resource and Environmental Management Programs.
3. That Rangeland Research Grants be restored to $500,000.
4. That an appropriate portion of the total increased appropriations for Pest Management be dedicated to research and education programs to address prevention and control of vertebrate pests, and problems associated with invasive exotic species and noxious weeds.
5. That Hatch Act funds be restored at least to the fiscal year 1999 level, McIntire-Stennis Cooperative Forestry be funded at least to $30 million, and proposed increased funds for the National Research Initiative Competitive Grants be revaluated, with more funds aligned to address critical natural resource research and information needs, such as those of private landowners and managers.

Please include this statement in the official record on the fiscal year 2000 appropriations. Your positive response will be appreciated very much.

PREPARED STATEMENT OF THE NATIONAL CENTER FOR RESOURCE INNOVATIONS

As ever, we appreciate this opportunity to provide testimony to the Senate Appropriations Subcommittee on Agriculture, Rural Development and Related Agencies.

The National Center for Resource Innovations (NCRI) was established in 1990 through a joint private/federal initiative in an appropriation to USDA's-Cooperative State Research, Extension and Education Service (CSREES). The consortium now includes seven sites (including one added last year at the Southwest Indian Polytechnic Institute, Albuquerque, NM) and an administrative office in Rosslyn, Virginia. Each site in the consortium contributes unique expertise to this national program. NCRI capabilities include integration of large data sets in a Geographic Information Systems (GIS) framework from the national level down to the farm field as well as weather analysis, land use planning, resource management at state and local levels, and support for public and private policy development.

The mission of NCRI

The mission of NCRI is to provide collaborative and innovative transfer of geographic information systems technologies to support local government and other public policy development and decision making.

NCRI funding history, matching funds and cost effectiveness

In the past, NCRI has consistently requested $1.8 million annually for minimum program operations. Grants have been awarded from funds appropriated as follows: fiscal year 1990, $494,000; fiscal year 1991, $747,000; fiscal year 1992 and 1993, $1,000,000; fiscal year 1994, $1,011,000; fiscal year 1995, $877,000; fiscal year 1996, $939,000; fiscal year 1997 and 1998, and 1999: $844,000.

NCRI has either matched federal funds or had to reduce program objectives. The total non-federal support generated for fiscal years 1990 to 1998 was in excess of $5,500,000. The total federal appropriated amounts for the same period were $8,600,000. In fiscal year 1997, NCRI prepared, at the request of Congressman Skeen's office, a cost-benefit study. Results showed that for every federal dollar invested, $7.40 in benefits through innovative projects was realized.

NCRI site expertise and accomplishments

The advantage of the consortium of seven regional centers that makes up NCRI is that each site has unique expertise and shares technical support with other sites. In this way, projects are strengthened through shared resources and the experience needed to build complex and comprehensive information systems. Site-to-site technology transfer and networking build NCRI's overall capabilities, aids in problem solving and facilitates consistency.

JOINT ACTIVITIES (SEVEN SITES)

All of the NCRI sites plan engaged in two major collaborative activities this year: a DISTANCE LEARNING PROGRAM broadcast at the Southwest Indian Polytechnic Institute site March 4th and a RESOURCES TECHNOLOGY FAIR on Capitol Hill held on March 22nd, 1999 in the House Science Committee Room. Congressmen and Senators were invited to act as sponsors for the fair, which will include exhibits by the seven NCRI sites as well as by federal agencies and private sector companies who have been partners in technology implementation with NCRI sites.

NCRI—GREAT LAKES UNIVERSITY OF WISCONSIN-MADISON, MADISON, WISCONSIN

The NCRI-Great Lakes project site is located at the Land Information and Computer Graphics Facility (LICGF) in the College of Agriculture at the University of Wisconsin. The Facility was instituted in 1993 to function as a research, teaching, and outreach resource in land and geographic information systems (LIS/GIS). Researchers at LICGF explore uses of LIS/GIS for local and regional land and resource planning to support social, economic, and environmental decision making processes.

During 1999–2000, NCRI-Great Lakes has established the following objectives:

—Conduct seminars for the Wisconsin Land Council to develop citizen-based land use planning and the use of Land Information Systems. Effectiveness of this approach will be assessed.

—Support Wisconsin State Legislature in GIS needs, Research and Prototyping of Wisconsin Administrative Boundaries.

—Accelerate the use of GIS technology by governments with coastal zone jurisdictions.

—Work with the State of Wisconsin on the 2000 Census and its implementation.

NCRI—CHESAPEAKE, INC., ROSSLYN, VIRGINIA

NCRI-Chesapeake builds cooperative integrated information systems "from the nation to the neighborhood" with federal and state agencies, universities and others to provide new information for better decision-making. These systems focus first, on the farm, productivity and the farmers in their own very specific neighborhoods as related to natural systems and their socio-economic position in the landscape. NCRI-Chesapeake has established the following goals for 1999–2000:

—Continuing to expand through Internet research descriptions of impacts of animal manure on water quality, evaluation of agro-ecoindices, and assessment of watershed priorities.

—Assist citizens in becoming involved in planning future growth in North Carolina, the Washington-Baltimore metropolitan area and other urbanizing areas of the country regarding the impact of urban sprawl on ecosystems.

—Cooperate with EPA in defining ecologically sensitive resources potential affected by furze growth.

NCRI—NORTHWEST, CENTRAL WASHINGTON UNIVERSITY, ELLENSBURG, WASHINGTON

NCRI–NW continues to concentrate on the local and regional resource issues of the Yakima Valley and eastern Washington. These issues include irrigation of agricultural lands, county planning needs, Native American interests, and the management of inter-mixed public and private lands. The site works in close cooperation with the faculty and staff of Central Washington University as well as the GIS lab.

NCRI–NW plans for 1999–2000 include:

—Work with the Natural Resources Conservation Service to speed the delivery of digital soils maps to GIS users, precision farmers, and others.

—Initiate a study for the U.S. Bureau of Reclamation on the Yakima River Floodplain.

—Continued assistance to the Kittitas Reclamation District for data development and data exchange.

NCRI—SOUTH WEST, UNIVERSITY OF ARKANSAS, FAYETTEVILLE, ARKANSAS

NCRI–SW has been based at the University of Arkansas at Fayetteville since its inception in May of 1990. Through university support and hardware and software grants, the program has a fully equipped research, training, and outreach facility capable of demonstrating a wide range of software for geographic information systems, remote sensing, spatial statistics, and database management. In the fall of 1994, expansion of Center facilities was completed to include five state-of-the-art teaching and research laboratories, ten offices, and a library/reading room. A variety of advanced computer equipment now facilitates the center's teaching, outreach, and cooperative project capabilities. NCRI-SW continues to focus on technology transfer through training, the development of statewide GIS databases and representative projects demonstrating the cost benefits and efficiency of GIS technology.

NCRI-South West has proposed the following objectives among those to be achieved in 1999–2000:

—Provide technical support to the Arkansas Land Records Modernization Board as well as serving as a member of the Board.

—Participate with a consortium of private and public sector partners to initiate the Seamless Warehouse of Arkansas Geodata (SWAG) so that users will be able to access any selected area of the state with the data provided over the net in OGC Simple Features Format.

—Expand base of county and local government staff who are knowledgeable as to benefits and costs for GIS technologies.

NCRI—NORTH CENTRAL, UNIVERSITY OF NORTH DAKOTA, GRAND FORKS, NORTH DAKOTA

NCRI–NC's interdisciplinary research and technology transfer programs are located and supported at the University of North Dakota Regional Weather Information Center. From this facility, NCRI–NC is linked to the UND Aerospace Scientific Computing Center which houses a CRAY 190. The resource issues in the region are related to the enhancement and protection of farming and ranching, which are principal contributors to the region's economy. The work performed by NCRI–NC and the Regional Weather Information Center has resulted in their being recognized by the Ford Foundation as a semifinalist in the 1995 Innovations in American Government Awards Program.

During 1999 and 2000, NCRI–NC has set the following objectives:

—Disseminate GIS technology to local, county and state agencies in the North Central region.

—Intergate weather and climate data into the GIS environment.

—Provide support for agricultural datasets and methods in GIS practices.

NCRI—SOUTH EAST, SOUTH GEORGIA REGIONAL DEVELOPMENT CENTER, VALDOSTA, GEORGIA

NCRI–SE's program is an integral component of the South Georgia Regional Development Center—a regional agency that supports local governments across ten counties. NCRI–SE's primary objective is to encourage the use of geographic information for ecologically responsible decisionmaking in this primarily rural region. "Real world" presentations by NCRI–SE using actual local geographic data have proven to be an effective method of demonstrating the value of GIS. This, coupled with the experience gained by NCRI–SE personnel from implementing GIS for local governments, has proven invaluable to government managers in the South East re-

gion. NCRI–SE also provides direct technical and "hands on" advice and training for any regional entities working in the GIS realm.

NCRI–SE's goals include:

—Demonstrate the value of GIS to local governments using information that applies directly to their own situations, using the existing regional database and GIS applications built by NCRI-SE.

—Provide leadership in the GIS development process by promoting local government cooperative agreements in order to increase involvement and defray costs, and to promote standards that allow simple transfer of GIS data among state, local and federal agencies.

—Continue to refine data and databases for regional wetlands.

SOUTHWEST INDIAN POLYTECHNIC INSTITUTE, ALBUQUERQUE, NEW MEXICO

NCRI–SIPI is the newest of the NCRI sites, having been added in 1997. SIPI is a National Indian Community College, funded by the federal government. Nearly 50 percent of all American Indians live within a 500-mile radius of the school. SIPI's overall objective is to provide technology transfer through distance education in conjunction with the development of precision farming on the SIPI campus and on Indian reservation lands in New Mexico and southern Colorado.

For fiscal year 1999–2000, SIPI has the following objectives:

—Provide leadership, support and direction to advocates, practitioners and users of geo-spatial predicts and services.

—Expand the base of county and local government staff who are knowledgeable as to benefits and costs for GIS technologies.

—Offer GIS and GPS training/short courses locally for tribal personnel.

CONCLUSION

—The current level of funding for NCRI (fiscal year 1998) is $844,000. We request that the level of funding through USDA/CSREES be restored to $1.2 million for fiscal year 2000. For the past two years, NCRI has provided SIPI with $50,000 of its own funds. The requested funds would provide uniform funding levels for all sites.

The NCRI Consortium appreciates this opportunity to provide testimony to the Senate Appropriations Subcommittee on Agriculture, Rural Development and Related Agencies.

PREPARED STATEMENT OF THE NATIONAL COMMODITY SUPPLEMENTAL FOOD PROGRAM (CSFP)

Mr. Chairman and subcommittee members, I am Frank Kubik, President of the National Commodity Supplemental Food Program (CSFP) Association. Our association of state and local CSFP operators work diligently with the Department of Agriculture Food, Nutrition, and Consumer Service to insure a quality supplemental nutrition assistance commodity food package program for elderly men and women, and mothers, infants, and children. The program which was authorized in 1969 serves 412,000 individuals every month in 19 states and the District of Columbia.

This 30 year old CSFP program stands as testimony to the power of partnerships between community-based organizations, private industry and government agencies. The CSFP offers a unique combination of advantages unparalleled by any other food assistance program.:

—The CSFP specifically targets our nation's most vulnerable populations: the very young and the very old.

—The CSFP provides a monthly selection of foods specifically tailored to the nutritional needs of the population we serve. Each eligible participant in the program is guaranteed [by law] a certain level of nutritional assistance every month.

—The CSFP purchases foods at wholesale prices which amounts to ⅓ the cost it would be to provide the same supplemental nutrients at retail voucher cost. The average food package cost for fiscal year 1999 is $15.44 and retail cost would be at least $50.

—The CSFP involves the entire community in the problems of hunger and poverty. Thousands of volunteers as well as many private companies donate money, equipment, and most importantly time to deliver food to homebound seniors. These volunteers not only bring food but companionship and other assistance to seniors who might have no other source of friendship.

—For these historical reasons I would like to submit the National CSFP Association legislative issues and a report of our 1998 survey of monthly volunteer labor hours to support our requests.

Chairman Cochran, the committee has consistently been helpful with funding support for our very prudent way of providing nutritional supplements to the seniors and mothers and children. Please help us continue.

LEGISLATIVE ISSUES FISCAL YEAR 2000

Position: The CSFP Association recommends an appropriation of $95 million for fiscal year 2000. This would increase the budget figure of $90.2 million. The increase is necessary for:

—a new state program
—additional caseload for existing programs
—adjustment for state/local support funding

Reasons:

—CSFP is a very effective food delivery system. According to USDA FNS the average cost of a food package is $16. The average retail value of those foods distributed by grassroots community organizations is $50-$60. Our 1998 survey of monthly volunteer labor hours shows we have at least $390,400/month donated to stretch support funding for the program.
—The proposed funding for CSFP includes the transfer of $6 million in food inventory for total program support for fiscal year 2000. This mix of funds and inventory will result in a decrease of $1.2 million in state/local support funding due to computation on funds not total program assets.
—There are requests from existing programs for 20,000 additional caseload slots and one new state has a approved plan for a pilot program of 5,000 slots.

Position: With the aging of America, CSFP should be an integral part of USDA Senior Nutrition Policy. This is the most cost effective way to provide the nutrient rich foods that low income seniors are lacking.

Reasons: The advantages of CSFP include:

—The food box for seniors is nutritionally balanced.
—Supplemental nutrition is proven to reduce public health care costs.
—Nutrition education is provided.
—Food is distributed through community and faith based organizations, familiar to many seniors.
—Seniors resist participation in programs such as food stamps, but readily access commodity programs.
—CSFP requires a means test that assures participants are truly needy.
—Actual food is provided to those who need it most.
—CSFP supports United States farmers.
—Program operators utilize volunteers and other in-kind donations to reach homebound seniors.
—Food boxes are valued at approximately $50–$60 retail and only cost USDA $15.44.

NATIONAL COMMODITY SUPPLEMENTAL FOOD PROGRAM (CSFP) SURVEY 1998

State	Fixed Sites	Partici-pants	Mobile sites	Partici-pants	Volun-teer sites	Partici-pants	Volunteer hours	Dollars value	Square miles
New Hampshire	3	2,000	86	7,200	5	137	114	$1,566	9,304
New York	9	26,302	57	1,319	.....	.....	142	1,951	3,700
Wash. D.C	5	7,718	4	792	13	2,143	519	7,131	63
Kentucky	1	5,300	.....	.....	23	700	600	8,244	750
North Carolina	1	1,036	8	314	.....	.....	.....	.....	500
Tennessee	4	14,324	3	4,400	.....	.....	.....	.....	1,850
Illinois	12	13,285	.....	.....	72	5,972	3915	53,792	36
Michigan	22	47,170	102	21,688	366	14,173	5,922	81,368	58,527
Red Lake MN	1	325	.....	.....	.....	.....	.....	.....	([1])
Minnesota	2	2,822	83	5,994	.....	.....	504	6,925	84,068
Louisiana	10	22,824	33	18,241	208	28,460	1,779	24,443	27,928
New Mexico	4	11,353	37	6,185	19	969	1,194	16,406	42,806
Colorado	9	19,180	32	1,714	61	2,090	1,632	22,424	18,656
Iowa	1	3,064	37	1,028	13	579	450	6,183	3,600
Kansas	9	2,185	24	1,175	62	1,192	640	8,794	N/A
Nebraska	22	8,923	85	3,457	49	1,536	1,417	19,470	74,866
South Dakota	2	461	3	69	.....	.....	.....	.....	([1])
Arizona	16	5,995	.....	.....	67	14,179	1,122	15,416	80,000
California	.....	.....	45	28,175	72	3,863	8,154	112,036	3,697
Oregon	1	712	.....	.....	.....	.....	310	4,259	75
Totals	134	194,979	639	101,751	1,030	75,993	28,414	390,408	410,426

[1] Reservations.

FIXED SITE: Foods are warehoused and participants travel to the site and take food packages back to their homes. Distributed to participants by paid staff.
MOBILE SITE: Distribution where foods are transported to a facility (not warehoused) and distributed to participants by paid staff.
VOLUNTEER SITE: Location where distribution of prepacked foods is performed by volunteer groups or individuals.

PREPARED STATEMENT OF THE NATIONAL CONSERVATION BUFFER COUNCIL

The National Conservation Buffer Council and its sponsoring organizations urge you to give high priority to conservation and environment programs in the fiscal 2000 agricultural appropriations bill.

NCBC is a private-sector, nonprofit organization formed to advocate agricultural conservation practices, especially the family of practices known as buffers, so as to protect water quality and reduce future regulatory burdens on farmers and ranchers.

We hope to help encourage the establishment of two million miles of buffers on private agricultural lands by 2002.

Such an ambitious goal can only be achieved through a vigorous private-public partnership with the Department of Agriculture—especially the Natural Resources Conservation Service—and the continued availability of the department's incentive programs and technical assistance to landowners. To those ends, we ask that you consider the following recommendations regarding fiscal year 2000 appropriations:

Environmental Quality Incentives Program.—NCBC supports the Administration's request for an additional $100 million in funding for EQIP. This addition is critical to meet the overwhelming demand for the program's cost-share and incentive payments and technical assistance—demand which, it should be noted, stands to only increase as additional requirements such as the Administration's Animal Feeding Operation strategy and various state-level water quality regulations come on line.

With these new environmental challenges for agriculture so obviously on the horizon, it was extremely disheartening that EQIP funding was actually reduced for fiscal year 1999. At the very least, no cuts to EQIP should be made in the future.

Conservation Reserve Program.—Wetlands Reserve Program CRP and WRP are major sources of incentives for buffer establishment. We request that no restrictions on enrollments be enacted in fiscal year 1999.

The CRP continuous signup stands to be the most lucrative program in many regions. However, participation in this option has been limited. Our extensive contacts in the field suggest this is due in part to several obstacles, including indifference of USDA personnel in some counties toward the continuous CRP, inconsistent application of program guidelines nationwide, and insufficient payment rates in some areas. We would appreciate direction from your subcommittee to the Secretary to remedy these barriers.

NRCS operations.—The agency's own workload analysis, based on expectations of demand for technical assistance connected with the environmental challenges mentioned above, suggests that the staffing levels provided for in the Administration's own fiscal year 2000 budget will leave NRCS about 1,000 person-years short of what will be needed. This assistance is critical, especially for landowners with limited resources. NCBC urges the subcommittee to carefully consider the critical technical assistance needs of farmers and ranchers when setting the funding level for NRCS. At this juncture, we would also register our concern about the limitations on NRCS technical assistance for development of CRP conservation plans that have arisen as a result of the 1996 farm bill's amendment to Section 11 of the Commodity Credit Corporation charter act. As you are aware, this is an issue with respect to both the fiscal year 2000 agricultural appropriations bill and the fiscal year 1999 supplemental appropriations measure. We request your support for an exemption of conservation programs from the so-called Section 11 cap on reimbursable agreements, especially since conservation technical assistance was not among those agreements in fiscal year 1995 that are the basis for the cap.

Alternatively, we would ask that you urge the Secretary to expedite the process for contracting outside the Department for the technical assistance necessary to allow the CRP enrollments to progress unhindered.

Thank you for your consideration of our recommendations. I would be happy to discuss these points, especially the suggestions of direction to the Department, with you or your staff.

PREPARED STATEMENT OF THE NATIONAL COOPERATIVE BUSINESS ASSOCIATION

Mr. Chairman, members of the committee, we appreciate the opportunity to present testimony as you prepare to consider appropriations for the Department of Agriculture for fiscal year 2000. I would like to discuss the Grants for Rural Cooperative Development program and the centers for cooperative development receiving funding from the program. I urge you to appropriate at least the President's budget amount of $5 million for this valuable program that is offering real solutions to the daunting challenges being faced in rural America.

The National Cooperative Business Association (NCBA) is proud of its role in assisting the creation of a network of rural cooperative development centers across the country. We know that Congress is equally as proud of its role in fostering a cooperative business development support network throughout rural America. Congress and this Administration recognize the vital role that cooperatives play in providing jobs, increasing incomes and reducing expenses for millions of rural Americans.

The Grants for Rural Cooperative Development program was originally authorized by section 2347 of the 1990 farm bill as a program of Grants for Technology Transfer and Cooperative Development. In fiscal year 1993, this committee began to provide funding for the program, and report language over the years has indicated your strong support for the concept of using this funding for the purpose of creating a network of centers for rural cooperative business development. While the centers offer technical assistance, information and other resources for cooperative business formation, their network provides a vital support system for the centers to continue operating.

NCBA's members, along with other supporters of cooperatives around the nation, joined together as the National Rural Cooperative Development Task Force to advocate for support for a national network of centers and to develop the linkages among the centers and between the centers and local partners to sustain the network's development. NCBA is now working with these regional centers that provide vital technical assistance and support for the development of cooperative enterprises in rural America. NCBA also signed a partnership agreement in 1997 with USDA's Cooperative Services program to coordinate strategies to assist rural cooperative development.

In 1996, Congress demonstrated its strong commitment to the centers approach when it passed the FAIR Act, also known as the 1996 farm bill. The program is now called Grants for Rural Cooperative Development in section 747(c)(4) of Public Law 104–127. The program focuses on supporting "nonprofit institutions for the purpose of enabling the institutions to establish and operate centers for rural cooperative development." It is authorized to provide funding at $50 million per year. The revised statutory language defines the goals of these centers as "facilitat[ing] the creation of jobs in rural areas through the development of new rural cooperatives, value added processing, and rural businesses."

With the support of funding received from the program over the past few years, the rural cooperative development centers have demonstrated quantifiable results. The National Network of Centers that NCBA works with has established more than 50 value-added cooperatives serving in excess of 5,000 members. These centers have created or saved 16,500 jobs in the communities they serve. They have assisted more than 400 local communities and organizations. The centers have raised the quality of technical assistance being provided on cooperative development, they have developed significant information-sharing capability among their network and created the first report of best practices in the field of cooperative development.

This coming year, centers will be involved in replicating successes they have achieved and breaking new ground in areas where cooperative development is needed. The electricity industry is rapidly being deregulated in every part of the country. Consumer-owned rural electric cooperatives have provided reliable and affordable electricity to rural Americans since the rural electrification program began directing federal resources for them in the 1930s. Once again, a small federal investment can provide essential assistance to develop consumer-owned energy purchasing cooperatives so that Americans are able to provide themselves with access to electricity. By pooling the purchasing power of many small consumers, cooperative businesses give their members the same bargaining power as large users of electricity. Centers are working with rural Americans to create and build these self-help enterprises.

Other cooperative development projects include the formation of new value-added agricultural cooperatives, new child care cooperatives, and cooperative housing projects. Value-added agricultural cooperatives give farmers more of the consumer dollar. Child care cooperatives provide former welfare recipients and other low-income people the opportunity to reduce the cost of child care and give them control over how their child care facilities are operated. Cooperative housing gives seniors and others in rural areas the chance to save money on their housing and live in safe communities.

The President's budget includes $5 million for this program. This is a significant increase in funding from prior years, demonstrating the Administration's acknowledgement of the value of this program. USDA's National Commission on Small Farms recently recommended that this program "be increased by $10 million annually up to $20 million." The Commission's report calls the program "one of the few that supports rural cooperative development at the grassroots level." The program is authorized to be funded at $50 million annually.

We urge this committee to do what over 100 organizations from around the country are urging Congress and the Administration to do: increase funding for this valuable program. Mr. Chairman, I ask that the letter signed by those organizations be included in the record of this hearing along with my testimony.

NCBA is a national membership association representing cooperatives—over 120 million Americans and 47,000 businesses ranging in size from small buying clubs to businesses included in the Fortune 500. NCBA's membership includes cooperatives in the fields of housing, health care, finance, insurance, child care, agricultural marketing and supply, rural utilities and consumer goods and services, as well as associations of cooperatives. NCBA brings its members together to provide business opportunities and to develop, advance and to protect cooperative enterprise.

PREPARED STATEMENT OF THE NATIONAL CORN GROWERS ASSOCIATION

The National Corn Growers Association (NCGA) appreciates the opportunity to provide the subcommittee with corn growers' recommendations regarding fiscal year 2000 appropriations for key programs administered by the U.S. Department of Agriculture. NCGA represents 30,000 corn growers in 48 states and the association's mission is to create and increase opportunities for corn growers in a changing world and to enhance corn utilization and profitability.

GENOMIC RESEARCH

For the fiscal year 2000 agricultural appropriations bill, NCGA supports the Administration's budget request for an increase of $1.8 million for plant and animal genetic resources at the Agricultural Research Service (ARS). We believe, however, that this amount should be increased significantly to ensure that the ARS has sufficient resources to participate fully in the ongoing genomics revolution. NCGA was disappointed that the Administration's Information Technology proposal did not include the ARS and that the Administration is no longer proposing a new, competitive grants program for Food Genomics. NCGA supports efforts to ensure that the $120 million in funding for the Initiative for Future Agriculture and Food Systems is utilized for agricultural research and, in particular, for a significant plant and animal genomics program at the USDA.

While many federal agricultural programs are important to the nation's corn growers, NCGA believes that the future of the corn industry is written in corn's genetic code and that plant genomics will give us the fundamental information necessary for biotechnology to revolutionize American agriculture. NCGA concurs with Philip H. Abelson's statement, in a 1998 editorial, that we are in the early phases of the third technological revolution—a genomics revolution—and that "* * * the greatest ultimate global impact of genomics will result from manipulation of the DNA of plants." (Science, Vol. 279, p. 2019.) Thus, NCGA believes that the most important appropriations issue for fiscal year 2000 is funding for coordinated, plant genomics research. Genomics consists of mapping, sequencing and analyzing genomes to determine the function of genes. Plant genomics research advances our understanding of the structure, organization and function of plant genomes. The complete genetic makeup of any organism is known as its genome.

In January 1998, the National Science and Technology Council issued an Interagency Working Group report on the National Plant Genome Initiative. The report stated that the time was right for the implementation of a comprehensive, five-year National Plant Genome Initiative to meet the major challenges that will face mankind in the 21st Century. In the transmittal letter accompanying the report, the President's science advisor, Dr. John H. Gibbons, stated the following:

> The timing of this initiative is critical, since our international and private sector partners are moving forward aggressively. A significant public sector program * * * carried out in partnership with industry will ensure plant genome data and materials are openly accessible to all scientists. It is a critical step toward promoting future scientific breakthroughs in plant biology and their practical application.

To accomplish the short-term goals of the National Plant Genome Initiative that focus on building plant genome research infrastructure, the Interagency Working Group on Plant Genomes estimated that $400 million in funding was needed, over five years, to meet the anticipated needs of the Initiative. For fiscal years 1998 and 1999, $90 million was provided for the National Science Foundation Plant Genome Initiative. Without a significant plant genomics investment from the USDA, it will be difficult, if not impossible, to achieve the level of federal funding necessary to fulfill the short-term goals of the National Plant Genome Initiative. Thus, NCGA

strongly supports increases for the plant genomics program at the ARS and supports increases in competitively awarded plant genomics funding. The Administration's budget request is inadequate for both the short-term and long-term goals of the National Plant Genome Initiative.

The National Plant Genome Initiative will help scientists, geneticists and plant breeders identify and utilize genes from corn and other economically significant crops that control important traits, such as nutritional value, stress tolerance and resistance to pests. The far-reaching benefits of this Initiative include:

—protection of U.S. interests and access to important biotechnology and gene patents;
—revitalization of rural America due to a more robust agricultural sector;
—expansion of plant-based renewable resources for energy and raw materials;
—significant reductions in crop losses and reliance on pesticides through improved biological methods to control and alleviate serious industrial threats and targeted pests;
—improved yields and reduced crop losses caused by adverse environmental conditions such as heat, drought and salt;
—improved nitrogen-use efficiency, thereby, limiting the potential for nitrates in the water supply;
—reduced environmental problems confronted by livestock producers, such as modifying the digestibility of phosphorous in feed corn to reduce the amount of phosphorous that enters our ground water;
—improved animal nutrition leading to healthier meat and increased meat productivity;
—reductions in the occurrence of mycotoxin contamination by significantly improving resistance to fungal infection;
—the development of tailored hybrids with valuable specialty starches, oils and protein content; and
—reduced worldwide malnutrition due to higher yielding and more nutritious crops.

The National Plant Genome Initiative is critical to the long-term viability of U.S. agriculture. To compete in the global market, the U.S. must continually strive to efficiently and economically improve production capabilities—to maximize yield and combat serious threats from disease, pests and climate changes—without harming the environment. Genomics research holds the key to achieving this goal.

The NCGA, also, understands that the American Seed Trade Association (ASTA) is requesting a $5 million increase for the National Plant Germplasm System (NPGS). The NCGA concurs with ASTA that the NPGS is a fundamental, strategic resource. Access to diverse genetic resources that are well maintained by the NPGS is essential to the future of agricultural biotechnology. Thus, the NCGA supports the request for a $5 million increase for the NPGS.

The NCGA urges Congress to provide increased funding for plant and animal genomics research and plant germplasm research at USDA to ensure that our growers have the tools to meet the challenges and demands of the 21st century.

MARKET DEVELOPMENT PROGRAMS

The Market Access Program (MAP) and Foreign Market Development Cooperator Program (FMD), both administered by USDA's Foreign Agricultural Service (FAS), help promote access to key overseas markets for U.S. agricultural products, including corn and value-added corn products.

MAP uses funds from the Commodity Credit Corporation (CCC) to reimburse a portion of the costs of carrying out overseas marketing and promotional activities, such as direct consumer promotions, market research, technical assistance, and trade servicing. MAP participants include nonprofit agricultural trade organizations, State regional trade groups, cooperatives, and private companies that qualify as small business concerns. Historically, more than 80 percent of MAP funding has been devoted to building export markets for U.S. high value agricultural products.

FMD, also known as the Cooperator Program, seeks to develop long-term export markets for generic U.S. agricultural commodities. For more than 40 years, FMD has fostered a trade promotion partnership between USDA and U.S. agricultural producers and processors who are represented by nonprofit commodity or trade associations called cooperators. By providing cost-share assistance and the opportunity to work closely with FAS and its overseas offices, FMD has mobilized private sector support and funding for market development activities in more than 100 countries worldwide. Historically, USDA's contribution to this program has averaged approximately $30 million a year, with additional funding provided by cooperators and

third-party participants such as the foreign firms or governments that import and distribute U.S. products in the target markets.

NCGA urges appropriators to support full funding for the Market Access Program at the authorized level of $90 million and to support efforts to maintain funding for the Foreign Market Development Cooperator Program for fiscal year 2000 at no less than the level necessary to support marketing plans for the development of overseas markets for U.S. commodities at current levels.

CONSERVATION PROGRAMS

As society's expectations for clean air, clean water and abundant wildlife habitat increase, so does the need to deliver conservation technical assistance to our nation's farmers and ranchers. Private lands comprise 70 percent of the lower 48 states and 80 percent of all precipitation in our country falls on private land. Therefore it is wise and in the public's interest to make sound investments in educating and equipping private landowners to conserve the natural resources in their care and to build upon stewardship efforts they already have in place.

The Administration's proposed fiscal year 2000 budget for USDA's Natural Resources Conservation Service (NRCS) included $584.7 million for conservation technical assistance, an increase of approximately $36.8 million from 1999. After accounting for policy decisions and inflation, the president's request would result in a loss of 1,055 staff positions from fiscal year 1999, most of which will come from NRCS field offices. It is estimated that an additional $90 million will be needed to retain these 1,055 staff positions to deliver technical assistance to the field. Therefore, we ask the committee to appropriate $674.7 million for NRCS technical assistance for fiscal year 2000.

ETHANOL PILOT PLANT

The nation's corn growers also urge your support for full funding, through ARS, for the National Corn-to-Ethanol Research Pilot Plant to be constructed in Edwardsville, Illinois. The Pilot Plant will provide a necessary tool to expand and perfect new technologies in wet and dry-mill corn processing. What many people do not understand is that ethanol is just one of many products produced in corn processing facilities. Other products include high fructose corn syrup, glucose, dextrose and several high-protein animal feed ingredients. The corn milling industry is expected to grind 1.885 billion bushels of corn in the 1998–99 crop year, accounting for 16.4 percent of the total corn crop. Ethanol production accounts for between 550 and 600 million bushels of the corn grind. Corn processing adds value to corn and provides U.S. consumers with a wide array of products we all use every day.

Since 1990, the corn milling industry has expanded, primarily because of expansion in the demand for ethanol. Many of the new corn milling facilities are small dry mills that are farmer-owned co-ops. While the capital investments required to build a dry mill are small relative to a large integrated wet mill, there are severe limitations in the product options dry mills have. Because of their small size and limited financial resources, these dry mills are not able to conduct the kind of research that is necessary to keep them competitive.

The Pilot Plant would allow small corn millers to band together and form partnerships with NCGA, state corn grower associations, university researchers, and each other to pursue the development and commercialization of new technologies that will improve the economics of corn processing. Moreover, developing technologies that convert the cellulose in corn fiber into ethanol or other valuable products could be shared by corn processors of all sizes. Breakthroughs in these areas and the commercialization of new corn processing technologies could boost the domestic demand for corn by one billion bushels or more within the next seven to ten years.

In fiscal year 1996, Congress appropriated $500,000 for ARS to study the feasibility of a Pilot Plant that industry, government and universities could use to assess the commercial potential of laboratory concepts. The project has moved forward with impressive results. In fiscal year 1997, Congress further endorsed this project by appropriating $1.5 million for final design and engineering. Final plans were completed in August 1998, and the project is ready to proceed with construction as soon as additional funds are appropriated. The state of Illinois has appropriated $6 million as matching funds, contingent upon $14 million in federal funds to construct this $20 million project.

The Ethanol Pilot Plant has been through an exhausting series of feasibility and engineering studies that have confirmed the need for, and the potential of, the project. It has also been endorsed by Congress. The project is ready for construction, with 30 percent of the capital funds provided by state government. Therefore, NCGA

urges Congress to appropriate $14 million to the U.S. Department of Agriculture in fiscal year 2000 to bring the potential of this project to bear in the marketplace.

The NCGA appreciates the opportunity to submit this testimony and looks forward to working with the committee on these priority issues for the corn industry.

PREPARED STATEMENT OF THE NATIONAL COTTON COUNCIL OF AMERICA

This is to transmit the cotton industry's request for fiscal year 2000 funding for selected programs under the jurisdiction of the Subcommittee on Agriculture, Rural Development, and Related Agencies. The National Cotton Council appreciates your assistance in making this letter a part of the hearing records related to the fiscal year 2000 appropriations bill.

The National Cotton Council of America (NCC) is the central organization of the U.S. cotton industry representing growers, ginners, warehousemen, cottonseed crushers, merchants, cooperatives and manufacturers whose primary business operations are located in 17 cotton producing states. Cotton Council International (CCI) is the overseas promotion arm of the cotton industry. The annual average farm gate value of U.S. cotton production is about $6 billion and its retail value averages approximately $60 billion. U.S. raw cotton exports normally account for approximately 40 percent of annual production and are valued at approximately $4 billion. U.S. textile manufacturers have invested nearly $25 billion in new plants and equipment in the U.S. during the last 10 years and continue to be the U.S. cotton producer's most important customers. Further, the growth in exports of U.S. manufactured cotton textile products, approaching 3.5 million bale equivalents, has been an important and positive development for the cotton industry and for farm income.

Cotton prices have declined dramatically in recent months and market observers predict low prices could continue for the next 12–36 months. The Asian economic crisis; changes in China's import policy; over production of cotton in Uzbeckistan and the Southern Hemisphere which has affected U.S. raw cotton export demand and spurred apparel exports to the U.S.; excess production of and cheap prices for synthetic fibers all contribute to a situation which has farmers deeply concerned by shrinking operating margins.

The assistance Congress provided for economic and weather related losses in late 1998 was very important. However, prices remain at their lowest point in a decade and USDA projections suggest farm income will remain under stress. For cotton, the exhaustion of funding for Step 2 competitiveness provision has left the industry unable to compete in a heavily subsidized international market.

In the long-term, cotton farmers will benefit from activities designed to reduce production costs and build demand. Successful completion of the boll weevil eradication program, control of the pink bollworrn, new technology developed by research, and demand building export programs including MAP, FMD and GSM credit are all essential to our industry.

The cotton industry's long-term viability and potential for continued improvement depend on: an effective farm policy including adequate funding for cotton's 3-step competitiveness provisions; an investment in the development and application of scientific principles; and, aggressive market development activities. The National Cotton Council welcomes the opportunity to provide the following recommendations and requests for fiscal year 2000 appropriations for programs which make important contributions to our industry's ability to compete and prosper (detailed description of these projects is attached):

FUNDING PRIORITIES

(1.) Pink Bollworm Programs—APHIS.—$6.0 million to continue San Joaquin Valley containment program and initiate an eradication program in 5 cotton producing counties in Arizona to move sequentially to eastern Arizona, New Mexico and west Texas.

(2a.) Boll Weevil Eradication—FSA.—$3.0 million (or adequate funding) to allow FSA to make at least $100 million in loans to eligible Boll Weevil Eradication Foundations, clarify eligibility criteria, and require FSA to collect acreage data.

(b.) Boll Weevil Eradication—APHIS.—Sufficient funds for APHIS to restore Federal cost share to 30 percent from current level of less than 5 percent.

(3a.) Market Access Program (MAP).—$90 million.

(b.) Foreign Market Development (FMD & FAS).—Sufficient funding to provide authority for FAS to write marketing plans at same funding level (approximately $33 million) as fiscal year 1999.

(c.) GSM–102 Credit Guarantee (FAS).—Maintain authority to make at least $5.9 billion in GSM–102 guaranteed export credit available for use by U.S. exporters and customers.

(4.) Aflatoxin.—Increase ARS aflatoxin research budget by $900,000 to expand the area wide management program in Arizona.

(5.) Ginning Research—ARS.—Urge ARS to provide adequate funding for operation of 3 regional ginning labs at Stoneville, MS; Lubbock, TX; and Mesilla Park, NM and instruct ARS not to reprogram fiscal year 1998 funds provided to Lubbock lab.

(6.) Farm Service Agency.—Adequate funding to deliver programs.

(7.) Other.—Support funding for value-added textile research at New Orleans SRRC & Clemson; PM–10 research by CSREES; germplasm enhancement; silverleaf whitefly control programs; various conservation programs; and, Office of Pest Management Programs.

Thank you for your consideration of our recommendations.

PREPARED STATEMENT OF THE NATIONAL COUNCIL OF FARMER COOPERATIVES

The National Council of Farmer Cooperatives (NCFC) appreciates very much this opportunity to share its views regarding the fiscal year 2000 agriculture appropriations bill, and respectfully requests this statement be made a part of the official hearing record.

Overview of NCFC

The National Council of Farmer Cooperatives (NCFC) is a national trade association representing nearly 100 regional marketing, supply and credit cooperatives, and state councils. Included among these regional cooperatives are over 3,500 local cooperatives whose farmer-owners represent a majority of America's 2 million individual farmers.

These farmer-owned cooperative businesses are engaged in virtually every facet of agriculture. This includes handling, processing, marketing and exporting of U.S. produced agricultural commodities and related products; the manufacture, distribution and sale of farm supplies; and the providing of credit and related financial services, including export financing for, and on behalf of, their farmer owners.

Support for Farmer Cooperatives

For farmers, such cooperative self-help efforts provide the opportunity to reduce risks, capitalize on market opportunities and earn a greater return on their productivity and investment. Earnings derived from such business are returned to the cooperative's farmer owners on a patronage basis, which also helps contribute to local and regional economic activity as well as the national economy. Another important contribution is reflected in the fact these farmer-owned cooperative businesses also employ nearly 300,000 people (full and part-time) with a combined payroll of approximately $6.8 billion. Many of these jobs are in rural areas where employment opportunities are sometimes limited.

Recent changes in farm policy, along with trends shaping the global business climate for U.S. agriculture, call for a renewed emphasis in support of policies and programs to help farmers help themselves through cooperative efforts to: (1) better manage the risks and uncertainty inherent in production agriculture; (2) capitalize on new market opportunities, including moving more into value-added production and processing; (3) compete more successfully in a global marketplace still characterized by subsidized foreign competition, and (4) help maintain and create needed jobs in communities throughout rural America.

USDA's Rural Business-Cooperative Service

For these reasons, we strongly recommend that funding and staffing be strengthened for USDA's Rural Business-Cooperative Service (RBS) and its related programs aimed at achieving these important objectives. Such action would help ensure that USDA is fully able to carry out its historical mission as mandated by Congress in support of farmer cooperatives. It should be noted that many of the programs administered by RBS relating to farmer cooperatives are generally derived from amounts made available for salaries and expenses in the Rural Development mission area. To better provide for program continuity and long term planning, we believe that specific language should be included in the fiscal year 2000 agriculture appropriations bill to ensure needed funding and staffing for RBS programs for research, education and technical assistance in support of farmer cooperatives.

Commodity Purchase Programs and Farmer Cooperatives

We want to express our strong support for maintaining both the statutory provisions and report language included in the fiscal year 1999 agriculture appropriations bill as an amendment by Senator Cochran to ensure that farmer cooperatives are fully eligible to participate in USDA's commodity purchase programs. Such programs serve two important purposes. One, they help meet the food and nutrition needs of consumers. Second, they provide an important market outlet for farmers, especially during periods of surplus production, thereby helping strengthen farm income and promoting orderly marketing.

We want to express our strong support for maintaining both the statutory provisions and report language included in the fiscal year 1999 agriculture appropriations bill as an amendment by Senator Cochran to ensure that farmer cooperatives are fully eligible to participate in USDA's commodity purchase programs. Such programs serve two important purposes. One, they help meet the food and nutrition needs of consumers. Second, they provide an important market outlet for farmers, especially during periods of surplus production, thereby helping strengthen farm income and promoting orderly marketing.

However, under previous guidelines established by USDA, this important market was eliminated for many farmers choosing to cooperatively market their products. The Cochran amendment addresses this by clearly providing that farmer cooperatives are fully eligible to participate in such programs for and on behalf of their farmer owners. In doing so, it preserves an important market outlet for many farmers, promotes orderly marketing, encourages cooperative self-help efforts, and helps maintain and strengthen farm income—since proceeds from the sale of commodities and related products are returned to the cooperatives' farmer owners as patronage income. The amendment also serves to increase the potential quantity and quality of commodities and related products available for purchase and use under such programs, and provides for more competitive bidding among participants. Finally, it helps contribute to stronger rural communities where farmer cooperatives and their farmer owners are located.

Crop Insurance/Risk Management

As the Administration and Congress consider changes and improvements in the federal crop insurance program, we believe there needs to be an expanded role and opportunity for farmers through their cooperatives and associations to join together to help obtain broader coverage on a more cost-effective basis. We believe such action would also help encourage program participation, improve the current delivery system, strengthen private sector involvement, reduce administrative and related costs, and further encourage cooperative self-help efforts.

Export Programs

We also believe it important to maintain and strengthen funding for USDA's export programs, including the Market Access Program (MAP) and Foreign Market Development (FMD) Cooperator Program, and we endorse the recommendations of the Coalition to Promote U.S. Agricultural Exports of which NCFC is a member. Such programs have been tremendously successful and extremely cost-effective in helping maintain and expand U.S. agricultural exports, countering subsidized foreign competition, protecting American jobs and strengthening farm income.

Programs such as MAP and FMD have also helped encourage and strengthen the ability of farmers to join together in cooperative efforts to promote their products in overseas markets and improve their income. Administered on a cost-share basis, they remain one of the few tools specifically allowed under the Uruguay Round Agreement to help American agriculture and American workers remain competitive in a global marketplace still characterized by subsidized foreign competition.

According to a recent analysis by USDA, the European Union (EU) and other foreign competitors are now outspending the U.S. by a factor of 20 to 1 with regard to the use of export subsidies and other expenditures for export promotion. The same study shows that such countries are spending over $100 million just to promote sales of their products in the United States. In other words, they are spending more to promote agricultural exports to the United States, than the U.S. is currently spending ($90 million) to promote American agricultural exports worldwide!

For this reason, we believe the Administration and Congress should give serious consideration to strengthening funding for MAP and other export programs, and ensuring that such programs are fully and aggressively utilized. Since MAP was originally authorized, funding has been gradually reduced from a high of $200 million to its current level of $90 million—a reduction of more than 50 percent. Again, given what our foreign trade competitors are doing, we believe it's time to restore funding for this vitally important program to its original level.

We also urge continued funding for other related USDA export programs, including the Export Enhancement Program (EEP), Dairy Export Incentive Program (DEIP), GSM Export Credit Guarantee Program, and Public Law 480. All of these programs continue to be essential to help encourage U.S. agriculture exports, counter subsidized foreign competition, protect American jobs, and strengthen farm income.

Agricultural Research

Another important area of emphasis when it comes to enhancing the global competitiveness of farmer cooperatives and American agriculture is research. It is equally important to help ensure that farmer cooperatives and American agriculture can continue to help provide consumers at home and abroad with a dependable supply of safe, high quality food and fiber at reasonable prices, while meeting important environmental and food safety objectives.

This includes recognition of the need to help farmers, their cooperatives, and others engaged in agriculture meet the goals and requirements of such statutes as the Food Quality Protection Act (FQPA), the Clean Water Act (CWA), the Safe Drinking Water Act (SDWA) and the Clean Air Act (CAA), among others. To help meet these challenges, we believe every effort should be made to maintain and strengthen the highly successful public-private partnership involving USDA, the land grant universities and colleges, and the private sector. This includes providing needed funding at the federal level through USDA and ensuring that such funding helps achieve the important objectives outlined above.

Conservation/EQIP

We strongly support continued funding for the Conservation Reserve Program (CRP), as well as restoring funding for the Environmental Quality Incentives Program (EQIP), as recommended in the Administration's budget. Such programs are necessary to help achieve and maximize water quality and other environmental benefits.

The CRP and EQIP programs in particular are critical to empowering farmers to continue voluntary efforts to sustain the natural resource base and to respond to societal expectations and demands with regard to water quality and protecting our natural resource base.

Crop Protection/Pesticide Programs

The Administration's budget request includes funds for Integrated Pest Management (IPM) programs and IR–4 program to collect and analyze data on pesticide residues through the Pesticide Data Program (PDP). We endorse the views of: (1) the Food Quality Protection Act-Implementation Working Group (FQPA–IWG) of which NCFC is a steering committee member, and (2) the Minor Crop Farmer Alliance (MCFA) of which NCFC is a member of its executive committee. USDA's role in this process is critical if FQPA is to be implemented as intended by Congress.

We believe USDA is uniquely qualified to (a) gather and provide data to the EPA regarding pesticide use and dietary consumption patterns, and (b) to provide information about crop protection needs and efficacious and affordable alternatives. USDA has statutory obligations to carry out regarding minor use pesticides pursuant to FQPA, including establishment of a minor use office to facilitate grower efforts to provide information needed to maintain or develop label uses. Clearly, USDA has an essential role to play in working with EPA regarding implementation of FQPA to ensure that food and agricultural policy considerations are taken into account. For these reasons, we strongly urge that adequate funding be provided to ensure that it has the necessary resources to carry out such responsibilities.

Meat Inspection/User Fees

We continue to be opposed to user fees relating to Food Safety and Inspection Service (FSIS) for meat inspection. Such inspection programs provide important public benefits relating to food safety and quality and should continue to be publicly funded.

Farmers through their farmer-owned cooperatives are already contributing to meeting important food safety and quality requirements through investment in new Pathogen Reduction Hazard Analysis and Critical Control Point (HACCP) Systems for meat and poultry. The imposition of new user fees, to the extent that such fees could not be passed on to consumers, would impose an additional cost burden on farmer cooperatives and their farmer members, and reduce farm income. Again, in recognition of the public benefits of such programs and the need to maintain confidence in the safety and quality of such products, the federal government should maintain its historic role.

Conclusion

Mr. Chairman, on behalf of NCFC and its members, we want to again thank you for the opportunity to share our views with regard to the fiscal year 2000 agriculture appropriations bill. We also wish to take this opportunity to express our appreciation to you and the members of the Subcommittee for your interest and support of farmer cooperatives and American agriculture.

PREPARED STATEMENT OF THE NATIONAL FOOD PROCESSORS ASSOCIATION

The National Food Processors Association (NFPA) is pleased to submit testimony to the Subcommittee expressing our views on the President's fiscal year 2000 Budget Request for the Food and Drug Administration (FDA) and Department of Agriculture (USDA).

NFPA is the voice of the $430 billion food processing industry on scientific and public policy issues. Our members, whose headquarters and plants span from California to Connecticut, Maine to New Mexico, and points around the world, include large, small, and medium-sized purveyors of all kinds of packaged foods.

Unique among food groups, NFPA is a science-based organization, employing 60 Ph.D.'s and regulatory experts and maintaining state-of-the-art laboratories in Washington, D.C., Dublin, California, and Seattle. Our scientists conduct exacting experiments to protect the safety of America's enviable food supply and to guard against risks to consumers' well being.

We are a science-based organization that invests in food safety and willingly shares its findings with all public health officials throughout the world. As this suggests, NFPA takes its responsibilities seriously.

Guiding Principles.—NFPA does not automatically oppose or promote more spending on federal food safety programs. Rather, we recommend that any spending decisions be measured against these principles:

(1) Congress should reject or delay any increases in spending to expand the powers of the Food and Drug Administration and the U.S. Department of Agriculture until these agencies demonstrate that their current levels of funding are allocated in the most effective and efficient manner possible to protect the public's health. Agencies should be expected to clearly delineate their current statutory powers and explain why any new authority is needed.

(2) The agencies should vigorously apply the principles of sound science and risk assessment to their food safety programs.

(3) Appropriations should be linked to a determined effort by the FDA and USDA to approve new technologies and food safety tools that can safety deter or eliminate foodborne pathogens.

(4) Through its power of the purse, Congress should persuade federal food safety agencies to fully exercise their capacity for research and education.

User Fees.—For nearly a decade, the annual budget requests of President Clinton and preceding Administrations have doggedly proposed user fees—regulatory taxes—that require food processors to pay for the privilege of being regulated. Congress has summarily rejected the idea each year.

The President's fiscal year 2000 budget proposes nearly $525 million per year in regulatory taxes on the food industry—most of which would be imposed on meat and poultry processing plants. Imposing fees upon Federally regulated food processing facilities would amount to nothing more than a highly regressive tax on food products to be passed on to consumers in the form of higher food prices, and to farmers and ranchers in the form of reduced profit margins. In fact, the Supreme Court has held that the imposition of user fees on regulated companies for benefits enjoyed by the general public must be considered a tax.

There is no clearer example of a fundamental government function that broadly benefits society than regulating the safety and soundness of the food supply. Because all Americans benefit from this important public health work the agencies' resources must come from appropriated funds. Moreover, food taxes imposed upon the regulated industry threaten to compromise public confidence in the independence of food regulation.

Food Safety Initiative.—The President's fiscal year 2000 Budget recommends nearly $105 million in increased spending for the third year of the President's Food Safety Initiative (FSI), including new food safety funding for FDA and USDA. NFPA has been supportive of funding in fiscal year 1998 and fiscal year 1999 for FDA and USDA to enhance their food safety programs relative to research, risk assessment, coordination and education.

NFPA is concerned, however, with the Food Safety Initiative's continued emphasis on seeking additional funds simply to hire additional inspectors. In order to ensure

that resources are used wisely, it is essential that resources first be dedicated to identification and prevention of foodborne illness, particularly in high-risk foods. In that regard, NFPA strongly urges that if the Subcommittee provides additional FSI funding in fiscal year 2000 that such funds be dedicated toward risk assessment, research and education.

Funding for U.S. Codex Activities.—NFPA joins with other members of the food industry and the Food Industry Codex Coalition (FICC) to recommend that the Subcommittee provide initial "seed" funding to support the activities of the U.S. Codex Office in the Department of Agriculture. Codex Alimentarius (Codex) is the referenced organization for food safety standards used to resolve trade disputes under the World Trade Organization (WTO). Dedicated resources are necessary to ensure U.S. leadership in Codex, and to expand and preserve export opportunities for U.S. products and advance international food policy based on sound science.

Juice Safety.—The FDA has proposed a pending regulation that would impose a new layer of mandatory, costly, and unnecessary federal regulation on juice processors who pasteurize their products or employ equivalent methods to kill pathogens. Under FDA's proposed rule, processors of pasteurized fruit and vegetable juices would have to implement a Hazard Analysis Critical Control Point (HACCP) regimen.

Such action runs contrary to these findings: ninety-eight percent of all fruit and vegetable juices consumed in the U.S. are pasteurized or undergo an equivalent "kill step" to eliminate pathogens that can cause sickness or worse. Each year, the FDA estimates that 6,000–6,200 Americans will suffer sickness from juices—and all are caused by the 2 percent of juices that are not pasteurized.

For unpasteurized juices, those that cause all the illnesses recorded, the FDA has prescribed a mere label saying the juice isn't pasteurized. For the 98 percent that have caused no sicknesses, the FDA prescribes the redundant and costly application of HACCP.

NFPA supports HACCP as an effective means of protecting the public's health when appropriate. Mandatory HACCP is decidedly not appropriate here. NFPA recommends that the Subcommittee work to ensure that FDA's final regulation on juice safety imposes no new HACCP mandate, but instead requires that juices are pasteurized, or treated by any equivalent method.

Reform of FDA's Food Additive Review Process.—The food additive approval process at FDA is badly broken. Despite statutory requirements for approval within six months, it can take a decade or more for the FDA to approve new food additives. Problems associated with FDA's failure to act in a timely manner on direct food additive petitions were well documented in 1995 during hearings before the House Government Reform Committee, but since then, little or no progress has occurred. Because of these unreasonable delays and the disincentives they impose, fewer companies seem willing to explore new roads to food safety or submit food "additive" petitions to clear these paths.

The food industry, led by NFPA, has and continues to approach the FDA with proposals to reform the food additive approval process. Contrary to NFPA's general opposition to user fees where there is no unique proprietary benefit, NFPA has agreed to support "review fees" in exchange for FDA's adherence to specific performance goals to expedite the review and approval of direct food additive petitions. NFPA does not support the Administration's fiscal year 2000 request to impose user fees on food additive petitioners since there is no apparent obligation upon FDA to ensure that a petitioner would enjoy a more timely review of its petition.

Instead, NFPA recommends that the Subcommittee encourage the FDA to work with its constituent groups to reach agreement on an approach that will permanently reform the current food additive review and approval process.

Food Irradiation.—NFPA continues to have serious concerns with the slow pace of federal review and approval of food irradiation as a proven and effective food safety technology. Irradiation poses no threats, only advantages, to consumers and does not alter the taste or texture of the food. Yet, it took FDA nearly three and one-half years to approve its use on red meat in December 1997. Compounding this delay has been the Department of Agriculture's failure to even propose a regulation to enable irradiation's use until early 1999. USDA is not expected to complete its review of red meat irradiation until the year 2000. Meanwhile, the need for red meat irradiation in the marketplace has never been greater.

NFPA recommends that the Subcommittee ensure that USDA devote ample resources to ensuring the timely review and approval of red meat irradiation. In addition, we recommend that USDA and FDA be directed to examine their review and approval procedures for irradiation to ensure better coordination and to avoid duplicative and unnecessary resource demands that undoubtedly have contributed to the lengthy delays.

Finally, NFPA recommends that the Subcommittee direct both USDA and FDA to more thoroughly examine their existing policies toward food irradiation labeling disclosures. Existing labeling requirements convey uncertainty to many consumers about the safety of irradiated foods, and may serve to deny many consumers access to irradiated food products. Pending USDA and FDA rulemakings are soliciting public comment on this subject, and NFPA urges this review be completed in a timely manner.

Imported food safety.—The FDA has requested additional funds for fiscal year 2000 to increase inspections of imported food. FDA has also indicated its intent to seek increased statutory authority in 1999 to prevent the importation of foods from countries determined by FDA to provide food safety systems that are less than "equivalent" to that of the United States. NFPA and its member companies strongly support efforts to improve the safety of imported foods, but believes FDA should fully exercise its existing authority before seeking new powers.

NFPA recommends that the Subcommittee encourage FDA to identify what specific new regulatory activities FDA would be expected to undertake, along with commensurate resource demands, if the Congress grants FDA new statutory. Furthermore, NFPA recommends that FDA undertake a comprehensive review of its coordination with the U.S. Customs Service to ensure utilization of the full panoply of existing enforcement authorities to deter and reduce the incidence of imported food violations attributable to repeat offenders.

Other routes to the same goal—safe food without debilitating confrontations—are already in place. Codex Alimentarius, a framework for international negotiations on food safety, is well established in its process and success. Bilateral Equivalence Agreements, Memoranda of Understanding, and Mutual Recognition Agreements are also in place.

NFPA sees in these approaches less provocation and intrusion, coupled with more effect. Other strategies may include requiring equivalent safety protocols in foreign countries (not "the same as"), punishing repeat offenders, and ensuring that port shopping is brought to a halt (that is, when a shipment of food is rejected at one port, they re-label the product and try to bring it in at another).

Once again, NFPA seeks a full explanation from the FDA of any inadequacies they see in current statute before Congress wades into changes in the law. Only through a complete disclosure can we engage in a productive debate. We also think that this subcommittee would be well served by demanding such documentation and delineation.

Thank you for your time and consideration of NFPA's views. Please contact us if we can provide additional information to the Subcommittee. In the meantime, please visit our web site a www.nfpa-food.org.

PREPARED STATEMENT OF THE NATIONAL POTATO COUNCIL

My name is Chuck Gunnerson. I am a potato farmer from Minnesota and current Vice President, Legislative/Government Affairs for the National Potato Council (the Council). On behalf of the Council, we thank you for your attention to the needs of our potato growers.

The Council is the only trade association representing commercial growers in 50 states. Our growers produce both seed potatoes and potatoes for consumption in a variety of forms. Annual production in 1997 was 407,164,000 cwt with a farm value of $2.2 billion. Total value is substantially increased through processing. The potato crop clearly has a positive impact on the U.S. economy.

The potato is the most popular of all vegetables grown and consumed in the United States and one of the most popular in the world. Annual per capita consumption was 143 pounds in 1996 up from 107 pounds in 1962 and is increasing due to the advent of new products and heightened public awareness of the potato's excellent nutritional value. Potatoes are considered a stable consumer commodity and an integral, delicious component of the American diet.

The National Potato Council's fiscal year 2000 appropriations priorities are as follows:

Agricultural Research Service (ARS).—The NPC proposes additional potato research funds for:

—Orono, Maine.—Potato production in northern Maine has shown a significant decline in recent years. This trend will, however, be reversed with the construction of a new potato processing facility in Maine by McCain Foods. It is estimated that 15,000 acres will be returned to potato production. The current ARS research program has included a search for alternative crops that could be used in a potato rotation. Potatoes are grown in three-year rotations with soybean,

canola, green bean, sweet corn, and barley/clover. An interdisciplinary team of two scientists is evaluating cropping system impacts on soil nutrient dynamics and soilborne pathogen ecology. A third scientist is being recruited to assess crop management system effects on potato late blight. Integrating the production of several crops is a high priority. The addition of an agronomist to supplement the soil science and pathology research will greatly strengthen the potato program in Maine. Estimated cost is $300,000/year.

—Prosser, Washington.—The "precision agriculture" group at Prosser that focussed on potato production was disbanded. Currently, recruitments are in process for a weed and soil scientist. There is a need to continue research on site-specific management and to focus on the biology of potato production. To accomplish this goal, an agronomist should also be added to the Prosser group. The objective of this position would be to integrate the soil, weed, pathology and entomology information on potato production into a more effective system. There is a need to achieve better quality as well as improved yield. The estimated cost is $300,000/year.

—Beltsville, Maryland.—Improving the nutritional value of the potato is a high priority of the NPC. The Beltsville Vegetable Laboratory program has relied heavily on traditional breeding and new high quality germplasm has been introduced over a period of many years. Genes critical to the accumulation of selected nutrients such as B-carotene, lycopene, polyamines, lipoic acid, glutathione and ascorbic acid have been identified in several crops. These phytonutrients have been correlated with a reduced incidence of some forms of cancer. It is now possible to introduce these genes, after specific modification, into potatoes and other vegetable crops. Research should be initiated that combines traditional breeding and plant biotechnology to increase the nutritional value of the potato and add value to the crop. Estimated cost would be $300,000/year.

—Albany, California.—Introduction of genes for potato improvement utilizing biotechnology procedures is a goal of ARS research. Currently, there are significant restrictions on the use of some important reagents that prevent successful commercialization of plants transformed by ARS scientists. Dr. William Belknap in Albany has been funded by ARS, with endorsement from the NPC, to develop genetic constructs for potato transformation that will be publicly available without patent restrictions on their use. His laboratory should serve as a source of reagents for use by ARS scientists and others who work in the public sector. Estimated cost of providing this service is an additional $100,000/year to Dr. Belknap's base CRIS budget.

—Report Language.—Agricultural Research Service (ARS)—The NPC urges that the Congress once again add Committee report language urging the ARS to work with the NPC on how funds can best be used for research priorities.

Cooperative State Research, Education and Extension Service (CSREES).—The NPC urges that the Congress increase funding to a level of $1.4 million for the potato research special grant program to return to previous year's funding levels.

The NPC also urges that the Congress, once again, include report Committee language as follows:

"Potato research.—The Committee expects the Department to ensure that funds provided to CSREES for potato research are utilized for varietal development testing. Further, these funds are to be awarded competitively after review by the potato industry working group."

Plant Protection and Quarantine Service (APHIS-USDA).—The NPC urges that the Congress appropriate $580,000 for the Golden Nematode Quarantine Program, which amount is the fiscal year 2000 budget request. The National Potato Council also supports increasing the fiscal year 2000 budget request for AQI user fees from $95 to $100 million. The NPC also supports fiscal year 2000 budget requests for the AQI appropriated funds, sanitary/phytosanitary (SPS) management and pest surveillance and detection.

Finally, we also support the Administration's budget request for funds to meet the data requirements of the new Food Quality Protection Act, (FQPA).

PREPARED STATEMENT OF THE NATIONAL RURAL TELECOM ASSOCIATION

SUMMARY OF TESTIMONY REQUESTS

Project involved:Telecommunications lending programs administered by the Rural Utilities Service of the U.S. Department of Agriculture

Actions proposed:

—Supporting loan levels for fiscal year 2000 in the same amounts as those contained in the fiscal year 1999 Agriculture Appropriations Act (Public Law 105–277, Sec. 101(a)) for hardship, cost-of-money and guaranteed loan programs and the associated subsidy to fund those programs at existing levels.
—Supporting Rural Telephone Bank loans in the amount requested in the President's budget and the associated subsidy to fund this level.
—Supporting funding in the amount of $200 million in loans and $20 million grant authority designated for distance learning and telemedicine purposes as requested in the President's budget.
—Supporting an extension of the language removing the 7 percent interest rate ceiling on cost-of-money loans.
—Supporting continuation of the restriction on retirement of Rural Telephone Bank class A stock in fiscal year 2000 at the level contained in Public Law 105–277 and an extension of the prohibition against the transfer of Rural Telephone Bank funds to the general fund.
—Opposing the proposal contained in the budget to transfer funds from the unobligated balances of the liquidating account of the Rural Telephone Bank for the bank's administrative expenses and loan subsidy costs.

Mr. Chairman, Members of the Committee: My name is John F. O'Neal. I am General Counsel of the National Rural Telecom Association. NRTA is comprised primarily of commercial telephone companies which borrow their capital needs from the Rural Utilities Service of the U.S. Department of Agriculture (RUS) to furnish and improve telephone service in rural areas. Approximately 1000, or 71 percent of the nation's local telephone systems borrow from RUS. About three-fourths of these are commercial telephone companies. RUS borrowers serve almost 6 million subscribers in 46 states and employ over 22,000 people. In accepting loan funds, borrowers assume an obligation under the act to serve the widest practical number of rural users within their service area.

Program background

Rural telephone systems have an ongoing need for long-term, fixed rate capital at affordable interest rates. Since 1949, that capital has been provided through telecommunications lending programs administered by the Rural Utilities Service and its predecessor, the Rural Electrification Agency (REA).

RUS loans are made exclusively for capital improvements and loan funds are segregated from borrower operating revenues. Loans are not made to fund operating revenues or profits of the borrower system. There is a proscription in the Act against loans which would duplicate existing facilities providing adequate service and state authority to regulate telephone service is expressly preserved under the Rural Electrification Act.

Rural telephone systems operate at a severe geographical handicap when compared with other telephone companies. While almost 6 million rural telephone subscribers receive telephone service from RUS borrower systems, they account for only four percent of total U.S. subscribers. On the other hand, borrower service territories total 37 percent of the land area—nearly 1½ million squares miles. RUS borrowers average about six subscribers per mile of telephone line and have an average of more than 1,000 route miles of lines in their systems.

Because of low-density and the inherent high cost of serving these areas, Congress made long-term, fixed rate loans available at reasonable rates of interest to assure that rural telephone subscribers, the ultimate beneficiaries of these programs, have comparable telephone service with their urban counterparts at affordable subscriber rates. This principle is especially valid today as the United States endeavors to deploy telecommunications "information superhighway" technology and as customers and regulators constantly demand improved and enhanced services.

At the same time, the underlying statutory authority which governs the current program has undergone significant change. In 1993, telecommunications lending was refocused toward facilities modernization. Much of the subsidy cost has been eliminated from the program. The subsidy that remains has been targeted to the highest cost, lowest density systems. Other loans are made at Treasury's cost-of-money or greater.

We are proud to state once again for the record that there has never been a default in the RUS/REA telephone program! All loans have been repaid in accordance with their terms with interest. As of December 31, 1997, over $4.5 billion of principal and over $5 billion in interest had been paid by telephone borrowers to the federal government under this program.

Need for RUS telecommunications lending continues

The need for rural telecommunications lending is great today, possibly even greater than in the past. Technological advances make it imperative that rural telephone companies upgrade their systems to keep pace with improvements and provide the latest available technology to their subscribers.

These rapid technological changes and federal policies of competition and deregulation in the telephone industry, as evidenced by passage of the "Telecommunications Act of 1996", underscore the continuing need for targeted assistance to rural areas. The inherently higher costs to serve these areas have not abated. Regulatory trends encouraging competition among telephone systems increase pressures to shift more costs onto rural ratepayers. Interstate subscriber line charges have already shifted substantial costs to local exchange customers. Pressures to recover more and more of the higher costs of rural service from rural customers to foster urban competitive responses will further burden rural consumers. And, as rural rates rise, small telephone systems will tend to lose confidence that they can recover the investments for costly network upgrades.

1996 Telecommunications Act effect on rural America

Congress passed the Telecommunications Act of 1996 as the culmination of more than a decade of debating national telecommunications policy and balancing many diverse needs and interests. The 1996 Act responded to a number of rural needs and differences with a series of safeguards to ensure that rates, services and network development in rural America will be reasonably comparable to urban telecommunications opportunities.

The process of implementing the new law continues to raise troubling uncertainties and concerns about whether the FCC and the states will honor the balance Congress achieved in its policy, as regulators (a) radically revise the mechanisms for preserving and advancing "universal service," (b) adjust the cost recovery responsibilities and allocations of authority between federal and state regulation, (c) effectuate the Act's somewhat different urban and rural ground rules for how new companies and incumbent universal service providers connect their networks and compensate each other and (d) peel back layers of regulation developed over a century. So far, the FCC has been overzealous in expanding the Act's market-opening provisions to give new entrants a regulatory head start and advantage at the expense of the Act's rural development and universal service provisions. The FCC is trying to unsurp the role of competition by dictating a whole new—and wholly inadequate—way to measure the costs of modern, nationwide telecommunications access to information. The FCC needs to reorder the sequence of its proceedings to ensure that rural Americans are not denied the ongoing network development and new services the Act requires. Rural telephone systems with universal service obligations must not be thwarted in their efforts to upgrade and provide rates and services reasonably comparable to urban offerings. The FCC must not falter in delivery on these national policies either during or after the difficult process of implementing the law. Congress and the courts must carefully supervise the FCC's implementation to achieve the rural access to information and an evolving modern public network intended by Congress, as well as the benefits of deregulation and genuine competition.

Expanded congressional mandates for rural telecommunications

Considerable loan demand is being generated because of additional mandates for enhanced rural telecommunications standards contained in the authorizing legislation enacted in 1993 by Congress in Public Law 103–129. These mandates coupled with the need for stable financing sources to meet the infrastructure demands envisioned for rural areas by the 1996 telecommunications act amply demonstrate the continuing need for this important program at the following levels:

5 percent Hardship Loans	$75,000,000
Cost-of-Money Loans	300,000,000
Guaranteed Loans	120,000,000
Rural Telephone Bank Loans	175,000,000
Total	670,000,000

These are the levels established in the fiscal year 1999 appropriations act for the hardship, cost-of-money and guaranteed loan programs. The $175 million loan level is the historical level for Rural Telephone Bank loans and the amount requested in the President's fiscal year 2000 budget. However, the President's budget also seeks to reduce the amount of hardship loans despite the substantial ongoing demand. We believe that the needs of this program balanced with the minimal cost to the tax-

payer argue for its continuation at enacted levels given the fact that it provides funding for the neediest borrower systems serving the highest cost areas.

Specific Additional Requests

Continue the Removal of the 7 percent Cap on Cost-of-Money Loans

Again this year we are supporting removal of the 7 percent ceiling on cost-of-money loans even though long-term Treasury rates are currently substantially below this level. This Committee included language in the fiscal year 1996 act to permit borrower interest rates on cost-of-money loans to exceed the 7 percent per year interest rate ceiling contained in the authorizing act. The language has been continued in subsequent acts. We support an extension of this provision in the fiscal year 2000 bill. In the event that long-term Treasury interest rates might exceed 7 percent during the next fiscal year. If that happens, the cost-of-money loan program could be disrupted and loan levels not achieved since adequate subsidy would not be available to support the program at the authorized levels. For this reason, we believe it is important to incorporate this language in the bill again this year.

Continue the Restriction on Retirement of Class A Government Stock in the Rural Telephone Bank (RTB) and also Continue the Prohibition Against Transfer of RTB Funds to the General Fund and Require the Payment of Interest

The Committee should continue the restriction on retirement of the amount of class A stock by the Rural Telephone Bank in fiscal year 2000. The Bank is currently in the process of retiring the government's stock as required under current law. We believe that this process which began in fiscal year 1996 should continue to be an orderly one as contemplated by the retirement schedule enacted four years ago and continued in last year's bill to retire no more than 5 percent of the total class A stock in one year. We also urge the Committee to continue the prohibition against the transfer of any unobligated balance in the bank's liquidating account which is in excess of current requirements to the general fund of the Treasury along with the requirement that the bank receive interest on those funds. The private Class B and C stockholders of the Rural Telephone Bank have a vested ownership interest in the assets of the bank including its funds and their rights should be protected.

Reject Budget Proposal to Transfer Funds from RTB Liquidating Account for Subsidy and Administrative Costs

In this same vein, we are also opposed to the proposal contained in the President's budget again this year that the subsidy cost associated with Rural Telephone Bank loans be funded by a transfer from the unobligated balances of the bank's liquidating account rather than by a traditional appropriation from the general fund of the Treasury which has been the funding mechanism utilized for the bank since enactment of the federal credit reform act in 1990. Requiring the bank to fund the subsidy cost of its loans would dilute the interests of the bank's stockholders. By definition, the bank's unobligated balances are not exclusively federal funds but are subject to the respective ownership interests of all the stockholders of the bank. Previous appropriations acts, including the fiscal year 1997, 1998 and 1999 acts, have recognized the ownership rights of the private class B and C stockholders of the bank by prohibiting a similar transfer of the bank's excess unobligated balances which otherwise would have been required under the federal credit reform act. This cost is more properly funded through a regular appropriation from the general fund of the Treasury.

The President's budget also proposes that the bank assume responsibility for its administrative costs also by a transfer of funds from the unobligated balances of the bank's liquidating account rather than through an appropriation from the general fund of the Treasury. This recommendation is contrary to the specific language of Sec. 403(b) of the RTB enabling act.

The budget language acknowledges that neither proposal would result in budgetary savings. Both proposals were specifically rejected last year by this Committee. No justification for these recommendations is contained in the budget again this year. Both proposals would require consideration by the authorizing committees and enactment of new authorizing legislation as a prerequisite to an appropriation. As of this date, no such legislation has been transmitted by the Administration or is under consideration before the authorizing committees.

Loans and Grants for Telemedicine and Distance Learning

The President's budget requests $200 million in loan authority for fiscal year 2000 and $20 million in grants specifically devoted to telemedicine and distance learning

purposes. Loans are made at the government's cost-of-money. The purpose is to accelerate deployment of telemedicine and distance learning technologies in rural areas through the use of telecommunications, computer networks, and related advanced technologies by students, teachers, medical professionals, and rural residents.

We believe this program specifically designated for distance learning and telemedicine purposes is particularly important. Continuing to target funds in this manner spurs deployment of this important new technology which is vital for the survival of rural schools, hospitals and the rural communities they serve. At the same time, we believe the level proposed strikes a cost effective balance for the taxpayer.

CONCLUSION

Thank you for the opportunity to present the association's views concerning this vital program. The telecommunications lending programs of RUS continue to work effectively and accomplish the objectives established by Congress at a minimal cost to the taxpayer.

PREPARED STATEMENT OF THE NATIONAL TELEPHONE COOPERATIVE ASSOCIATION REGARDING

SUMMARY

The information age continues to evolve at lightening speed, permeating every element of our existence. No longer a luxury at all, today, access to advanced, affordable, communications infrastructure and services, by every American, is an absolute necessity. Indeed, federal, state, and local executives, legislators, and regulators, as well as the general public, are demanding nothing less.

The small rural incumbent local exchange carrier (ILEC) segment of the communications industry has responded to these demands with outstanding vigor, providing perhaps the most exceptional telecommunications services of anywhere in the nation. It has done so through both a deep commitment to community and by having access to the affordable financing that is available via the Rural Utilities Service (RUS) Telecommunications Loan Program.

For 50 years, NTCA's small rural ILEC members, in partnership with the RUS, have fulfilled the joint statutory mission of both providing and improving rural telecommunications service, with distinction. With the RUS appropriately funded, they will be able to continue doing so well into the future. Therefore NTCA recommends full funding for all accounts of the RUS Telecommunications Loan Program and its related community development program. Additionally, NTCA recommends that language be included in the fiscal year 2000 appropriations package which will protect the program, and particularly the Rural Telephone Bank (RTB), from frivolous or premature actions intended to redirect their course.

BACKGROUND

NTCA is a national trade association representing more than 500 small, rural, cooperative and commercial incumbent local exchange carriers (ILECs) located throughout the nation. These locally owned and operated ILECs provide local exchange service to more than 5 million rural Americans. Through the 50 year history of the RUS Telecommunications Loan Program, more than 80 percent of NTCA's member systems have been able to utilize the federal program to one degree or another.

NTCA's members, like most of the country's independent ILEC's, evolved to serve high cost rural areas of the nation that were overlooked by the industry's giants as unprofitable. And there can be no doubt regarding the high cost of such markets. Consider that the combined service area's of these ILECs constitutes approximately 40 percent of the nation's geographic area, yet the more than 5 million subscribers served in this territory account for little more than 4 percent of the nation's total access lines. On average, RUS borrowers have approximately 6 subscribers per mile of infrastructure line, compared with 130 for the larger urban-oriented, non-RUS financed systems. This results in an average plant investment per subscriber that for RUS borrowers is 38 percent higher than for most other systems.

Congress recognized the unique financing dilemma confronting America's small rural ILECs as early as 1949. It was in that year that it amended the Rural Electrification Act (RE Act) to create the Rural Electrification Administration (REA) Telephone Loan Program, today known as the RUS Telecommunications Loan Program. Through the years Congress has periodically amended the RE Act to ensure that that original mission—to furnish and improve rural telephone service—was

met. In 1971, the Rural Telephone Bank (RTB) was created as a supplemental source of direct loan financing. In 1973, the RUS was provided with the ability to guarantee Federal Financing Bank (FFB) and private lender notes. In 1993, Congress established a fourth program lending facet, the Treasury Cost of Money account.

RUS HELPS MEET INFRASTRUCTURE DEMANDS

While the RUS has helped the subscribers of NTCA's member systems receive service that is comparable or superior to that available anywhere in the nation, their work is far from complete. As federal policies such as the Telecommunications Act of 1996 continue to evolve, the high costs associated with providing modern telecommunications services in rural areas will not diminish. Three years into the implementation of the 1996 Act, the Federal Communications Commission's (FCC's) interpretation of the statute, and several court decisions, have held little regard for congressional intent particularly with respect to universal service which is so vital to small rural ILECs. Consequently, the ongoing need for the well defined, understood, time-tested RUS Telecommunications Loan Program is even greater.

For example, RUS telecommunications lending has stimulated billions of dollars in private capital investment in rural communications infrastructure. In recent years, on average, less than $10 million in federal subsidy generated $670 million in federal loans and loan guarantees. For every $1 in federal funds that were invested in rural communications infrastructure, $4.50 in private funds were invested.

The RUS is also making a difference in our rural schools, libraries, and hospitals. Since 1993, the RUS Distance Learning and Telemedicine Grant and Loan program has funded approximately 200 projects throughout the nation for interactive technology in rural schools, libraries, hospitals, and health clinics. This program has provided unprecedented educational opportunities for rural students and enhanced health care for rural residents.

In addition, two other RUS related programs are making a difference in rural America. Formerly under the RUS and known as the Zero Interest Loan and Grant Program, the Rural Economic Development Grants Program and the Rural Economic Development Loans Program are now managed by the Rural Business Cooperative Service. The two programs provide funds for the purpose of promoting rural economic development and job creation projects, including funding for project feasibility studies, start-up costs, incubator projects and other expenses tied to rural development. The two programs have allowed hundreds of communities to build, acquire, and/or install everything from firehouses to recreational facilities that enhance the viability of the community.

NTCA'S APPROPRIATIONS RECOMMENDATIONS

Fully Fund The RUS Telecommunications Loan Program:

Increasing demand for expanded telecommunications services and infrastructure upgrades indicates a continuing strong need for stable loan levels at the authorizations established by the Rural Electrification Loan Restructuring Act of 1993. The president's budget proposal to cut the Hardship account to a level of $50 million is inappropriate considering that a backlog of applications for these funds continues to exist. Likewise, last year's congressional response to fully funding the Hardship account by reducing funding for the RTB account would be inappropriate as the RTB is again being fully utilized. Adequate subsidy must be appropriated to support the following fiscal year 2000 loan account levels:

Hardship Account	$75,000,000
Treasury-rate Account	300,000,000
Guaranteed Account	120,000,000
Rural Telephone Bank Account	175,000,000
Total	670,000,000

Extend Removal Of The Interest Rate Cap On Treasury-Rate Loans:

NTCA is also requesting that Congress again include language removing the 7 percent interest rate cap on Treasury-rate loans. This provision has been included in recent appropriations measures to prevent the potential disruption of the program in the case where interest rates exceed 7 percent and insufficient subsidy cannot support authorized lending levels.

Prohibit The Transfer Of Unobligated Balances Of The RTB Liquidating Account

NTCA also recommends that Congress continue the prohibition against the transfer of any unobligated balances of the Rural Telephone Bank liquidating account to the general fund of the Treasury. This language has routinely been included in annual appropriations measures since the enactment of the Federal Credit Reform Act (FCRA), Public Law 101–508, that allows such sweeping to potentially occur. Restatement of this language will again ensure that the RTB's private class B & class C stockholder are not stripped of the value of their statutorily mandated investment in the Bank.

Prohibit RTB From Self Funding Subsidy And Administrative Costs

The Administration's fiscal year 2000 budget proposal suggests funding the RTB's loan subsidies and administrative expenses out of unobligated balances in the bank's liquidating account rather than out of the general fund of the Treasury as is required by the RE Act. NTCA urges Congress to reject this proposal, as it did last fiscal year, for the following basic reasons: (1) such action would require amendment of the RE Act, (2) the proposal appears to be in conflict with the intent of the FCRA, (3) the proposal will not result in federal budgetary savings, (4) it is unnecessary to the determination of whether the bank could operate independently, and thus would amount to wasting the resources of the bank which could be put to better use upon its complete privatization, and (5) the bank should not be expected to self fund these expenses while concurrently being prohibited from utilizing the unobligated balances in its liquidating account for the re-making of new loans.

Rural Telephone Bank Privatization

Under the President's fiscal year 2000 budget proposal, the RTB is proposed to "become a Performance Based Organization (PBO) to establish its financial and operational independence prior to its being privatized within ten years." At this time, it is difficult to support, or evaluate any privatization proposal without first obtaining an answer to the critical question of who owns the assets of the bank at any given time during the privatization period, which is already underway at a minimal statutory pace. Without a definitive and official determination of this central issue, it is not possible to formulate an informed position regarding privatization of the bank.

NTCA believes any privatization plan should be well conceived before implementation. At the very least, privatization should proceed in an orderly fashion with a full accounting of the various financial and legal implications involved. Congress, RTB Stockholders, and the rural telecommunications industry deserve the benefit of having RTB privatization reviewed thoroughly, and not in the vacuum of the budgetary process. In addition to having a high concentration of RTB stockholders as members, NTCA itself is a RTB stockholder. The RTB's portfolio is currently valued at well over $2 billion and consequently it continues to play a critical role in the modernization of rural telecommunications infrastructure throughout the United States. For these reasons, the RTB's future will continue to be closely monitored, and protected, by NTCA and its members. Furthermore, NTCA urges Congress to refrain from commencing such deliberations without the asset question answered, or in an effort to simply respond to the administration's budget suggestion.

Continue RUS Distance Learning and Telemedicine Loan and Grant Program The RUS Distance Learning and Telemedicine Loan and Grant program has proven to be an indispensable tool for rural development. In this regard, NTCA urges Congress to provide adequate funding for this critical program. NTCA supports the recommendations for this program that are contained in the president's budget proposal.

Preserve RBCS Rural Development Grant and Loan Programs

Likewise, NTCA has witnessed the good these programs have done for rural communities. NTCA urges Congress to ensure funding is at levels that are adequate to meet current demand for the programs.

CONCLUSION

The RUS Telecommunications Loan Program bears a proud 50-year record of commitment, service, and achievement to rural America. Never in its entire history has the program lost even a dollar to abuse or default—an unparalleled feat for any government-sponsored lending program. Clearly such a successful program should remain in place to continue to ensure rural Americans have the opportunity to play a leading role in the information age in which we live. After all, an operational and advanced rural segment of the nation's telecommunications infrastructure is critical

to truly ensuring that the national objective of universal telecommunications service is fulfilled. Please help us accomplish that objective.

PREPARED STATEMENT OF THE NATIONAL UTILITY CONTRACTORS ASSOCIATION

Mr. Chairman and Members of the Subcommittee, my name is Andy Mayts. I am Director of Operations for Gigliotti Contracting North in Palm Harbor, Florida. Thank you for the opportunity to submit written testimony on behalf of the National Utility Contractors Association (NUCA) regarding the U.S. Department of Agriculture (USDA) Rural Utilities Service (RUS) Water and Waste Disposal infrastructure funding for fiscal 2000.

FISCAL 2000 RECOMMENDATION

NUCA respectfully requests that the Committee reject the Administration's proposed 12 percent cut to the RUS Water and Waste Disposal loan and grant budget authority and appropriate, at minimum, the current funding level of $645 million for fiscal 2000.

RUS Water and Waste Disposal loan and grant programs provide funds for small communities with 10,000 or fewer residents that cannot secure reasonable financing for drinking water and wastewater infrastructure improvements. As you well know, these are widely popular and successful programs among rural communities. In fact, currently there is a $3.2 billion backlog of eligible applications for the grant ($1 billion) and loan ($2.2 billion) programs.

For fiscal 2000, the President proposed $503 million in grants for water and waste disposal and $64 million in loans for water and waste disposal. We recognize that the fiscal 2000 subsidy rate of 7.1 percent, as determined by the U.S. Office of Management and Budget, is such that the proposed cut does not result in a reduction in programs. But the President has failed to recognize the historic opportunity to capitalize on the low subsidy rate and make a big dent in the backlog of $3.2 billion of eligible loan and grant applications. As illustrated on the chart on the following page, merely maintaining the current funding level could provide an additional $766,590,520 to the RUS programs to tackle the backlog. Please compare:

Assumptions: Row 1 reflects the fiscal 1999 Budget Authority of $645,007,000 and the fiscal 1999 subsidy rate of 16.52 percent. For fiscal 1999, grant programs assumed approximately 82 percent percent of the Budget Authority. Row 2 reflects the Administration proposal of $567 million for fiscal 2000, and the OMB subsidy rate of 7.10 percent. The Administration proposed $503 for RUS grants and $64 million for loans, thus grants assume 89 percent of the total proposed Budget Authority. Row 3 reflects NUCA's recommendation that the Committee maintain the current funding level, $645 million. It also assumes the OMB subsidy rate of 7.10 percent and allocates 89 percent of the total Budget Authority to grants. Row 4 reflects the current funding level, the fiscal 1999 percentage of grants of total Budget Authority (82 percent), and the fiscal 2000 subsidy rate of 7.10 percent.

Fiscal year	Budget authority	Grants	Subsidy rate (percent)	Loans	Program dollars
1999 actual	$645,007,000	$528,363,000 (at fiscal year 1999, 82 percent).	16.52	$706,077,482	$1,234,440,482
2000 Admin proposal	$567,000,000	$503,000,000 (at fiscal year 2000, 89 percent).	7.10	$901,120,000	$1,404,120,000
2000 at fiscal year 1999 funding.	$645,007,000	$574,056,230 (at fiscal year 2000, 89 percent).	7.10	$998,986,842	$1,573,043,072
2000 at fiscal year 1999 funding.	$645,007,000	$528,363,000 (at fiscal year 1999, 82 percent).	7.10	$1,642,347,520	$2,170,710,520

The RUS Water and Waste Disposal programs are popular and important investments and have proven track records. They provided $28 billion in loans and grants to more than 12,500 communities across the country between 1965 and 1995. With a loan default rate of 0.1 percent and a repayment delinquency rate less than 2 percent, RUS loans and grants are wise investments in rural America.

RURAL WATER AND WASTE DISPOSAL NEEDS AND THE RUS CURE

NUCA is comprised of nearly 2,000 companies that build and maintain water, sewer, and other underground infrastructure systems in rural communities as well as in metropolitan areas nationwide. Every day of the week we witness the consequences of failed or nonexistent water and waste disposal infrastructure on the most dire of human needs—WATER! Without water, our bodies cease to function, and without clean water, our ability to live healthy, productive lives is diminished. Waterborne illness is a serious, life-threatening condition that affects nearly 1 million people annually. Children and the elderly are particularly vulnerable because of weaker immune systems. Fortunately, there is a cure for this needless illness in rural America. RUS capital investment in water and waste disposal facilities (including solid waste disposal and storm drainage) is the first line of defense in protecting water quality and thus public health.

Once the RUS investment is in place, additional dividends in the form of jobs, quality of life, environmental protection, and public safety are attained. The now-healthy workforce in what would be a high-unemployment community can go to work. When $1 billion is invested in clean water infrastructure, as many as 57,400 jobs are created, and more than half of these jobs are permanent because new businesses relocate to the area and existing businesses expand operations. In rural communities where unemployment and poverty rates are much higher than the national average, RUS programs improve people's lives.

RUS water and waste disposal loans and grants also provide for the everyday conveniences that you and I generally take for granted, such as the simple acts of watering the tomato plants, taking a shower, or making a pitcher of lemonade. The programs also protect the natural environment—often the very reason people wish to live in rural communities—from the degradation caused by untreated sewage and stormwater runoff tainted with chemicals and animal feces that contaminate waterways and groundwater supplies. Finally, public safety in the form of fire protection is enhanced by modern water storage and distribution systems. Leaking, clogged, and undersized water lines compromise water pressure and make it virtually impossible for firefighters to do their jobs. Similarly, aged water and sewer mains can burst and collapse, creating dangerous sinkholes and shutting off travel routes. These threats to public safety drive up the price of community services and homeowner insurance, hampering individuals and communities from achieving economic prosperity. If the public investment is made, however, it repays itself over time and produces lasting rewards for the community.

RUS PROPOSAL IN RELATION TO EPA ESTIMATES

There are an estimated 46,500 small drinking water systems in the United States serving 3,300 or fewer people. The Environmental Protection Agency's 1997 Drinking Water Needs Survey (EPA) projected more than $37.2 billion in needed infrastructure improvements for these systems over the next 20 years. In addition to these identified needs, a significant number of households are not served by a centralized water distribution and treatment facility. Some 15 million households use private wells, and another 1 million homes rely on untreated sources that include cisterns and water hauled from springs, rivers, and lakes.

The EPA 1996 Wastewater Needs Survey estimates that small communities with 10,000 or fewer residents face more than $13.8 billion in capital costs over the next two decades for sewage collection and treatment works. That figure does not include an estimation of septic system needs. The total $51 billion is considered by most to be a conservative estimate. Thus, a $645 million investment for fiscal 2000 is worth every penny.

NUCA CLEAN WATER FOR RURAL AMERICA BROCHURE

Attached, please find a copy of one of NUCA's new brochures titled, *Clean Water for Rural America.* Our state chapters and members will share this information with other business leaders and public officials in the rural communities where they live and work. NUCA is pleased to serve as an information resource for this widely popular and beneficial program. We will also provide copies of the brochure to the full Senate and House.

CONCLUSION

We, the members of NUCA, urge you to reject the Clinton Administration's fiscal 2000 proposed cut to the RUS Water and Waste Disposal loans and grants programs and appropriate, at minimum, the current funding level, $645 million. These are important sources of financing for small, rural communities that have been turned

down by more conventional lenders. The program has a solid track record in terms of loans repaid and maximum use of appropriated dollars. More than $50 billion in water and waste disposal needs exist in the communities RUS serves. And currently there is a backlog of more than $3.2 billion in eligible applications to be funded.

Thank you for considering our recommendation.

PREPARED STATEMENT OF THE NATIONAL WATERSHED COALITION

Mr. Chairman and members of the subcommittee: The National Watershed Coalition (NWC) is pleased to present this testimony in support of some of the most beneficial water resource conservation programs ever developed in the United States. The Coalition recognizes full well the need to use our tax dollars wisely. That makes the work of this Subcommittee very important. It also makes it imperative that the federal programs that are continued are those that provide real benefit to society, and are not programs that would be nice to have if funds were unlimited. We believe that the Small Watershed Program (Public Law 83–566) and the Flood Prevention Operations Program (Public Law 78–534) are examples of those rare programs that address our nation's vital natural resources which are critical to our very survival, do so in a way that provide benefits in excess of costs, and are programs that serve as models for the way all federal programs should work.

The National Watershed Coalition is an alliance of national, regional, state and local organizations that have a common interest in advocating the use of the watershed when dealing with natural resource issues. We also support the use of total resource management principles in planning. We are advocates of both the Small Watershed Program and the Flood Prevention Operations Program administered by USDA's Natural Resources Conservation Service (NRCS). These resource protection programs deserve much higher priority than they have had in the recent past. Even in difficult financial times, and we keep hearing we are in a period of budget surpluses, their revitalization would pay dividends in monetary and other benefits, and jobs! The disastrous 1993 Midwest floods and the floods in Texas last fall, should have taught us something. If one examines the Report of the 1994 Interagency Floodplain Management Review Committee that studied the 1993 Midwest flood event, we see that flood damages were significantly reduced in areas where Public Law 566 projects were installed. The requests for disaster assistance were also less.

The watershed as the logical unit for dealing with natural resource problems has long been recognized. Public Law 566 offers a complete watershed management approach, and should have a prominent place in our current federal policy emphasizing watersheds and total resource management based planning. Why should the federal government be involved with these watershed programs?

—They are programs whose objectives are the sustaining of our nation's precious natural resources for generations to come.

—They are not federal, but federally assisted, locally sponsored and owned. They do not represent the continued growth of the federal government.

—They are locally initiated and driven. Decisions are made by people affected, and respect private property rights.

—They share costs between the federal government and local people. Local sponsors pay between 30—40 percent of the total costs of Public Law 566 projects.

—They produce net benefits to society. The most recent program evaluation demonstrated the actual ratio of benefits to costs was approximately 2.2:1. The actual adjusted economic benefits exceeded the planned benefits by 34 percent. How many other federal programs do so well?

—They consider and enhance environmental values. Projects are subject to the discipline of being planned following the National Environmental Policy Act (NEPA), and the federal "Principles and Guidelines" for land and water projects. That is public scrutiny!

—They are flexible programs that can adapt to changing needs and priorities. Objectives that can be addressed are flood damage reduction, watershed protection (erosion and sediment control), water quality improvement, rural water supply, water conservation, fish and wildlife habitat improvement, recreation, irrigation and water management, etc. That is flexibility.

—They are programs that encourage all citizens to participate.

—They can address the needs of low income and minority communities.

—And best of all—they are programs the people like!

The National Watershed Coalition commends the Congress for the support given these programs over the years, and hopes that the outcome of the fiscal year 2000 appropriations process will enable this vital work to continue and expand as we

seek to preserve, protect and better manage our nation's water and land resources. Every State in the United States has benefited from the Small Watershed Program.

In order to continue this high priority work in partnership with states and local governments, the Coalition recommends a fiscal year 2000 funding level of $250 million for Watersheds and Flood Prevention Operations, Public Law 83–566 and Public Law 78–534. We recommend that $30 million of this amount be for Public Law 78–534 projects. We would also suggest that $60 million be used for structural rehabilitation and replacement, in accordance with H.R. 728 recently introduced in the 106 Congress by Representative Frank Lucas of Oklahoma. We recognize that Congress may not find it possible to provide these amounts, but we also believe that we are not doing our job of helping you recognize the true need if we continually recommend the federal share of these needed funds be less. We would hope that everyone understand that these funds are only a part of the total that are committed to this vital purpose. The local project sponsors in these "federally assisted" endeavors have a tremendous investment also. Additionally, the Coalition supports $25.0 million for watershed planning, surveys and investigations. We also suggest that the Emergency Watershed Program (EWP) be provided with $20 million to allow the NRCS to provide rapid response in time of natural disaster. Our recommendations are considerably different from those proposed by the Administration for the fiscal year 2000 budget. Congress increasingly talks of wanting to fund those investments in our nation's infrastructure that will sustain us in the future. Yet this and past Administration's budgets have regularly cut funding for some of the best of these programs. This makes absolutely no sense! We continue to read that we are in a period of budget surpluses, almost as if the federal coffers were overflowing with cash, yet there is next to nothing for watershed protection and improvement. Our Gross Domestic Product has risen for about 93 straight months, unemployment is low, the stock market has risen to new highs, and we can't seem to invest and reinvest in our vital watershed infrastructure. That is simply unconscionable.

The issue of the current condition of those improvements constructed over the last fifty years with these watershed programs is a matter of great concern. Many of the nearly 10,400 dams that NRCS assisted sponsors build throughout the United States no longer meet current dam safety standards and need to be upgraded to current standards. A USDA study published in 1991 estimated that in the next ten years, $590 million would be needed to protect the installed works. Of That amount, $100 million would come from local sponsors as their operation and maintenance contributions. NRCS also conducted a more recent survey, which indicated the current national needs were about $540 million. That is the reason we are recommending starting with $60 million for the work necessary to protect these installed structures, and commend Oklahoma Representative Frank Lucas for his leadership in introducing H.R. 728, the Small Watershed Rehabilitation Amendments of 1999. Watershed project sponsors throughout the US appreciate his leadership on this vital issue. If we don't start to pay attention to our rural infrastructure needs, the ultimate cost to society will only increase, and project benefits will be lost. This is a serious issue we hope you will recognize.

In addition to offering our thoughts on needed conservation program budget levels, we would like to express our great concern with the way in which the Administration's budget proposes to change the watershed program funding in fiscal year 2000. We will address each "account" in some detail as to the adverse impacts we see.

Watershed and Flood Prevention Operations.

—The Administration proposes $83,423,000, a decrease of $16,010,000 from the grossly inadequate funding of fiscal year 1999. They talk of their concern for the environment, but it is not reflected in their budget proposals.

—All watershed funds would be transferred to the Conservation Operations (CO) account. We believe again that this is another attempt by the Administration to put these finds into an account where they may not be used for Small Watershed Projects. In our view this represents the desire of some in the Administration to circumvent the will of Congress and eliminate Small Watershed projects. We ask that you not allow this to happen.

—Of the funds proposed under the Public Law 566 authority, no funds are specifically suggested for the Public Law 534 projects, only $9 million is available from the Public Law 566 account for Public Law 534 projects, a decrease of $6 million—or 40 percent —from fiscal year 1999. This is unacceptable.

—No funding is proposed to address the aging watershed infrastructure problem which poses great risk to human health, safety and quality of life, and which we discussed earlier. We suggest $60 million is needed in fiscal year 2000. Pass H.R. 728!

Watershed Surveys and Planning.

—The Administration proposes $11,732,000 for these vital planning activities, and we think $25 million is a more realistic figure considering the need. There are many potential projects and project sponsors in every state wanting watershed planning assistance, and that assistance is not available. And this at a time when our federal government is encouraging the watershed approach and local leadership. Here we have the ideal partnership cost-share program that encourages local leadership, and the federal share of the funds is not there.

—The Administration again proposes putting all these funds in the Conservation Operations account, and we have the same concern we expressed under watershed operations. This must not be allowed to happen. We demand fiscal accountability!

Emergency Watershed Protection Program.

—The Administration proposes no funds to maintain readiness to deal with emergencies caused by natural disasters, or maintain any technical staff capacity. This makes no sense! We suggest that $20 million be put into this account to provide rapid early response, and then deal with total disaster needs for each incident with supplemental appropriations as in the past.

There are a number of suggestions we would like to make concerning this very important legislation, that we will be making to other committee's and they have budget implications. We believe the objectives of this legislation should be expanded to include more non-structural practices, allow the law to provide assistance in developing rural water supplies (without water there is no rural development) and eliminate the current requirement that mandates that twenty percent (20 percent) of the total projects benefits be "directly related to agriculture" which can be very subjective and has the unintended effect of penalizing projects in poor, small, rural communities.

The Coalition appreciates the opportunity to offer these comments regarding fiscal year 2000 funding for the water resource programs administered by the Natural Resources Conservation Service. With the "downsizing" the NRCS has experienced, we would be remiss if we did not again express some concern as to their ability to provide adequate technical support in these watershed program areas. NRCS technical staff has been significantly reduced and budget constraints have not allowed that expertise to be replaced. Traditional fields of engineering and economics are but two examples. We see many states where the capability to support their responsibilities in these program areas is seriously diminished. This is a disturbing trend that needs to be halted. This downsizing has a very serious effect on state and local conservation programs. Local Watershed and Conservation Districts and the NRCS combine to make a very effective delivery system for providing the technical assistance to local people—farmers, ranchers and rural communities—in applying needed conservation practices. But that delivery system is currently very strained! Many states and local units of government also have complementary programs that provide financial assistance to land owners and operators for installing measures that reduce erosion, improve water quality, and maintain environmental quality. The NRCS provides, through agreement with the USDA Secretary of Agriculture, "on the land" technical assistance for applying these measures. The delivery system currently is in place, and by downsizing NRCS we are eroding the most effective and efficient coordinated means of working with local people to solve environmental problems ever developed. Our system and its ability to produce food and fiber is the envy of the entire world. In our view, these programs are the most important in terms of national priorities.

We are also disappointed that the subcommittee has a practice of not accepting oral testimony from organizations such as the National Watershed Coalition. When we were allowed to make an oral presentation in the House, we were able to talk to subcommittee members who could ask us questions. It was a chance for them to actually talk with people doing the work on the land. That personal contact in both houses is now missing, and it would be easy to think that our written testimony may not be seriously considered. We hope you will reconsider this practice in future years, and again allow oral testimony.

The Coalition pledges its full support to you as you continue your most important work.

Our Executive Director/Watershed Programs Specialist Mr. John W. Peterson, who has over forty years experience in natural resource watershed conservation, is located in the Washington, DC area, and would be pleased to serve as a resource as needed. John's address is 9304 Lundy Court, Burke, VA 22015–3431, phone 703–455–6886 or 4387, Fax; 703–455–6888, email: jwpeterson.erols.com.

Thank you for allowing the National Watershed Coalition (NWC) this opportunity.

PREPARED STATEMENT OF THE NATURE CONSERVANCY

Mr. Chairman, and members of the Committee, I appreciate the opportunity to submit this testimony for the record on fiscal year 2000 appropriations for the Natural Resources Conservation Service (NRCS).

The Nature Conservancy is an international, non-profit organization dedicated to the conservation of biological diversity. Our mission is "to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive." The Conservancy has more than 900,00 individual members and over 1,850 corporate sponsors. We currently have programs in all 50 states and in 17 nations. To date our organization has protected more than 9 million acres in the 50 states and Canada, and has helped local partner organizations preserve millions of acres overseas. The Conservancy itself owns more than 1,600 preserves—the largest private system of nature sanctuaries in the world. Three concepts have been fundamental to our success: sound science; strong partnerships with public and private landowners; and tangible results at local places.

The Conservancy is deeply committed to working with agricultural producers to conserve biodiversity on private lands. We currently work with local landowners at approximately 75 sites across the country to implement conservation on the ground, and plan to increase this number to 500 sites within the next decade.

RECOMMENDATION

The Conservancy recommends:

Wetland Reserve Program WRP enrollment level of 209,000 acres in fiscal year 2000. In addition, we ask the committee not to use the WRP account to offset other expenditures.

EQIP funding of $300 million for fiscal year 2000. We also urge the committee not to target EQIP to offset other expenditures.

Full support to the President's budget request of $680 million in appropriations for the Natural Resources Conservation Service (NRCS). This appropriation supports principally the agency's basic conservation program, called Conservation Technical Assistance.

Wetland Reserve Program (WRP)

The agriculture conservation program most important to the Conservancy is the WRP. This program makes a sizeable amount of money available to producers who enroll in the program after having concluded that the best economic return on their land would be from the receipt of program dollars rather than from crop or livestock production. Because wetlands provide excellent habitat for wildlife, the program serves the Conservancy's mission of habitat conservation, and at the same time provides farmers who elect to enroll in the WRP with the opportunity to generate income by renting WRP acres to hunting groups.

The Conservancy strongly supports WRP because it is the only program administered by the U.S. Department of Agriculture that at least in part buys permanent protection for resource values on private lands. These values include: 1) conservation of wildlife habitat, 2) purification of groundwater runoff and, 3) regulation of the flow of water in watershed systems by storing surface and groundwater. Permanent protection of environmentally significant resources is the best investment of public conservation dollars. In these times of economic distress for many producers, making financial options available for producers that also results in conservation benefits for the general public is good public policy.

The Conservancy asks that the committee not turn to the WRP account to offset expenditures in other program areas. We recognize that the budget caps set a difficult goal for Congress in crafting a budget for fiscal year 2000. Still, we believe that voluntary, cost-effective programs like the WRP must be made available to producers to conserve resources on private lands.

The Conservancy recommends a WRP enrollment level of 209,000 acres in fiscal year 2000. Additionally, we are working with the Agriculture Committee to increase the number of acres that may be enrolled in the program and ensure that WRP continues to operate at an appropriate level in the future.

Environmental Quality Incentive Program (EQIP)

The Conservancy seeks a $100 million increase in funding for EQIP for fiscal year 2000, for a total of $300 million. In addition, we urge the committee not to target EQIP to offset other expenditures. The agricultural conservation community recognizes the significant contribution made by farm runoff to the impairment of our nation's watersheds. An important strategy for addressing this problem must be voluntary farm runoff abatement measures, such as that provided by the EQIP pro-

gram. The increased funding recommended will begin to help animal feeding operators in financial distress deal with regulatory pressure to keep water clean.

Conservation Technical Assistance

Agricultural production depends on the conservation of the soil and water resource base. NRCS and the Conservancy both know that conservation will succeed ultimately only to the extent that it also serves the need of producers to engage in economically viable farming. NRCS has a relationship of trust with private landowners that is unusual among federal agencies. It takes a non-regulatory, voluntary approach to conservation. The voluntary conservation programs administered by NRCS, along and the Conservation Reserve Program administered by the Farm Service Agency, provide farmers with highly effective tools for conserving soil and water resources.

NRCS provides Conservation Technical Assistance through their district conservationists, who give free advice to producers interested in managing the natural resources on their land. In addition, district conservationists provide a number of products requested by producers. These include conservation management systems for a variety of land types, irrigation water management plans, animal waste management plans, program eligibility determinations, wetland creation or restoration plans, conservation education, and long-term strategic resource planning to individuals and communities.

Congress appropriated $641 million for the agency in fiscal year 1999. The current demand for these services approximately doubles NRCS' ability to provide them. The Conservancy believes that if NRCS is not funded at a level sufficient to provide these services, the resource base on private lands will be impaired and biodiversity will be put at greater risk. In particular, NRCS will have difficulty providing technical assistance in support of the Wetland Reserve Program (WRP) and the Conservation Reserve Program (CRP) in the absence of full funding of the Conservation Technical Assistance account.

A comprehensive clean water policy at the federal level must include funding for the tools that enable producers to implement voluntarily conservation practices and regulatory activities. An increase in appropriations for Conservation Technical Assistance is needed this year in particular because of the increased requirements for animal feeding operators to change practices that affect water quality.

We appreciate the support that you have shown for agriculture conservation through the years, and appreciate this opportunity to present a written statement to your committee. The Conservancy looks forward to working with you on these issues in this and future agriculture appropriations bills.

PREPARED STATEMENT OF THE ORGANIZATION FOR THE PROMOTION AND ADVANCEMENT OF SMALL TELECOMMUNICATIONS COMPANIES

SUMMARY OF REQUEST

The Organization for the Promotion and Advancement of Small Telecommunications Companies [OPASTCO] seeks the Subcommittee's support for fiscal year 2000 loan levels for the telecommunications program administered by the Rural Utilities Service [RUS] in the following amounts:

Telecommunications Loans Program

5 percent hardship loans	$75,000,000
Treasury rate loans	300,000,000
guaranteed loans	120,000,000
Rural Telephone Bank [RTB] loans	175,000,000

In addition, OPASTCO requests the Subcommittee's support for the following: removal of the statutory 7 percent cap on Treasury rate loans for fiscal year 2000; a prohibition on the transfer of unobligated RTB funds to the general fund of the Treasury; and, funding of the distance learning and telemedicine grant and loan program at sufficient levels.

GENERAL

OPASTCO is a national trade association of approximately 500 independently owned and operated telephone companies serving rural areas of the United States. Its members, which include both commercial companies and cooperatives, together serve over 2,000,000 customers in 42 states. Well over half of OPASTCO's members are RUS or RTB borrowers.

Perhaps at no time since the inception of the RUS (formerly the REA] has the telecommunications program been so vital to the future of rural America. The telecommunications industry is at a crossroads, both in terms of technology and public policy. Advances in telecommunications technology in recent years will deliver on the promise of a new "information age." The Federal Communication Commission's [FCC] implementation of the landmark Telecommunications Act of 1996, as well as modernization resulting from prior statutory changes to RUS's lending program, will expedite this transformation. However, without continued RUS and RTB support, rural telephone companies will be hard pressed to build the infrastructure necessary to bring their communities into this new age, creating a bifurcated society of information "haves" and "have-nots."

Contrary to the belief of some critics, RUS's job is not finished. Actually, in a sense, it has just begun. We have entered a time when advanced services and technology—such as broadband fiber optics, digital switching equipment, custom calling features, and the Internet—are an expected and needed part of a customer's telecommunications service. Unfortunately, the inherently higher costs of upgrading rural networks has not abated. Rural telecommunications continues to be more capital intensive and involves fewer paying customers than its urban counterpart. RUS borrowers average only 6.3 subscribers per route mile versus 130 subscribers per route mile for large local exchange carriers. In order for rural telephone companies to modernize their networks and provide their customers with advanced services at reasonable rates, they must have access to reliable low-cost financing.

The relative isolation of rural areas increases the value of telecommunications services for these citizens. Telecommunications enables applications such as distance learning and telemedicine that can alleviate or eliminate some rural disadvantages. Telecommunications can also make rural areas attractive for some businesses and result in revitalization of the rural economy. For example, businesses such as telemarketing and tourism can thrive in rural areas, and telecommuting can become a realistic employment option.

While it has been said many times before, it bears repeating that the RUS telecommunications loans and RTB programs are not grant programs. The funds loaned by RUS are used to leverage substantial private capital, creating public/private partnerships. For a very small cost, the government is encouraging tremendous amounts of private investment in rural telecommunications infrastructure.

Most importantly, the programs are tremendously successful. Borrowers actually build the infrastructure and the government gets paid back with interest. There has never been a default in the history of the lending programs.

RECENT LEGISLATION HAS HEIGHTENED THE NEED FOR THE RUS TELECOMMUNICATIONS LOANS PROGRAM

The Telecommunications Act of 1996

The FCC's implementation of the Telecommunications Act of 1996 will only increase rural telephone companies' need for RUS assistance in the future. The forward-looking Act defines universal service as an evolving level of telecommunications services that the FCC must establish periodically, taking into account advances in telecommunications and information technologies and services. While the competitive environment engendered by the 1996 Act may offer the means of meeting this definition in urban areas, rural and high cost areas have less potential for economically sound competitive alternatives. RUS now has an essential role to play in the implementation of the new law, as it will compliment new funding mechanisms established by the FCC and enable rural America to move closer to achieving the federally mandated goal of rural/urban service and rate comparability.

At present, considerable regulatory uncertainty exists for rural telephone companies as several critical FCC proceedings implementing the 1996 Act remain unresolved. These include fundamental changes to the universal service and access charge systems and the procedures incumbent carriers use to separate their costs between the Federal and state jurisdictions. In addition, uncertainty exists as to whether rural incumbent carriers will be able to recover the costs of the extensive regulatory obligations and potential infrastructure development demands placed on them under the Act. If, as it presently appears, these outstanding issues are resolved in a piecemeal fashion and/or with a strong bias toward new entrants, rural incumbent carriers with universal service obligations could be hampered in their ability to modernize their networks and provide quality, affordable service to all of their customers. Managed sequencing and coordination of existing proceedings is necessary if the Commission is to achieve Congress's public policy goals of affordable rates and access to an evolving telecommunications network for all Americans. Equally important is for Congress to monitor the FCC's implementation of the Act

to ensure that all of its goals—including universal service, an even playing field for competition, and deregulation—are realized in rural areas.

RELRA

Working in tandem with the 1996 Act, the Rural Electrification Loan Restructuring Act of 1993 [RELRA] will further help to ensure the comparability of telecommunications service between urban and rural America. As a prerequisite to eligibility for insured and RTB loans, RELRA requires that every state have an RUS approved modernization plan which provides a timeline for the improvement of the state's telecommunications network and assures that the purpose of every loan is consistent with achieving the requirements of the borrower's state plan. These plans set forth the requirements for the transmission of video images and high speed data that will promote educational and health care opportunities as well as provide the necessary infrastructure for economic development. Implementation of these plans has already begun to generate additional loan demand as rural telephone systems strive to meet the increased service objectives in the rural areas they serve.

A $75 MILLION LOAN LEVEL SHOULD BE MAINTAINED FOR THE 5 PERCENT HARDSHIP LOAN PROGRAM

One of the most vital components of RUS's telecommunications loans program is the 5 percent hardship loan program. These loans are referred to as hardship loans for good reason: They provide below-Treasury rate financing to telephone companies serving some of the most sparsely populated, highest cost areas in the country. The commitment these companies have to providing modern telecommunications service to everyone in their communities has made our nation's policy of universal service a reality and, in many cases, would not have been possible without RUS's hardship loan program. Companies applying for hardship loans must meet a stringent set of eligibility requirements and the projects to be financed are rated on a point system to ensure that the loans are targeted to the most needy and deserving. For fiscal year 1999, the government subsidy needed to support a $75,000,000 loan level was under $7,500,000. Given the necessity of this indispensable program, it is critical that the loan level be maintained at $75,000,000 for fiscal year 2000.

REMOVAL OF THE 7 PERCENT CAP ON TREASURY RATE LOANS SHOULD BE CONTINUED

With regard to RUS's Treasury rate loan program, OPASTCO supports the removal of the 7 percent ceiling on these loans for fiscal year 2000. This Subcommittee appropriately supported language in the fiscal year 1996 Agriculture Appropriations Act to permit Treasury rate loans to exceed the 7 percent per year ceiling contained in the authorizing act. This language was continued in fiscal year 1997, 1998, and 1999. Were long-term interest rates to exceed 7 percent, adequate subsidy would not be available to support the Treasury rate loan program at the authorized levels. Accordingly, OPASTCO supports the continuation of this language in the fiscal year 2000 appropriations bill in order to prevent potential disruption to this important program.

THE PROHIBITION ON THE TRANSFER OF ANY UNOBLIGATED BALANCE OF THE RTB LIQUIDATING ACCOUNT TO THE TREASURY AND REQUIRING THE PAYMENT OF INTEREST ON THESE FUNDS SHOULD BE CONTINUED

OPASTCO urges the Subcommittee to reinstate the language introduced in the fiscal year 1997 Agriculture Appropriations Act, and continued in fiscal year 1998 and 1999, prohibiting the transfer of any unobligated balance of the RTB liquidating account to the Treasury or the Federal Financing Bank which is in excess of current requirements and requiring the payment of interest on these funds. As a condition of borrowing, the statutory language establishing the RTB requires telephone companies to purchase Class B stock in the bank. Once all loans are completely repaid, a borrower may then convert its Class B stock into Class C stock. Thus, all current and former borrowers maintain an ownership interest in the RTB. As with stockholders of any concern, these owners have rights which may not be abrogated. The Subcommittee's inclusion of the aforementioned language into the fiscal year 2000 appropriations bill will ensure that RTB borrowers are not stripped of the value of this required investment.

THE ADMINISTRATION'S PROPOSAL TO FUND THE RTB'S ADMINISTRATIVE EXPENSES AND SUBSIDY FROM THE BANK'S LIQUIDATING ACCOUNT SHOULD BE REJECTED

As it did last year, the Subcommittee should reject the Administration's proposal to fund the RTB's administrative expenses and subsidy budget authority through

the bank's liquidating account balances. The Administration's proposal is inappropriate on both legal and policy grounds. Statutorily, the Rural Electrification Act provides for the RTB's use of facilities and services of employees of the Department of Agriculture, without cost to the RTB, until such time as the bank is privatized. The proposal also appears inconsistent with the bifurcated structure of the RTB under the Federal Credit Reform Act of 1990 which does not permit funds in the liquidating account to finance new loans. From a public policy standpoint, unobligated balances of the liquidating account have been targeted to support the privatization of the RTB and use of these funds for other purposes would only serve to dilute the value of the bank for all stockholders. Finally, paying for the RTB's administrative expenses and subsidy through the liquidating account offers no budgetary savings. For these reasons, OPASTCO is opposed to the Administration's proposal and urges the Subcommittee to continue to fund the RTB through the general fund of the Treasury.

THE DISTANCE LEARNING AND TELEMEDICINE PROGRAM SHOULD CONTINUE TO BE FUNDED AT ADEQUATE LEVELS

In addition to RUS's telecommunications loans program, OPASTCO supports adequate funding of the distance learning and telemedicine grant and loan program authorized in the Federal Agriculture Improvement and Reform Act of 1996. This sensible investment allows rural students to gain access to advanced classes which will help them prepare for college and jobs of the future. Also, rural residents will gain access to quality health care services without traveling great distances to urban hospitals. Loans are made at the government's cost-of-money, which should help to meet demand for the program in the most cost effective way. In light of the Telecommunications Act's requirement that schools, health care providers, and libraries have access to advanced telecommunications services, sufficient targeted funding for this purpose is essential in fiscal year 2000.

CONCLUSION

The development of the nationwide telecommunications network into an information superhighway, as envisioned by policymakers, will help rural America survive and prosper in any market—whether local, regional, national, or global. However, without the availability of low-cost RUS funds, building the information superhighway in communities that are isolated and thinly populated will be untenable. By supporting the RUS telecommunications programs at the requested levels, the Subcommittee will be making a significant contribution to the future of rural America at a negligible cost to the taxpayer.

PREPARED STATEMENT OF THE PHARMACEUTICAL RESEARCH AND MANUFACTURERS OF AMERICA

On behalf of the Pharmaceutical Research and Manufacturers of America (PhRMA), I present recommendations on the fiscal year 2000 budget request submitted by the Administration for the Food and Drug Administration, for inclusion in the Subcommittee hearing record. PhRMA represents the country's leading research-based pharmaceutical and biotechnology companies, which are devoted to investing more than $24 billion annually in discovering and developing new medicines. PhRMA companies are leading the search for new cures and treatments.

We recognize the difficulties confronting the Subcommittee in meeting overall domestic spending caps affecting programs under your jurisdiction, under the 1997 budget agreement. We also recognize that pressures on appropriators to ensure an appropriate level of U.S. defense spending is likely to be even greater in light of the recent military activity with NATO. Decisions about which domestic programs to maintain or increase thus will be even more difficult. We urge you, however, to remember that many of the fruits of biomedical research are brought to the bedsides of patients through the research and development of new pharmaceuticals and through actions by the FDA to bring those safe and effective medicines to patients as soon as possible. To achieve this translation of medical research into better health for our citizens requires a commitment to appropriate funding for FDA.

That is why PhRMA fully supports the Administration's fiscal year 2000 request for budget authority specifically for direct federal appropriations of $1.016 billion (excluding rental payments of $95 million) for FDA salaries and expenses. This account is the major and essential component of FDA's resources, and the budget request represents a $128 million increase over the appropriations enacted by Congress for the current fiscal year under Public Law 105–227.

This level of funding is particularly important under the "trigger" provisions of the 1997 FDA Modernization Act (FDAMA) if the pharmaceutical industry is to continue to be required to pay the user fees that have enabled FDA to make new life-saving, cost effective medicines available to patients much more quickly. The trigger provisions require that general fund appropriations for all FDA salaries and expenses must equal or exceed the fiscal year 1997 appropriation level (excluding user fees), as adjusted for inflation or changes in discretionary budget authority for overall domestic spending, beginning after fiscal year 1997.

As FDA Commissioner Jane E. Henney, M.D., noted in her recent prepared testimony before your Subcommittee, FDA's dedication to the health and safety of the American people is well established. It is America's most important consumer protection agency. The FDA regulates products that account for one-quarter of all consumer spending and that comprise about $1 trillion in sales—including foods, medical and radiological devices, medicines, animal drugs, and cosmetics. These are goods that Americans expect to be safe and reliable.

However, Congress has imposed increasing responsibilities on FDA's staff during the past decade—most recently, under FDAMA and the Animal Drug Availability Act. For example, FDAMA requires that FDA inspect establishments that make drugs and devices every two years. But between 1990 and 1998, the number of firms subject to inspections reportedly rose from 89,000 to 114,000—a 28 percent increase.

In addition, the agency has had to respond quickly to an increasing variety of new public health issues, such as ensuring the safety of food and the nation's blood supply. For these reasons, it is of critical importance that FDA be able to retain and recruit highly qualified staff.

The research-based pharmaceutical and biotechnology industries are particularly concerned that FDA be able to continue to meet highly important performance goals, mutually agreed upon in an historic compact between FDA, Congress and industry. The agreement was first reached in 1992 in the Prescription Drug User Fee Act (PDUFA) and was confirmed in 1997 under FDAMA as PDUFA ll. The total FDA "program" request for salaries and expenses in fiscal year 2000 includes authorized appropriations of over $145 million for PDUFA II user fees—an increase of some $13 million over the current fiscal year, to add staff to handle vitally important drug reviews. During fiscal year 1998–2002, pharmaceutical companies will pay over $550 million in user fees under FDAMA, so FDA can continue to reduce both review and overall drug development times. As FDA Commissioner Henney has testified:

"PDUFA is among the most successful agency programs in history. Within its first five years of implementation, the increased resources provided by PDUFA to hire additional review staff has resulted in cutting the average review times for new drugs, without compromising the high standards that FDA has traditionally applied in weighing the risks and benefits of new drugs and thereby in determining their safety and effectiveness."

Under PDUFA, the pharmaceutical industry and FDA are continuing to work to serve a common client—the patient. The industry is working to develop new and better drugs, FDA is striving to improve the drug development and review process.

The critical importance of this partnership, in cooperation with Congress, in delivering new medicines to patients as soon as possible cannot be overemphasized. The 30 new drugs and 9 new biologics approved by FDA in 1998 are to treat diseases that affect 180 million patients and that cost more than $400 billion a year. New treatments include medicines for patients suffering from AIDS, cancer, including breast cancer, cardiovascular disease, Crohn's disease, tuberculosis, rheumatoid arthritis, depression, Parkinson's disease, erectile dysfunction, and the first vaccines to prevent Lyme disease and retrovirus infection. The prescription drug user fee program—which must be sharply distinguished from proposals for general purpose user fees—is based on three key principles:

—User fees must supplement FDA appropriations, not substitute for them.

—User fees must be targeted to the review and approval of innovative prescription medicines and their supplemental indications, and are not to be used for general agency activities.

—User fees must be applied to meet specific performance goals, agreed upon by FDA, to ensure the timely review and approval of new drugs.

Before user fees, FDA review times averaged about 30 months. But the 30 drugs approved in 1998 were reviewed in an average of 11.7 months—slightly better than the 12-month goal specified in PDUFA II. FDA also exceeded the fiscal year 1998 goal to review 90 percent of all standard new drug and biologic applications within 12 months, by completing 100 percent of the reviews within this timeframe.

The prescription drug user fees collected in fiscal year 2000 will enable FDA to continue to meet its PDUFA II performance goals, including:

—Review and act upon 90 percent of standard original NDA and PLA/BLA submissions filed during fiscal year 2000 within 12 months of receipt, and review and act on 50 percent within 10 months of receipt.
—Review and act on 90 percent of priority original drug NDA and biotechnology BLA submissions filed during fiscal year 2000 within six months of receipt.
—Review and act on 90 percent of standard drug efficacy supplements filed during fiscal year 2000 within 12 months of receipt, and review and act on 50 percent within 10 months of receipt.

Review and act on 90 percent of priority drug efficacy supplements filed during fiscal year 2000 within six months of receipt.

What this means is that FDA can continue to build on its record of helping patients to obtain new medicines more than a year and a half sooner than they did before user fees were enacted, while maintaining its high standards of safety and effectiveness.

In addition, FDAMA contains important provisions that facilitate access by patients to experimental drugs; give FDA more flexibility in determining effectiveness; expand access by doctors to peer-reviewed medical information; and encourage the development and testing of medicines for children.

The U.S. system of new drug approvals is the most rigorous in the world. On average, a company invests about $500 million and takes about 12–15 years to discover and develop a new drug. Only five in 5,000 compounds that enter preclinical testing make it to human testing. And only one of these five is approved for use by patients.

R&D investment by research-based pharmaceutical firms continues to break records. In 1999, pharmaceutical companies will invest $24 billion to discover and develop important new medicines. That figure represents a 14.1 percent increase over last year's record setting R&D spending. And no industry devotes a higher percentage of sales to R&D—20.8 percent—than the research-based pharmaceutical industry.

However, the pharmaceutical industry's ever increasing R&D investment, and FDA's determined efforts to improve the drug development and review process, will be nullified if adequately increased baseline appropriations for all of the agency's programs are not provided.

For these reasons, PhRMA strongly urges that Congress appropriate $1.016 billion (exclusive of rental payments) in fiscal year 2000 for FDA salaries and expenses, as requested by the Administration, to ensure that the agency can fulfill its vital responsibilities to promote and protect the health and safety of the American people.

PREPARED STATEMENT OF THE RED RIVER VALLEY ASSOCIATION

Mr. Chairman and members of the Committee. I am Lynn Lowe, and I am pleased to represent the Red River Valley Association as its President. Our organization was founded in 1925 with the express purpose of uniting the citizens of Arkansas, Louisiana, Oklahoma and Texas to develop the land and water resources of the Red River Basin.

As an organization that knows the value of our precious water resources we support the most beneficial water and land conservation programs administered through the Natural Resources Conservation Service (NRCS). We understand how important a balanced budget is to our nation; however, we cannot sacrifice what has been accomplished. The NRCS programs are a model of how conservation programs should be administered and our testimony will address the needs of the nation as well as our region. We believe strongly that the whole, national program must be preserved.

We appreciate that the fiscal year 2000 President's budget increases the NRCS overall funding; however, some programs are NOT adequately funded, to the detriment of the agency and our citizens. The increases are earmarked for grants, financial assistance and other non-federal personnel items. The effect is a decrease of funds for direct technical assistance. It is imperative to understand that NRCS is funded by program and not by employees.

We would like to address several of the programs affected by the President's fiscal year 2000 budget proposal. Failure to fund these initiatives would reduce assistance to those who need it.

1. Conservation Operations Budget.—This has been a steady decline in real dollars over the past several years. This has happened partly as a result of dollars being diverted from Conservation Operations to fund newer programs, especially the increases in financial assistance for conservation. The recent Workload Analysis con-

ducted by NRCS shows that nationally the needs by private land users for conservation services of all the kinds provided by NRCS exceeds the funded levels by $300 million. RRVA supports the increase in the Conservation Operations budget for NRCS by $300 million per year beginning in fiscal year 2000.

The Conservation Operations budget of NRCS is the foundation of technical support for conservation to the private users and owners of land in the United States. The President's Clean Water Action Plan and the Unified Strategy for Animal Feeding Operations will rely heavily on the technical assistance provided through NRCS's Conservation Operations program. Increases in other programs such as EQIP will not make up for the declines in Conservation Operations.

Another factor which has seriously reduced the ability of NRCS to meet the considerable demands for its technical assistance is the limitation on funding which can be provided to NRCS due to the Section 11 cap on transfer of funds from the Community Credit Corporation (CCC). The CCC provides the funding for NRCS technical assistance for several programs including EQIP and CRP. Currently, this cap prevents NRCS from covering its staff costs for these crucial programs. We support the lifting of the Section 11 cap.

2. Watershed and Flood Prevention Operations (Public Laws 566 & 534).—More than 10,400 individual structures have been installed nationally. They have contributed greatly to environmental enhancement, economic development and the social well being of our communities. More than half of these structures are over 30 years old and several hundred are approaching their 50 year planned life.

These programs offer a complete watershed management approach and should continue for the following reasons:

—They protect people and communities from flooding.
—Their objectives sustain our nation's natural resources for future generations.
—They are federally assisted and do not grow the federal government.
—Initiatives and decisions are driven by the communities.
—They are cost shared.
—They follow NEPA guidelines and enhance the environment.
—They can address the needs of low income and minority communities.
—The benefit to cost ratio of this program has been evaluated to be 2.2:1. What other federal programs can claim such success?

There is no doubt of the value of this program. The cost of losing this infrastructure exceeds the cost to reinvest in our existing watersheds. Without repairing and upgrading the safety of existing structures we will miss the opportunity to keep our communities alive and prosperous. It would be irresponsible to dismantle a program that has demonstrated such great return and is wanted by our citizens.

We fully support H.R. 728, recently introduced by Representative Frank Lucas (R-OK). This is a crucial bill to address a serious problem.

In addition to the needs for reinvesting in existing infrastructure there are many new projects which are awaiting funds to be built. The present level, outlined in the budget, of $83 million is not adequate. We strongly recommend that a funding level of $250 million be dedicated to Flood Prevention Public Law 534 and Watershed Operations Public Law 566. This is more realistic and compares to the programs appropriated in the years prior to 1997. At the proposed funding level it would take over 30 years to complete just the identified projects, with no attention given to rehabilitation needs.

3. Emergency Watershed Protection Program.—This program comes under Watershed and Flood Prevention Operations, but is a separate line item. This has been a zero budget item; however, there will always be emergency needs. It is estimated that $80 million was spent in fiscal year 1998 and funds are already being used for this purpose in fiscal year 1999.

As our land use expands, to include sensitive environmental ecosystems, major weather events will have an adverse impact requiring NRCS to assist under this program; therefore it should be funded up front. It is important for NRCS to be prepared for a rapid response. With funds available they can react immediately to any emergency when it occurs.

We request that a minimum of $50 million be appropriated for this program in the fiscal year 2000 budget and that these funds are not taken from elsewhere in the NRCS budget.

4. Conservation Reserve Program (CRP).—This program, administered by Farm Services Agency, impacts NRCS the most. NRCS conducts and is reimbursed for the technical assistance of this program.

In fiscal year 1999 approximately 6.8 million acres was enrolled into CRP. Only 1.8 million acres will be enrolled in fiscal year 2000 as the Congressionally mandated cap is reached.

This reduction in the program would mean a loss of about 1,000 staff years nationwide. This is a tremendous loss in manpower, all realized at the field level where technical assistance is most valuable. You cannot allow this to occur.

We request that, as a minimum, the CRP cap be increased to 45 million acres. This is an extremely beneficial program to our nation and should not be allowed to expire. It provides a safety net to those farmers trying to make a living on the marginal lands most suited for this program.

5. Watershed Survey and Planning.—This was budgeted by the President at $11.7 million and is an extremely important community program. NRCS has used this to become a facilitator for the different community interest groups, state and federal agencies.

It is imperative that our communities conduct proper water resource planning as they grow. The consequences for the lack of planning will be detrimental. Watershed Survey and Planning insures that water resource issues are addressed, bringing the community leaders, agencies and interest groups together.

As our municipalities expand the water resource issues tend to be neglected until a serious problem occurs. Proper planning and cooperative efforts, through this program, can prevent problems and insure the water resource issues are met.

We request that this program be funded at a level of $15 million.

6. Forestry Incentives Program.—The President's budget has no funding for this program. Congress transferred this program to NRCS from the Farm Service Agency as a restructuring in the Federal Agricultural Improvement and Reform Act of 1996. Forestry on small, privately owned lands is recognized as a farming activity. NRCS is the best agency to administer this program which assists farmers in production agriculture.

It is more than just a timber production program. Forests are the most effective land users as they relate to water quality, non point source pollution, air quality, greenhouse gas reduction and wildlife habitat. The fact that this program pertains to small, privately owned forests is another important aspect. Even though the initial impact is on wood fiber production, without it the landowners may sell the land for other development or misuse the resource jeopardizing water quality and proper runoff practices. This is a needed conservation program.

We request Congress to fund the Forestry Incentives Program at a level of $6.5 million for fiscal year 2000.

7. Environmental Quality Incentives Program (EQIP).—Requests for assistance through the EQIP program have been overwhelming. The resulting requests far exceed the available funds and is an additional workload on NRCS's delivery system. Additionally, the Administration must provide adequate funding for technical assistance to implement the program. We are appreciative that the President's fiscal year 2000 budget increases the program by $126 million but the technical assistance must be set and maintained at a minimum of 19 percent of the total program, or $57 million. In essence, the program, or workload, cannot be increased while the technical assistance is reduced, as was attempted in fiscal year 1999.

It appears that EQIP will be the primary means of supporting the voluntary portion of the Unified National Strategy for Animal Feeding Operations. Implementation of this strategy will greatly increase the demands for EQIP funds and technical services. Funding for NRCS to staff the technical assistance part is critical for the success of EQIP.

The $300 million proposed for the EQIP program is an adequate budget for fiscal year 2000; however, we request that the technical assistance for this program be a minimum of $57 million.

8. Wetlands Reserve Program (CCC).—As the WRP reaches its mandated cap in fiscal year 2000 the cap must be raised. This is a very popular and important program. It serves as a safety net to those farmers trying to make a living on these marginal lands. It also addresses conservation needs from water quality to global warming. The President's budget increased the program in fiscal year 2000 by $100 million to $209 million. In addition, the budget only allows for $11.8 million for technical assistance when a minimum of $18.3 million is required for NRCS to support this level of sign up.

We agree with the funding level for this program; however, the acreage cap will be met in fiscal year 2000. We strongly recommend that the program be amended to add 1 million acres. This will allow the program to continue until fiscal year 2002 when a reauthorization for the program can be made.

9. Conservation Technical Assistance (CTA).—A further reduction to technical assistance will jeopardize the local, state and federal partnership in conservation making it impossible to meet this nation's commitment to land stewardship in a voluntary manner. CTA provides landowners one-on-one assistance in planning and application of practice to protect our natural resources. The President's fiscal year

2000 budget degrades this assistance. Much of the funds will be used for grants and "passed through" for use other than field delivery staff. After analysis of the proposed budget NRCS would actually be reduced by 1,055 staff years. You and our nation cannot allow this reduction in service and conservation management to happen.

Over 70 percent of our land is in private ownership. This is important to understanding the need for NRCS programs and technical assistance. Their presence is vital to ensuring sound technical standards are met in our conservation programs. These programs not only address agricultural production, but sound natural resource management. Without these programs and NRCS properly staffed to implement them many owners of our private lands will not apply conservation measures needed to sustain our natural resources for future generations.

The administration has proposed "new" Clean Water Initiatives, but why do they ignore the agency that has a proven record for implementing conservation watershed programs? Congress must decide: will NRCS continue to provide the leadership within the communities to build upon the partnerships already established? The President's proposal does not provide for that leadership and so it is up to Congress to insure NRCS is properly funded and staffed to provide the needed help to our taxpayers for conservation programs.

All these programs apply to the citizens in the Red River Valley and we are concerned for the future. The RRVA is dedicated to work toward the programs which will benefit our citizens and provide for high quality of life standards. We therefore request that you appropriate the required funding levels within the individual programs to insure our nation's conservation needs are met.

Attached is a summary of the additions and amendments we believe should be made to the President's budget to insure that NRCS remains funded to deliver America's conservation services and programs to our citizens.

I thank you for the opportunity to present this testimony on behalf of the members of the Red River Valley Association and we pledge our support to assist you in the appropriation process.

Red River Valley Association Summary of Budget Request, Fiscal Year 2000 Appropriations, Natural Resource Conservation Service (NRCS)

Appropriations:	
President's fiscal year 2000 Budget	$1,601,000,000
Conservation Operations (President's Budget—$680.7 million) Additional Request	300,000,000
Watershed and Flood Protection Operations:	
Public Law 566 & Public Law 534 (President's Budget—$83 million) Additional Request	167,000,000
Emergency Watershed Protection Program	50,000,000
Watershed Survey and Planning (President's Budget—$11.7 million) Additional Request	3,300,000
Forestry Incentive Program	6,500,000
Wetlands Reserve Program (Tech Asst, President's Budget—$11.8 million) Additional Technical Assistance	6,500,000
Total NRCS fiscal year 2000 Appropriation	$2,134,300,000
Technical Assistance: Environmental Quality Incentives Program Technical Assistance (Min 19 percent of the proposed budget)	57,000,000
Acreage Cap Increases:	
Conservation Reserve Program	45,000,000
Wetland Reserve Program	1,000,000

Grant Disclosure: The Red River Valley Association has not received any federal grant, subgrant or contract during the current fiscal year or either of the two previous fiscal years.

PREPARED STATEMENT OF THE CATFISH FARMERS OF AMERICA

Mr. Chairman and Members of the Subcommittee, I appreciate the opportunity to provide testimony in support of the USDA Regional Aquaculture Center program. My name is Hugh Warren, and I am Executive Vice President of the Catfish Farmers of America. Founded in 1968, and with current membership from 30 states, the Catfish Farmers of America is the trade organization that represents the interests of the farm-raised catfish industry.

Production of farm-raised catfish has increased over SO-fold since 1970, a rate of growth unmatched in other segments of domestic agriculture. Per capita consumption of farm-raised catfish ranks fifth among all seafood products in the United States, behind tuna, shrimp, pollock, and salmon. Because farm-raised catfish has become a widely accepted food item throughout much of the United States, the demand for catfish should continue to increase as American consumers increasingly turn toward fish as part of their overall diet.

The rapid growth of the catfish industry has brought about a pressing need for research to make farming more efficient and to assure the continued production of a safe, healthy food for American consumers. The Southern Regional Aquaculture Center has become an important part of that research support as Center programs are responsive to industry needs within the region, and projects are conducted as cooperative, interstate projects that ensure that the best scientific talent in the region is brought to bear on the problem in a cost-efficient manner. I would like to highlight two projects developed through the Southern Regional Aquaculture Center that illustrate the response of the program to important national and regional issues.

Production of safe, high-quality products is the foremost goal of fish farmers. Through the Southern Regional Aquaculture Center, research and extension scientists from Alabama, Georgia, Louisiana, Mississippi, Tennessee, Texas, and Virginia evaluated methods of detecting pathogenic microorganisms and reducing spoilage of farmed raised channel catfish, trout, and crawfish. Packaging techniques developed through this project have been implemented in commercial processing plants throughout the country, and have helped to improve shelf-life on many aquaculture products. More than 100 scientific and lay publications were developed through this project, and have provided critical information on processing, temperature control, spoilage, purchasing, storage, handling, and preparation of aquaculture products. This project has helped assure the quality and safety of aquaculture products.

Producing food in an environmentally sound manner is another fundamental goal of American aquaculture. Research and extension scientists in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina and South Carolina recently cooperated in a Southern Regional Aquaculture Center project to evaluate waste management practices that reduce the impact of aquaculture on the environment. Results of the project showed that aquaculture ponds can be operated with minimal impact on the environment by using simple management practices that can be implemented with little or no extra expense or labor. These practices have been widely adopted in the southeast because aquaculture producers are aware that the use of environmentally responsible farming practices can be part of the marketing appeal of farm-raised fish.

Funding for the Regional Aquaculture Center program has been level for the past decade. Over that time, domestic aquaculture has grown at a remarkable rate and the cost of conducting research has increased. Accordingly, it has become increasingly difficult for the Center program to address the needs of this important segment of American agriculture. I respectfully request your sincere consideration of the Regional Aquaculture Centers in the fiscal year 00 budget, and I urge you to provide funding at the full authorized level of $7.5 million for the five Regional Centers.

PREPARED STATEMENT OF THE SECOND HARVEST NATIONAL NETWORK OF FOOD BANKS

Chairman Cochran, Ranking Member Kohl, and Members of the Subcommittee, thank you for the opportunity to submit this written testimony before the Subcommittee.

Second Harvest is the nation's largest hunger relief charity. Our network is compromised of nearly 200 regional certified affiliate food banks, which provide more than one billion pounds of food and grocery products to an estimated 50,000 local private charitable agencies, operating 95,000 social service programs. Second Harvest network food banks provide assistance in all 50 states, the District of Columbia and Puerto Rico.

On behalf of Second Harvest and its member food banks, I want to express our deep gratitude to each of you for your attention to the needs of the food banks in your state and their efforts to feed America's hungry. America's food banks have more nutritious, higher quality and greater quantities of food because of your work.

To cite just one example, in your state Mr. Chairman, the Mississippi Food Network, led by Mr. John Alford, provides food and grocery products to more than 350

local charities around the state and distributed more than 6 million pounds in federal commodities to needy Mississippians in 1997. The efforts of Mr. Alford's food bank, its network of churches and local agencies and thousands of volunteers, is made more effective through the distribution of USDA commodities made possible by this Subcommittee. Thank you.

In 1998, through the generosity of private donations and the grant of federal commodities through the Emergency Food Assistance Program (TEFAP), our network provided food to an estimated 26 million low-income Americans, including 21 million people who were aided at emergency feeding sites such as soup kitchens, food pantries, and emergency shelters.

Mr. Chairman, I submit my testimony today urging the Subcommittee to fund TEFAP at the level recommended by the Administration, $100 million for commodity food assistance and $45 million for administrative funds. The need for adequate TEFAP funding is essential to our food banks and the hungry Americans they serve.[1]

Last year, Second Harvest released HUNGER: The Faces & Facts, independent research providing the most comprehensive review of the private sector response to the problem of hunger ever conducted in the United States. What our research provided—and what I hope will influence the fiscal year 2000 appropriations process now being considered by this Subcommittee—is important demographic information about hungry Americans and the local charities that serve them.

What our research found was that disproportionately higher percentages of women, children, and elderly people are served at emergency feeding sites than are represented in the general US population. They are typically the poorest of the poor, with more than 86 percent with incomes below the federal poverty level and more than 11 percent with no income in the past month at all. These are our nation's most vulnerable families, and they rely heavily on the assistance of community based charities like the local food bank.

We also find "working poor" families being served through food pantries. Increasingly, these working poor are being fed at soup kitchens that were once almost exclusively utilized by homeless people. Working poor households represent more than one-third of emergency food recipients. They are people who are working, paying taxes and contributing to the productivity and economic prosperity of our nation, but are reaping few of the rewards. A recent study in Virginia found that half of all people relying on food pantries and other local feeding agencies had been employed in the past six months.[2] Unfortunately, the economic boats of these working Americans have not been lifted by the rising tide of our nation's current economic boom.

The ranks of the working poor that turn to charities for aid is also increasing through the often-difficult transition from welfare to work. A South Carolina Department of Social Services report found that 17 percent of former welfare recipients had no way to buy food some of the time, since leaving welfare.[3] A recent study in Massachusetts found that 10 percent of former welfare recipients reported having gone hungry, and the length of time former recipients went without food grew to 10 days in some cases.[4] In each of these states food banks have reported significant increased demand for emergency food services.

Food banks have become an essential component in the public-private partnership that has emerged in the efforts of local communities to end hunger. In 1998, the Second Harvest network distributed approximately 1.2 billion pounds of food to local charities with an estimated value of $1.5 billion. More than 85 percent of all the food and grocery products distributed throughout our network are provided by the private sector. Two-thirds of all private sector donations to food banks come through local activities such as canned food drives, church and synagogue sponsored activities, local grocery retailers and wholesalers, local food manufacturers and processors, and farmers who make available their fields for a "second harvest" for the needy in their communities.

Despite the generous donation of food and grocery products by the private sector, we are finding increased demand for emergency food assistance that is outstripping our available resources. The Hunger 1997 Second Harvest report provides quantifi-

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[1] HUNGER 1997: The Faces & Facts. The Second Harvest National Research Study, 1998.

[2] The Promise and the Reality, The Outlook for Virginians Leaving Welfare, Campaign for Virginians in Need and Social Action Linking Together, 1998.

[3] Survey of Former Family Independence Program Clients Whose Cases Were Closed Between January and March 1997. South Carolina Department of Social Services 1998.

[4] Life After Welfare: Still Poor, Still Hungry. Massachusetts Law Reform Institute and the Family Economic Institute, Boston, MA. 1999.

able data showing a substantial shortage of emergency food aid in the charitable sector.

Our research findings have been confirmed by other human service organizations that have experienced similar shortages of emergency food. For example, Catholic Charities USA reported in December 1997 that the number of people receiving emergency food assistance at Catholic Charities sites increased by 14 percent since 1995.[5]

Similarly, the US Conference of Mayors Annual Survey of Hunger and Homelessness found that emergency food assistance was up 14 percent in 1998.[6] Eighty-four percent of the cities surveyed reported increased demand for emergency food among families with children. And, due to insufficient stocks of emergency food, emergency feeding agencies were forced to turn away one in five individuals in cities surveyed.

We estimate that in 1997, approximately 16 percent of requests for emergency food aid went unmet. Nearly half (46 percent) of all local agencies reported that they were forced to stretch food resources in the past year. Moreover, emergency food pantries experienced shortages most often, with nearly 60 percent reporting that they have had to stretch food at some time in the past year, and 17 percent stretching food resources monthly.

Local agencies reporting a need for additional food resources were asked to estimate the amount of additional food needed. Based on those agency reports, researchers were able to project a national shortage of 900 million pounds of emergency food. In the worst instances, local charities can no longer stretch food resources and are forced to operate on a sort of "triage" system, serving only the most needy, or the charity simply closes. Our research found that a median number of 20 people were turned away last year by those food programs lacking sufficient food resources to serve them. In 1997, at least 115,000 people were turned away and denied emergency food assistance because the local charitable agency had no food available.

Mr. Chairman, it should be noted that it takes a serious and nearly insurmountable shortage of donated food to force a charity to turn a needy person away, or, worse yet, close a soup kitchen, pantry or emergency shelter. The director of soup kitchen or church food pantry will go to extraordinary efforts before they will accept that they must turn someone away or close their doors for even a short period of time.

Mr. Chairman, the depth of the emergency food shortage is profound and provides a compelling argument for the subcommittee to fully fund TEFAP to the Administration's request of $100 million in commodity food donations and $45 million in administrative funding. This is the same TEFAP mandatory funding level provided for in fiscal year 2000 through the Personal Responsibility Work Opportunity Reconciliation Act (Public Law 104–193). We cannot cut emergency food assistance at a time when food banks, food pantries and soup kitchens are reporting that approximately 16 percent of emergency food requests currently go unmet.

TEFAP is the cornerstone program in the charitable efforts to feed America's hungry, and is the "bridge" between public and private hunger relief efforts. TEFAP is a unique community based and community supported federal nutrition program, which relies on volunteers at food banks and local agencies to prepare and distribute federally donated agricultural commodities to hungry people in those communities.

TEFAP serves the public good in two primary and important ways: high quality, nutritious food gets to hungry Americans in an efficient manner utilizing the assistance and efficiencies of the private sector, and the agricultural economy is strengthened through surplus removal and providing a non-competitive market for agricultural commodities. A 1994 USDA—Economic Research Service report stated "although TEFAP's sector-wide farm impacts are small because the program is small, producers of the commodities donated through TEFAP can be significantly affected ... as a surplus disposal program TEFAP returned to farmers approximately 85 cents for every dollar of Federal TEFAP expenditure."[7] TEFAP provides increased farm-gate income and serves as direct connection between America's farmers and hungry Americans in a manner that few federal programs can.

In fiscal year 1998, TEFAP commodities (purchased and bonus) represented more than 15 percent of all the food supplied through the Second Harvest network. Nearly 190 million pounds of TEFAP food—the equivalent of 148 million meals—was dis-

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[5] Catholic Charities USDA, 1996 Annual Survey (December 1997).

[6] U.S. Conference of Mayors, A Status Report on Hunger and Homelessness in America's Cities, 1998.

[7] Comparing the Emergency Food Assistance Program and the Food Stamp Program, USDA-ERS Agricultural Economic report Number 689, 6/94; page 7.

tributed through the Second Harvest network last year. We estimate that a similar level of TEFAP commodities (150 million to 180 million pounds) will be distributed through the network of food banks in fiscal year 1999, based on projections of surplus commodities available through Section 32 of the Agricultural Act of 1935.

Though USDA commodities seemingly represent a proportionally small amount of the total food distributed through our network, TEFAP commodities are critical in that they help stabilize a massive system of unpredictable donated supplies that are typical in a charitable network such as ours.

According to our research, the types of food most needed by local charities, primarily meat, dairy, fish, fruits and vegetables, and grain products, are almost exclusively the commodities provided through TEFAP. Those are also the least likely types of food to be donated in significant quantities or with any kind of regularity. This year, nearly two dozen types of nutritious commodities will be available to food banks through TEFAP mandatory commodity purchases.

Americans are a fair, compassionate and generous people, and it is through their kind donations of food, funds, and volunteer time that food banks are able to come to the aid of the 21 million low-income people with emergency hunger relief. But, more must be done. Hunger relief charities are the last line of defense against hunger in most American communities, and too many needy people have already been turned away for a lack of food and resources.

I am mindful of the difficult fiscal constraints faced by this Subcommittee. But I am also aware of the even more difficult reality of 21 million Americans that turn to us for aid and help in their hunger. We cannot allow these vulnerable and needy people to be turned away. TEFAP is essential to our ability to feed America's hungry. I urge you to not cut TEFAP, and allow the mandatory funding paid for in the 1996 Welfare Reform Act to proceed through the Committee without reduction.

In light of the nation's considerable agricultural surpluses and the first federal budget surplus in three decades, it is morally unacceptable that there are tens of thousands of American children that may go to bed tonight because they have no food in their home or because the church pantry they have visited is empty. The TEFAP program is an essential component in our work. Please fund the program no less than the Administration's request.

Mr. Chairman, I ask that the following two front-page articles from the New York Times, (2/26/99 and 2/27/99) be submitted with my testimony for the hearing record. These articles provide additional information that I sincerely hope will help guide the Subcommittee in its deliberations on fiscal year 2000 TEFAP funding.

Thank you Chairman Cochran, Ranking Member Kohl and Members of the Subcommittee.

PREPARED STATEMENT OF THE SEMINOLE TRIBE OF FLORIDA

The Seminole Tribe of Florida is pleased to submit this statement regarding the fiscal year 2000 budget for the Natural Resources Conservation Service (NRCS) in the Department of Agriculture. The Tribe asks that Congress provide $946 million for NRCS's Conservation Operations Partnership; this request exceeds fiscal Year 1999 spending levels by $300 million. The Seminole Tribe's agricultural enterprises and environmental programs benefit from the technical assistance the NRCS provides through its Conservation Operations Partnership. Recently, the Tribe has been working closely with the Florida State Conservationists on a number of 1996 Farm Bill programs and anticipates increased technical assistance needs in the coming fiscal year.

THE SEMINOLE TRIBE OF FLORIDA

The Seminole Tribe lives in the Florida Everglades. The Big Cypress Reservation is located in the western basins, directly north of the Big Cypress National Preserve. The Everglades provide many Seminole Tribal members with their livelihood. Our traditional Seminole cultural, religious, and recreational activities, as well as commercial endeavors, are dependent on a healthy Everglades ecosystem. In fact, the Tribe's identity is so closely linked to the land that Tribal members believe that if the land dies, so will the Tribe.

During the Seminole Wars of the 19th Century, our Tribe found protection in the hostile Everglades. But for this harsh environment filled with sawgrass and alligators, the Seminole Tribe of Florida would not exist today. Once in the Everglades, we learned how to use the natural system for support without harm to the environment that sustained us. For example, our native dwelling, the chickee, is made of cypress logs and palmetto fronds and protects its inhabitants from the sun and rain,

while allowing maximum circulation for cooling. When a chickee has outlived its useful life, the cypress and palmetto return to the earth to nourish the soil.

In response to social challenges within the Tribe, we looked to our Tribal elders for guidance. Our elders taught us to look to the land, for when the land was ill, the Tribe would soon be ill as well. When we looked at the land, we saw the Everglades in decline and recognized that we had to help mitigate the impacts of man on this natural system. At the same time, we acknowledged that this land must sustain our people, and thereby our culture. The clear message we heard from our elders and the land was that we must design a way of life to preserve the land and the Tribe. Tribal members must be able to work and sustain themselves. We need to protect the land and the animals, but we must also protect our Tribal farmers and ranchers.

Recognizing the needs of our land and our people, the Tribe, along with our consultants, designed a plan to mitigate the harm to the land and water systems within the Reservation while ensuring a sustainable future for the Seminole Tribe of Florida. The restoration plan will allow Tribal members to continue their farming and ranching activities while improving water quality and restoring natural hydroperiod to large portions of the native lands on the Reservation and ultimately, positively effecting the Big Cypress National Preserve and Everglades National Park.

The Seminole Tribe's project addresses the environmental degradation wrought by decades of federal flood control construction and polluted urban and agricultural runoff. The interrupted sheet flow and hydroperiod have stressed native species and encouraged the spread of exotic species. Nutrient-laden runoff has supported the rapid spread of cattails, which choke out the periphyton algae mat and sawgrass necessary for the success of the wet/dry cycle that supports the wildlife of the Everglades.

The Seminole Tribe designed an Everglades Restoration project to allow the Tribe to sustain ourselves while reducing impacts on the Everglades. The Seminole Tribe is committed to improving the water quality and flows on the Big Cypress Reservation. We have already committed significant resources to the design of this project and to our water quality data collection and monitoring system. We are willing to continue our efforts and to commit more resources, for our cultural survival is at stake.

In addition to addressing the ecosystem concerns related to the Big Cypress Reservation, the Tribe has been actively involved in the development of the ecosystem-wide restoration plan. The Tribe, as an active member of both the Governor's Commission for a Sustainable South Florida and the South Florida Ecosystem Restoration Task Force and Working Group, has worked cooperatively with our neighbors to design a sustainable future for all of South Florida.

SEMINOLE TRIBE EVERGLADES RESTORATION INITIATIVE

The Tribe has developed a conceptual water conservation plan that will enable us to meet new water quality standards essential to the cleanup of our part of the Everglades ecosystem and to plan for the storage and conveyance of our water rights. We have also designed, with the assistance of the NRCS, the Tribe's best management practices program. We continue to use available funds to further the design and planning work necessary to implement our Everglades Restoration Initiative.

The Tribe's Everglades Restoration Initiative is designed to mitigate the degradation the Everglades has suffered through decades of flood control projects and urban and agricultural use and ultimately to restore the nation's largest wetlands to a healthy state. Our Everglades Restoration Initiative will enable the Tribe:

—to collect and monitor data to establish a baseline and to evaluate performance of the overall system design;

—to design and construct surface water management systems to remove phosphorus, convey and store irrigation water, improve flood control, and rehydrate the Big Cypress National Preserve;

—to commit to the long-term operation and maintenance of new water management systems; and

—to design and implement comprehensive best management practices for the Big Cypress Reservation.

This project will enable the Tribe to meet proposed numeric target for low phosphorus concentrations that is being used for design purposes by state and federal authorities. It will also provide an important public benefit: a new system to convey excess water from the western basins to the Big Cypress National Preserve, where water is vitally needed for rehydration and restoration of lands within the Preserve.

Conclusion

Everglades restoration is a well-recognized national priority. Through its assistance to the Tribe, NRCS has provided valuable technical assistance to date. The Tribe anticipates that beginning in fiscal year 1999, NRCS will provide programmatic support through EQIP and WRP. In the following fiscal year, the Tribe anticipates additional programmatic assistance through the implementation of a significant portion of the Tribe's water conservation plan through the small watershed program as authorized through Public Law 566. None of the joint objectives of the Tribe and the NRCS can be accomplished, however, without sufficient funding of the Florida Conservationist's technical assistance budget.

The Seminole Tribe is ready, willing, and able to begin work immediately. Doing so will require substantial commitments from the Tribe, including the dedication of over 9,000 acres of land for water management improvements. However, if the Tribe is to move forward with its contribution to the restoration of the South Florida ecosystem, a substantially higher level of federal financial assistance will be needed as well.

The Tribe has demonstrated its economic commitment to the Everglades Restoration effort; the Tribe is asking the federal government to also participate in that effort. This effort benefits not just The Seminole Tribe, but all Floridians who depend on a reliable supply of clean, fresh water flowing out of the Everglades, and all Americans whose lives are enriched by this unique national treasure.

Thank you for the opportunity to present the request of the Seminole Tribe of Florida. The Tribe will provide additional information upon request.

PREPARED STATEMENT OF THE SOCIETY FOR ANIMAL PROTECTIVE LEGISLATION

We respectfully request the following modest appropriations and oversight to permit these programs within the U.S. Department of Agriculture to be carried out effectively and efficiently.

$13 MILLION APPROPRIATION FOR APHIS/ANIMAL CARE TO ENFORCE THE ANIMAL WELFARE ACT

APHIS/Animal Care is responsible for ensuring basic protections to millions of animals nationwide through enforcement of the federal Animal Welfare Act (AWA). The Animal Care program oversees the care and handling of animals used in research, exhibition, and the wholesale pet trade. More than 10,000 separate locations across the country must be inspected for compliance with the AWA by Animal Care's field staff of only 70 inspectors. A total of 100 inspectors are desperately needed for USDA to meet their responsibilities under the law.

Animal Care's dedicated, hard-working staff are struggling to do the best possible job despite woefully insufficient funding, but they have reached a limit on what they can squeeze our of their appropriation. The agency's responsibilities have grown over time, yet its current budget is below the fiscal year 1993 level.

An unprecedented list of 350 organizations including the American Veterinary Medical Association, the American Zoo and Aquarium Association, the National Association for Biomedical Research and the Society for Animal Protective Legislation are supporting a request for an increase in appropriations for Animal Care of $3.825 million for its enforcement of the AWA. A copy of the letter is attached to my testimony.

A budget of $13 million for fiscal year 2000 for Animal Care would ensure compliance with the law by permitting: regular unannounced inspections of all entities regulated under the Animal Welfare Act; increased vigilance at substandard facilities; prompt response to complaints; and increased attention to searches for unlicensed dealers and exhibitors.

Allocation for USDA/APHIS Animal Care of Additional $3.825 Million for Fiscal Year 2000

Field Inspection Staff Expansion:	
18 Veterinary Medical Officers (salary and benefits)—69,696 × 18	$1,254,528
12 Animal Care Inspectors (salary and benefits)—49,212 × 12	590,544
Transportation, equipment, phone and on-line service, and training for new spectors 25,245 × 30	757,350
Subtotal	2,602,422

Allocation for USDA/APHIS Animal Care of Additional $3.825 Million for Fiscal Year 2000—Continued

Critical Needs of Existing Animal Care Program:	
Current Field Inspection Staff Needs: adequate training to permit performance-based inspections; upgrading computers and computer training to permit acquisition, transfer and storage of data; repair and acquisition of vehicles; equipment; supplies including gas; overnight travel; and departmental services	972,600
Crisis Management: emergency funds for seizure and subsequent care of animals; containment of potential public or animal health threats; consulting fees for veterinary specialists; emergency travel; and other services as needed	250,000
Subtotal	1,222,600
Total	3,825,022

The breakdown of expenses for each of the 30 new members of the field staff is as follows: $15,935 for acquisition of a vehicle; $4,860 for a laptop computer; $2,210 for job and computer training; $1,490 for gasoline; and $750 for phone and on-line service. The total for individual expenses is $25,245 × 30 inspectors equals $757,350.

The breakdown of expenses for existing program needs is as follows: $467,900 for repair, and when necessary acquisition, of vehicles; $175,000 for computer upgrades and training; $109,400 for overnight travel; $105,000 for job training including specialized training in enforcement of performance-based standards; $69,800 for departmental services; and $45,500 for equipment (cameras, etc.) and supplies. The total of these expenses is $972,600.

Congress and USDA should support H.R. 453 to save money and strengthen enforcement of the Animal Welfare Act.—Last month another USDA licensed Class B random source dog dealer and 8 accomplices were convicted of charges related to theft of animals for sale to experimental laboratories. According to the U.S. Department of Justice, the dealer conspired with others to acquire dogs through deception and theft and conspired to falsify the records of acquisition required by Animal Care. Only 3 pets were reunited with their families; the others had already been experimented on by researchers and were euthanized. This case exemplifies the problems associated with random source dog and cat dealers who provide these animals for research purposes.

There are only 40 random source Class B dog and cat dealers left, but Animal Care is spending an inordinate amount of time and money attempting to get them to comply with the minimum requirements under the AWA, including one of the fundamental objectives of the Act: preventing the theft of pets for research purposes. Despite all of the time and attention Animal Care is putting into enforcing the law at Class B dealer facilities, Animal Care is not able to assure the public that pets are not being taken and sold for research as the former USDA-licensed dealer cited above did.

H.R. 453, The Pet Safety and Protection Act sponsored by House Agriculture Committee Members Charles Canady and George Brown, would end the supply of dogs and cats to research facilities by Class B dealers. Other sources will remain available to ensure that researchers will be able to obtain the dogs and cats they need for experimentation. Report language could offer support for H.R. 453; adoption of this legislation would greatly reduce USDA's regulatory burden, while still permitting research to continue unhindered.

$900 THOUSAND LINE ITEM APPROPRIATION FOR THE ANIMAL WELFARE INFORMATION CENTER AT THE NATIONAL AGRICULTURAL LIBRARY

In 1985, Congress had the ingenuity to create the Animal Welfare Information Center (AWIC) to serve as a resource for all individuals involved in the care and use of animals in research. Those who use the services of AWIC include scientists, veterinarians, animal caretakers, research facility administrators, members Institutional Animal Care and Use Committees and APHIS/Animal Care inspectors who are responsible for enforcing the Animal Welfare Act.

AWIC provides information on : (a) appropriate care for animals including minimization of pain and distress, (b) reduction and/or replacement of the use of animals in research where possible, (c) preventing unintended duplication of experiments, (d) training for employees in the laboratory, and (e) legal requirements regarding the use of animals in research. Its value to the research community has led to an ever-increasing demand for assistance.

AWIC has not received an increase in appropriations during its 12 years, making it impossible to provide services as needed. Lack of funds is restricting the Center's ability to publish critical documents. Travel to important national meetings has been cut back too. At the most recent annual meeting of the American Association for Laboratory Animal Science, the AWIC educational exhibit was being run by only one, extremely overworked employee, and he ran out of AWIC's extremely popular materials during the first day of the three day meeting. The Center had to cut back on employees and cease its work study program with students from Prince Georges County schools.

The Center staff have responded to more than 24,000 requests for specific publications and more than 2,000 requests for reference services. AWIC produces a bulletin, now in its ninth year. It also maintains a worldwide web site (http://www.nal.usda.gov/awic) which by the end of February was being used an average of nearly 900 timers per day!

A line item appropriation of $900 thousand is requested for AWIC to increase production and dissemination of its excellent information. AWIC's resources are vital to assist registered research facilities with compliance with the Animal Welfare Act and to encourage the replacement, reduction and refinement of experiments involving the use of animals.

$500 THOUSAND APPROPRIATION FOR APHIS/ANIMAL CARE TO ENFORCE THE HORSE PROTECTION ACT

The Horse Protection Act (HPA), passed in 1970 and amended in 1976, is intended to prevent the cruel practice of "soring" gaited horses. According to APHIS, soring is defined as "the application of any chemical or mechanical agent used on any limb of a horse or any practice inflicted upon the horse that can be expected to cause it physical pain or distress when moving." Soring is done to give the animal an exaggerated gait. Tennessee Walking horses are the common victims.

It has been almost 30 years since the HPA was signed into law, yet many competitors in the industry are still defying the law. Horse Industry Organizations should adopt a policy of "zero tolerance" for violators of this federal law, and they should shun individuals who are soring horses. Instead, industry representatives appear to be bent on weakening enforcement of the HPA to make it easier to violate the law with impunity.

APHIS' Horse Protection Enforcement reports to Congress repeatedly document the soring of hundreds of horses; the National Horse Show Commission, Heart of American Walking Horse Association and Spotted Saddle Horse Breeders and Exhibitors Association consistently have high turndown rates because of noncompliance with the law.

The lack of funds has made it necessary for APHIS to increasingly turn over enforcement of the law to industry. This trend has continued despite evidence that the industry has failed to achieve the level of enforcement of the unbiased, well-trained, professional inspectors who work for Animal Care. The inspectors from industry are called "Designated Qualified Persons" (DQPs). The rate at which DQPs turned down horses for soring in fiscal year 1997 was 1.42 percent, less than half the rate of government inspectors who had a turndown rate of 3.57 percent.

541 horse industry organization shows took place in fiscal year 1997, yet Animal Care veterinary inspectors were only able to inspect 31. Based on APHIS figures for the horse shows that are inspected, we estimate that at least 2,000 sore horses a year are going undetected. Additional resources are needed to permit Animal Care inspectors to attend more shows thereby ensuring significantly stronger compliance with the HPA.

INCREASED OVERSIGHT OF WILDLIFE SERVICES

Last year, the House of Representatives nearly slashed funding for the predator control field operations of Wildlife Services (WS). Many Members supported this effort because of the inhumane, ineffective methods of predator control used by WS. Development of effective, publicly acceptable, humane alternatives is essential by the research section of WS. As these alternatives are developed they must be implemented in the field.

Steel jaw leghold traps, notorious for their cruelty, have been condemned as "inhumane" by the American Veterinary Medical Association, the American Animal Hospital Association and the World Veterinary Association. Not surprisingly, an increasing number of states are prohibiting use of leghold traps, making the work of the research section of WS all the more critical.

The 30,000 steel traps owned by WS should be discarded in favor of less cruel alternatives such as footsnares and box traps. The successful development of tran-

quilizer tabs by the research section must continue and use of the tabs by the operations staff should be pursued.

In an international trapping "Understanding" reached on December 11, 1997, between the U.S. and the European Union, the U.S. agreed to phase out use of "conventional steel-jawed leghold restraining traps". WS has the responsibility of complying with the U.S. obligation by ending its use of these barbaric traps.

No further testing of leghold traps should be pursued by WS as this would be an extremely wasteful and cruel use of taxpayer funds.—In the past, such funds designated for trap research were merely passed on to a nongovernmental organization to utilize as it saw fit. If any funds are allocated for trap testing, the research should be conducted by WS since the agency has the technical expertise.

WS has been involved in extremely successful oral rabies vaccine programs. Despite the positive results to date, the Agency has suggested that funding would be reduced for this work. Funding for the oral rabies vaccine work is important and should be continued.

Thank you for your consideration of our requests.

PREPARED STATEMENT OF SUFFOLK COUNTY, NY

Mr. Chairman, my name is Robert J. Gaffney and I am the County Executive of Suffolk County, New York. I want to thank you for the opportunity to present the following testimony in support of the Federal Farmland Protection Program.

Suffolk County was first settled in 1640 and was incorporated in 1683 as one of the ten original counties in New York State. Suffolk County is located on New York's Long Island, east of New York City, and bordered on the west by Nassau County. Suffolk's land area totals 911 square miles, is 86 miles long, and 15 miles wide. Shoring on both the Atlantic Ocean and the Long Island Sound, Suffolk's shoreline totals 987 miles. Suffolk's prime agricultural locale can be found on its east end, commonly known as the "twin forks" of the island. The 28-mile northern peninsula, known as the "North Fork" is the County's primary farm country, and ends at Orient Point.

THE NEED FOR FARMLAND PRESERVATION

Despite booming commercial and residential development and its proximity to New York City, Suffolk County and its residents have, and continue to maintain its rural tradition via a sound agricultural industry. This expanding industry is seasonally highlighted by Suffolk's vineyards, strawberry and pumpkin patches, local produce stands, nursery and greenhouse cultivation, and an established potato growth. As aforementioned, Suffolk's wine industry is experiencing considerable expansion and currently accounts for the largest premium wine industry of any county in the United States outside the State of California. It is these agricultural products that have afforded Suffolk's residents a profitable link to the past, while at the same time affording protection from developmental pressures.

Suffolk County's Farmland Preservation Program is now 23 years old, and was the first Purchase of Development Rights (PDR) program in the United States. Farmland preservation in Suffolk County is crucial on many fronts. The remaining farmland in Suffolk County represents the last vestige of an historical way of life dating back to the mid 1600's. Farmland preservation is critical to maintaining a rural character that will result in ensuring the scenic beauty of Suffolk's east end. Additionally, on a larger scale, it is this rural character that contributes to tourism on Long Island, currently a $2 billion industry. Economically, as an agricultural producer, Suffolk County continues to lead New York State in the market value of agricultural products sold, totaling over $133 million.

Suffolk County's farms are facing significant, even intense, developmental pressure. Commercial and residential development has already consumed a large percentage of the vast blocks of vacant land and farmland in the County's four western towns. Less than 1,800 acres remain, and much of this is in the process of being developed. The remainder is prohibitively expensive, with approximate values ranging from at least $50,000 to $100,000 per acre. Unless farmland is preserved now, significantly higher prices will result in the Town of Brookhaven and the five eastern Towns.

OUR COMMITMENT TO FARMLAND PRESERVATION

Recognizing the necessity of immediate action in preserving our last remaining farmland acres, I have recently increased the amount of money included in my capital budget from $1.5 million per year to $5 million per year commencing in 1998.

Moreover, a Community Greenways Fund was recently established, allocating an additional $20 million for farmland purchases. Overwhelmingly passed by referendum in November of 1998, we hope to leverage these dollars with both federal and state funds.

Suffolk County has demonstrated a commitment to long term conservation of our prime farmlands, which are among the most fertile in the United States. Overall, we have appropriated in excess of $32 million to preserve over 6,200 acres. These voluntary easements are used with other preservation mechanisms such as clustering and agricultural districting to protect Suffolk's farmlands against non-agricultural conversion uses. Suffolk County's current farmland preservation agenda also stems from the County's 1982 passage of a "Right to Farm" law, establishing an official County policy to conserve, protect, and encourage agricultural uses.

Suffolk County is currently in contact with the owners of 1,763 farm acres that have offered to sell the development rights to the County. This list awaits necessary funding, and would require approximately $15 million to acquire. On average, two farms are added to the list each month. As evidenced by the decline in total acreage in Suffolk County from 123,346 acres in 1950 to 35,323 acres in 1992, federal funds are needed to help accelerate the PDR programs before a critical mass of Suffolk farmland is lost forever. Alarmingly, Suffolk County loses approximately 1,289 acres annually. At the County's previous annual spending rate of $1.5 million, it may be as soon as 15 years before the remaining farmland left in Suffolk numbers only 10,000 acres. As outlined in the Suffolk County Farmland Preservation Plan of 1996, in order to meet our goal of preserving 20,000 acres, an expenditure of $15 million annually would be necessary. Suffolk County and its residents cannot afford to bear this cost alone.

To date, disproportionate to our overall financial need, Suffolk County has received only a small appropriation of federal funds through the Federal Farmland Protection Program. Additional federal funding will ensure that future generations of Suffolk County residents will gain from, and participate in the rich rural heritage that attracted the County's original inhabitants. Furthermore, with federal funds, we will encourage and stimulate local Town involvement in farm conservation, namely the four eastern Towns of Suffolk County. On an individual basis, support of the County's preservation initiative has proven to be overwhelming in terms of farmer assistance and participation. Suffolk's farmers and non-farmers alike recognize the urgency of shielding one of the County's last remaining natural resources. With a new millennium of high tech industrialization approaching, Suffolk County recognizes that such aspirations will prove futile without appropriate federal funding.

In conclusion, non-agricultural conversion of such lands will remove excellent soil from productive use, destroy historic farming, and diminish the scenic attractiveness traditionally enjoyed by Suffolk's residents. Therefore, farmland preservation in Suffolk County is not an option, but a necessity. It is for these reasons that I ask for your support in appropriating additional dollars into the Federal Farmland Protection Program.

Thank you for your sincere consideration of this matter.

PREPARED STATEMENT OF THE SOUTHERN LEGISLATIVE CONFERENCE (SLC) AGRICULTURE AND RURAL DEVELOPMENT COMMITTEE AND OF THE SLC FIRE ANT TASK FORCE

Mr. Chairman and members of the Committee: Thank you for the opportunity to testify before the Committee. As the Chairman of the Southern Legislative Conference (SLC) Agriculture and Rural Development Committee and of the SLC Fire Ant Task Force, I am very concerned about the appropriation for the fire ant research budget within the Agricultural Research Service (ARS) of the United States Department of Agriculture. The SLC Agriculture and Rural Development Committee and the Fire Ant Task Force strongly supports the administration's request for an additional $300,000 appropriation for the ARS's fire ant program. Furthermore, we feel that in order to continue the successes of this program and to develop successful pilot programs in affected states, an additional $1.5 million is necessary.

Fire ants are a problem for urban, suburban, and rural communities alike, costing Southerners billions of dollars each year. Fire ants have a powerful sting which gave them their name. For the one person in a hundred allergic to the sting, a fire ant attack can cause extreme medical complications. Fire ants also are blamed for a handful of deaths every year. Less serious, but still worrisome, are the pain and discomfort the stings give the hundreds of thousands of people attacked each year. Fire ants have been known to invade houses, hospitals, and nursing homes, where

they have attacked bedridden patients, and have colonized playgrounds and parks. The ants are attracted to low-level electrical current, have shorted out electrical junction boxes and air conditioner units, and attacked utility workers who unknowingly disturb their nests. As an agricultural pest, the fire ants' impact ranges from attacking calves and chicks, girdling young crops, blocking or destroying drip irrigation systems, restricting hand and mechanical harvesting of crops, and damaging harvesting equipment. Fire ants also can have a devastating effect on biodiversity and have caused significant problems for several endangered species.

While fire ants can colonize new territory through mating flights, relocation of their colony, and by "rafting" during floods, their real "invasion" of the South was assisted by the actions of people, especially in the transport of sod, nursery stock, and agricultural equipment. During the housing boom following World War II, the fire ant began to appear in areas not contiguous with its previous range and, by 1953, a connection between commercial plant nurseries and the spread of fire ants was established. By 1958, with the ants in eight southern states, federal quarantine regulations went into effect which has undoubtably helped to slow the further spread of the pest.

During this period, and up into the early 1970's, two chemicals, heptachlor and mirex, were used to control the ant, but both were eventually banned because of their impact on non-target species, their persistence in the environment and the possible risk to human health. In 1980, new chemical compounds which would break down more quickly, began to appear on the market, including Ambdro, Logic, Ascend, and Affirm. They are neither as cheap nor as effective as previous treatments, but they do still provide 80 percent to 90 percent control with little residual effect. New chemical applications are being developed, but it is certain that future fire ant management will add cultural and biological controls and integrated pest management to chemical controls.

Chemical controls are generally broad in scope and eliminate beneficial and harmful ants indiscriminately, with fire ant reinfestations almost certain to occur, often in even greater numbers. The expense of pesticide treatment and the environmental impacts of excessive or improper application of chemical treatments can extract a heavy toll as well. Biological controls, while not as immediately effective in controlling fire ants, can have excellent long-term results with minimal recurrent costs and can re-establish balance to the ecosystem. An integrated approach which uses both chemical and biological methods seems to offer out best hope for controlling the worrisome ant.

The SLC Agriculture and Rural Development Committee, for which I serve as Chairman, has had a long-standing interest in activities to control fire ants. In 1997, the Committee formed a special Fire Ant Task Force to serve as a driving force behind fire ant research, education, pilot testing of control activities, information-sharing, and area-wide management. In January 1998, the SLC Fire Ant Task Force met in Atlanta with representatives of ARS and members of the research and extension communities to discuss strategies for developing a cooperative effort to control the imported fire ant.

During this meeting, the SLC Fire Ant Task Force formally requested assistance from the USDA on creating a strategic plan for developing and field-testing new technologies aimed at controlling the fire ant. This strategy, which was subsequently developed in cooperation with state level scientists and extensionists identified by Task Force members, provides the framework for cooperation between states and the USDA/ARS. The goal of the strategy is the management of fire ants to levels below economic thresholds on agricultural lands and to eliminate the fire ant as a nuisance or health threat in urban environments.

Recently, ARS has had some success in developing new strategies and technologies for controlling fire ants. Much of their work involves biological control agents which selectively attack fire ants and precision targeting of fire ant baits to suppress fire ant populations, reducing the total amount of pesticide needed for control.

Work conducted by ARS over the past six years in America, Brazil, and Argentina has identified three biological control agents as most promising: the *Thelohania* microsporidium, a bacteria; a parasitic ant; and a phorid fly. These biological controls should give native competitor species an edge over the more competitive fire ant. This will hopefully return balance to ecosystems thrown out of alignment by this aggressive ant and remove the serious threat of harm by the fire ant.

In order to test the effectiveness of the new technologies, and to speed the process of transferring these technologies to the states, the SLC and the USDA have entered into a partnership to provide states access to ARS technologies, allowing states to conduct field tests on these new advances in their region at a fraction of the cost of developing them independent of the ARS.

The states of Oklahoma and South Carolina, and soon the state of Texas, all have committed substantial resources to further the USDA's research, including direct cost-share money to support USDA research. Testing activities are underway as well in Alabama, Arkansas, Florida, Georgia, Louisiana, North Carolina and Tennessee. In all, there are 14 test sites in 10 states investigating the viability of biocontrol agents through a partnership with the USDA and the states. These test sites, intended for research, are very local in their scope. More ambitious, and critical, pilot projects in key affected states are the next logical steps, and this is the direction the states and the USDA are heading.

The new technologies do not offer a "magic bullet" for the elimination of fire ants. Realistically, fire ant eradication may be beyond the capacity of any treatment. But managing fire ants to levels below economic and public safety threats is perceived as possible. The new SLC/USDA partnership is a step toward that goal, and a step aimed at providing states access to the most current research and information with the flexibility to direct their own controlled field tests.

The commitment of state resources to this effort is a key element of its success, but there is a need for continued and increased support of this effort from the USDA. As the new technologies and control agents enter into broader tests and proposed pilot projects, the USDA will need additional funds to support these activities. It is for this reason that the SLC Agriculture and Rural Development Committee and the Fire Ant Task Force strongly support the administration's additional $300,000 appropriation for the ARS's fire ant program. We feel that in order to continue the successes of this program and to develop successful pilot programs in affected states, an additional $1.5 million is necessary.

To put this in perspective, the state of California is considering spending $100 million over the next five years to combat fire ants which infest only about 50 square miles of the state. With more than 310 million acres in the southern U.S. and Puerto Rico infested with fire ants, the USDA is strained to its capacity to provide the necessary resources to states to continue research efforts. Any expansion of the program, including new pilot projects, would require input at the federal level to complement state contributions and commitments.

In closing, I want to underscore two points. The first is the tremendous impact the fire ant has had on the South, and the great potential for harm it has should it spread throughout the West. The second is the commitment of the states to a process already underway to find control solutions to this invasion. I hope you will agree with me that this is an appropriate and important area for increased federal activity. Thank. you.

PREPARED STATEMENT OF TEXAS A&M UNIVERSITY SYSTEM

Mr. Chairman and members of the Committee, I am Ed Hiler, Vice Chancellor for Agriculture and Life Sciences in the Texas A&M University System. I appreciate the opportunity to appear before you today, to describe a few exciting research projects we have underway, and to ask for your support for continued federal funding. New technology is the life blood of American agriculture. With the 1996 Farm Bill and resulting phase down in federal farm programs, it is imperative that research continues providing a technological underpinning for agriculture. Today, I will describe several examples of how we can provide this underpinning.

Designing fruits, vegetables and other food plants for prevention of life-threatening diseases.—Diet-related diseases—certain kinds of cancer, heart disease, stroke, atherosclerosis, and diabetes mellitus—are leading causes of two-thirds of the 2 million deaths that occur in the United States each year. Antioxidants in fruits and vegetables, including anthocyanins, beta-carotene, lycopene, quercetin, and vitamins C and E, can help prevent certain types of cancer, coronary heart disease, stroke, and atherosclerosis. However, additional study is needed to determine the most effective levels of these compounds; validate their mechanisms of action; and investigate their availability, absorption, metabolism, and interactions with other chemicals. Scientists at the Vegetable Improvement Center within the Texas Agricultural Experiment Station, Texas A&M University-Kingsville Citrus Center, University of Texas Southwest Medical Center in Dallas, University of Texas Health Science Center-San Antonio, Texas A&M University System Health Science Center, Baylor College of Dentistry, and South Carolina Cancer Center will cooperate in the effort. We are requesting increased funding for this important continuing project at $2,000,000 for fiscal year 2000.

Increasing food safety through biotechnology.—As many as 9,000 deaths and up to 81 million cases of foodborne illness occur in the U.S. every year. Approximately 5 percent of all cases can be linked to fresh produce and another 16 percent to con-

taminated meat products. New and rapidly improving biochemical techniques popularly known as "biotechnology" hold great promise for helping the food industry trace foodborne pathogens to their source using genetic "fingerprinting". Rapid tracing would prevent further consumption of contaminated food during an outbreak by quickly alerting health agencies and the public. In addition, more effective strategies can be developed to reduce sources of contamination and minimize emergence of disease-causing organisms. Scientists from Iowa State University, the Institute of Food Science and Engineering at Texas A&M University, and The Center for Research on Animal Production Issues at Texas Tech University will cooperate on the project, which we estimate will ultimately reduce medical cases associated with food borne pathogens by 210,000 and the numbers of deaths by 380 per year. We are requesting funding for this project at $1,250,000 for fiscal year 2000.

Southern Plains Cotton Research and Education Consortium.—Cotton producers and processors of the Southern Plains face unprecedented challenges from declining commodity prices and profit margins. Over the last several years, elimination of government acreage control programs combined with much improved boll weevil control in the southeastern U.S. have increased cotton production and depressed prices. During this same period, the boll weevil has become established on more than 4 million acres of cotton in the Southern Plains of Texas, threatening to cause $500 million in annual economic losses if successful management strategies are not implemented. To help Southern Plains producers, Texas Tech University, the Texas A&M University System Agriculture Program, and the USDA-ARS have formed a consortium to develop integrated research and education programs for the world's largest cotton patch. The principal elements of the integrated program will be genetic enhancement of cotton yields, quality, and stress tolerance, as well as improved management of the boll weevil. We are requesting funding of $5,500,000 for this project for fiscal year 2000.

Efficient irrigation for water conservation in the Rio Grande Basin.—The region along the U.S.-Mexico border north of the Rio Grande River is a land of contrasts, including severe poverty, rapid economic growth, and intensive irrigated agriculture. Recent drought conditions highlight the importance of ample water resources for the region's economy and environment. More efficient agricultural and urban irrigation systems can conserve large amounts of water. This initiative will focus resources of the Agricultural Experiment Stations and Extension Services of Texas and New Mexico and the Texas Engineering Extension Service on reducing amounts of irrigation water needed to economically produce field and horticultural crops and to maintain attractive urban landscapes. Training will be provided in the areas of water supply, irrigation, and waste water system assessment, planning, design, financing, installation, use, and maintenance. Applied research will be conducted on irrigation system efficiency, biological and chemical hazards of waste water, reuse of agricultural and municipal waste waters, and integration of municipal and agricultural water supplies. Conservation will be achieved through improved irrigation supply networks, urban and agricultural irrigation systems, salinity and drainage control, and reuse of municipal water. We are requesting funding of $3,250,000 for this project for fiscal year 2000.

Environmental services of rice lands in Arkansas, Louisiana, and Texas.—Privately-held rice lands provide a variety of ecological services, but they can also have adverse environmental impacts. Public benefits include wildlife habitat, water filtration through wetlands, and flood protection. Adverse impacts can include degradation of soil organic matter, salinization, sedimentation, agricultural chemical losses, and groundwater depletion. Elimination of Federal agricultural commodity price support programs is reducing acreage in some parts of the Rice Belt and increasing it in others—with the unintended result of decreasing ecological services in some regions and increasing adverse environmental impacts in others. Scientists from the Texas A&M University System, the University of Arkansas, Louisiana State University, and USDA-ARS will examine environmental benefits and costs of alternative rice production technologies and how we might strengthen communities and increase the environmental and economic benefits of rice culture. We are requesting funding of $1,000,000 for this project for fiscal year 2000.

Revenue insurance as a risk management tool.—Increased volatility of commodity prices and dissatisfaction with crop insurance as an income safety net policy have heightened interest in revenue insurance. Decision makers need a comprehensive farm level, regional, and aggregate sector analysis of revenue insurance as a risk management tool, including the place of current private sector insurance instruments. The Agricultural and Food Policy Center at Texas A&M University is currently involved in developing a preliminary exploration of the feasibility of revenue insurance as a safety net for farmers. In addition, it has led the development of a financial and risk management assistance decision aid to quantify payoffs to indi-

vidual producers utilizing alternative risk management packages. This initiative would also examine the conditions under which revenue insurance could serve as a safety net for farmers and, therefore, as a substitute for conventional farm programs. We are requesting funding of $750,000 for this project for fiscal year 2000.

Animal fiber research.—The phase out of wool and mohair incentive payments has left the United States sheep and Angora goat industry in a very difficult position. This is especially important for the large areas of semiarid U.S. lands that have few options for alternate agricultural enterprises. Scientists in Texas, Montana, and Wyoming have developed image analysis applications for measuring most of the important characteristics of wool, mohair, and cashmere. Results from this work have contributed significantly to acceptance and marketing of U.S. wool. More research is needed before industry fully adopts these innovative practices for product selection and marketing, helping producers become more competitive in new and existing markets. We are requesting continued support of this project at $300,000 per year.

Farm level impacts of agricultural policy.—The Agricultural and Food Policy Center conducts research directly supporting Congressional Committees that set agricultural policy. Its research emphasizes regional and farm-level effects of alternative agricultural policies on crop and livestock producers. The Center provides estimates of how regional production, commodity prices, farm incomes, and consumer food costs are economically affected by U.S. policy. It assesses how U.S. economic relationships impact individual representative farms, and the viability of the U.S. food and fiber industry. This activity is critical with a reduced government role embodied in the 1996 Farm Bill; moreover, these analyses are not available to Congress from USDA or other research centers. This program is conducted in collaboration with the Food and Agriculture Policy Research Institute (University of Missouri-Columbia) and the Farm Sector Financial Analysis Branch of CSREES/ERS. Since this effort was initiated in fiscal year 1990, it has helped agriculture committees assess more than 100 policy options. For fiscal year 2000, we request continued funding of this project at the level of $500,000.

Livestock and dairy policy analysis.—The Livestock and Dairy Policy Analysis project is a joint effort of Texas A&M University and Cornell University. It supports a dairy policy education program that involves economists at the University of Wisconsin, Ohio State University, Pennsylvania State University, and Clemson University. In the past, faculty at these universities have helped conduct a "dairy policy school" in the House of Representatives. Moreover, our faculty have been consistently available to the Livestock Subcommittee for analyses of dairy policy options. Building on the success of this initiative, we propose to expand the activities to create a national dairy economics education center at Cornell University with Texas A&M as a cooperating institution. For fiscal year 2000, we request continued funding of this project at $625,000.

Center for North American studies.—The Center for North American Studies, now in its sixth year of operation, promotes cooperative research, policy analysis, and training on critical agricultural issues of common interest to the United States, Mexico, and Canada. The Center's primary focus has been impacts of NAFTA, especially impacts on expanded trade and associated public policy concerns. Though the Center is located at Texas A&M University, it has strong cooperative linkages with Louisiana State University, Texas A&M University at Kingsville, and Texas A&M International University at Laredo. Since 1994, Center personnel have conducted nearly 30 workshops or conferences annually, reaching an estimated 3000 people per year. In July 1998, the Center initiated, in cooperation with USDA-FAS, a five-state interactive video conference to inform more than 100 agribusiness representatives about market opportunities, trade regulations, and economic conditions in Mexico, Central America, and Asia. We are requesting continued funding for this project at $300,000 for fiscal year 2000.

New products from rangelands at Texas A&M University-Kingsville.—This initiative will continue efforts to gain commercial products from native plants such as cacti and mesquite. Congress has funded this program at Texas A&M University-Kingsville for several years, and excellent progress has been made. A mesquite lumber grading system and industry is developing under project funding. The grading system has helped producers market mesquite wood for furniture, flooring, and other uses. Similarly, progress has been good on marketing cactus products, and a major grocery chain now offers fresh cacti fruit to consumers. In 1998, a tall-straight mesquite contest was conducted to identify trees that will serve as the basis for a genetic improvement program in mesquite . In 1999 the program will plant nearly 1,000 seedlings to evaluate for lumber quality and serve as a seed source for future selection. We are requesting continued support at $120,000 per year for Texas A&M University-Kingsville in fiscal year 2000.

International goat research at Prairie View A&M University.—The International Dairy Goat Research Center was established in 1983 and is now an important program of the Cooperative Agricultural Research Center at Prairie View A&M University. The primary objective of the Center is to generate and distribute technical information to owners of dairy goats concerning proper management of their animals. This research program conducts research on overall dairy and meat goat management and care in the areas of reproduction, reproductive efficiency, health, disease and toxicology. The Center also conducts comprehensive outreach activities, including an annual field day, short courses, and workshops. Special emphasis is given to assisting small landowners to diversify their production systems. We are requesting expansion of this project at Prairie View A&M University to $750,000 in fiscal year 2000.

Shrimp aquaculture research.—The U.S. Marine Shrimp Farming Program develops technology and provides service to the marine shrimp industry. The market for farm-raised salt water shrimp is expanding rapidly, especially as the wild catch in the Gulf of Mexico declines. With the help of this Program, the Texas marine shrimp farming industry has rebounded since a serious outbreak of Taura Syndrome Virus disease in 1995, reaching unprecedented $30 million in production in 1998, more than three quarters of all U.S. farmed shrimp. This initiative will extend the U.S. competitive technological advantage over foreign countries by supporting researchers working to improve animal quality, herd health, water quality, seedstock supply, pond management, production risks and profitability. The USDA/CSREES for the Oceanic Institute currently funds this program in Hawaii and the Gulf Coast Laboratory Consortium. We request funding at $5,000,000 for fiscal year 2000 through the USDA/CSREES Federal Administration Program.

Center for animal research and production issues.—This collaborative partnership led by Texas Tech University and including the Texas Tech University Health Sciences Center, the Texas A&M University System, and the USDA-ARS, will conduct research to solve problems related to animal production, including animal health and well-being, safety of animal products (pre-and post-harvest), and development of environmentally and economically sustainable production systems. We are requesting $2,100,000 for Texas Tech University to support this program in fiscal year 2000.

Efficient peanut production in west Texas.—Peanut acreage has increased dramatically in West Texas, which now accounts for 72 percent of the state's production. This initiative joins Texas Tech University, the Texas A&M University System, and regional peanut producers in a comprehensive research and education program to address peanut production and management strategies for West Texas. We are requesting $2,000,000 for Texas Tech University to support this program in fiscal year 2000.

Precision agricultural management systems for the Southwest.—This initiative is a partnership among Texas Tech University, the Texas A&M University System, New Mexico State University, West Texas A&M University, and USDA-ARS. Its objective is to develop and enhance the efficient use of resources in crop production and the management of rangeland, wildlife and the forests of the Southwestern US. We are requesting $4,200,000 for Texas Tech University to support of this program in fiscal year 2000.

Food safety and water quality at west Texas A&M University.—The West Texas A&M University Feedlot Research Group proposes to collaborate with the Texas Agricultural Experiment Station, Texas Agricultural Extension Service, and USDA-ARS to characterize the role of water as a vehicle for food safety-related pathogens in feedlot cattle. The cooperating agencies will then evaluate the effectiveness of intervention strategies to reduce contamination of carcasses, cattle and water. We are requesting $1,000,000 for West Texas A&M University to support this program in fiscal year 2000.

Plant Stress Research Program.—This initiative provides support for the integration of Texas Tech University, USDA-ARS, and the Texas Agricultural Experiment Station into a world class plant stress research effort. The main research efforts will be to increase water use efficiency, develop crops that are genetically superior in stress tolerance, utilize sophisticated modeling systems to maximize production, and overcome adverse water quality. We are requesting $1,000,000 in fiscal year 2000 for USDA-ARS to support this program.

PREPARED STATEMENT OF THE U.S. APPLE ASSOCIATION

The U.S. Apple Association (USApple) appreciates the opportunity to provide comments on U.S. Department of Agriculture (USDA) fiscal year 2000 appropriations.

Our testimony will focus on the following three areas: the Foreign Agricultural Service Market Access Program; Food Quality Protection Act implementation; and Agricultural Research Service funding.

The U.S. Apple Association (USApple) is the national trade association representing all segments of the apple industry. Members include more than 450 individual firms involved in the apple business, as well as 30 state apple associations representing the 9,000 apple growers throughout the country. The U.S. Apple Association's mission is to provide the means for all segments of the U.S. apple industry to join in appropriate collective efforts to profitably produce and market apples and apple products.

FOREIGN AGRICULTURAL SERVICE MARKET ACCESS PROGRAM (MAP)

U.S. Apple strongly supports increasing the annual appropriation for MAP from $90 million to $200 million

All segments of the U.S. apple industry benefit directly from the use of export promotion funds, which increase export demand. In fiscal year 1998, the apple industry received $4 million in MAP export-development funds. These funds are matched by grower funds, and are used to promote apples in more than 20 countries throughout the world. Since 1987, when the apple industry first utilized MAP funds, apple exports have increased by 53 percent.

The U.S. apple industry faces keen competition around the globe from competitors who receive significant government funds for generic promotions. Foreign governments spend approximately $500 million on export promotion and market development. With apple production increasing around the world, competition is expected to further intensify. MAP is of paramount importance to the apple industry as exporters endeavor to revive export demand in countries hard hit by economic shocks and currency devaluations over the past two years.

FOOD QUALITY PROTECTION ACT (FQPA) APPROPRIATIONS

U.S. Apple strongly supports full funding for the following programs intended to facilitate fair FQPA implementation and to offset its anticipated negative impact on apple growers

U.S. Apple supports the Administration's USDA budget requests of:

—$13.1 million for the Pesticide Data Program, managed by the Agricultural Marketing Service;

—$2 million for the food consumption survey undertaken by the Agricultural Research Service;

—$.3 million for the National Agricultural Statistics Service pesticide-usage surveys;

—$2.7 million the National Agricultural Pesticide Impact Assessment Program in support of the Office of Pest Management Policy;

—$12.3 million for the Cooperative State Research, Extension and Education Service Integrated Pest Management Research Grant Program; and

—$18 million for research and transition programs for crops negatively impacted by FQPA.

AGRICULTURAL RESEARCH SERVICE (ARS)—TEMPERATE FRUIT FLY RESEARCH POSITION—YAKIMA, WASHINGTON

U.S. Apple requests that $300,000 be appropriated to fill a critical position at the USD–ARS laboratory in Yakima, Washington to conduct research of temperate fruit flies, a major pest of apples.

FQPA implementation is expected to significantly reduce the number of pesticides currently being used by growers to control pests such as cherry fruit fly and apple maggot. Left unchecked, these temperate fruit flies can be devastating. Research is critically needed to develop alternative pest controls should presently-available crop protection tools be phased out under FQPA implementation.

Thank you for this opportunity to present this testimony in support of the apple industry's top USDA appropriations.

PREPARED STATEMENT OF THE UNITED STATES TELEPHONE ASSOCIATION

SUMMARY OF REQUEST

Project involved.—Telecommunications Loan Programs Administered by the Rural Utilities Service of the U.S. Department of Agriculture.

Actions proposed.—Supporting RUS loan levels and the associated funding subsidy for the hardship, cost of money, and loan and subsidy guarantee programs in fiscal year 2000 in the same amount as loan levels specified in the fiscal year 1999 Agriculture Appropriations Act (Public Law 105–277). Also supporting Rural Telephone Bank loans and associated subsidy in the amount requested in the President's budget. Also supporting an extension of the language removing the 7 percent interest rate cap on cost of money loans for fiscal year 1999. Also supporting continuation of the restriction on the retirement of class A Rural Telephone Bank stock in fiscal year 2000 at the level contained in Public Law 105–277) and an extension of the prohibition against the transfer of Rural Telephone Bank funds to the general fund. Supporting funding for $200 million in loan authority and $20 million in grants designated for distance learning and telemedicine purposes. Opposing the President's budget proposal to transfer funds from the unobligated balances of the liquidating account of the Rural Telephone Bank for the Bank's administrative expenses and loan subsidy costs.

The United States Telephone Association (USTA) represents over 1000 local telephone companies that provide over 95 percent of the access lines in the United States. USTA members range from large public held corporations to small family owned companies as well as cooperatives owned by their customers. We submit this testimony in the interests of the members of USTA and their subscribers.

USTA members firmly believe that the targeted assistance offered by a strong telecommunications loan program remains essential in order to maintain a healthy and growing rural telephone industry that contributes to the provision of universal telephone service. We appreciate the strong support this committee has provided for the telephone program since the program's inception in 1949 and look forward to a vigorous program for the future.

A CHANGING INDUSTRY

As Congress recognized through passage of the Telecommunications Act of 1996, the telephone industry is in the midst of one of the most significant changes any industry has ever undergone. Both the technological underpinnings and the regulatory atmosphere are dramatically different and changing very quickly. Without system upgrades funded by the reliable source of lower cost debt capital provided by the RUS telecommunications program, rural areas will be left out of the emerging information revolution.

The need has never been greater for the technology employed by RUS borrower rural telephone companies to continue to be modernized. The demand for new switches to serve rural areas could be unprecedented in the next year. What is driving this demand? First, there are several Federal Communications Commission mandates that incumbent local companies will have to meet. Upgrades related to new rules regarding pay phone compensation, implementation of four digit Carrier Identification Codes (CICs), and number portability are all new Commission requirements driven by the 1996 Telecommunications Act. Second, there are still some companies that are not equipped to offer equal access to competing long distance carriers. Third, the Communications Assistance for Law Enforcement Act (CALEA) imposes new requirements on all carriers to upgrade their capabilities to assist the Federal Bureau of Investigation and other law enforcement agencies. Fourth, telephone company switches, which are really just sophisticated computers, are impacted by the "year 2000" problem.

In addition to upgrading switching capability, it is important that rural areas be included in the nationwide drive for greater bandwidth capacity. In order to provide higher speed data services, such as ISDN (Integrated Services Digital Network) or even faster connections to the Internet, outside plant must be modernized in addition to new electronics being placed in switching offices. Rural areas with relatively long loops are particularly difficult to serve with these higher speed connections and require additional investment to allow modern services to be provided.

Provision of greater bandwidth and switching capabilities are crucial infrastructure elements which will allow rural businesses, schools and health care facilities to take advantage of the other programs available to them as end users. The money spent on having the most modern and sophisticated equipment available at the premises of the business, school or clinic is wasted if the local telephone company cannot afford to quickly transport and switch the large amounts of data that these entities generate. RUS funding enhances the synergies among and RUS programs and other federal telecommunications targeted at improving rural education and health care through telecommunications.

The RUS program provides needed incentives to help offset regulatory uncertainties related to universal service support and interconnection rules with a reliable

source of fairly priced long term capital. After all, RUS is a voluntary program designed to create incentives for local telephone companies to build the plant essential to economic growth. RUS endures because it is a brilliantly conceived public private partnership in which the borrowers are the conduits for benefits from the federal government to flow to rural telephone customers, the true beneficiaries of the RUS program. The government's contribution is leveraged by the equity, technical expertise and dedication of local telephone companies.

IMPACT OF CREDIT REFORM ON THE RURAL TELEPHONE BANK

Contrary to the intent of Congress, the interpretation of credit reform by the Office of Management and Budget (OMB) has significantly affected the operation of the Rural Telephone Bank (RTB). One of the most damaging impacts of OMB's interpretation of the credit reform law is to essentially cleave the RTB into two banks—a liquidating account bank which is responsible for pre-credit reform loans, and a financing account bank which is responsible for post credit reform loans. Until the Administration's current budget proposal, OMB has clung to the proposition that funds from the two banks could not be intermingled. USTA has protested this arrangement since it began, since it prevents the relending of borrower repayments to fund new loans in direct contravention of Sec. 409 of the Bank's enabling act.. This, in turn, forces the RTB to borrow unnecessarily from the Treasury to fund new loans. It also permits funds to build up in the liquidating account that were generated by GAO documented interest rate overcharges, instead of those funds being returned through relending to the same universe of borrowers that initially generated them.

In this new budget proposal, the Administration proposes to take funds from the liquidating account and fund the loan subsidy for new loans as well as the RUS administrative expenses allocated to the RTB beginning in 2000. This is in direct conflict with an existing provision of law, Sec. 403(b) of the Rural Telephone Bank Act (Public Law 92–12). That provision states ". . . in order to perform its responsibilities under this title, the telephone bank may partially or jointly utilize the facilities and the services of employees of the Rural Electrification Administration or of any other agency of the Department of Agriculture, *without cost to the telephone bank.*" (Emphasis added)

Instead of using the repayments into the liquidating account to fund the expenses of the RTB (contrary to the Rural Electrification Act) or to fund the loan subsidy, neither of which would result in any budget savings, those repayments should be used to fund new RTB loans, consistent with Sec. 489 of the Rural Electrification Act.

RUS TELEPHONE PROGRAM PROCEDURES SHOULD CONTINUE TO BE STREAMLINED

By revising its Annual Statistical Report as well as making other changes to reduce red tape and focus on results and service delivery, Administrator Beyer, Deputy Administrator McLean and Assistant Administrator Purcell have begun to take significant actions to streamline RUS telecommunications program procedures. These actions encourage the use of this voluntary program and promote the provision of modern telecommunications service to rural Americans. USTA is fully in support of less regulation and improved service delivery, within the context of the government's interest in security for these rural telecommunications infrastructure improvement loans. We applaud the efforts of RUS to this end and strongly support and encourage continuation of this long overdue initiative.

RECOMMENDATIONS

Continuation of the loan levels and necessary associated subsidy amounts for the RUS telephone loan programs that were recommended by this committee and signed into law for fiscal year 1999 would maintain our members' ability to adequately serve the nation's telecommunications needs and to maintain universal service.

For a number of years, through the appropriations process, Congress has eliminated the seven percent "cap" placed on the insured cost-of-money loan program. The elimination of the cap should continue. If long term Treasury interest rates exceeded the 7 percent ceiling contained in the authorizing act, adequate subsidy would not be available to support the program at the authorized level. This would be extremely disruptive and hinder the program from accomplishing its statutory goals. Accordingly USTA supports continuation of the elimination of the seven percent cap on cost-of-money insured loans in fiscal year 2000.

The restriction on the retirement of the amount of class A stock by the Rural Telephone Bank, adopted in fiscal 1997, should be continued. The Bank is currently retiring Class A stock in an orderly, measured manner as current law requires. This

should continue. The Committee should also continue to protect the legitimate ownership interests of the Class B and C stockholders in the Bank's assets by continuing to prohibit a "sweep" of those funds into the general fund.

Recommended Loan Levels

USTA recommends telephone loan program loan levels for fiscal year 2000 as follows:

[In millions of dollars]

RUS Insured Hardship Loans (5 percent)	−75
RUS Insured Cost-of-Money Loans	−300
Rural Telephone Bank (RTB) Loans	−175
Loan Guarantees	−120
Total	670

The President's budget proposes a reduction of in the hardship program designed for the neediest borrowers. There is strong demand for hardship loans. Rural Americans cannot wait any longer to be full participants in the Information Age. A minimum amount of subsidy authority would restore the hardship loan level to its fiscal year 1999 level. We cannot imagine a more deserving use of scarce government resources for the benefit of rural Americans.

Distance Learning and Telemedicine

USTA strongly supports the loan and grant proposal and recommends its funding for fiscal year 2000 at the levels proposed in the Administration's budget submission, that is, $20 million for the grant program and $200 million for the loan program. This program is a perfect complement to the traditional RUS telephone loan programs. For distance learning and telemedicine to become a reality, schools and hospitals need training and equipment. Similarly, local telephone companies need modern infrastructure to connect these facilities to the telecommunications network.

CONCLUSION

Our members take pleasure and pride in reminding the Subcommittee that the RUS telephone program continues its perfect record of no defaults in almost a half century of existence. RUS telephone borrowers take deadly seriously their obligations to their government, their nation and their subscribers. They will continue to invest in our rural communities, use government loan funds carefully and judiciously and do their best to assure the continued affordability of telecommunications services in rural America. Our members have confidence that the Subcommittee will continue to recognize the importance of assuring a strong and effective RUS Telephone Program through authorization of adequate loan levels.

PREPARED STATEMENT OF THE UNIVERSITY OF ILLINOIS

Mr. Chairman and distinguished members of the Agriculture, Rural Development, and Related Agencies Subcommittee.—We are pleased to provide this updated testimony on behalf of the federally-funded project entitled "Studies to Reduce the Aflatoxin Problem in Corn" being carried out in the University of Illinois Crop Sciences Department by Professors J. M. Widholm and D. G. White, in cooperation with scientists in other institutions and agencies. Professors White and Widholm provided the technical information in this report. We wish to thank you, Mr. Cochran and others on the Committee, for appropriating $1,119,000 to date for this important research. During the past year, some important milestones were achieved, bringing the project closer to achieving its objective. We request an fiscal year 2000 allocation of $180,000 so that we can move these promising results further toward fruition for U. S. corn producers and consumers.

THE AFLATOXIN PROBLEM

Because of its toxicity and carcinogenicity (causes cancer), aflatoxin in corn grain is a very serious problem. When the causal fungus, Aspergillus paves, is present on the grain, the toxin is often present also. Aflatoxin problems occur primarily in years and areas of moisture stress, which means their occurrence is relatively unpredictable. According to our studies of sixty-five widely grown commercial corn hybrids, including normal corn, white corn, and food-grade corn, there is little or no resistance to A. pavus in commonly grown hybrids. The inbred lines of corn widely used to produce these hybrids lack resistance genes.

The toxin can form in the maturing grain before harvest and in stored grain if the moisture levels are too high. Due to the danger posed by aflatoxin, levels of the toxic compound are closely Stored in corn grain. If levels of aflatoxin are too high in a given sample, the grain represented by the sample cannot be sold in interstate commerce. There is a significant monitoring cost, but it is small relative to other costs incurred by aflatoxin.

It is estimated that in any given year 5 to 30 percent of the nation's corn crop experiences severe moisture stress. Direct yield and quality losses caused by aflatoxin are at least $500 million annually. That loss accrues to producers. In addition, there are harmful health, social, and economic effects of aflatoxin when it is present in corn-based food products. Aflatoxin is one of the most carcinogenic of naturally occurring compounds. It is very detrimental to the health of humans or animals that ingest it. For these reasons, it is important to eliminate aflatoxin from corn grain. That is the mission of this project.

THE STRATEGY FOR REMOVING AFLATOXIN FROM CORN

The strategy of the project is to: through field tests, identify resistant germplasm in existing collections, using tissue culture techniques, evaluate and select corn cultures that inhibit A. paves growth and/or aflatoxin production, regenerate promising plants for greenhouse and field evaluation, using recombinant DNA techniques, introduce into corn antifungal genes encoding enzymes such as chitinase and B-glucanase, which may impart resistance to A flavus, and determine the effect of fungicides on A. paves growth and aflatoxin production.

PROGRESS REPORT AND LOOK TO THE FUTURE

Previous and current conventional breeding and selection approaches

Since 1991 we screened thousands of corn inbred lines, some of which already existed in various collections and some of which we derived from existing material. We identified 11 lines with high levels of resistance to Aspergillus ear rot and to the production of aflatoxin. We concentrated on sources of resistance that can be used to improve inbred lines B73 and Mol7, from which most important commercially used inbred lines are derived.

In inheritance studies, we found that resistance genes have both additive and dominant affects. It is desirable for resistance genes to be dominant, so that when resistant and susceptible lines are crossed, the resulting hybrids will be as resistant as the resistant parent. Some of the resistance genes discovered are strongly dominant. Much of the effort was concentrated on inbred line Tex 6, developed at the University of Illinois by selecting from a southern white corn population that has high levels of resistance to southern corn leaf blight.

Tex 6 confers extremely high levels of aflatoxin resistance when crossed with most of the inbreds that are important in the cornbelt. Inheritance studies indicate that the resistance in Tex 6 is controlled by just a few genes, which is very desirable. The fewer the genes controlling a trait, the easier it is to transfer that trait to otherwise desirable lines and the faster the trait can be introduced into widely used material using the common backcrossing approach. At best, it takes several years of backcrossing to restore the high yield potential of important inbreds, while at the same time retaining aflatoxin resistance introduced in the original cross with Tex 6.

A major milestone was reached when, using Tex 6 and other experimental lines and the backcrossing approach, we were able to transfer effective aflatoxin resistance into commercially used inbreds related to both B73 and Mol7. In 1995 and 1996 yield trials, hybrids with some of these new aflatoxin resistance inbreds as one parent yielded as well as popular commercial hybrids. This is extremely important because unless resistant varieties yield as well or better than normal varieties when aflatoxin is not a problem, they won't be acceptable to producers. This breakthrough paves the way for private firms to introduce resistance to A. pavus and aflatoxin into their best lines.

Important finding in fiscal year 1998

The most important development in corn production in recent years was the introduction of practical high oil corn hybrids by Dupont and Pfister Hybrids, using materials developed at the University of Illinois. Unfortunately, high oil hybrids, which are produced by the so-called topcross method, are more susceptible to Aspergillus ear rot and aflatoxin production than are normal hybrids of the same pedigree with a normal pollinator. Fortunately, high oil top crosses that involve some of the sources of resistance developed in this aflatoxin project are equal in resistance to

normal resistant hybrids. Thus, this project is providing the mechanism to assure that the enormous potential of high oil corn is not reduced by aflatoxin.

Past, current, and future biotechnology research on aflatoxin

Three years ago, we used Restriction Fragment Length Polymorphism (RFLP) markers, a powerful biotechnology technique, to identify those chromosome regions associated with specific genes for aflatoxin resistance. We found that some genes confer resistance to the fungal disease organism (A. paves) that causes ear rot. Some do not confer resistance to the fungal organism but do inhibit its production of aflatoxin. Some genes do both.

A cooperator, Professor Gary Payne of North Carolina State University, identified a specific protein from seed of inbred Tex 6 that inhibits aflatoxin production in culture but has very little effect on growth of the fungus. He identified another protein that inhibits the growth of the fungus. Apparently there are corn genes that code for each of these proteins. Researchers are now trying to develop a quick biotechnology test for these proteins and to locate the associated genes on the map of the corn genome. Among other advantages, this will enable corn breeders to use marker-assisted selection, a molecular selection technique, which should greatly speed the process of screening and selecting high-yield, aflatoxin-resistant lines of corn.

This year we started work with inbred line C12, which has good levels of resistance and also makes a protein that blocks some, but not all, aflatoxin synthesis. If we can enhance the production of these blocking proteins and transfer the gene or genes that code for them into otherwise productive corn hybrids, several advantages will accrue. First, fewer genes will have to be transferred to achieve the desired result. This should speed up the process of incorporating desirable aflatoxin-reducing genes into commercially important hybrids. Since the aflatoxin-synthesis-blocking corn genes will place little selection pressure on the fungus itself, the fungus will be less likely to develop ways to defeat the resistance mechanism.

Once these genetically controlled resistance mechanisms are fully characterized and understood, the resistance genes can be transferred to other crops, such as peanuts, that also have aflatoxin problems. The aflatoxin resistance mechanisms described above may resist other diseases as well. Corn lines identified in this project that are resistant to A. pavus also are resistant to Fusarium maniliforme, which produces fumonison, another highly toxic and carcinogenic mycotoxin. There is direct evidence that fumonison causes cancer in humans, not just in laboratory animals.

Fiscal year 1998 biotechnology breakthrough

After years of effort, we experienced a major breakthrough during early fiscal year 1998 with the successful introduction of antifungal genes bean chitinase and B–1,3-glucanase into corn cells, both alone and in combination. The particle gun was used to accomplish this transformation. The transformed cells were regenerated into plants and were self-pollinated to obtain plants that are homozygous for the antifungal genes. Subsequently, we demonstrated by several different methods that the introduced genes are stable, are passed to progeny in normal reproduction, and are expressed in seeds of the transformed plants. In other species, these particular genes are expressed as enzymes that break down cell walls of invading fungi, thus preventing or reducing fungal diseases. We found that Tex 6, which confers the highest level of natural fungal resistance, has high levels of natural chitinase in its tissues. This is a different chitinase, however, than the one we introduced by ombinant DNA techniques.

Plans for fiscal year 2000

In fiscal year 2000, we will conduct tests to determine how effective the bean chitinase and B–1,2-chitinase genes are, alone and in combination with resistance genes already identified in corn, in sting A. paves and aflatoxin production. We anticipate that the combination will be most effective and will, when incorporated into widely used hybrids, go far toward solving the aflatoxin problem. It will be very important to determine if a combination of chitinases confer greater and more lasting resistance than only one. We will also seek to enhance natural resistance to A. flavus through conventional breeding techniques and will conduct further research aimed at increasing the resistance of high oil corn hybrids to the pathogen.

Cooperation

We continue to have good cooperation with other institutions and USDA-ARS. Several sources of resistance we discovered and several resistant lines derived from them have been shown to be resistant in field studies conducted by cooperators in Mississippi and south Texas. We are also cooperating with Professor Dennis McGee

at Iowa State University, who found that the silks on our resistant lines inhibit growth of A. paves. Professor Gary Payne of North Carolina State University continues to make valuable contributions to the project.

SUMMARY AND REQUEST

We believe this project is making excellent progress toward the desired outcome of reducing or eliminating aflatoxin as a serious problem in corn production and use. To summarize project results to date, we identified several corn lines that are resistant to the organism (Aspergillus paves) that produces ear rot and produces aflatoxin. We also discovered lines that inhibit aflatoxin production without inhibiting fungal growth. This increases the possibility of inducing aflatoxin resistance that does not decrease with time.

We derived new lines that have both types of resistance. We learned how aflatoxin resistance is inherited when crosses are made. We have sources of resistance that are effective when used in either the northern or southern corn belt. We developed practical tissue culture tests and DNA analysis techniques to identify resistant germplasm. We found that high oil corn hybrids are more susceptible to aflatoxin-producing organisms than normal hybrids, but that resistance sources developed in this project can be used to produce resistant high oil corn. We showed that fungicides decrease A. pavus growth in stored grain. Procedures for this are still awaiting approval by EPA. The project continues to generate important papers in scientific journals. The papers provide valuable information on both practical and basic science issues associated with aflatoxin.

In a landmark achievement, we introduced antifungal genes bean chitinase and B–1,3-gluconase from other organisms into corn cells and successfully regenerated plants that have these genes. We found that the introduced genes are stable, passed to progeny during normal reproduction, and expressed in seeds. We still need to screen more germplasm for resistance sources. Natural resistance genes tend to work for a while and then become less effective as the pests evolve new virulence mechanisms. We still have to broaden the base of inbred lines that will be used to introduce aflatoxin resistance into commercial varieties grown in the major corn growing regions of the nation. Our goal is to insert new resistance genes that can be moved rapidly into commercially used inbreds and that are effective in reducing and eliminating other mycotoxins as well.

We respectfully request an allocation of $180,000 in federal funds for fiscal year 2000 to continue this Important project. This amount will allow us to maintain the momentum and productivity of this innovative aflatoxin research program and capitalize on the progress made to date.

PREPARED STATEMENT OF THE UNIVERSITY OF MIAMI

Mr. Chairman and Members of the Subcommittee, I appreciate the opportunity to present testimony on behalf of the University of Miami. The University is seeking your support for a vital initiative within your purview, the Florida Center for Climate Prediction. It is our belief, Mr. Chairman, that technological advances in climate prediction can save the nation's downtrodden farmers from financial crises.

On March 16, 1999, Federal Reserve Chairman Alan Greenspan reported that the nation's farm downturn can be traced to an important degree to the recessions that began in East Asia in 1997 and have since spread to Latin America and elsewhere. However, Mr. Greenspan cited technological improvements as vitally important for insulating U.S. agriculture from the worse effects of world-wide economic turmoil.

The Florida Consortium for Climate Prediction, a joint project of the University of Miami, the University of Florida, Florida State University brings to bear the latest climate prediction technology, which can provide the nation's farmers with predictive information to help maintain stable agricultural production.

This major collaborative program focuses on climate variability in Florida, the southeast region and beyond. Objectives include developing scientific applications for climate data. The Florida Consortium draws upon the expertise of scientists at Florida State University (climate analyses and coupled ocean-atmosphere prediction models), Miami (climate analyses and economic value forecasts) and the University of Florida (agriculture) to quantify climate variability (e.g. El Nino) for the southeast and to explore the potential value and practical application (with strong emphasis on agricultural issues) of climate forecasts.

The importance of El Nino South Oscillation (ENSO) events as a major source of climate fluctuations, together with advances in ENSO predictability, suggest that forecasts have significant potential for benefiting agricultural productivity and economic decision-making.

The geographic focus of this project will include the southeastern United States, a large food producer whose productivity is significantly impacted by weather conditions generated by the ENSO phenomenon. Decisions made by well-informed participants from farm to policy level, made several months or seasons in advance, can significantly benefit productivity.

This project presents an end-on-end approach that will provide the bridge between climate and forecast producers, such as the International Research Institute for Climate Prediction (IRICP) and agricultural decision-makers. Specific objectives of the project are to: (1) adapt, develop, and evaluate a generic, flexible set of tools and methodologies for assessing regional agricultural consequences of El Nino events and for applying forecasts to improve agricultural decision-making; (2) demonstrate by successful applications of forecasts to agriculture and other sectors that would benefit best in the southeastern United States that began in 1996; and assess the value of climate predictions to different agricultural sectors in those southeastern regions.

As an example, during the initial phases of this effort, the team focused on temperature and precipitation patterns across the southeast. At Florida State, for example, researchers found a geographic shift in tornadic activity associated with El Nino events. A new climate forecast system to provide predictions of seasonal temperatures and precipitation with longer lead times and improved skill is in the testing phase. Improvements are due party to the coupled nature (i.e., linking the ocean and atmosphere so they respond to one another dynamically) of the forecast system. Our colleagues at the University of Florida identified several crops in Florida that are vulnerable to shifts in weather patterns associated with El Nino and La Nina, but noted further that the impact is not uniform across the state

In continuing this collaboration, we plan to estimate the economic advantages that could be achieved by incorporating climate forecast information into farming management systems and eventually work with sector representatives in developing guidance products for the agricultural community. NOAA and NASA have provided initial funding.

Mr. Chairman, for fiscal year 2000, we seek $4 million from the Agriculture Appropriations Subcommittee through the Department of Agriculture to continue and expand this critical work for the agricultural community.

Mr. Chairman, we understand how difficult year this will be for you and the Subcommittee. However, we respectfully request that you give serious consideration to this vital initiative. It has great implications and will provide exceptional benefits to the well-being of the nation.

PREPARED STATEMENT OF THE U.S. MARINE SHRIMP FARMING PROGRAM

Mr. Chairman, I am pleased to have the opportunity to provide the Committee with an overview of the activities of the U.S. Marine Shrimp Farming Program.

This integrated multi-state research program continues to develop and transfer technologies, products and services necessary for domestic shrimp farming to become competitive in the world market. The long-term goals are to partially offset the annual $2.5 billion trade deficit, significantly expand the domestic shrimp industry, create new opportunities for U.S. agriculture, and forge new markets for U.S. grain products and technology services.

Success in the United States requires high rate, high yield, and high product quality production systems that are both environmentally and economically sustainable. The United States is a world leader and highly competitive in terrestrial animal production systems. However, because no such integrated production system exists for marine shrimp, this program undertook the task of developing a world competitive shrimp production system, technology-by-technology and product-by-product. The U.S. Marine Shrimp Farming Program, supported by this Committee since 1985, undertook the development of high tech processes, products, and services designed to make U.S. shrimp farmers competitive in the world market.

The Consortium enlisted the participation of top scientists, their institutions and states, the cooperation of the fledgling industry, and participation of government scientists and administrators, to undertake narrowly-focused and results-oriented projects, and to provide a sound scientific basis for industry expansion. Its approach is based on financial accountability and minimal bureaucratic constraint. The Program has been administered by CSREES/USDA, which provides oversight and conducts periodic review by independent scientific panels.

The obstacles to be overcome by new technologies and products, in order to underpin a competitive advantage for U.S. farmers, were formidable. Worldwide, shrimp farming practices are primitive as compared to modern animal husbandry stand-

ards. They depend on catching wild shrimp stocks, have little regard for the environmental consequences of their actions, use drugs and chemicals indiscriminately, and contribute to the spread of shrimp diseases with their products; this approach has often been referred to as "rape and run." These practices, while low-cost in the short-run, are not sustainable environmentally or economically in the long-run. Currently, world wide producers are experiencing increasing shrimp mortalities, lower quality product, and lower profits. These world wide problems open a substantial opportunity for U.S. exploitation of the technologies and products developed by the Consortium.

To date, the program has:

—established the world's first captive populations of high health shrimp stocks and the world's first breeding and genetic selection program for marine shrimp
—completed pioneering research and development in advanced molecular diagnostic tools for disease screening and control;
—described the etiology of shrimp diseases associated with viral pathogens;
—supported members of the U.S. American Processors Association in protecting receiving waters from the introduction of viral pathogens;
—played a lead role in the Joint Subcommittee on Aquaculture's efforts to assess the threat of foreign viral pathogens;
—supplied the U.S. industry with genetically improved and disease resistant shrimp stocks;
—developed small-scale high technology biosecure shrimp production systems to protect both cultured and wild stocks from disease
—developed new feed formulations to minimize waste generation.

These accomplishments are encouraging. The advances in these fundamental areas have provided the foundation for achieving the overall goal. The Consortium is in the process of integrating these advances into practical shrimp farming systems. USMSFP supports both industry and research. We are in the process of integrating these advances into working shrimp farming systems for demonstration purposes. The industry does not yet have the technology package and remains dependent upon the Consortium for critical products and services.

Abrupt loss of Consortium support would cut the existing industry off at the knees and preclude completion of this important work. In anticipation of near-term technology transfer, we are encouraging the industry to establish its own breeding program and disease control operations. The risks, however, are as yet too high to encourage the movement of investment capital. We are making substantial progress toward increasing profitability and reducing risk.

Mr. Chairman, it is envisioned that the United States, with the best animal feed grains in the world, will become a non-polluting producer and major competitor in the shrimp farming world. Superior technologies, products, and services will deliver higher quality and lower cost shrimp products to the nation and to the world.

The Consortium receives substantial support and encouragement from CSREES/USDA. They have suggested that this is a model program for resolving important problems and capturing opportunities in both agriculture and aquaculture. Such sentiments have been repeatedly expressed by independent scientific review teams in 1988, 1991, and 1995.

Exceptional research and development progress in the last several years, coupled with severe difficulties experienced by domestic shrimp farmers, form the basis of a request for an increase in funding from $3.354 million to $5 million. The additional resources would be directed to accelerate the transfer of high technology biosecure systems to the commercial industry, to assist the industry in retro-fitting existing production systems, and to strengthen research in biosecurity and disease control technologies.

PREPARED STATEMENT OF THE UNIVERSITY OF SOUTHERN MISSISSIPPI

Mr. Chairman, distinguished Members of the Subcommittee, I would like to thank you for this opportunity to provide testimony describing ongoing research and commercializing efforts of The University of Southern Mississippi (USM) and the Mississippi Polymer Institute. I am very grateful to the Subcommittee for its leadership and the support of the Institute and its work. This testimony will include an update on the progress of the Institute since my testimony of approximately one year ago. During the past year, our efforts have primarily focused on two commercialization thrusts; one arising from novel inventions of our emulsion polymerization team and the other to produce a commercially viable, formaldehyde free, soybean derived adhesive for a variety of composite board materials, i.e., particle board or oriented strand board (OSB). During the past year, we have continued to exploit the opportu-

nities offered by these novel materials and continue to be optimistic about their commercial fate. I will discuss the two inventions separately in order to offer more clarity. In the case of castor or soya oil we have designed and synthesized novel monomers or polymer building blocks that offer state-of-the-art technology. The attributes of the technology includes odor free, solvent free, non-polluting latex coatings. The technology offers for the first time, solventless emulsion technology based on an agricultural material. By contrast, contemporary latex coatings contain upwards of 1500 grams of VOC/gallon. Moreover, it is a technology that if practiced would allow the governmental regulatory agencies to tighten the restrictions on volatile organic content (VOC) emissions of applied coatings. I intend to share details of this novel and patented technology with the Environmental Protection Agency so that they can, if they wish, make an independent evaluation to confirm its suitability and efficacy. Much of the fundamental scientific principles regarding its mode of action have been confirmed, yet additional data must be collected. In particular, we believe this technology can be employed in light industrial and original equipment manufacture (OEM) industrial coatings as well as architectural coatings, and confirmation of these concepts is a priority in future work. The second and critically important objective is to secure manufacturing facilities for commercial production of the new material(s). We are currently in negotiations with parties who have expressed interest in manufacturing the novel emulsion monomers. We must secure a manufacturer during the 1999–2000 period if this technology is to be successful. For instance, we have provided samples to our industrial partners from samples prepared in our laboratory. However, requests for the novel material are far too great to continue this practice, and one industrial client has expressed interest in purchasing this monomer in the third or fourth quarter of 1999.

Furthermore, the uniqueness of this technology has been confirmed in industry, and at least one participating polymer manufacturing firm is sampling materials they have produced utilizing our novel technology. Therefore, we believe that the time when industrial firms will seek production quantities of the novel monomer is drawing closer, and we must be prepared to meet their needs. This is indeed an exciting time as we see the fruition of our efforts and your support coming to the conclusion we desire; i.e., the commercial production and sale of novel ag based materials to the polymer industry.

In yet another of our novel ag based technologies, we have developed formaldehyde-free adhesives for use in the composites industry, specifically for particle board and oriented strand board. The new adhesives are composed of more than 98 percent agricultural products and are comparable in properties with traditional formaldehyde adhesives. Formaldehyde emissions are regulated as formaldehyde is considered a potential cancer producing agent. Consequently, there is a move afoot to remove formaldehyde from articles of commerce.

In 1983, the Mississippi Legislature authorized the Polymer Institute at USM to work closely with emerging industries and other existing polymer-related industries to assist with research, problem-solving, and commercializing efforts. During the past year, seventeen new polymer-related industries have located in Mississippi. In particular, during the past four years Sunbeam-Oster, Dickten and Masch, Wellman, and Kohler have constructed facilities approaching a cost of 1.4 billion dollars and each has commented on polymer science and engineering as a significant factor in their decision to locate near to The University of Southern Mississippi and the Mississippi Polymer Institute.

The Institute provides industry and government with applied or focused research, development support, and other commercializing assistance. This effort complements existing strong ties with industry and government involving exchange of information and improved employment opportunities for USE graduates. Most importantly, through basic and applied research coupled with developmental and commercializing efforts of the Institute, the Department of Polymer Science continues to address national needs of high priority.

The focus of my work is commercialization of alternative agricultural crops in the polymer industry. This approach offers an array of opportunities for agriculture as the polymer industry is the largest segment of the chemical products industry in the world, and heretofore has been highly dependent upon petroleum utilization. However, my efforts are directed to the development of agricultural derived materials that will improve our nation's environment and reduce our dependence on imported petroleum. As farm products meet the industrial needs of the American society, rural America is the benefactor. Heretofore, this movement to utilize alternative agricultural products as industrial raw materials has received some attention but much less than opportunities warrant. Your decisions are crucial to the accomplishment of these goals as funding from this Subcommittee has enabled us to implement and maintain an active group of university-based polymer scientists whose energies

are devoted to commercializing alternative crops. We are most grateful to you for this support and ask for your continued commitment.

The faculty, the University, and the State of Mississippi are strongly supportive of the Mississippi Polymer Institute and its close ties with industry. Most faculty maintain at least one industrial contract as an important part of extramural research efforts.

Polymers, which include fibers, plastics, composites, coatings, adhesives, inks, and elastomers, play a key role in the materials industry. They are used in a wide range of industries including textiles, aerospace, automotive, packaging, construction, medical prosthesis, and health care. In the aerospace and automotive applications, reduced weight and high strength make them increasingly important as fuel savers. Their non-metallic character and design potentials support their use for many national defense purposes. Moreover, select polymers are possible substitutes for so-called strategic materials, some of which come from potentially unreliable sources.

As a polymer scientist, I am intrigued by the vast opportunities offered by American agriculture. As a professor, however, I continue to be disappointed that few of our science and business students receive training in the polymer-agricultural discipline as it offers enormous potential. The University of Southern Mississippi and the Mississippi Polymer Institute are attempting to make a difference by showing others what can be accomplished if appropriate time, energy, and resources are devoted to the understanding of ag based products.

I became involved in the polymer field 33 years ago and since that time, have watched its evolution where almost each new product utilization offered the opportunity for many more. Although polymer science as a discipline has experienced expansion and a degree of public acceptance, alternative agricultural materials are an under-utilized national treasure for the polymer industry. Moreover, there is less acceptance of petroleum derived materials today than ever before and consequently the timing is ideal for agricultural materials to make significant inroads as environmentally friendly, biodegradable, and renewable raw materials. These agricultural materials have always been available for our use, yet society for many reasons, has not recognized their potential. The following examples are included and represent opportunities other than those already described which supports this tenet:

—A waterborne, waterproofer has been designed and formulated with the help of several natural products. The material functions as a waterproofer yet is carried in water. However, after application to the intended substrate, typically wood or cementous products, the material becomes hydrophobic and highly water resistant. We have collected two and one-half years of exposure data on this product with excellent success. It is currently being marketed via Southern Chemical Formulators of Mobile, AL. The distribution of this material has been slowed as the result of a fire at Southern Chemical Formulators that destroyed production facilities.

—A new, multi-functional polymer additive was designed, synthesized, tested, and submitted to the patent office. The patent office has approved the issuance of a patent entitled, "Novel Multi-Functional Surface Active Agents, Syntheses and Applications Thereof," U.S. patent No. 5,807,922; the patent was issued on Sept. 15, 1998. The product is currently being evaluated by the Hanson Company as a potential commercial product. It is a highly efficient, multi-faceted additive that functions as a dispersant, a defoamer, an adhesion promoter, a gloss enhancer, and corrosion inhibiting species. It is derived from an agricultural raw material and is very novel in its performance and applications. If the Hanson Company is unsuccessful in its utility, we will continue commercialization efforts from these laboratories.

—We have exploited the potential of lesquerella, a crop that produces a triglyceride similar to castor oil. Several high performance products have been prepared and include polyesters, stains, foams, pressure sensitive adhesives, and 100 percent solid ultraviolet (W) coatings. This technology was highlighted at the AARC/NASDA meeting in Washington, DC.

—Novel open cell foams have been designed and prepared from lesquerella and/or castor oil. They are of high quality and can substitute for foams used extensively in industrial settings.

Lesquerella derived foams possess commercial viability yet the supply of lesquerella is currently not of the size that can support a high volume use. For instance, if lesquerella were accepted as a raw material for foam manufacture alone, huge quantities of oil would be consumed. The decision is now with the farm community as to whether or not to include lesquerella in their farm land rotation sequence. Our work has shown it to be a viable commercial crop with several significant potential uses and that was our goal. Consequently, we will concentrate our work in other areas with other ag crops.

U.S. agriculture has made the transition from the farm fields to the kitchen tables, but America's industrial community continues to be frightfully slow in adopting ag based industrial materials. Let us aggressively pursue this opportunity and in doing so:

—Intensify U.S. efforts to commercialize alternative crops.
—Reduce U.S. reliance on imported petroleum.
—Maintain a healthy and prosperous farm economy.
—Foster new cooperative opportunities between American farmers and American industry.

Mr. Chairman, your leadership and support are deeply appreciated by the entire University of Southern Mississippi community. While I can greatly appreciate the financial restraints facing your Subcommittee, I feel confident that further support of the Mississippi Polymer Institute will continue dividends of increasing commercialization opportunities of agricultural materials in American industry. Advances in polymer research are crucial to food, transportation, housing, and defense industries. Our work has clearly established the value of ag products as industrial raw materials; however, while these are but a limited number of applications, our success confirms that it is time to move to yet another level of effort. Thus, we respectfully request $1.2 million in federal funding to exploit the potentials of commercializing alternative agricultural materials and to continue our initiatives. Thank you Mr. Chairman and Members of the Subcommittee for your support and consideration.

PREPARED STATEMENT OF THE UPPER MISSISSIPPI RIVER BASIN ASSOCIATION

The Upper Mississippi River Basin Association (UMRBA) is the organization created 18 years ago by the Governors of Illinois, Iowa, Minnesota, Missouri, and Wisconsin to serve as a forum for coordinating the five states' river-related programs and policies and for collaborating with federal agencies on regional water resource issues. As such, the UMRBA has an interest in the budget for the U.S. Department of Agriculture's conservation programs and technical assistance.

Of particular concern to the UMRBA is funding for the Conservation Reserve Program (CRP), Wetlands Reserve Program (WRP), and Environmental Quality Incentives Program (EQIP). Taken together, these three Commodity Credit Corporation-funded programs provide an invaluable means for the USDA to work with landowners, local conservation districts, and the states to ensure that agricultural productivity is maintained while protecting the nation's soil and water resources. As stewards of some of the nation's most productive agricultural lands and important water resources, the five states of the Upper Mississippi River Basin believe these programs are vital. Strong farmer interest and state support demonstrate the region's commitment to the objectives of these programs. In 1998, state, local, and private entities matched every dollar of NRCS investment in the five states with an additional $0.80. Illinois and Minnesota are among the first states nationwide to commit to significantly increased state funding of conservation measures through the Conservation Reserve Enhancement Program (CREP). These CREP initiatives will be focused on the watersheds of the Illinois and Minnesota Rivers, both of which are important tributaries to the Upper Mississippi.

The President's fiscal year 2000 budget proposal includes essentially flat funding of $1.596 billion for the CRP, which the Administration estimates would be sufficient for the program to reach its full authorized acreage of 36.4 million acres by 2002. The Natural Resources Conservation Service (NRCS) estimates that the President's $209 million proposal for the WRP would bring that program to its 975,000-acre enrollment cap by the end of 2000. The Administration's proposed $126 million increase for EQIP, which would bring the program's total in fiscal year 2000 to $300 million, includes important funding to increase financial assistance available to the operators of animal feeding operations. The CRP, WRP, and EQIP have demonstrated their effectiveness and garnered strong support from state, local, and landowner partners. Thus, the UMRBA believes it is essential to place priority on providing adequate resources to these three important programs.

The UMRBA is also concerned with the adequacy of funding and staffing levels in the NRCS' conservation operations account. The technical assistance funded through conservation operations provides the foundation for the USDA's voluntary conservation planning. The President has proposed increasing conservation technical assistance by $37 million to $585 million in fiscal year 2000. This funding increase is certainly a move in the right direction. However, it would be coupled with an estimated net reduction of 1,055 staff people, most of whom would come from field offices. These are the very employees that NRCS relies upon to deliver vital

technical assistance to landowners. With this reduction, the overall cut in NRCS staff since 1993 would reach almost 19 percent. Reports from the field indicate that these reductions are beginning to take a toll, with the NRCS increasingly unable to provide the timely, comprehensive technical assistance that farmers need if they are to participate effectively in the USDA's conservation programs. A 1998 National Workload Analysis indicated that the NRCS may need as many as 4,000 employees at the field level in the Midwest. At the time, actual field staff in the Midwest numbered fewer than 2,500. The UMRBA urges Congress to ensure that the NRCS has both the staff and funding necessary to deliver its conservation programs effectively.

The five states of the UMRBA acknowledge that our region faces enormous soil and water conservation needs and limited public and private resources to address the problem. In this context, it is imperative that NRCS work with the states, conservation districts, and farmers to identify and target the most pressing problems. Coordination and communication with the states is particularly critical to success in addressing the interstate resource challenges faced by the Upper Mississippi River. Success in addressing such complex, large-scale issues will not come quickly. It will require long-range thinking and commitment over time from all levels of government and from farmers. The states look to both Congress and the Administration to join them in providing such leadership.

PREPARED STATEMENT OF THE USA RICE FEDERATION

The USA Rice Federation wishes to submit the following comments regarding the fiscal year 2000 appropriation bill for the Department of Agriculture. The USA Rice Federation represents producers of approximately 80 percent of the rice grown in the United States and practically all U.S. millers of rice as well as allied industries.

Background.—The national farm economy is in a period of financial stress with low prices, record supplies, and weak exports. The rice economy is no exception. Production currently is estimated to increase this year to 188 million cwt., up 3 percent from last year and will be the second largest crop on record. Exports are not expected to keep pace with production, leading USDA to estimate that ending stocks will be 44 percent higher than a year ago resulting in the highest stocks to use ratio since 1994/95. Rough rice sales to Latin America, one of our principal markets, are likely to be adversely affected by economic problems there, and the global long grain milled market will be very competitive, particularly with lower priced rice from Thailand and Vietnam. Prices have been falling steadily, and are expected to continue. It may well be that for the first time in many years payments under the marketing loan program will be triggered.

Export Programs.—(a) Public Law 480. With this as a background, the rice industry calls upon the appropriations committee to ensure that the export programs are fully funded for fiscal year 2000. To this end, we earnestly request that the appropriation for the Public Law 480 program be maintained at not less than the appropriation of $220 million for the current year, and not be allowed to drop as has been recommended by the Administration. In the current fiscal year the title I, Public Law 480 program was funded at a level of $220 million and was supplemented by the Secretary making an emergency transfer of $850 million from Commodity Credit Corporation to fund a title I agreement with Russia. The Secretary found this necessary despite the Administration having earlier recommended a 50 percent cut in the fiscal year 1999 appropriation. It is hard to understand why in the light of the distressed farm economy, the Administration would wish to reduce the appropriation for title I to $150 million and eliminate entirely the appropriation for title III of $25 million. The outlook for agriculture in fiscal year 2000 is no better than current conditions, and if anything, would justify an increase from the currently appropriated amount.

As you know, in programming sales under title I, priority is given to those developing countries which have demonstrated the potential to become commercial markets and are undertaking measures to improve their food security and demonstrate the greatest need for food. Title I has had a brilliant history in opening the doors for commercial sales as the recipient countries improve their economies. It should not be short-changed.

(b) Market Access and Foreign Market Development Programs. There are other important programs that assist in opening markets for U.S. agricultural products including rice. These include the market access program which is funded at a level of $90 million and the foreign market development program (FMD) program, often called the cooperator program, in which the rice industry and other cooperators provide cost sharing of at least an equal amount in carrying out market promotion activities overseas. These have been successful programs and should be fully funded.

Accordingly, we ask that the MAP program not be cut back and the FMD program continue to be funded at the prior year's level of $30 million.

Research.—Another area of great interest to the rice industry lies with the research activities of USDA. We support the increased funding that is recommended by USDA for the Agricultural Research Service and the Cooperative State Research, Education and Extension Service. We request that the appropriation for research at the Dale Bumpers National Rice Research Center at Stuttgart, Arkansas, be increased from last year's level by $500,000. This would enable the Center to hire the researchers needed to carry out the important work of developing germplasm which would be made available to plant breeders in the United States. The germplasm would be used to develop plant varieties to meet the demands of consumers of all kinds both here in the United States and elsewhere in the world, thereby improving markets for U.S. rice.

In addition, in the funding of the Cooperative State Research and Education and Extension Service (CSREES), the Administration has proposed an increase for competitive projects that would be offset by decreases in formula funds under the Hatch Act and related legislation and by decreases in non-competitive projects. We object to any reduction in the formula funds as this would adversely impact the land grant universities and state experiment stations where so much significant agricultural research including research of benefit to the rice industry, is being conducted. We would not object to an increase in funding of competitive grants, but not at the expense of the formula funds.

Animal Damage Control.—The USA Rice Federation also requests that the appropriation for wildlife service operations and research be continued at the same level as in the current year. This appropriation helps fund new and improved methods for reducing damage to the southern rice crop from the depredations of blackbirds that engulf the area each spring. Among other things, the appropriation for the APHIS National Wildlife Research Center is used for research on new non-lethal bird repellents for preventing blackbird damage to sprouting and ripening rice and for a more effective formulation for an EPA registered chemical. A reduction in either this appropriation or the appropriation for wildlife service operations would adversely affect these efforts.

We appreciate the opportunity to submit these comments for the consideration of the Subcommittee. If you should have any questions or would like us to amplify our remarks in any way, please let us know.

PREPARED STATEMENT OF THE U.S. AGRICULTURAL EXPORT DEVELOPMENT COUNCIL

Strong support for exports must be part of the "safety net" for the American farmer. Increasing exports is a significant tool to improve the lives of America's farmers and producers of USA agricultural products while improving our balance of trade and increasing receipts to the Treasury. Well-funded export programs must become a top priority for this Congress. Therefore, the U.S. Agricultural Export Development Council (USAEDC) respectfully but emphatically urges this subcommittee and Congress to strongly support export promotion programs in the U.S. Department of Agriculture's (USDA) fiscal year 2000 budget. Specifically, this shall include: a Foreign Market Development Cooperator program at a level which would allow FAS to approve marketing plans at historic levels, and within the FAS authorization; a Market Access Program at $200 million; and a strong USDA Foreign Agricultural Service at least at no less than last year's budget level.

A few years ago USA agricultural exports reached record levels. Unfortunately, the current downturn in many foreign economies has made it very difficult today to simply maintain markets for USA agricultural exports let alone expand them. Since the downturn, there are additional and significant hurdles to the pre-existing import tariffs and often-unjustifiable sanitary and phytosanitary barriers. These additional hurdles include the rise of the U.S. dollar against foreign currencies, foreign consumers' bias toward "buying domestic" to help their own producers, and increased production from our major competitors (e.g., the European Union, Canada, Australia). USA agricultural products are facing more competition than ever, especially in markets where there are fewer foreign consumers willing to consider buying USA agricultural products. Given these factors, it behooves Congress to fund an aggressive export promotion package for America's USA agricultural products to have a fighting chance to maintain and grow foreign markets for our agricultural products.

Chief within this export promotion package should be substantial and adequate funding for the Foreign Market Development Cooperator program (FMD), the Market Access Program (MAP), and USDA's Foreign Agricultural Service (FAS) which

administers these programs. As you may know, the FMD program is most often focused on maintaining foreign markets while working on long-term changes to a market's infrastructure to allow for increased USA agricultural exports. The MAP program is most often focused on increasing export levels in the near term, especially for USA agricultural exports that are purchased directly by consumers. Funding for both programs is awarded annually on a competitive basis to (1) not-for-profit USA trade organizations that represent specific sectors of American agriculture, (2) farmer cooperatives, and (3) small businesses within the USA agriculture and food industries. The vast majority of marketing is generic in nature with any branded programs being run by small businesses (less than 1,000 employees) that are most often new to the export market.

THERE ARE 5 IMPORTANT POINTS TO REMEMBER ABOUT FMD AND MAP

First, the FMD and MAP programs are cost effective.—Funds are awarded on a competitive basis via a meaningful formula developed by FAS which takes into consideration export potential, experience with managing export programs, as well as industry contributions. This process helps ensure that U.S. taxpayers' money is being invested in the agricultural sector and organization with the highest chance of success. Second, every organization that participates in either the FMD or MAP program must contribute its own resources to these programs. Thus, U.S. Government expenditures actually leverage more resources for foreign market promotion than American agriculture would be able to accomplish with only private sector funds. In addition, many of the small companies helped by the MAP branded program note that they often would not be able to have gained entry into the export market were it not for this program. The tables below show that for the last completed program year, American agriculture contributed the highest amount of their own money relative to the amount made available by FAS.

FOREIGN MARKET DEVELOPMENT/COOPERATOR PROGRAM ONLY

Program Year	Private-sector MAP annual expenditure	Public-sector MAP annual expenditure	Percent of private to public MAP dollars
1994	$38,275,000	$30,051,000	127.4
1995	40,675,000	31,199,000	130.4
1996	37,544,000	28,807,000	130.3
1997	47,203,000	28,986,000	162.8
1998	43,972,000	26,505,000	165.9
5 yr. average	41,534,000	29,110,000	142.7

MARKET ACCESS PROGRAM ONLY

Program Year	Private-sector FMD annual expenditure	Public-sector FMD annual expenditure	Percent of private to public FMD dollars
1993	$146,994,000	$154,372,000	95.2
1994	112,756,000	115,756,000	97.4
1995	89,179,000	106,353,000	83.9
1996	80,190,000	93,585,000	85.7
1997	101,208,000	97,549,000	103.8
5 yr. average	106,065,000	113,523,000	93.4

Source: USDA/Foreign Agricultural Service, Marketing Operations Staff.

Second, the FMD and MAP programs increase exports of USA agricultural products.—USAEDC posts on the Internet (www.usaedc.org/exports/industries.html) examples of the progress these programs make in increasing sales of USA agricultural products. A few examples follow:

A. Texas Grapefruit Exports to Canada—Texas Produce Export Association (TPEA)

Key Strategies

Meetings held on a continuous basis with the trade (importers, distributors and retailers) by TPEA's in-country representative have resulted in acceptance of the fruit. Promoting Texas red grapefruit with selected retail store groups interested in a niche market product that stands apart from other grapefruit and stressing the unique color and sweet taste has convinced consumers to purchase.

MAP activities assisted the Texas grapefruit industry to increase exports to Canada by 32.5 percent over the 1996/97 season and the outlook for 1998/99 shipments is very favorable for continued increases. A major success has been achieved in the province of Ontario, which historically has not been considered a Texas market—exports in 1997/98 grew by 37.7 percent over the prior year. TPEA shipped 430,099 cartons (7,819.9 MT) of grapefruit to Canada in 1997/98.

Texas Grapefruit Exports' Impact on Local Economy

Increasing the export of Texas grapefruit definitely helps to provide a better profit level to growers. Faced with a world wide oversupply situation, many growers are going out of business, or just barely hanging on, because of continuing depressed prices. Exports help to stabilize the Texas citrus industry, which directly employs about 3,000 workers. Without the MAP program, the industry would have difficulty expanding the market base and many of these jobs would be in jeopardy. There are approximately 750 commercial citrus growers and 16 registered shippers. Total citrus production is approximately 36,313 acres.

In season year 1997, more than 13,235 metric tons of Texas red grapefruit were shipped overseas to MAP targeted countries of which 7,819.9 metric tons were exported to Canada for a value of $3 million, up 69.4 percent from 1994/95 when TPEA first started promoting in Canada.

B. U.S. Farm-Raised Catfish Exports to Germany—The Catfish Institute (TCI)

Key Strategies

Using MAP funds, TCI joined forces with Aramark, the leading food service supplier in Germany and the world, to promote U.S. farm-raised catfish. In a promotion held at the beginning of September 1998, U.S. catfish took center stage in 340 Aramark corporate canteens. From north to south and east to west, this one-week promotion transported diners to the U.S. South for a variety of imaginative dishes. In preparation for the event, TCI held seminars for Aramark's canteen managers on the correct preparation of the fish. Over three thousand diners tasted "Mark Twain" catfish sandwiches and American Garlic Catfish with Tomatoes and Courgettes as well as several other recipes. The results speak for themselves. Aramark sold over 15 tons of catfish, double the amount originally planned. TCI promotional materials decorated all of the canteens with chefs and servers wearing caps and t-shirts featuring the TCI logo, "Der Amerikanische Wels."

U.S. farm-raised catfish faces an 8 percent import tariff, high transportation costs, a constantly strengthening dollar which puts its fish in the same price category as turbot, considered the premium fish by German consumers and trade, plus exacting calibration standards of every filet weighing exactly the same. Germany's fish trade continues to consolidate which also affects the overall market. Notwithstanding this situation, the German trade remains convinced of the quality of U.S. farm-raised catfish and repeat orders continue to be made.

Impact on U.S. Economy

Return to the U.S. economy from this industry is significant. The catfish industry provides 12,000 jobs in the Delta area of the mighty Mississippi, encompassing the states of Alabama, Arkansas, Louisiana and Mississippi. In a part of the U.S. where unemployment is high and income low, this industry employs over 8,000 individuals on a direct basis.

—Related industries such as feed mills, trucking equipment suppliers, packaging companies, steamship and airlines, etc., account for an additional 4,000 jobs.

—Not only does the catfish industry provide employment, it also leads the way in providing education for low-income workers by participating in the Welfare to Work program, which assists individuals graduate from welfare.

C. California Pistachio Exports to the United Kingdom—California Pistachio Commission

Key Strategies

The Commission's immediate move to provide the media and trade with positive messages about California pistachios following the September 1997 European Union ban on Iranian pistachios due to aflatoxin problems won praise and support from the British trade. This move turned the tide for the California industry and resulted in six of the major grocery chains now stocking pistachios from the Golden State up from only two the year before.

Exports are showing upward growth with 327 metric tons shipped in the first seven months of 1998 over 212 metric tons in 1997.

The Iranian government provides preferential treatment in exchange rates for pistachio exporters. That government also provides its pistachio producers with pref-

erential treatment for imported goods purchased with funds maintained out of the country from pistachio sales. Producers are also subsidized for the purchase of chemical fertilizers and pesticides. Using MAP funds, the California pistachio industry has now succeeded in displacing Iranian product in a number of key retail stores in the United Kingdom.

Impact on U.S. Economy

In 1986, U.S. pistachio exports were minuscule. Twelve years later, more than 40 percent of the industry's annual shipments are exported to countries around the world. Production is continually increasing with 174 million pounds harvested in 1997 and 195 million projected for 1998. This represents a phenomenal increase over the one and a one-half million pounds produced in 1986.

Exports translate into additional U.S. jobs and increased revenue for the economy and the U.S. Government. Benefits accrue not only to the industry itself, but pass through to the producers of packaging materials, equipment, fertilizers, transportation and nursery stock.

Third, the FMD and MAP programs help American agriculture overcome the effects of foreign unfair trade practices.—As noted in the pistachio example, USA agricultural exports often face subsidized or otherwise unfair competition from foreign products. It is simply impossible for American agriculture to combat the multitude of problems in the international marketplace on its own. For example, the European Union alone spent approximately $365 million in 1997 on export programs, far more than the total amount of USA private and public funding spent in support of the FMD and MAP programs. FAS is instrumental in monitoring such activities in foreign markets. (They make available their annual report via the Internet at www.fas.usda.gov/cmp/com-study/1997/comp97.html.)

Fourth, the FMD and MAP programs help keep USA agricultural exports strong. which in fiscal year 1997 supported almost 1 million American jobs.—These jobs were on the farm, ranch, in the forest, and on the water, as well as in transportation, processing, and other related industries. Every state and local economy in the Union has jobs that are dependent on healthy exports of USA agricultural products. (For a state-by-state listing of jobs supported by USA agricultural exports, as well as a listing of the top five agricultural commodities which generated these jobs, visit USAEDC's web site at www.usaedc.org/exports/states/indexall html.) The top ten states in fiscal year 1997 for jobs supported by USA agricultural exports, including wood products and fish, were:

1. California—122,500 jobs—$8.059 billion in ag exports
2. Iowa—63,000 jobs—$4.147 billion in ag exports
3. Illinois—57,600 jobs—$3.788 billion in ag exports
4. Nebraska—50,300 jobs—$3.308 billion in ag exports
5. Texas—49,900 jobs—$3.283 billion in ag exports
6. Washington—48,700 jobs—$3.201 billion in ag exports
7. Minnesota—42,300 jobs—$2.781 billion in ag exports
8. Kansas—40,300 jobs—$2.650 billion in ag exports
9. Arkansas—29,600 jobs—$1.948 billion in ag exports
10. Oregon—29,300 jobs—$1.926 billion in ag exports

Fifth, the FMD and MAP export effort is supported by American voters.—A 1996 national Election Day poll by Penn & Schoen found 75 percent of Americans surveyed support programs such as FMD and MAP to promote U.S. agricultural exports, counter subsidized foreign competition, strengthen farm income, and protect American jobs.

In conclusion, USA agricultural exports are vitally important to our local, regional, and national economies. At this time of dire need for America's farmers, ranchers, lumbermen, and fishermen, and all the jobs their work supports, we need to make sure programs like the Foreign Market Development Cooperator (FMD) program and the Market Access Program (MAP) are aggressively funded to increase foreign consumption of USA agricultural products. Given the state of the global economy, now is the time for an extra push in export promotion to ensure that whatever foreign money is available for imported food and agriculture is spent on the bounty of the United States of America.

PREPARED STATEMENT OF THE WESTERN RURAL TELEPHONE ASSOCIATION

SUMMARY OF REQUESTS

Program of Interest

Telecommunications lending programs administered by the Rural Utilities Service (RUS) of the U.S. Department of Agriculture.

Recommendation

WRTA supports loan levels for fiscal year 2000 at such amounts as they have been designated in the Agriculture Appropriations Act for fiscal year 1999 (Public Law 105–277, Sec. 101(a)) for hardship, treasury-cost, and guaranteed loan programs and the associated subsidy to support these loan programs. We also support the Rural Telephone Bank (RTB) loans in the amount proposed in the President's budget and the associated subsidy to fund this level. WRTA also supports the President's budget request for funding of the RUS's Distance Learning and Telemedicine (DLT) programs at $20 million in grants and $200 million in loan authority. WRTA supports a continuation of the current fiscal year's policy of language removing the 7 percent interest rate ceiling on Treasury-cost loans for fiscal year 1998. WRTA supports the continued provisions contained in Public Law 105–277 restricting retirement of RTB class A stock in fiscal year 2000 and prohibiting the transfer of RTB funds to the general fund. Finally, we are opposed to the President's budget proposal to transfer funds from the unobligated balances of the liquidating account of the RTB for the bank's administrative expenses and loan subsidy costs.

Mr. Chairman and Members of the Subcommittee: It is an honor and privilege to have the opportunity to discuss the unique infrastructure financing needs of the rural local exchange carrier (LEC) industry. My name is Sam J. Maselli, and I am the Executive Vice President of the Western Rural Telephone Association (WRTA). WRTA is a regional trade association representing nearly 150 small rural commercial and cooperative telephone systems throughout the western United States and the Pacific Rim territories.

Background

WRTA's member systems, like most of this nation's independent LECs, evolved to serve the high cost, low density areas in the rural western United States. Congress recognized this unique dilemma confronting America's rural LECs as early as 1949 when it amended the Rural Electrification Act (RE Act) to create the REA telephone loan program. With the future of rural America in mind, Congress charged the REA with the responsibility for making low interest rate loans to both ". . . furnish and improve . . ." rural telephone service at the local exchange level.

In subsequent years, Congress has periodically acted to amend the RE Act to insure that the original mission of the program is fully met. In 1971, the Rural Telephone Bank (RTB) was created as a supplemental source of direct loan financing. In 1973, the REA was provided with the ability to guarantee Federal Financing Bank (FFB) and private lender notes. And in 1993, the Congress established a fourth lending component, the Treasury-cost program, and Congress eliminated most of the subsidy costs associated with the administration of the program. The formal consolidation of the Department's utility programs through transferring the telecommunications loan and technical assistance programs of the REA to the Rural Utilities Service (RUS) in 1994 further served to enhance and update the effectiveness of the agency in promoting rural infrastructure development.

Due to the difficulty of providing service in high cost, low density areas, Congress provided for long-term, fixed rate loans available at reasonable rates to borrowers to assure that rural citizens benefited from the highest quality of telephone service and affordable subscriber rates. Through this ongoing commitment to capital financing, Congress affirmed the goal of comparable and affordable telephone service for rural Americans as their urban counterparts.

As a result of this commitment to rural telecommunications, rural America has greatly benefited from the highest quality of information technology. Through its effort, Congress has played a critical role in developing a rural telecommunications infrastructure financing program which best responds to the needs of rural America.

The Obligations of the Industry Continue The RUS telecommunications loan program represents a remarkable public/private partnership success story which continues to produce tangible results in the lives of rural citizens. With the assistance of RUS capital and technical standards, rural telephone systems are providing modern telecommunications services of a highly sophisticated quality. However, with the rapid pace of change in the development of information technology, the need for RUS telecommunications lending is greater than ever.

Due to the nature of rural areas, particularly in the rural West, the challenge of providing modern telecommunications services is formidable. Compared to their urban counterparts, rural communities are faced with higher poverty rates, lower income levels, physical isolation and higher costs associated with deploying modern infrastructure. Economic development is often frustrated by these unique rural conditions. With the United States in the midst of the "information revolution," rural areas are confronted with the dilemma of being left behind.

The implementation of the Telecommunications Reform Act of 1996 has also added to the uncertainty and collective uneasiness of the rural telecommunications industry. Despite the Act's solid rural safeguard provisions, the Federal Communications Commission (FCC) has embarked in a regulatory direction which explicitly threatens rural ratepayers, services, and infrastructure investment.

Congress must keep a vigilant watch over the FCC to ensure that implementation of the Act is consistent with congressional intent. This is particularly true of RUS program borrowers where the federal government has a significant loan security interest at stake. Whatever the outcome of the regulatory process, the RUS telecommunications loan program will be as important as ever to rural systems attempting to modernize their networks and improve service to rural residents.

The Promise of the RUS Program

Despite the obstacles to rural economic revitalization, information technology holds significant promise for our rural areas. As we have seen in recent years, information services can directly benefit our schools, libraries, hospitals and clinics. In addition, telecommunications services facilitate commercial opportunities such as telemarketing, insurance, and manufacturing not possible in previous years.

While the explosive nature of technological change offers our rural communities genuine opportunities for economic and social progress, special attention must be placed on providing rural areas with the appropriate tools to address their unique set of needs. In this context, the RUS telecommunications loan program is playing a critical front-line role in ensuring that rural America is linked to the Information Superhighway.

Today, RUS borrowers average only 6 subscribers per mile compared to 37 per mile for the larger, urban-oriented telephone systems. This results in an average plant investment per subscriber that is 38 percent higher for RUS borrower systems. Without the availability of affordable capital financing, enhancing telecommunications networks for rural communities would be untenable.

The RUS is providing affordable capital financing to allow its borrowers to upgrade their plant and facilities for digital switching, fiber optic cabling, emergency 911, and other enhanced features such as ISDN, SS7, and CLASS. Due to the dependability of the RUS program, borrowers provide their rural subscribers with cutting edge services.

RUS telecommunications lending also performs a pivotal function of stimulating substantial private investment. In fact, RUS borrowers invest in telecommunications plant at a rate of $4.80 for every RUS dollar spent.

In addition, the RUS telecommunications program boasts a proud financial record probably unprecedented for federal loan programs. To date, the program has never experienced a borrower-related default in its history. At the end of 1997, $4.5 billion in principal and over $5 billion in interest had been paid by RUS borrowers. For nearly 49 years, this successful public/private partnership has worked.

In 1993, this partnership agreed to a $31 million cut in the name of debt reduction, and it agreed to a twelve year freeze in program loan levels while other programs grew by at least the rate of inflation. This partnership is committed to providing service to areas long neglected by others. Ultimately, this partnership will foster the rural information network of the 21st century.

Specific Recommendations for the Subcommittee's Consideration

RUS Telecommunications Loan Program

Increasing demands for expanded telecommunications services and infrastructure upgrades suggests that the level of need continues. Congressional mandates as a result of the Rural Electrification Restructuring Act (RELRA) of 1993 (Public Law 103–129) have placed additional obligations on RUS borrowers to upgrade their technology in order to maintain their loan eligibility. To address the persisting need, WRTA recommends that the Committee consider the following RUS Telecommunications Program loan levels for fiscal year 2000:

5 percent Hardship Loans	$75,000,000
Treasury-cost Loans	300,000,000
FFB Loan Guarantees	120,000,000

Rural Telephone Bank Loans	175,000,000
Total	670,000,000

These loan levels are the same as the current fiscal year's funding provided by Congress and represent a genuine commitment to rural telecommunications.

Removal of Interest Rate Ceiling on Treasury-cost Loans

WRTA supports language removing the 7 percent interest rate cap on the program's Treasury-cost loans. This provision was originally included in the Agriculture Appropriations Act for fiscal year 1996 and continued for the current fiscal year. The inclusion of this provision for fiscal year 2000 will prevent a potential disruption of the program in the case where interest rates exceed 7 percent and insufficient subsidy cannot support authorized loan levels. Stated simply, it is a continuation of current policy, and it promotes the viability of the program at zero cost.

Rural Telephone Bank (RTB) Issues

During the course of fiscal year 1996, the Rural Telephone Bank began the statutory retirement of class A, government-owned stock. WRTA supports the restriction on accelerating the privatization process as conceived beginning in fiscal year 1996 of no more than 5 percent of total class A stock retired in one year. We believe that a continuation of this policy best addresses the orderly and systematic privatization of the RTB. WRTA also urges the Committee to continue the prohibition against the transfer of bank funds to the general fund of the Treasury along with the requirement that the bank receive interest on those funds. The private B and C stockholders of the RTB have an interest in the assets of the bank and the protection of all funds.

For these reasons, WRTA is also opposed to the proposal contained in the President's budget that the costs of RTB administration and loan subsidy be funded by a transfer from the unobligated balances of the bank's liquidating account rather than by appropriations consistent with the federal credit reform act. WRTA believes that this proposal would impinge upon the ownership interests of the bank's stockholders.

In addition, we believe that funding the administrative costs of the bank through a transfer of unobligated balances of the bank's liquidating account rather than through appropriation is contrary to the RTB enabling act (Public Law 92–12). Budget language suggests that these recommendations would not result in budgetary savings, and no justification for this proposal is contained in the budget. Furthermore, this proposal would require new authorizing legislation prior to an appropriation.

Distance Learning and Telemedicine (DLT) Loans and Grants

The RUS Distance Learning and Telemedicine (DLT) program has proven to be a remarkable tool for promoting rural development. The DLT loan and grant program administered by the RUS significant promise for the deployment of modern technology for scores of our rural communities. WRTA supports the President's request for $200 million in loans delivered at the government's cost-of-money and $20 million in grants for DLT purposes. We believe that the proposed level adequately responds to the overwhelming demand for DLT resources since the implementation of the program by the RUS in 1993.

CONCLUSION

Access to advanced information services is a critical condition for future rural economic and social development. The RUS telecommunications program has proven to be an indispensable tool for rural America, and it continues to improve the nature of rural life in our nation, particularly in our isolated Western communities. Thank you.

PREPARED STATEMENT OF THE STATE OF WYOMING

This testimony supports fiscal year 2000 expenditures for the Department of Agriculture's Environmental Quality Incentives Program (EQIP) in the amount of $300,000,000 and requests that $12,000,000 be designated for the Colorado River Salinity Control Program.

This testimony supports fiscal year 2000 appropriations for the Department of Agriculture's Environmental Quality Incentives Program (EQIP) to carry out Colorado River salinity control activities. Testimony was recently submitted by the Colorado River Basin Salinity Control Forum (Forum), a seven-state organization created by

the Governors of the Colorado River Basin States, by the Forum's Executive Director, Jack Barnett. The State of Wyoming, a member state of the Forum, concurs in the Forum=s testimony.

Wyoming is represented on both the Colorado River Basin Salinity Control Forum and the Colorado River Basin Salinity Control Advisory Council. The 1974 Colorado River Basin Salinity Control Act (Public Law 93–320) created the Advisory Council. Like the Forum, the Advisory Council is composed of gubernatorial representatives of the seven Colorado River Basin states and serves as a liaison between the seven States and the Secretaries of the Interior and Agriculture and the Administrator of the Environmental Protection Agency (EPA). It advises these Federal officials and the involved agencies on the progress of efforts to control the salinity of the Colorado River and annually makes funding recommendations, including the amount believed necessary to be expended by the USDA for its on-farm Colorado River Salinity Control (CRSC) Program. The Forum's testimony is in accordance with the Advisory Council's written recommendations.

The Plan of Implementation and the numeric water quality criteria set for three Lower Colorado River stations constitute the State-adopted, EPA-approved, water quality standards for salinity the Colorado River. Jointly developed and revised each three years by the States and involved Federal agencies, the Plan of Implementation is being carried out to ensure continuing compliance with the numeric water quality criteria for salinity.

During its most recent October 1998 meeting, the Advisory Council recommended that at least $12,000,000 be expended by the Department of Agriculture for cost-sharing to implement salinity reduction practices (funds that are matched with individual contractor's cost-share funds) in fiscal year 2000, plus sufficient funds for administration, technical information and education, to assure that the Program's progress of removing salt and preventing additional salt loading into the Colorado River system stays on the schedule set forth within the Plan of Implementation. Should a lesser funding level be provided for this important basin-wide water quality program, the progress (as measured in tons of salt prevented from entering the Colorado River system) achieved by the USDA component of the multi-agency, state and federal Colorado River Basin Salinity Control Program will fall far short of meeting the rate of salinity control determined to be determined necessary to assure compliance with the basin-wide standards for salinity in the Colorado River. Failure to maintain the standards' numeric criteria could result in the imposition of state-line water quality standards (as opposed to the successful basin-wide approach that has been in place since 1975) and impair the Colorado River Basin States' ability to develop their Compact-apportioned water supplies. The present basin-wide salinity control program and its funding arrangements appropriately reflect that the primary beneficiaries of the basin-wide salinity control program are in the Lower Basin while the most cost-effective opportunities to reduce salt loading are upstream in the Upper Basin. Further, it is unmistakable that funding shortfalls will result in significantly higher costs to implement the same level of salinity control through the CRSC Program in future years.

The Federal Agriculture Improvement and Reform Act of 1996 (Public Law 104–127) provided for the CRSC Program to continue in the future—as a component part of the Environmental Quality Incentives Program (EQIP). We view the inclusion of the Salinity Control Program in EQIP as a direct recognition on the part of Congress of the Federal commitment to maintenance of the water quality standards for salinity in the Colorado River. The Secretary of Agriculture has a vital role in meeting that commitment. We urge the Subcommittee to remind the Secretary of Agriculture of his obligations under that Federal commitment as he makes decisions about national conservation priority areas and priority resource concerns. The intention of Public Law 104–127 is that the nation's agricultural programs be "locally led and driven" and we agree with that approach. Since the enactment of that law, however, the Salinity Control Program has not been funded at a level adequate to ensure that the water quality standards for salinity in the Colorado River can be maintained at or below the numeric criteria levels specified in the standard.

The Colorado River Basin States have urged the U.S. Department of Agriculture to designate the Colorado River Salinity Control Program as a national conservation priority area as provided for in the USDA's promulgated regulations for the EQIP. Although numerous requests have been made for this designation, the response has been that there is not adequate EQIP funding. An authorization for EQIP funding in the amount of an additional $100,000,000 in fiscal year 2000 above the $200,000,000-level minimum specified in Public Law 104–127 is both appropriate and needed.

I accordingly request that this committee support the borrowing of $300,000,000 from the Commodity Credit Corporation (CCC) in fiscal year 2000 for the EQIP Pro-

gram, and that the Congress advise the Administration to designate $12,000,000 of the EQIP funding for the Colorado River Basin Salinity Control Program. I thank you for the opportunity to submit this testimony and would request, in addition to your consideration of its contents, that you make it a part of the formal hearing record concerning fiscal year 2000 appropriations for the Department of Agriculture. In accordance with the Subcommittee's direction, I have submitted five copies of this statement.

PREPARED STATEMENT OF THE YUKON RIVER DRAINAGE FISHERIES ASSOCIATION

Requesting $1,000,000 to support marketing of Yukon River salmon to compete against foreign production of farmed and hatchery salmon.

ABSTRACT

The Yukon River Drainage Fisheries Association (YRDFA) seeks $1,000,000 in funding for development, marketing and promotion of Yukon River salmon products to compete against foreign production of farmed and hatchery salmon. Funds would be utilized by the Association over a multi-year period to market and promote Yukon River chinook, chum and coho salmon as well as value-added products and caviar. This funding would enable Yukon River salmon products to regain foreign and domestic market share lost to farmed and hatchery salmon produced and subsidized by such countries as Norway, Chile, Japan, Canada, and the U.K. Funds could be authorized through the Agricultural Marketing Service or the Trade Adjustment Assistance Act.

INTRODUCTION

The Yukon River Drainage Fisheries Association was formed in December 1990 and unites diverse groups of commercial, subsistence and sport users of salmon amongst the 42 communities along the river and its tributaries in Alaska. The YRDFA has a 16 member Board of Directors with seats apportioned amongst the various areas of the drainage. The Board operates on a consensus basis and works to craft workable cooperative solutions on a variety of regulatory, management and allocation issues.

The YRDFA'S YUKON RIVER SALMON Marketing Program began in January 1996 and has been funded through a variety of small grants (less than $40K each) administered by agencies of the State of Alaska. These include the Department of Community & Regional Affairs, the Department of Commerce & Economic Development and the Alaska Science & Technology Foundation. From its beginning through fiscal year 1999, YRDFA will have received only $121,534 over these last four years for its marketing program.

With these minimal funds YRDFA designed and implemented the basics of marketing program. Just as YRDFA unites the diverse commercial, subsistence and sport fishermen of the Yukon, its YUKON RIVER SALMON Marketing Program unifies all Yukon processors and all Yukon salmon product forms under one umbrella organization. YRDFA has made significant progress in developing name recognition for Yukon River salmon products and in developing market niches that demand Yukon River salmon. Specifically, YRDFA has: generated significant market demand amongst Seattle-area white tablecloth restaurants for Yukon River king salmon; generated market demand for Yukon River chum salmon in Pacific Northwest retail market; increased public and media familiarity with Yukon River salmon and its key attributes; high oil content and excellent meat color.

Unfortunately, neither YRDFA nor Yukon River processors have enough marketing funds to compete against the flood of foreign farmed and hatchery salmon in both the domestic and foreign marketplace. Major market share has already been lost especially in Europe, Japan and in the United States.

IMPACTS OF FOREIGN PRODUCTION OF FARMED AND HATCHERY SALMON ON U.S. HARVESTS AND PRODUCTION OF YUKON RIVER SALMON

Foreign farmed salmon

As Congress may be aware, the salmon market has changed dramatically over the last decade. Prior to 1990, Alaska produced the bulk of salmon harvested throughout the world and the farmed salmon industry was only just beginning. In just a few short years, however, farmed salmon began to dominate not only in terms of total production but also in manufacturing high-quality salmon products such as boneless fillets and portions. By 1997, farmed salmon had climbed to more than 50 percent of total world salmon production.

Major farmed salmon producers include Norway, Chile, Canada and the United Kingdom. In contrast to wild salmon which is harvested and produced by thousands of individual fishermen and processors acting as small businesses, farmed salmon is produced by vertically-integrated conglomerates that produce, harvest and process the salmon into final consumer ready product forms. In many cases, these farmed salmon producers are also supported by generous government subsidies, both direct and indirect.

The specific effects of this boom in foreign farmed salmon production on harvests and sales of Yukon River salmon products are as follows:

—complete displacement of frozen Yukon salmon sales to European smoked salmon producers. These smokers used to buy numerous 40,000-lb. van loads of frozen Yukon salmon, particularly chum salmon but now they buy fresh lots of farmed salmon on a weekly basis especially from Norway and the U.K.

—substantial displacement of frozen Yukon chum and coho salmon sales to Japan. Traditionally, Japan was the main importer of Yukon River salmon. Indeed, Japan continues to purchase most of the Yukon king salmon harvest quota. However, due to imports of Norwegian and Chilean farmed salmon, Japan no longer purchases any Yukon summer chum salmon and buys only small lots of fall chum salmon.

—substantial displacement of fresh and frozen Yukon salmon sales to U.S. domestic distributor, retail and smoker operations, particularly on the U.S. east coast. Although retail grocery chains still purchase small lots of fresh Yukon chum salmon, they no longer purchase hardly any frozen Yukon salmon and their fresh purchases are much smaller than they were in the 1980s. Now these retailers carry fresh, farmed salmon year round and smoked operations, particularly on the U.S. east coast, have switched to farmed salmon almost exclusively.

Foreign hatchery salmon

Although the growth of foreign hatchery production is not as dramatic as that of farmed salmon, the impacts on Yukon River salmon fisheries have been almost as devastating. Since its citizens consume large amounts of salmon and salmon roe Japan has always had a large hatchery salmon program and from the early 1970s through 1982 annual chum salmon returns (catch + hatchery broodstock for escapement) ranged from 10 million to 30 million fish. However, in the last two decades Japan has more than doubled its production with harvests in 1988 reaching 51 million chum salmon, reaching 69 million fish in 1994, 78 million fish in 1995, 87 million fish in 1996 and 85 million fish in 1997. Production of chum salmon in government-supported hatcheries in British Columbia has also grown dramatically.

Due to this high production, particularly in the 1990s Japan now buys few Yukon chum salmon even though as recently as the late 1980s it would buy in excess of 3 million pounds annually. In the United States in recent years processors have been reluctant to buy and freeze any Yukon chum salmon, in part due to the glut of hatchery chum salmon from B.C.

The specific effects of this steady expansion in foreign hatchery salmon production on harvests and sales of Yukon River salmon products are as follows:

—substantial displacement of frozen Yukon chum salmon sales to Japan. As described above, farmed salmon from Norway and Chile have helped to displace Yukon salmon from the Japanese market. Japan's own massive hatchery chum salmon production has since 1990 completely glutted even Japan's own large salmon market and now Yukon summer chum are now no longer imported at all.

—new competition from imports of Japanese hatchery chum salmon and British Columbia hatchery chum salmon. In 1997 Japan's production of hatchery chum salmon was so large that Japanese companies began exporting their chum salmon direct to the U.S. at extremely low wholesale prices, in some cases below $0.70/lb., FOB-Seattle compared to Yukon chum at $1.10/lb., FOB-Seattle. In 1998, due to booming chum production in B.C., these chums were being sold in Seattle at only $0.20/lb. compared to Yukon chums at $1.25/lb.

—substantial displacement of Yukon chum salmon roe (caviar) to Japan. Since all of Japan's chum salmon production is of hatchery origin, many of the fish are harvested in terminal bays. This means that the fish are sexually mature and the roe is harvested for processing into ikura caviar. In the middle and upper Yukon, harvests of summer chum and fall chum have dwindled as the wholesale price for chum salmon roe has fallen due to the dramatic growth in Japan's hatchery chum salmon returns. Ex-vessel prices to Yukon fishermen have fallen from a normal price (ca. 1990) of $4/lb. down to $1/lb. in 1998. Production of British Columbia chums also act to drag down the wholesale price of salmon roe.

FEDERAL SUPPORT FOR YUKON RIVER SALMON MARKETING CAN HELP THE U.S. REGAIN DOMESTIC AND FOREIGN MARKET SHARE.

It is clear that foreign competition has dramatically hurt harvests and sales of Yukon River salmon. This competition has caused severe economic losses to the 940 commercial salmon permit holders and the 12–15 companies that buy and process salmon annually on the Yukon. Annual incomes have declined steeply and in some fishing areas processors have not bought any salmon from the fishermen due to the low wholesale prices caused by the glut of foreign salmon.

However, as the results of YRDFA's own marketing efforts in the Pacific Northwest show, it is very possible for Yukon River salmon to develop additional market niches in areas such as Europe and in select high-end markets in the United States.

European market potential

After many years of market domination by Norwegian and U.K. farmed salmon, European salmon consumers are beginning to look for something different. Concerns over the ecological effects of farmed salmon production as well general consumer trends towards more "natural" and "organic" foods have led to renewed interest in wild salmon. German consumers in particular are fascinated with things Alaskan as the high percentage of German tourists visiting Alaska indicate.

Concentrated efforts in the high-end, gourmet market could create a market niche for fresh and flash-frozen Yukon River salmon fillets, smoked Yukon River salmon and Yukon River salmon caviar. Marketing and promotional efforts would emphasize the health and nutrition benefits of Yukon River salmon which is all-natural and organic wild salmon compared to farmed salmon which live in pens, are fed pellets and are occasionally given antibiotics.

Japanese market potential

Japanese consumers have a long familiarity with Yukon River salmon. Yukon River king salmon already have a unique market niche in Japan due to their high oil content and Japanese corporations continue to buy the majority of the annual Yukon king salmon harvest. However, as described above, imports of Yukon chum salmon and Yukon caviar have slipped due to the glut of hatchery chum salmon on the market. YRDFA's promotional efforts will therefore concentrate on developing a market niche for these underutilized chum by building on the customer loyalty already shown for Yukon king salmon.

Regaining Yukon salmon market share in the domestic marketplace

As YRDFA's success in the Seattle market shows, once customers are educated as to the unique attributes of Yukon River salmon they are willing to pay the higher costs rather than purchase a generic, farmed salmon. Although U.S. retail and foodservice operations have come to rely on steady deliveries of farmed salmon, they recognize that they need wild salmon to generate customer foottraffic and market excitement and hence overall increased sales of salmon and non-salmon items. YRDFA will seek to expand its domestic marketing outside the Pacific Northwest to high-end restaurant and gourmet shops that are seeking to diversify their menu and product offerings.

Budget Estimate (October 2000-September 2003):

Marketing Personnel & Office Expenses	$300,000
Travel & Tradeshows	150,000
Advertising & Educational Materials	100,000
Quality Improvements & Inspections	210,000
Customer Development & Promotions	200,000
Legal counsel & Trademarking	40,000
Total	1,000,000

If this appropriation is funded, YRDFA's intent would be to implement a four-year program to regain market share lost to foreign competition. In addition to tradeshows, advertising and promotional expenses to secure and support customer use of Yukon River salmon, YRDFA will also institute a rigorous quality assurance program amongst Yukon River salmon fishermen and processors to ensure that the customer gets only top-quality salmon product.

We hope that the Congress can fund this request. The livelihoods of 1,000 Yukon River commercial fishermen and crew and their families are in the balance, and if we cannot compete against this foreign salmon production our industry will die.

Thank you for this opportunity to submit written testimony.

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