

100 percent pure, type “Q” (for quarantine use only) methyl bromide per 1,000 cubic feet of chamber space.¹⁰ However, if, prior to treatment, representative sampling reveals a level of infestation greater than 0.5 percent for the lot, then the fruit is ineligible for treatment.

(c) *Premises.* Fields, groves, or areas that are located within a quarantined area but outside the infested core area and that produce regulated articles may receive regular treatments with either malathion or spinosad bait spray as an alternative to treating the regulated articles with methyl bromide fumigation or those treatments provided in part 305 of this chapter. These treatments must take place at 6-to 10-day intervals, starting a sufficient time before harvest (but not less than 30 days before harvest) to allow for development of sapote fruit fly egg and larvae. Determination of the time period must be based on the day degrees model for sapote fruit fly. Once treatment has begun, it must continue through the harvest period. The malathion bait spray treatment must be applied by aircraft or ground equipment at a rate of 2.4 oz of technical grade malathion and 9.6 oz of protein hydrolysate per acre. The spinosad bait spray treatment must be applied by aircraft or ground equipment at a rate of 0.01 oz of a USDA-approved spinosad formulation and 48 oz of protein hydrolysate per acre. For ground applications, the mixture may be diluted with water to improve coverage.

[68 FR 24610, May 8, 2003, as amended at 70 FR 33269, June 7, 2005]

¹⁰Dosage is based upon chamber volume, not the volume of the fruit being treated. Fruit should be in cartons approved for fumigation. Cartons must be placed on pallets. There should be an air space of at least 1 foot between adjacent pallet loads; at least 1 foot between chamber walls and the nearest carton of fruit; and at least 2 feet between the height of the stack and the ceiling of the chamber. The compressed liquid methyl bromide inside the cylinder must be put through a volatilizer prior to injection into the chamber. Water temperature in the volatilizer must never fall below 65.6 °C (150 °F) at any time during gas injection.

PART 302—DISTRICT OF COLUMBIA; MOVEMENT OF PLANTS AND PLANT PRODUCTS

Sec.

302.1 Definitions.

302.2 Movement of plants and plant products.

AUTHORITY: 7 U.S.C. 7701-7772 and 7781-7786; 7 CFR 2.22, 2.80, and 371.3.

SOURCE: 66 FR 1016, Jan. 5, 2001, unless otherwise noted.

§ 302.1 Definitions.

Inspector. Any employee of the Animal and Plant Health Inspection Service or other person authorized by the Administrator to inspect and certify the plant health status of plants and products under this part.

Interstate. From any State into or through any other State.

State. The District of Columbia, Puerto Rico, the Northern Mariana Islands, or any State, territory, or possession of the United States.

§ 302.2 Movement of plants and plant products.

Inspection or documentation of the plant health status of plants or plant products to be moved interstate from the District of Columbia may be obtained by contacting the State Plant Health Director, Plant Protection and Quarantine, APHIS, Wayne A. Cawley, Jr. Building, Room 350, 50 Harry S. Truman Parkway, Annapolis, MD 21401-7080; phone: (410) 224-3452; fax: (410) 224-1142.

[66 FR 54641, Oct. 30, 2001]

PART 305—PHYTOSANITARY TREATMENTS

Sec.

305.1 Definitions.

305.2 Approved treatments.

305.3-305-4 [Reserved]

Subpart—Chemical Treatments

305.5 Treatment requirements.

305.6 Methyl bromide fumigation treatment schedules.

305.7 Phosphine treatment schedules.

305.8 Sulfuryl fluoride treatment schedules.

305.9 Aerosol spray for aircraft treatment schedules.

- 305.10 Treatment schedules for combination treatments.
- 305.11 Miscellaneous chemical treatments.
- 305.12–14 [Reserved]

Subpart—Cold Treatments

- 305.15 Treatment requirements.
- 305.16 Cold treatment schedules.

Subpart—Quick Freeze Treatments

- 305.17 Authorized treatments; exceptions.
- 305.18 Quick freeze treatment schedule.
- 305.19 [Reserved]

Subpart—Heat Treatments

- 305.20 Treatment requirements.
- 305.21 Hot water dip treatment schedule for mangoes.
- 305.22 Hot water immersion treatment schedules.
- 305.23 Steam sterilization treatment schedules.
- 305.24 Vapor heat treatment schedules.
- 305.25 Dry heat treatment schedules.
- 305.26 Khapra beetle treatment schedule for feeds and milled products.
- 305.27 Forced hot air treatment schedules.
- 305.28 Kiln sterilization treatment schedule.
- 305.29 Vacuum heat treatment schedule.
- 305.30 [Reserved]

Subpart—Irradiation Treatments

- 305.31 Irradiation treatment of imported fruits and vegetables for certain fruit flies and mango seed weevils.
- 305.32 Irradiation treatment of regulated fruit to be moved interstate from areas quarantined for Mexican fruit fly.
- 305.33 Irradiation treatment of regulated articles to be moved interstate from areas quarantined for Mediterranean fruit fly.
- 305.34 Administrative instructions prescribing methods for irradiation treatment of certain fruits and vegetables from Hawaii.
- 305.35–305.39 [Reserved]

Subpart—Treatments for Garbage

- 305.40 Garbage treatment schedules for insect pests and pathogens.
- 305.41 [Reserved]

Subpart—Miscellaneous Treatments

- 305.42 Miscellaneous treatment schedules.

AUTHORITY: 7 U.S.C. 7701–7772 and 7781–7786; 21 U.S.C. 136 and 136a; 7 CFR 2.22, 2.80, and 371.3.

SOURCE: 70 FR 33269, June 7, 2005, unless otherwise noted.

§ 305.1 Definitions.

The following definitions apply for the purposes of this part:

Administrator. The Administrator, Animal and Plant Health Inspection Service, United States Department of Agriculture, or any person delegated to act for the Administrator in matters affecting this part.

APHIS. The Animal and Plant Health Inspection Service, United States Department of Agriculture.

Autoclaving. The introduction of steam at 212 °F into a pressurized enclosure containing a commodity to kill spores and other treatment-resistant pests.

Cold treatment. Exposure of a commodity to a specified cold temperature that is sustained for a specific time period to kill targeted pests, especially fruit flies.

Dose mapping. Measurement of absorbed dose within a process load using dosimeters placed at specified locations to produce a one-, two-, or three-dimensional distribution of absorbed dose, thus rendering a map of absorbed-dose values.

Dosimeter. A device that, when irradiated, exhibits a quantifiable change in some property of the device that can be related to absorbed dose in a given material using appropriate analytical instrumentation and techniques.

Dosimetry system. A system used for determining absorbed dose, consisting of dosimeters, measurement instruments and their associated reference standards, and procedures for the system's use.

Forced hot air. Hot air blown uniformly across commodities in a shipment until the pulp of each unit in the shipment of the commodity reaches a specified temperature.

Fumigant. A gaseous chemical that easily diffuses and disperses in air and is toxic to the target organism.

Fumigation. Releasing and dispersing a toxic chemical in the air so that it reaches the target organism in a gaseous state.

Hitchhiker pest. A pest that is carried by a commodity or a conveyance and, in the case of plants and plant products, does not infest those plants or plant products.

Hot water immersion dip. Complete immersion of a commodity in heated water to raise the temperature of the commodity to a specific temperature for a specified time. This treatment is usually used to kill fruit flies.

Inspector. Any individual authorized by the Administrator of APHIS or the Commissioner of Customs and Border Protection, Department of Homeland Security, to enforce the regulations in this part.

Irradiation. The use of irradiated energy to kill or devitalize organisms.

Methyl bromide. A colorless, odorless biocide used to fumigate a wide range of commodities.

Phosphine. Flammable gas generated from either aluminum phosphide or magnesium phosphide and used to treat stored product commodities.

Quick freeze. A commercially acceptable method of quick freezing at sub-zero temperatures with subsequent storage and transportation at not higher than 20 °F. Methods that accomplish this are known as quick freezing, sharp freezing, cold pack, or frozen pack, but may be any equivalent commercially acceptable freezing method.

Section 18 of Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). An emergency exemption granted by the U.S. Environmental Protection Agency to Federal or State agencies authorizing an unregistered use of a pesticide for a limited time.

Sulfuryl fluoride. An odorless, colorless, and nonflammable compressed fumigant that is used primarily to kill pests of wood.

Steam heat. The introduction of steam at 212 °F or higher into an enclosure containing a commodity to kill targeted organisms.

Vacuum fumigation. Fumigation performed in a gas-tight enclosure. Most air in the enclosure is removed and replaced with a small amount of fumigant. The reduction in pressure reduces the required duration of the treatment.

Vacuum heat treatment. The treated commodity is held in a gas-tight enclosure and heated to a specified temperature for a specific time period to kill targeted pests.

Vapor heat. Heated air saturated with water vapor and used to raise the temperature of a commodity to a required point for a specific period.

[70 FR 33269, June 7, 2005, as amended at 70 FR 36332, June 23, 2005]

§305.2 Approved treatments.

(a) Certain commodities or articles require treatment, or are subject to treatment, prior to the interstate movement within the United States or importation or entry into the United States. Treatment is required as indicated in parts 301, 318, and 319 of this chapter, on a permit, or by an inspector.

(1) Treatment schedules provided in this part must be followed to neutralize pests.

(2) More information about treatment schedules is contained in the Plant Protection and Quarantine (PPQ) Treatment Manual, which is available on the Internet at http://www.aphis.usda.gov/ppq/manuals/online_manuals.html or by contacting the Animal and Plant Health Inspection Service, Plant Protection and Quarantine, Manuals Unit, 69 Thomas Johnson Drive, Suite 100, Frederick, MD 21702.

(3) Treatment requirements provided in this part must be followed to adequately administer treatment schedules.

(4) APHIS is not responsible for losses or damages incurred during treatment and recommends that a sample be treated first before deciding whether to treat the entire shipment.

(b) *Alpha grass and handicrafts (Stipa tenacissima, Ampelodesmos mauritanicus).* For treatment schedules, see §305.6 for methyl bromide (MB) fumigation.

Pest	Treatment
<i>Harmolita</i> spp.	MB T304-a or MB T304-b.

(c) *Bags, bagging materials, and covers (used).* The treatment schedules for which administration instructions are not provided are in §305.6 for methyl bromide (MB) fumigation, §305.23 for steam sterilization (SS), and §305.25 for dry heat (DH).

§ 305.2

7 CFR Ch. III (1–1–06 Edition)

Used material	Pest	Treatment
Bags and bagging material or covers used to contain root crops.	<i>Globodera rostochiensis</i>	MB T306-a.
Bags and bagging used for commodities grown in soil.	Potato cyst nematode	MB T502-1.
Bags and bagging material or covers used for cotton only.	<i>Pectinophora</i> spp.	MB T306-b.
Bags and bagging used for small grains	Downy mildews and <i>Physoderma</i> diseases of maize.	T503-1-2: Soak in water slightly below boiling (212 °F) for 1 hour; or SS T503-1-3; or DH T503-1-4.
	Flag smut	DH T504-1-1 or SS T504-1-2.
Bags and bagging material or covers	<i>Trogoderma granarium</i>	MB T306-c-1 or MB T306-c-2.
Bagging from unroasted coffee beans	Various	MB T306-d-1 or MB T306-d-2.
Covers used for commodities grown in soil.	Potato cyst nematode	MB T502-2.
Covers used for small grains	Downy mildews and <i>Physoderma</i> diseases of maize.	T503-2-2: Soak in water slightly below boiling (212 °F) for 1 hour; or SS T503-2-3; or DH T503-2-4.
Covers used for wheat	Flag smut	DH T504-2-1 or SS T504-2-2.

(d) *Broomcorn and broomcorn articles.* The treatment schedules for which administration instructions are not provided are in §305.6 for methyl bromide (MB) fumigation and §305.23 for steam sterilization (SS).

Pest	Treatment
<i>Ostrinia nubilalis</i> , ticks, and saw flies.	MB T309-a or MB T309-b-1 or MB T309-b-2 or SS T309-c.

(e) *Cotton and cotton products.* The treatment schedules for which administration instructions are not provided are in §305.6 for methyl bromide (MB) fumigation and §305.7 for phosphine (PH).

Pest	Treatment
Corn-related diseases (precautionary treatment).	T566-1 (broomcorn) and T566-2 (broomcorn articles): Completely submerge in hot water at 102 °F.

Material	Pest	Treatment
Baled lint or linters	<i>Pectinophora</i> spp.	MB T301-a-3.
Baled lint, linters, waste, piece goods, gin trash.	<i>Trogoderma granarium</i>	MB T301-b-1-1 or MB T301-b-1-2.
Cottonseed (samples and bulk)	<i>Pectinophora</i> spp.	T301-a-7: (1) Delint the cottonseed by applying sufficient heat (145 °F) or acid or both; or (2) raise the temperature of the delinted seed during the subsequent drying process to 145 °F for no less than 45 seconds or at least 140 °F for no less than 8 minutes.
Cottonseed, cottonseed products, or samples.	<i>T. granarium</i>	MB T301-b-2.
Cottonseed meal	<i>T. granarium</i>	MB T301-b-3.
Cotton and cotton products	<i>Globodera rostochiensis</i>	MB T301-c.
Cotton and cotton products	<i>Anthonomus grandis</i>	MB T301-d-1-1 or PH T301-d-1-2.
Lint, linters, cottonseed, cottonseed hulls, gin trash, waste, cottonseed meal, or other baled or bulk commodities (except samples).	<i>Pectinophora</i> spp.	MB T301-a-1-1 or MB T301-a-1-2.
Lint, linters, and cottonseed (bulk, sacked, or packaged cottonseed, lint or linters, cottonseed hulls, gin trash, and all other baled or bulk cotton commodities).	<i>Pectinophora</i> spp.	PH T301-a-6.
Lint (except baled lint or linters), cottonseed (except packaged cottonseed), cottonseed hulls, gin trash, waste, cottonseed meal, or other baled or bulk commodities (excluding samples).	<i>Pectinophora</i> spp.	MB T301-a-2.
Packaged cottonseed	<i>Pectinophora</i> spp.	MB T301-a-4.
Samples of cotton and cotton products	<i>Pectinophora</i> spp.	MB T301-a-5-1 or MB T301-a-5-2.

(f) *Cut flowers and greenery.* The treatment schedules for which administration instructions are not provided are in §305.6 for methyl bromide (MB) fumigation.

Pest	Treatment
External feeders, leafminers, hitchhikers (except for snails and slugs), surface pests ...	MB T305-a.
Borers or soft scales	MB T305-b.

Pest	Treatment
Mealybugs	MB T305-c.

(g) *Equipment.* The treatment schedules for which administration instructions are not provided are in §305.6 for methyl bromide (MB) fumigation, §305.9 for aerosol, and §305.23 for steam sterilization (SS).

Article	Pest	Treatment
Aircraft	<i>Trogoderma granarium</i>	T409-a: Contact PPQ Regional Director for specific instructions. Aerosol T409-b.
	Hitchhiker pests (other than <i>T. granarium</i> , fruit flies, and soft-bodied insects).	
	Fruit flies and soft-bodied insects	Aerosol T409-c-1 or Aerosol T409-c-3.
Automobiles	<i>Globodera rostochiensis</i>	T406-c, steam cleaning: Steam at high pressure until all soil is removed. Treated surfaces must be thoroughly wet and heated.
Construction equipment with cabs	<i>G. rostochiensis</i>	MB T406-b.
Construction equipment without cabs	<i>G. rostochiensis</i>	SS T406-d.
Containers	<i>G. rostochiensis</i>	MB T406-b.
Containers	Potato cyst nematode	MB T506-1.
Field and processing equipment (<i>Saccharum</i>).	<i>Xanthomonas albilineans</i> and <i>X. vasculorum</i> .	T514-4: Remove all debris and soil from equipment with water at high pressure (300 pounds per square inch minimum) or with steam.
Mechanical cotton pickers and other cotton equipment.	<i>Pectinophora gossypiella</i>	MB T407.
Used farm equipment with cabs	<i>G. rostochiensis</i>	T406-c, steam cleaning: Steam at high pressure until all soil is removed. Treated surfaces must be thoroughly wet and heated.
Used farm equipment with cabs	<i>G. rostochiensis</i>	MB T406-b.
Used farm equipment without cabs	<i>G. rostochiensis</i>	SS T406-d.
Used containers	<i>G. rostochiensis</i>	SS T406-d.

(h) *Fruits and vegetables.* (1) Treatment of fruits and vegetables from foreign localities by irradiation in accordance with §305.31 may be substituted for other approved treatments for the mango seed weevil *Sternochetus mangiferae* (Fabricus) or for one or more of the following 11 species of fruit flies: *Anastrepha fraterculus*, *A. ludens*, *A. obliqua*, *A. serpentina*, *A. suspensa*, *Bactrocera cucurbitae*, *B. dorsalis*, *B. tryoni*, *B. jarvisi*, *B. latifrons*, and *Ceratitis capitata*.

(2) The treatment schedules for which administration instructions are not provided are in §305.6 for methyl

bromide (MB) fumigation, §305.10(a) for methyl bromide fumigation and cold treatment (MB&CT), §305.10(b) for cold treatment and methyl bromide fumigation (CT&MB), §305.11 for miscellaneous chemical treatments (CMisc.), §305.16 for cold treatment (CT), §305.18 for quick freeze, §305.21 for hot water dip (HWD), §305.22 for hot water immersion (HWI), §305.24 for vapor heat (VH), §305.27 for forced hot air (FHA), §305.29 for vacuum heat (VCH), §§305.31 through 305.34 for irradiation (IR), and §305.42 for miscellaneous (Misc.).

(i) *Treatment for shipments from foreign localities.*

Location	Commodity	Pest	Treatment schedule ¹
All	All imported fruits and vegetables.	Hitchhiker pests or surface pests, except mealybugs.	MB T104-a-1.
		Mealybugs	MB T104-a-2.
		Most	Quick freeze T110.
	Acorns, chestnuts (see §319.56-2b of this chapter).	<i>Cydia splendana</i> and <i>Curculio</i> spp..	MB T101-t-1 or MB T101-u-1.

Location	Commodity	Pest	Treatment schedule ¹
	Banana	External feeders such as Noctuidae spp., <i>Thrips</i> spp., <i>Copitarsia</i> spp..	MB T101–d–1.
	Beet	Internal feeders	MB T101–g–1.
	Beet	External feeders	MB T101–g–1–1.
	Blackberry	External feeders such as Noctuidae spp., <i>Thrips</i> spp., <i>Copitarsia</i> spp., <i>Pentatomidae</i> spp., and <i>Tarsonemus</i> spp..	MB T101–h–1.
	Broccoli (includes Chinese and rapini).	External feeders and leafminers.	MB T101–n–2.
	Brussel sprouts	External feeders and leafminers.	MB T101–n–2.
	Cabbage (European and Chinese).	External feeders	MB T101–j–1.
	Cabbage (bok choy, napa, Chinese mustard).	External feeders and leafminers.	MB T101–n–2.
	Cantaloupe	External feeders	MB T101–k–1.
	Carrot	External feeders	MB T101–l–1.
	Carrot	Internal feeders	MB T101–m–1.
	Cauliflower	External feeders and leafminers.	MB T101–n–2.
	Celeriac (celery root)	External feeders	MB T101–n–1.
	Celery (above ground parts) ..	External feeders	MB T101–o–1.
	Chayote (fruit only)	External feeders	MB T101–p–1.
	Cherry	Insects other than fruit flies ..	MB T101–r–1.
	Cherry	<i>Rhagoletis indifferens</i> and <i>Cydia pomonella</i> .	MB T101–s–1.
	Chicory (above ground parts)	External feeders	MB T101–v–1.
	Chicory root	External feeders	MB T101–n–1.
	Copra	External feeders	MB T101–x–1.
	Corn-on-the-cob	<i>Ostrinia nubilalis</i>	MB T101–x–1–1.
	Cucumber	External feeders	MB T101–y–1.
	Dasheen	External feeders	MB T101–z–1.
	Dasheen	Internal feeders	MB T101–a–2.
	Durian and other large fruits such as breadfruit.	External feeders	Misc. T102–c.
	Endive	External feeders	MB T101–b–2.
	Fava bean (dried)	Bruchidae	MB T101–c–2.
			MB T101–d–2.
	Garlic	<i>Brachycerus</i> spp. and <i>Dyspessa ulula</i> .	MB T101–e–2.
	Ginger (rhizome)	Internal feeders	MB T101–f–2.
	Ginger (rhizome)	External feeders	MB T101–g–2.
	Grapefruit and other citrus	<i>Aleurocanthus woglumi</i>	MB T101–j–2.
	Herbs and spices (dried)	Various stored product pests, except khapra beetle.	MB T101–n–2–1–1.
	Herbs, fresh (includes all fresh plant parts except seeds).	External feeders and leafminers..	
	Kiwi	External feeders, <i>Nysius huttoni</i> .	MB T101–m–2.
	Leeks	Internal feeders	MB T101–q–2.
	Lentils (dried)	Bruchidae	MB T101–e–1.
	Litchi	Mealybugs (Pseudococcidae)	MB T101–b–1–1.
	Lime	Mealybugs and other surface pests.	HWI T102–e.
	Melon (including honeydew, muskmelon, and watermelon).	External feeders such as Noctuidae spp., <i>Thrips</i> spp., <i>Copitarsia</i> spp..	MB T101–o–2.
	Onion	Internal feeders and leafminers.	MB T101–q–2.
	Papaya	<i>Cercospora mamaonis</i> and <i>Phomopsis carica-papayae</i> .	T561: Dip in hot water at 120.2 °F for 20 minutes.
	Parsnip	Internal feeders	MB T101–g–1.
	Peas (dried)	Bruchidae	MB T101–e–1.
	Pecans and hickory nuts	<i>Curculio caryae</i>	CT T107–g.
	Peppers	Internal pests (except fruit flies) and external pests (except mealybugs).	MB T101–a–3.
	Pineapple	Internal feeders	MB T101–r–2

Animal and Plant Health Inspection Service, USDA

§ 305.2

Location	Commodity	Pest	Treatment schedule ¹
	Plantain	External feeders such as Noctuidae spp., <i>Thrips</i> spp., <i>Copitarsia</i> spp..	MB T101-t-2.
	Potato (white or Irish)	<i>Graphognathus</i> spp.	MB T101-u-2.
	Potato (white or Irish)	<i>Ostrinia nubilalis</i> , <i>Phthorimaea operculella</i> .	MB T101-v-2.
	Pulses (dried)	Bruchidae	MB T101-e-1.
	Pumpkin (includes calabaza varieties).	External feeders	MB T101-w-2.
	Radish	Internal feeders	MB T101-g-1.
	Raspberry	External feeders such as Noctuidae spp., <i>Thrips</i> spp., <i>Copitarsia</i> spp..	MB T101-x-2.
	Shallots	Internal feeders including leafminers.	MB T101-q-2.
	Squash (winter, summer, and chayote).	External feeders	MB T101-y-2.
	Sweet potato	External and internal feeders	MB T101-b-3-1.
	Strawberry	External feeders	MB T101-z-2.
	Tuna and other cactus fruit ...	External feeders and leafminers.	MB T101-e-3.
	Turnip	Internal feeders	MB T101-g-1.
	Yam (see § 319.56-21 of this chapter).	Internal and external feeders	MB T101-f-3.
	Zucchini	<i>Ceratitis capitata</i> , <i>Bactrocera</i> <i>cucurbitae</i> , <i>B. dorsalis</i> .	VH T106-b-8.
	Zucchini	External feeders	MB T101-h-3.
Albania	Horseradish	<i>Baris lepidii</i>	MB T101-l-2.
Algeria	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2- 1.
		<i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB T101-h-2-1.
		<i>Bactrocera cucurbitae</i> , <i>B. dor-</i> <i>salis</i> , <i>B. tryoni</i> , <i>Brevipalpus</i> <i>chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108- a-2 or T108-a-3.
	Grapefruit, tangerine	<i>Ceratitis capitata</i>	CT T107-a.
	Pear, plum, ethrog	<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae</i> , <i>B. dor-</i> <i>salis</i> , <i>B. tryoni</i> , <i>Brevipalpus</i> <i>chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108- a-2 or T108-a-3.
Antigua and Barbuda	Bean (pod), pigeon pea (pod)	<i>Cydia fabivora</i> , <i>Epinotia</i> <i>aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
Argentina	Okra (pod)	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Apple, apricot, cherry, kiwi, peach, pear, plum, nec- tarine, quince, pomegranate.	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>), <i>Ceratitis capitata</i> .	CT T107-a-1.
	Blueberry	<i>Ceratitis capitata</i>	MB T101-i-1-1.
	Grape	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>), <i>Ceratitis capitata</i> .	CT T107-a-1.
		Insects other than <i>Ceratitis</i> <i>capitata</i> and <i>Lobesia</i> <i>botrana</i> .	MB T101-i-2.
Armenia	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB T101-h-2-1.
		<i>Bactrocera cucurbitae</i> , <i>B. dor-</i> <i>salis</i> , <i>B. tryoni</i> , <i>Brevipalpus</i> <i>chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108- a-2 or T108-a-3.
Australia	Horseradish	<i>Baris lepidii</i>	MB T101-l-2.
	Apple	<i>Austrortrix</i> spp. and <i>Epiphyas</i> spp., <i>Bactrocera</i> <i>tryoni</i> , <i>Ceratitis capitata</i> , and other fruit flies.	CT&MB T109-d-1.
		<i>Bactrocera tryoni</i>	CT T107-d.
		Tortricidae	MB T101-a-1.
		External feeders, apple moth	MB T101-a-1.

Location	Commodity	Pest	Treatment schedule ¹
	Asparagus	External feeders such as <i>Noctuidae</i> spp., <i>Thrips</i> spp. (except <i>Scirtothrips dorsalis</i> from Thailand), <i>Copitarsia</i> spp., <i>Halotydeus destructor</i>	MB T101–b–1. T101–b–1–1. CT T107–d.
	Citrus—oranges, grapefruits, limes, lemons, mandarins, satsumas, tangors, tan- gerines, and other fruits grown from this species or its hybrids (<i>C. reticulata</i>).	<i>Bactrocera tryoni</i>	
	Citrus—oranges, grapefruits, limes lemons, mandarins, satsumas, tangors, tan- gerines, and other fruits grown from this species or its hybrids (<i>C. reticulata</i>).	<i>Ceratitis capitata</i>	CT T107–a.
	Grape	<i>Austrotortrix</i> spp. and <i>Epiphyas</i> spp., <i>Bactrocera</i> <i>tryoni</i> , <i>Ceratitis capitata</i> , and other fruit flies.	MB&CT T108–b or CT&MB T109–d–1.
	Kiwi	<i>Bactrocera tryoni</i>	CT T107–d.
	Pear	<i>Austrotortrix</i> spp., <i>Epiphyas</i> spp., <i>Bactrocera tryoni</i> , <i>Ceratitis capitata</i> , and other fruit flies.	CT&MB and T109–d–1.
		<i>Bactrocera tryoni</i>	CT T107–d.
		Tortricidae	MB T101–a–1.
Austria	Grape	<i>Lobesia botrana</i>	MB T101–h–2.
		<i>Ceratitis capitata</i>	CT T107–a or MB T101–h–2– 1.
		<i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB T101–h–2–1.
		<i>Bactrocera cucurbitae</i> , <i>B. dor-</i> <i>salis</i> , <i>B. tryoni</i> , <i>Brevipalpus</i> <i>chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108– a–2 or T108–a–3.
Aruba	Horseradish	<i>Baris lepidii</i>	MB T101–1–2.
	Bean, garden (pod or shelled)	<i>Cydia fabivora</i> , <i>Epinotia</i> <i>aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101–k–2 or MB T101–k– 2–1.
	Green bean	<i>Cydia fabivora</i> , <i>Epinotia</i> <i>aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101–k–2.
Azerbaijan	Grape	<i>Lobesia botrana</i>	MB T101–h–2.
		<i>Ceratitis capitata</i>	CT T107–a or MB T101–h–2– 1.
		<i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB T101–h–2–1.
		<i>Bactrocera cucurbitae</i> , <i>B. dor-</i> <i>salis</i> , <i>B. tryoni</i> , <i>Brevipalpus</i> <i>chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108– a–2 or T108–a–3.
Bahamas	Horseradish (to Hawaii)	<i>Baris lepidii</i>	MB T101–1–2.
	Bean (pod)	<i>Cydia fabivora</i> , <i>Epinotia</i> <i>aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101–k–2.
	Okra (pod)	<i>Pectinophora gossypiella</i>	MB T101–p–2.
	Pigeon pea (pod)	<i>Cydia fabivora</i> , <i>Epinotia</i> <i>aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101–k–2.
Barbados	Bean (pod or shelled), pigeon pea (pod).	<i>Cydia fabivora</i> , <i>Epinotia</i> <i>aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101–k–2.
	Okra (pod)	<i>Pectinophora gossypiella</i>	MB T101–p–2.
Belarus	Grape	<i>Lobesia botrana</i>	MB T101–h–2.
		<i>Ceratitis capitata</i>	CT T107–a or MB T101–h–2– 1.
		<i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB T101–h–2–1.

Animal and Plant Health Inspection Service, USDA

§ 305.2

Location	Commodity	Pest	Treatment schedule ¹
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Belgium	Horseradish	<i>Baris lepidii</i>	MB T101-1-2.
	Bean, garden (pod or shelled), pea (pod or shelled).	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
Belize	Horseradish (to Hawaii)	<i>Baris lepidii</i>	MB T101-1-2.
	Bean (pod or shelled), pigeon pea (pod or shelled).	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
	Carambola	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>).	CT T107-c.
	Ethrog	<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Grapefruit, orange, tangerine	<i>Anastrepha ludens</i>	CT T107-b.
	Papaya	<i>Ceratitis capitata</i> , <i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> .	FHA T103-d-2 (see §319.56-2(j) of this part).
Bolivia	Blueberry	<i>Ceratitis capitata</i>	MB T101-i-1-1.
Bosnia		<i>Ceratitis capitata</i>	CT T107-a.
	Ethrog	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Brazil	Horseradish	<i>Baris lepidii</i>	MB T101-1-2.
	Apple, grape (prohibited into California).	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>), <i>Ceratitis capitata</i> .	CT T107-a-1.
	Mango	<i>Ceratitis capitata</i> , <i>Anastrepha</i> spp., <i>Anastrepha ludens</i> .	HWD T102-a.
Bulgaria	Okra	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB T101-h-2-1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Cayman Islands	Horseradish	<i>Baris lepidii</i>	MB T101-1-2.
	Bean (pod or shelled), pigeon pea (pod).	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
Chile (all provinces except provinces of Region 1 or Chanaral Township of Region 3).	Okra (pod)	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Apricot, nectarine, peach, plum, plumcot.	External feeders	MB T101-a-3.
	Cherimoya	<i>Brevipalpus chilensis</i>	Misc. T102-b (see §319.56-2z of this chapter for additional treatment information)
	Grape	External feeders	MB T101-i-2-1.
	Horseradish (to Hawaii)	<i>Baris lepidii</i>	MB T101-1-2.
	Lemon (smooth skin)	External feeders, <i>Brevipalpus chilensis</i> .	MB T101-n-2-1.
	Lime	<i>Brevipalpus chilensis</i>	Misc. T102-b-1.
		External feeders, <i>Brevipalpus chilensis</i> .	MB T101-n-2-1.
	Passion fruit	<i>Brevipalpus chilensis</i>	Misc. T102-b-2.
Chile (all provinces of Region 1 or Chanaral Township of Region 3).	Tomato	External feeders	MB T101-a-3.
	Apple, cherry, pear, quince	<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Apricot	<i>Ceratitis capitata</i> and external feeders.	CT T107-a and MB T101-a-3.

Location	Commodity	Pest	Treatment schedule ¹
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
	Avocado	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
	Babaco (fruit)	<i>Ceratitidis capitata</i> , <i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> .	VH T106–b–3.
	Blueberry	External feeders	MB T103–d–1.
	Grape	<i>Ceratitidis capitata</i>	MB T101–i–1–1.
		<i>Ceratitidis capitata</i>	CT T107–a.
		External feeders	MB T101–i–2–1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
	Horseradish (to Hawaii)	<i>Baris lepidii</i>	MB T101–1–2.
	Kiwi	<i>Ceratitidis capitata</i>	CT T107–a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
	Lemon (smooth skinned)	External feeders, <i>Brevipalpus chilensis</i> .	MB T101–n–2–1.
	Lime	<i>Brevipalpus chilensis</i>	Misc. T102–b–2.
		External feeders, <i>Brevipalpus chilensis</i> .	MB T101–n–2–1.
	Loquat	<i>Ceratitidis capitata</i>	CT T107–a.
	Mango	<i>Anastrepha</i> spp., <i>Anastrepha ludens</i> , <i>Ceratitidis capitata</i> .	HWD T102–a.
	Mountain papaya	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitidis capitata</i> .	VH T106–b–3 or FHA T103–d–1.
	Nectarine	<i>Ceratitidis capitata</i>	CT T107–a.
		External feeders	MB T101–a–3.
	Papaya	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitidis capitata</i> .	VH T106–b–4 or FHA T103–d–2.
	Peach	<i>Ceratitidis capitata</i>	CT T107–a.
		External feeders	MB T101–a–3.
	Persimmon, sand pear	<i>Ceratitidis capitata</i>	CT T107–a.
	Plum, plumcot	<i>Ceratitidis capitata</i>	CT T107–a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
		External feeders	MB T101–a–3.
	<i>Opuntia</i> spp.	<i>Ceratitidis capitata</i>	MB T101–d–3.
	Tomato	<i>Scrobipalpula absoluta</i> , <i>Rhagoletis tomatidis</i> .	MB T101–c–3–1.
China	Litchi	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Conopomorpha sinensis</i> .	CT T107–h.
	Longan	<i>Bactrocera dorsalis</i> and <i>B. cucurbitae</i> .	CT T107–j.
	Pear (Ya variety), Shandong Province only.	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Eutetranychus orientalis</i> .	CT T107–f.
	Sand pear	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Eutetranychus orientalis</i> .	CT T107–f.
Colombia	Bean, garden	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101–k–2 or MB T101–k–2–1.
	Blueberry	<i>Ceratitidis capitata</i>	MB T101–i–1–1.
	Cape gooseberry	<i>Ceratitidis capitata</i>	CT T107–a.
	Grape	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>).	CT T107–c.
	Grapefruit, orange, plum, tangerine, pomegranate.	<i>Anastrepha ludens</i>	CT T107–b.
	Okra	<i>Pectinophora gossypiella</i>	MB T101–p–2.
	Tuna	<i>Ceratitidis capitata</i>	MB T101–d–3.
	Yellow pitaya	<i>Ceratitidis capitata</i> and <i>Anastrepha fraterculus</i> .	VH T106–e.

Animal and Plant Health Inspection Service, USDA

§ 305.2

Location	Commodity	Pest	Treatment schedule ¹
Costa Rica	Bean, garden	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2 or MB T101-k-2-1.
	Bean, lima (pod or shelled), pigeon pea (pod or shelled).	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
	Ethrog	<i>Ceratitidis capitata</i> <i>Bactrocera</i> MB&CT <i>cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	CT T107-a. T108-a-1 or T108-a-2 or T108-a-3.
	Grapefruit, orange, tangerine Mango	<i>Anastrepha ludens</i> <i>Ceratitidis capitata</i> , <i>Anastrepha</i> spp., <i>Anastrepha ludens</i> .	CT T107-b. HWD T102-a.
Croatia	Ethrog	<i>Ceratitidis capitata</i> <i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	CT T107-a. MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Cyprus	Horseradish	<i>Baris lepidii</i>	MB T101-1-2. CT T107-a.
	Ethrog	<i>Ceratitidis capitata</i> <i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Grape	<i>Lobesia botrana</i> <i>Ceratitidis capitata</i> <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> . <i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB T101-h-2. CT T107-a or MB T101-h-2-1. MB T101-h-2-1. MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Czech Republic	Grapefruit, orange, tangerine	<i>Ceratitidis capitata</i>	CT T107-a.
Denmark	Horseradish (to Hawaii)	<i>Baris lepidii</i>	MB T101-1-2.
Dominica	Bean (pod), pigeon pea (pod)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
Dominican Republic	Okra (pod)	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Bean (pod)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
	Goa bean (pod or shelled)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
	Grape	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>).	CT T107-c.
	Hyacinth bean	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2-1.
	Pigeon pea (pod or shelled)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , <i>Melanagromyza obtusa</i> and leafminers.	MB T101-k-2 or MB T101-k-2-1.
	Okra (pod) Yard long bean (pod)	<i>Pectinophora gossypiella</i> <i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-p-2. MB T101-k-2.
Ecuador	Apple	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>), <i>Ceratitidis capitata</i> . <i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	CT T107-a-1. MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Bean (pod or shelled), pigeon pea (pod or shelled).	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
	Blueberry	<i>Ceratitidis capitata</i>	MB T101-i-1-1.
	Ethrog	<i>Ceratitidis capitata</i>	CT T107-a.

Location	Commodity	Pest	Treatment schedule ¹
Egypt	Grapefruit, orange, tangerine	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
		Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>), <i>Ceratitidis capitata</i> .	CT T107–a–1.
	Mango	<i>Ceratitidis capitata</i> , <i>Anastrepha</i> spp., <i>Anastrepha ludens</i> .	HWD T102–a.
	Okra	<i>Pectinophora gossypiella</i>	MB T101–p–2.
	Pea (pod)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101–k–2 or MB T101–k–2–1.
	Grape	<i>Lobesia botrana</i>	MB T101–h–2.
		<i>Ceratitidis capitata</i>	CT T107–a or MB T101–h–2–1.
	Orange	<i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB T101–h–2–1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
	Pea (pod or shelled)	<i>Ceratitidis capitata</i>	CT T107–a.
Pear	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101–k–2 or MB T101–k–2–1.	
	<i>Ceratitidis capitata</i>	CT T107–a.	
El Salvador	Bean, garden and lima	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
		<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101–k–2 or MB T101–k–2–1.
	Ethrog	<i>Ceratitidis capitata</i>	CT T107–a.
	Grapefruit, orange, tangerine	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
Pigeon pea (pod or shelled)	<i>Anastrepha ludens</i>	CT T107–b.	
	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101–k–2.	
Estonia	Grape	<i>Lobesia botrana</i>	MB T101–h–2.
		<i>Ceratitidis capitata</i>	CT T107–a or MB T101–h–2–1.
		<i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB T101–h–2–1.
Finland	Horseradish	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
	Horseradish (to Hawaii)	<i>Baris lepidii</i>	MB T101–1–2.
France	Apple, pear	<i>Baris lepidii</i>	MB T101–1–2.
	Ethrog, kiwi	<i>Ceratitidis capitata</i>	CT T107–a.
Georgia, Republic of	Grape	<i>Ceratitidis capitata</i>	CT T107–a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
	Grape	<i>Lobesia botrana</i>	MB T101–h–2.
		<i>Ceratitidis capitata</i>	CT T107–a or MB T101–h–2–1.
		<i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB T101–h–2–1.
	Horseradish (to Hawaii)	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
Grape	<i>Baris lepidii</i>	MB T101–1–2.	
	<i>Lobesia botrana</i>	MB T101–h–2.	
	<i>Ceratitidis capitata</i>	CT T107–a or MB T101–h–2–1.	

Animal and Plant Health Inspection Service, USDA

§ 305.2

Location	Commodity	Pest	Treatment schedule ¹
Germany	Horseradish Grape	<i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB T101-h-2-1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
		<i>Baris lepidii</i>	MB T101-1-2.
		<i>Lobesia botrana</i>	MB T101-h-2.
Greece (includes Rhodes)	Horseradish Grape	<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB T101-h-2-1.
		<i>Bactrocera cucurbitae</i> , <i>E. B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
		<i>Baris lepidii</i>	MB T101-1-2.
Grenada	Horseradish Kiwi, tangerine, ethrog	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB T101-h-2-1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Guadeloupe, Dept of (FR) and St. Barthelemy.	Orange, pomegranate Bean (pod)	<i>Baris lepidii</i>	MB T101-1-2.
		<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
		<i>Ceratitis capitata</i>	CT T107-a.
Guatemala	Okra Pigeon pea (pod or shelled)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
		<i>Pectinophora gossypiella</i>	MB T101-p-2.
		<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
		<i>Pectinophora gossypiella</i>	MB T101-p-2.
Guyana	Pigeon pea (pod or shelled), bean (pod).	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
		<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
		<i>Anastrepha ludens</i>	CT T107-b.
Haiti	Grapefruit, orange, plum, tangerine. Mango Okra (pod) Pigeon pea (pod or shelled)	<i>Ceratitis capitata</i> , <i>Anastrepha</i> spp., <i>Anastrepha ludens</i> .	HWD T102-a.
		<i>Pectinophora gossypiella</i>	MB T101-p-2.
		<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
		<i>Ceratitis capitata</i>	MB T101-d-3.
Haiti	Tuna Apple, orange Bean (pod or shelled)	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>).	CT T107-c.
		<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
		<i>Pectinophora gossypiella</i>	MB T101-p-2.
		Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>).	CT T107-c.
Haiti	Okra (pod) Apricot, pomegranate Mango Bean (pod), pigeon pea (pod or shelled). Okra (pod)	<i>Ceratitis capitata</i> , <i>Anastrepha</i> spp., <i>Anastrepha ludens</i> .	HWD T102-a.
		<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
		<i>Pectinophora gossypiella</i>	MB T101-p-2.
		Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>).	CT T107-c.

Location	Commodity	Pest	Treatment schedule ¹
Hungary	Grape	<i>Lobesia botrana</i>	MB T101–h–2.
		<i>Ceratitis capitata</i>	CT T107–a or MB T101–h–2–1.
India	Horseradish	<i>Ceratitis capitata, Lobesia botrana.</i>	MB T101–h–2–1.
		<i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
Israel (includes Gaza)	Litchi (fruit)	<i>Baris lepidii</i>	MB T101–1–2.
		<i>Bactrocera cucurbitae, B. dorsalis Eutetranychus orientalis.</i>	CT T107–f.
Israel (includes Gaza)	Apple, apricot, nectarine, peach, pear, plum.	<i>Ceratitis capitata</i>	CT T107–a.
		<i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
	Avocado	<i>Bactrocera cucurbitae, B. dorsalis, Ceratitis capitata.</i>	MB T101–c–1.
	Brassica oleracea	External feeders and leafminers.	MB T101–n–2.
	Ethrog	<i>Ceratitis capitata</i>	CT T107–a.
		<i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
	Grape	<i>Lobesia botrana</i>	MB T101–h–2.
		<i>Ceratitis capitata</i>	CT T107–a or MB T101–h–2–1.
		<i>Ceratitis capitata, Lobesia botrana.</i>	MB T101–h–2–1.
		<i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
Grapefruit, litchi, loquat, orange, persimmon, pomegranate, pummelo, tangerine.	<i>Ceratitis capitata</i>	CT T107–a.	
Horseradish root (to Hawaii)	<i>Baris lepidii</i>	MB T101–1–2.	
Lettuce (leaf), field grown	External feeders and leafminers.	MB T101–n–2.	
Pea (pod or shelled)	<i>Cydia fabivora, Epinotia aporema, Maruca testulalis,</i> and leafminers.	MB T101–k–2.	
Italy	Tuna (fruit)	<i>Ceratitis capitata</i>	MB T101–d–3.
	Ethrog (North Atlantic ports only).	<i>Ceratitis capitata</i>	CT T107–a.
Italy	Grape	<i>Lobesia botrana</i>	MB T101–h–2.
		<i>Ceratitis capitata</i>	CT T107–a or MB T101–h–2–1.
	<i>Ceratitis capitata, Lobesia botrana.</i>	MB T101–h–2–1.	
	<i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	MB&CT T108–a–1 or T108–a–2 or T108–a–3.	
Grapefruit, orange, persimmon, tangerine.	<i>Ceratitis capitata</i>	CT T107–a.	
Horseradish	<i>Baris lepidii</i>	MB T101–1–2.	
Kiwi (fruit)	<i>Ceratitis capitata</i>	CT T107–a.	
Italy	Pea (pod or shelled)	<i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
		<i>Cydia fabivora, Epinotia aporema, Maruca testulalis,</i> and leafminers.	MB T101–k–2.
Jamaica	Tuna (fruit)	<i>Ceratitis capitata</i>	MB T101–d–3.
	Bean (pod), pigeon pea (pod)	<i>Cydia fabivora, Epinotia aporema, Maruca testulalis,</i> and leafminers.	MB T101–k–2.

Animal and Plant Health Inspection Service, USDA

§ 305.2

Location	Commodity	Pest	Treatment schedule ¹
Japan (includes Bonian Island, Ryukyu, Island Ryukyu Island, Tokara Island, Volcano Islands).	Ivy gourd (fruit)	<i>Cydia, fabivora, Epinotia aporema, Maruca testullis</i> , and leafminers.	MB T101-k-2.
	Okra (pod)	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Thyme	External feeders and leafminers.	MB T101-n-2.
Jordan	Apple (Fuji only)	<i>Carposina niponensis, Conogethes punctiferalis, Tetranychus viennensis, T. kanzawai</i> .	CT&MB T109-a-1 or T109-a-2.
	Cabbage (to Hawaii)	External feeders and leafminers.	MB T101-n-2.
Kazakhstan	Horseradish (to Hawaii)	<i>Baris lepidii</i>	MB T101-1-2.
	Apple, persimmon	<i>Ceratitis capitata</i>	CT T107-a.
	Grape	<i>Lobesia botrana, Ceratitis capitata, Ceratitis capitata, Lobesia botrana.</i>	MB T101-h-2.
Korea, Republic of (South)	Horseradish	<i>Ceratitis capitata, Lobesia botrana.</i>	CT T107-a or MB T101-h-2-1.
	Apple (Fuji only)	<i>Baris lepidii</i>	MB T101-1-2.
	Grape	<i>Carposina niponensis, Conogethes punctiferalis, Tetranychus viennensis, T. kanzawai.</i>	CT&MB T109-a-1 or T109-a-2.
Kyrgyzstan	Horseradish	<i>Lobesia botrana, Ceratitis capitata, Ceratitis capitata, Lobesia botrana.</i>	MB T101-h-2.
	Apple (Fuji only)	<i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	CT T107-a or MB T101-h-2-1.
	Grape	<i>Ceratitis capitata, Lobesia botrana.</i>	MB T101-h-2-1.
Latvia	Horseradish	<i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Apple	<i>Baris lepidii</i>	MB T101-1-2.
	Grape	<i>Lobesia botrana, Ceratitis capitata, Ceratitis capitata, Lobesia botrana.</i>	MB T101-h-2.
Lebanon	Horseradish	<i>Ceratitis capitata, Lobesia botrana.</i>	CT T107-a or MB T101-h-2-1.
	Apple	<i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	MB T101-1-2.
	Grape	<i>Ceratitis capitata, Lobesia botrana.</i>	CT T107-a.
Libya	Horseradish	<i>Lobesia botrana, Ceratitis capitata, Ceratitis capitata, Lobesia botrana.</i>	MB T101-h-2.
	Apple	<i>Ceratitis capitata, Lobesia botrana.</i>	MB T101-h-2.
	Grape	<i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	CT T107-a or MB T101-h-2-1.
Lithuania	Horseradish	<i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Apple	<i>Lobesia botrana, Ceratitis capitata, Ceratitis capitata, Lobesia botrana.</i>	MB T101-h-2.
	Grape	<i>Ceratitis capitata, Lobesia botrana.</i>	CT T107-a or MB T101-h-2-1.
Luxembourg	Horseradish	<i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Apple	<i>Baris lepidii</i>	MB T101-1-2.
	Grape	<i>Lobesia botrana</i>	MB T101-h-2.

Location	Commodity	Pest	Treatment schedule ¹
		<i>Ceratitis capitata</i>	CT T107–a or MB T101–h–2–1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB T101–h–2–1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
Macedonia	Ethrog	<i>Ceratitis capitata</i>	CT T107–a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
Martinique, Dept. of (FR)	Horseradish	<i>Baris lepidii</i>	MB T101–1–2.
	Ethrog	<i>Ceratitis capitata</i>	CT T107–a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
Mexico	Horseradish	<i>Baris lepidii</i>	MB T101–1–2.
	Apple, cherry, peach, plum, tangerine.	<i>Anastrepha ludens</i>	CT T107–b.
	<i>Brassica</i> spp., <i>Chenopodium</i> spp., cilantro.	External feeders such as <i>Noctuidae</i> spp., <i>Thrips</i> spp. (except <i>Scirtothrips dorsalis</i> from Thailand), <i>Copitarsia</i> spp..	MB T101–b–1.
	Carambola	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>).	CT T107–c.
	Grapefruit	<i>Anastrepha ludens</i>	CT T107–b.
		<i>Anastrepha</i> spp.	MB T101–j–2–1 or FHA T103–a–1 or VH T106–a–2.
	Horseradish	<i>Baris lepidii</i>	MB T101–1–2.
	Mango	<i>Anastrepha ludens</i>	VH T106–a–3.
		<i>Ceratitis capitata</i> , <i>Anastrepha</i> spp., <i>Anastrepha ludens</i> , <i>Anastrepha ludens</i> , <i>Anastrepha obliqua</i> , <i>Anastrepha serpentina</i> .	HWD T102–a.
	Okra	<i>Pectinophora gossypiella</i>	FHA T103–c–1.
	Orange	<i>Anastrepha ludens</i>	MB T101–p–2.
		<i>Anastrepha</i> spp.	CT T107–b.
		<i>Anastrepha</i> spp. (includes <i>Anastrepha ludens</i>).	MB T101–j–2–1 or FHA T103–a–1.
	Pigeon pea (pod or shelled), bean (pod or shelled).	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> .	VH T106–a–4.
	Tangerine	<i>Anastrepha</i> spp.	MB T101–k–2.
Moldova	Grape	<i>Lobesia botrana</i>	MB T101–j–2–1 or FHA T103–a–1 or VH T106–a–1 or VH T106–a–1–1.
		<i>Ceratitis capitata</i>	MB T101–h–2.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	CT T107–a or MB T101–h–2–1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB T101–h–2–1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
Montserrat	Horseradish	<i>Baris lepidii</i>	MB T101–1–2.
	Bean (pod), pigeon pea (pod)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101–k–2.
Morocco	Okra	<i>Pectinophora gossypiella</i>	MB T101–p–2.
	Apricot, peach, pear, plum	<i>Ceratitis capitata</i>	CT T107–a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
	Cipollino (bulb/wild onion)	<i>Exosoma lusitanica</i>	MB T101–w–1.
	Ethrog	<i>Ceratitis capitata</i>	CT T107–a.

Animal and Plant Health Inspection Service, USDA

§ 305.2

Location	Commodity	Pest	Treatment schedule ¹
Netherlands, Kingdom of	Grape	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
		<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB T101-h-2-1.
Netherlands, Kingdom of	Grapefruit, orange, tangerine	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Bean, garden	<i>Ceratitis capitata</i>	CT T107-a.
Netherlands Antilles (includes Bonaire, Curacao, Saba, St. Eustatius).	Horseradish (to Hawaii)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
		<i>Baris leptidii</i>	MB T101-1-2.
New Zealand	Bean (pod or shelled), pigeon pea (pod or shelled).	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
		<i>Baris leptidii</i>	MB T101-1-2.
Nicaragua	Apple	Tortricidae	MB T101-a-1.
	Asparagus	<i>Halotydeus destructor</i>	MB T101-b-1-1.
	Pear	Tortricidae	MB T101-a-1.
	Faba bean (pod), green bean (pod), mung bean (pod), pea (pod).	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2 or MB T101-k-2-1.
Norway	Mango	<i>Ceratitis capitata</i> , <i>Anastrepha</i> spp., <i>A. ludens</i> .	HWD T102-a.
	Yard-long-bean (pod)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , and <i>Maruca testulalis</i> .	MB T101-k-2 or MB T101-k-2-1.
Panama and canal zone	Horseradish (to Hawaii)	<i>Baris leptidii</i>	MB T101-1-2.
	Bean (garden) and lima (pod)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2 or MB T101-k-2-1.
Peru	Ethrog	<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Grapefruit, orange, tangerine	<i>Anastrepha ludens</i>	CT T107-b.
	Pigeon pea (pod or shelled)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
Philippines	Asparagus	External feeders	MB T101-b-1.
	Bean (pod or shelled)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
	Blueberry	<i>Ceratitis capitata</i>	MB T101-i-1-1.
	Grape	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>), <i>Ceratitis capitata</i> .	CT T107-a-1.
Poland	Mango	<i>Ceratitis capitata</i> , <i>Anastrepha</i> spp., <i>Anastrepha ludens</i> .	HWD T102-a.
	Okra (pod)	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Avocado	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	MB T101-c-1.
Portugal (includes Azores)	Mango	<i>Bactrocera occipitalis</i> and <i>B. philippinensis</i> .	VH T106-d-1.
	Horseradish	<i>Baris leptidii</i>	MB T101-1-2.
Portugal (includes Azores)	Bean, faba (pod or shelled)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
		<i>Ceratitis capitata</i>	CT T107-a.
	Ethrog	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
Portugal (includes Azores)	Grape	<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB T101-h-2-1.

Location	Commodity	Pest	Treatment schedule ¹
Romania	Horseradish (to Hawaii)	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
	Grape	<i>Baris lepidii</i> <i>Lobesia botrana</i> <i>Ceratitis capitata</i>	MB T101–1–2. MB T101–h–2. CT T107–a or MB T101–h–2–1.
Russian Federation	Horseradish	<i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB T101–h–2–1.
	Grape	<i>Ceratitis capitata</i> , <i>Eutetranychus orientalis</i> . <i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	CT T107–a. MB&CT T108–a–1 or T108–a–2 or T108–a–3.
Saint Kitts and Nevis	Horseradish	<i>Baris lepidii</i>	MB T101–1–2.
	Bean (pod), pigeon pea (pod)	<i>Lobesia botrana</i> <i>Ceratitis capitata</i>	MB T101–h–2. CT T107–a or MB T101–h–2–1.
Saint Lucia	Okra (pod)	<i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB T101–h–2–1.
	Bean (pod), pigeon pea (pod)	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
St. Martin (France and Netherlands).	Okra (pod)	<i>Baris lepidii</i>	MB T101–1–2.
	Bean (pod), pigeon pea (pod)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101–k–2.
Saint Vincent and the Grenadines.	Okra (pod)	<i>Pectinophora gossypiella</i>	MB T101–p–2.
	Bean (pod), pigeon pea (pod)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101–k–2.
Senegal	Okra (pod)	<i>Pectinophora gossypiella</i>	MB T101–p–2.
	Bean, garden (pod or shelled)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101–k–2 or MB T101–k–2–1.
Slovakia	Horseradish	<i>Baris lepidii</i>	MB T101–1–2.
Slovenia	Ethrog	<i>Ceratitis capitata</i> <i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	CT T107–a. MB&CT T108–a–1 or T108–a–2 or T108–a–3.
	Horseradish	<i>Baris lepidii</i>	MB T101–1–2.
South Africa	Apple, grape, pear	<i>Ceratitis capitata</i>	CT T107–a.
	Nectarine, peach, plum	<i>Cryptophlebia leucotreta</i> and <i>Pterandrus rosa</i> .	CT T107–e.
Spain	Citrus (fruit, Western Cape Province only).	<i>Cryptophlebia leucotreta</i> and <i>Pterandrus rosa</i> .	CT T107–e.
	Apple	<i>Ceratitis capitata</i> <i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	CT T107–a. MB&CT T108–a–1 or T108–a–2 or T108–a–3.
	Ethrog	<i>Ceratitis capitata</i> <i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	CT T107–a. MB&CT T108–a–1 or T108–a–2 or T108–a–3.
	Grape	<i>Lobesia botrana</i> <i>Ceratitis capitata</i>	MB T101–h–2. CT T107–a or MB T101–h–2–1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB T101–h–2–1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.

Animal and Plant Health Inspection Service, USDA

§ 305.2

Location	Commodity	Pest	Treatment schedule ¹
Suriname	Grapefruit, loquat, orange, tangerine.	<i>Ceratitis capitata</i>	CT T107-a.
	Horseradish	<i>Baris lepidii</i>	MB T101-l-2.
	Kiwi	<i>Ceratitis capitata</i>	CT T107-a.
	Lettuce (above ground parts)	External feeders and leafminers.	MB T101-n-2.
	Ortanique (fruit)	<i>Ceratitis capitata</i>	CT T107-a.
Sweden	Persimmon (fruit)	<i>Ceratitis capitata</i>	CT T107-a.
	Bean (pod or shelled)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
Switzerland	Okra (pod)	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Horseradish (to Hawaii)	<i>Baris lepidii</i>	MB T101-l-2.
Syrian Arab Republic	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB T101-h-2-1.
	Horseradish (to Hawaii)	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Ethrog	<i>Baris lepidii</i>	MB T101-l-2.
Taiwan		<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&T T108-a-1 or T108-a-2 or T108-a-3.
	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB T101-h-2-1.
Tajikistan	Carambola	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Eutetranychus orientalis</i> .	CT T107-f.
	Horseradish (to Hawaii)	<i>Baris lepidii</i>	MB T101-l-2.
Thailand	Litchi (including clusters of fruit attached to a stem).	<i>Bactrocera dorsalis</i> , <i>B. cucurbitae</i> , <i>Conopomorpha sinensis</i> .	CT T107-h.
	Mango	<i>Bactrocera dorsalis</i>	VH T106-d.
	Horseradish	<i>Baris lepidii</i>	MB T101-l-2.
	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
Trinidad and Tobago		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB T101-h-2-1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT 108-a-1 or T108-a-2 or T108-a-3.
Tunisia	Asparagus (shoot)	<i>Scirtothrips dorsalis</i>	MB T101-b-1-1.
	Bean (shelled), pigeon pea (shelled).	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
Tunisia	Grapefruit, orange, tangerine	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>).	CT T107-c.
	Okra, roselle	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Ethrog	<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Tunisia	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB T101-h-2-1.

Location	Commodity	Pest	Treatment schedule ¹
Turkey	Grapefruit, orange, tangerine Peach, pear, plum	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
		<i>Ceratitidis capitata</i>	CT T107–a.
	Ethrog	<i>Ceratitidis capitata</i>	CT T107–a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
Turkmenistan	Grape	<i>Lobesia botrana</i>	MB T101–h–2.
		<i>Ceratitidis capitata</i>	CT T107–a or MB T101–h–2–1.
	Orange	<i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB T101–h–2–1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
Ukraine	Grape	<i>Ceratitidis capitata</i>	CT T107–a.
		<i>Lobesia botrana</i>	MB T101–h–2.
	Horseradish	<i>Ceratitidis capitata</i>	CT T107–a or MB T101–h–2–1.
		<i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB T101–h–2–1.
United Kingdom (includes Channel Islands, Shetland Island).	Horseradish	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
		<i>Baris lepidii</i>	MB T101–1–2.
	Horseradish (to Hawaii)	<i>Lobesia botrana</i>	MB T101–h–2.
		<i>Ceratitidis capitata</i>	CT T107–a or MB T101–h–2–1.
Uruguay	Apple, nectarine, peach pear, plum.	<i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB T101–h–2–1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
	Grape	<i>Baris lepidii</i>	MB T101–1–2.
		<i>Baris lepidii</i>	MB T101–1–2.
Uzbekistan	Grape	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>), <i>Ceratitidis capitata</i> .	CT T107–a–1.
		<i>Lobesia botrana</i>	MB T101–h–2.
	Grape	<i>Ceratitidis capitata</i>	CT T107–a or MB T101–h–2–1.
		<i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB T101–h–2–1.
Venezuela	Grape	<i>Lobesia botrana</i>	MB T101–h–2.
		<i>Ceratitidis capitata</i>	CT T107–a or MB T101–h–2–1.
	Horseradish	<i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB T101–h–2–1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
Venezuela	Bean (pod or shelled), pigeon pea (pod or shelled).	<i>Baris lepidii</i>	MB T101–1–2.
		<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> .	MB T101–k–2 or MB T101–k–2–1.
	Grape, grapefruit, orange, tangerine.	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>), <i>Ceratitidis capitata</i> .	CT T107–a–1.
		<i>Ceratitidis capitata</i> , <i>Anastrepha</i> spp., <i>Anastrepha ludens</i> .	HWD T102–a.
Okra	<i>Pectinophora gossypiella</i>	MB T101–p–2.	

Animal and Plant Health Inspection Service, USDA

§ 305.2

Location	Commodity	Pest	Treatment schedule ¹
Zimbabwe	Apple, kiwi, pear Apricot, nectarine, peach, plum.	<i>Ceratitis capitata</i> <i>Cryptophlebia leucotreta</i> and <i>Pterandrus rosa</i> .	CT T107-a. CT T107-e.

¹ Treatment by irradiation in accordance with § 305.31 may be substituted for other approved treatments for the mango seed weevil *Sternochetus mangiferae* (Fabricus) or for one or more of the following 11 species of fruit flies: *Anastrepha fraterculus*, *A. ludens*, *A. obliqua*, *A. serpentina*, *A. suspensa*, *Bactrocera cucurbitae*, *B. dorsalis*, *B. tryoni*, *B. jarvisi*, *B. latifrons*, and *Ceratitis capitata*.

(ii) Treatment for shipments from U.S. quarantine localities.

Location	Commodity	Pest	Treatment schedule
Areas in the United States under Federal quarantine for the listed pest.	Fruit of the genera Citrus and Fortunella and of the species <i>Clausena lansium</i> and <i>Poncirus trifoliata</i> . Any fruit listed in § 301.64-2(a) of this chapter. Any article listed in § 301.78-2(a) of this chapter.	<i>Xanthomonas axonopodis</i> pv. <i>citri</i> . <i>Anastrepha ludens</i> <i>Ceratitis capitata</i>	CMisc. CC1 or CMisc. CC2. IR. IR.
Apple	Apple	<i>Anastrepha ludens</i> <i>Anastrepha</i> spp. (other than <i>A. ludens</i>). <i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> . <i>Ceratitis capitata</i>	CT T107-b. CT T107-a-1 or CT T107-c. MB&CT T108-a-1 or T108-a-2 or T108-a-3. CT T107-a or MB&CT T108-b.
Apricot	Apricot	<i>Anastrepha ludens</i> <i>Bactrocera dorsalis</i> , <i>Ceratitis capitata</i> . <i>Ceratitis capitata</i>	CT T107-b. MB&CT T108-a-1 or T108-a-2 or T108-a-3. CT T107-a.
Avocado	Avocado	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Bay leaves	Bay leaves	<i>Phytophthora ramorum</i>	VCH T111-a-1
Bell pepper	Bell pepper	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	VH T106-b-1.
Cherry	Cherry	<i>Bactrocera dorsalis</i> , <i>Ceratitis capitata</i> . <i>Ceratitis capitata</i>	MB&CT T108-a-1 or T108-a-2 or T108-a-3. CT T107-a.
Citrons	Citrons	<i>Anastrepha ludens</i> <i>Ceratitis capitata</i>	CT T107-b. CT T107-a.
Citrus	Citrus	<i>Anastrepha ludens</i> <i>Anastrepha</i> spp. (other than <i>A. ludens</i>). <i>Bactrocera dorsalis</i> <i>Ceratitis capitata</i>	FHA T103-a-1. CT T107-a-1, CT T107-c. MB&CTOFF or CT&MBOFF. CT T107-a or MB T101-w-1-2.
Citrus fruit regulated under § 301.78-2(a) of this chapter.	Citrus fruit regulated under § 301.78-2(a) of this chapter.	<i>Ceratitis capitata</i>	MB&CTMedfly or CTMedfly.
Citrus fruit regulated under § 301.99-2(b) of this chapter.	Citrus fruit regulated under § 301.99-2(b) of this chapter.	<i>Anastrepha serpentina</i>	MBSFF.
Eggplant	Eggplant	<i>Bactrocera cucurbitae</i> , <i>Ceratitis capitata</i> .	VH T106-b-2.
Grape	Grape	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> . <i>Bactrocera dorsalis</i> <i>Ceratitis capitata</i>	CT T107-f or MB&CT T108-a-1 or T108-a-2 or T108-a-3. MB&CTOFF or CT&MBOFF. MB T101-h-2-1 or CT T107-a or MB&CT T108-b.
Grapefruit	Grapefruit	<i>Anastrepha ludens</i>	CT T107-b or MB T101-j-2-1 or FHA T103-a-1.
Kiwi	Kiwi	<i>Ceratitis capitata</i> <i>Ceratitis capitata</i>	CT T107-a. CT T107-a or MB T101-m-2-1 or MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Litchi	Litchi	<i>Anastrepha ludens</i>	CT T107-b.
Longan	Longan	<i>Anastrepha ludens</i>	CT T107-b.
Loquat	Loquat	<i>Bactrocera dorsalis</i> <i>Ceratitis capitata</i>	CT T107-h. CT T107-a.

Location	Commodity	Pest	Treatment schedule
	Nectarine	<i>Bactrocera dorsalis</i>	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
		<i>Ceratitis capitata</i>	CT T107–a or CT T107–c or MB&CT T108–a–1 or T108–a–2 or T108–a–3.
	Okra	<i>Pectinophora gossypiella</i>	MB T101–p–2.
	Orange	<i>Anastrepha ludens</i>	CT T107–b MB T101–j–2–1 or FHA T103–a–1.
		<i>Ceratitis capitata</i>	CT T107–a or CT T107–c.
	Optunia cactus (<i>Optunia</i> spp.)	<i>Ceratitis capitata</i>	MB T101–d–3.
	Papaya	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	VH T106–c VH T106–b–4 or.
	Peach	<i>Anastrepha ludens</i>	CT T107–b.
		<i>Anastrepha</i> spp. (other than <i>A. ludens</i>).	CT T107–a–1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
		<i>Ceratitis capitata</i>	CT T107–a or T107–c.
	Pear	<i>Anastrepha ludens</i>	CT T107–b.
		<i>Anastrepha</i> spp. (other than <i>A. ludens</i>).	CT T107–a–1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
		<i>Ceratitis capitata</i>	CT T107–a or CT T107–c or MB&CT T108–b.
	Pepper, bell	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	VH T106–b–1.
	Persimmons	<i>Anastrepha ludens</i>	CT T107–b.
	Pineapple (other than smooth Cayenne).	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	VH T106–b–5.
	Plum	<i>Anastrepha ludens</i>	CT T107–b.
		<i>Bactrocera dorsalis</i>	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
		<i>Ceratitis capitata</i>	CT T107–a or CT T107–c or MB&CT T108–a–1 or T108–a–2 or T108–a–3.
	Pomegranate	<i>Anastrepha ludens</i>	CT T107–b.
		<i>Ceratitis capitata</i>	CT T107–a or CT T107–c.
	Pummelo	<i>Ceratitis capitata</i>	CT T107–a.
	Quince	<i>Anastrepha ludens</i>	CT T107–b.
		<i>Anastrepha</i> spp. (other than <i>A. ludens</i>).	CT T107–a–1.
		<i>Bactrocera dorsalis</i>	MB&CT T108–a–1 or T108–a–2 or T108–a–3.
		<i>Ceratitis capitata</i>	CT T107–a.
	Squash	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> .	VH T106–b–6.
	Tomato	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	VH T106–b–7.
		<i>Bactrocera dorsalis</i>	MBOFF.
		<i>Ceratitis capitata</i>	MB T101–c–3.
	White sapote	<i>Anastrepha ludens</i>	CT T107–b.
Hawaii	Abiu	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	IR.
	Atemoya	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	IR.
	Avocado	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	MB T101–c–1.
		<i>Ceratitis capitata</i>	CT T107–a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Ceratitis capitata</i> , <i>Brevipalpus chiliensis</i> , and <i>Lobesia botrana</i> .	CT T108–a–1 or T108–a–2 or T108–a–3.
	Bell pepper	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	IR or VH T106–b–1.
	Carambola	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	IR.
	Citrus	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	FHA T103–b–1.
	Eggplant	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	IR or VH T106–b–2.
	Litchi	<i>Bactrocera</i> or <i>dorsalis</i> , <i>Ceratitis capitata</i> .	HWI T102–d or VH T106–f.

Animal and Plant Health Inspection Service, USDA

§ 305.2

Location	Commodity	Pest	Treatment schedule
Puerto Rico	Longan	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	IR.
		<i>Bactrocera dorsalis</i> , <i>Ceratitis capitata</i> .	HWI T102-d-1.
	Mango	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	IR.
	Papaya	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	IR.
	Pineapple (other than smooth Cayenne).	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	VH T106-b-4 or VH T106-c or FHA T103-d-2 or IR.
	Rambutan	<i>Bactrocera dorsalis</i> , <i>Ceratitis capitata</i> .	IR or VH T106-b-5.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	FHA T103-e or VH T106-g.
	Sapodilla	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	IR.
	Squash, Italian	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	IR.
	Sweet potato	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	IR or VH T106-b-6.
	Tomato	<i>Euscepes postfasciatus</i> , <i>Omphisa anastomosalis</i> , <i>Elytrotreinus subtruncatus</i> .	MB T101-b-3-1 or IR.
		<i>Ceratitis capitata</i>	VH T106-b-5 or MB T101-c-3.
	Virgin Islands	Beans (string, lima, faba) and pigeon peas (fresh shelled or in the pod).	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i>.	IR or VH T106-b-7.
		<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , <i>Melanagromyza obtusa</i> , and leafminers.	MB T101-k-2 or MB T101-k-2-1.
Citrus fruits (orange, grapefruit, lemon, citron, and lime).		<i>Anastrepha obliqua</i>	CT T107-c.
Mango		<i>Anastrepha</i> spp., <i>Ceratitis capitata</i> .	HWD T102-a.
Okra (pod)		<i>Pectinophora gossypiella</i>	MB T101-p-2.
Sweet potato		External and internal feeders	MB T101-b-3-1.
Pigeon pea (pod or shelled)		<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
Virgin Islands	Beans (string, lima, faba) and pigeon peas, in the pod.	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2 or MB T101-k-2-1.
	Citrus fruits (orange, grapefruit, lemon, citron, and lime).	<i>Anastrepha obliqua</i>	CT T107-c.
	Mango	<i>Anastrepha</i> spp., <i>Ceratitis capitata</i> .	HWD T102-a.
	Okra (pod)	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Sweet potato	External and internal feeders	MB T101-b-3-1.

(i) *Garbage*. For treatment of garbage, see § 305.33.

(j) *Grains and seeds not intended for propagation*. The treatment schedules for which administration instructions

are not provided are in § 305.6 for methyl bromide (MB) fumigation, § 305.23 for steam sterilization (SS), and § 305.25 for dry heat (DH).

Plant material	Pest	Treatment schedule
Acorns	<i>Cydia splendana</i> and <i>Curculio</i> spp	MB T302-g-1 or MB T302-g-2.
Corn seed (commercial lots)	Various corn-related diseases	SS T510-1.
Ear corn	Borers	MB T302-a-1-1 or DH T302-a-1-2.
Grains and seeds (guar "gum")	<i>Trogoderma granarium</i>	MB T302-c-1 or MB T302-c-3.
Grains and seeds	<i>Trogoderma granarium</i>	MB T302-c-2.
Grains and seeds contaminated with cotton seed.	<i>Pectinophora</i> spp	MB T301-a-1-1 or MB T301-a-1-2.
Grains and seeds	Insects other than <i>Trogoderma granarium</i> .	MB T302-e-1 or MB T302-e-2.

Plant material	Pest	Treatment schedule
Grains and seeds excluding <i>Rosmarinus</i> seed.	Snails	T302–f: Remove snails through separation by screening or hand removal. If not feasible, an inspector will deny entry or treat with appropriate schedule (See miscellaneous cargo in paragraph (m) of this section.).
Shelled corn contaminated with cottonseed. (Do not use shelled corn treated with T301 for food or feed.)	<i>Pectinophora</i> spp	MB T302–b–1–2 (See MB T301–a–1–1 or MB T301–a–1–2.).

(k) *Hay, baled*. For treatment of baled hay for *Mayetiola destructor*, see the phosphine treatment schedule T311 in § 305.7.

(l) *Khapra beetle*. (1) For the heat treatment of feeds and milled products that are heated as a part of the processing procedure, or for other commodities that can be subjected to heat, and that are infested with khapra beetle, see treatment schedule T307–a in § 305.26.

(2) See treatment schedule T306–c–1 in § 305.6 for finely ground oily meals and flour.

(3) See also specific articles where the pest is *Trogoderma granarium* (khapra beetle).

(4) See treatment schedule T302–g–1 in § 305.6 for sorptive materials.

(m) *Miscellaneous (nonfood, nonfeed commodities or articles)*. The treatment schedules for which administration instructions are not provided are in § 305.6 for methyl bromide (MB) fumigation, § 305.8 for sulfuryl fluoride, § 305.16 for cold treatment (CT), and § 305.23 for steam sterilization (SS).

Material	Pest	Treatment schedule
Brassware from Bombay (Mumbai), India	<i>Trogoderma granarium</i>	MB T413–a or MB T413–b.
Inanimate, nonfood articles	Gypsy moth egg masses	MB T414.
Miscellaneous cargo (nonfood, nonfeed commodities).	Quarantine significant snails of the family Achatinidae, including <i>Achatina</i> , <i>Archachatina</i> , <i>Lignus</i> , <i>Limicolaria</i> .	MB T402–a–1 or CT T403–a–6–3.
	Quarantine significant snails of the family Hygromiidae, including the following genera: <i>Canidula</i> , <i>Cernuella</i> , <i>Cochlicella</i> , <i>Helicella</i> , <i>Helicopsis</i> , <i>Monacha</i> , <i>Platytheba</i> , <i>Pseudotrichia</i> , <i>Trochoidea</i> , <i>Xerolenta</i> , <i>Xeropicta</i> , <i>Xerosecta</i> , <i>Xerotricha</i> .	MB T403–a–2–1 or MB T403–a–2–2 or CT T403–a–2–3.
	Quarantine significant slugs of the families Agriolimacidae, Arionidae, Limacidae, Milacidae, Philomycidae, Veronicellidae, including the following genera: <i>Agriolimax</i> , <i>Arion</i> , <i>Colosius</i> , <i>Deroceas</i> , <i>Diplosolenodes</i> , <i>Leidyula</i> , <i>Limax</i> , <i>Meghimatium</i> , <i>Milax</i> , <i>Pallifera</i> , <i>Pseudoveronicella</i> , <i>Sarasinula</i> , <i>Semperula</i> , <i>Vaginulus</i> , <i>Veronicella</i> .	MB T403–a–3.
	Quarantine significant snails of the family Helicidae, including the following genera: <i>Caracollina</i> , <i>Cepaea</i> , <i>Cryptomphalus</i> , <i>Helix</i> , <i>Otala</i> , <i>Theba</i> .	MB T403–a–4–1 or MB T403–a–4–2 or CT T403–a–4–3.
	Quarantine significant snails of the families Bradybaenidae and Succineidae, including the following genera: <i>Bradybaena</i> , <i>Cathaica</i> , <i>Helicostyla</i> , <i>Omalonyx</i> , <i>Succinea</i> , <i>Trishoplita</i> .	MB T403–a–5–1 or MB T403–a–5–2, or CT T403–a–5–3.

Material	Pest	Treatment schedule
Miscellaneous cargo (nonfood, nonfeed commodities) that is sorptive or difficult to penetrate. Miscellaneous cargo (nonfood, nonfeed commodity) that is not sorptive or difficult to penetrate. Nonfood materials Nonplant articles Nonplant products	Quarantine significant snails sensitive to cold treatment. Members of the families Bradybaenidae, Helicidae, Helicellidae, Hygromiidae, and Succineidae, including the following genera: <i>Bradybaena</i> , <i>Candidula</i> , <i>Cepaea</i> , <i>Cathaica</i> , <i>Cernuella</i> , <i>Cochlicella</i> , <i>Helicella</i> , <i>Helicostyla</i> , <i>Theba</i> , <i>Trishoplita</i> , <i>Trochoidea</i> , <i>Xerolenta</i> , <i>Xeropicta</i> , <i>Xerosecta</i> , <i>Xerotricha</i> .	CT T403-a-6-1.
	Quarantine significant snails sensitive to cold treatment, certain members of the family Helicidae, including the genera <i>Helix</i> and <i>Otala</i> .	CT T403-a-6-2.
	Quarantine significant snails sensitive to cold treatment of the family Achatinidae, including the genera <i>Achatina</i> , <i>Archachatina</i> , <i>Lignus</i> , <i>Limicolaria</i> .	CT T403-a-6-3.
	<i>Globodera rostochiensis</i>	MB T403-c.
	<i>Trogoderma granarium</i>	MB T401-b or MB T402-b-2.
	Wood borers or termites	See treatments for wood products in paragraph (y) of this section.
	<i>Pieris</i> spp. (all life stages of cabbageworms) and all other Lepidoptera, hitchhiking insects, including other than Lepidoptera.	MB T403-f.
	Quarantine significant insects not specifically provided for elsewhere in nonfood or nonfeed commodities.	MB T403-e-1-1 or MB T403-e-1-2.
	Quarantine significant pests other than insects (including snails of the families Helicarionidae, Streptacidae, Subulinidae, and Zonitidae, as well as other noninsect pests).	MB T403-e-2.
	Ticks	MB T310-a or MB T310-b or sulfuryl fluoride T310-d.
Potato cyst nematode	MB T506-2-1 or SS T506-2-3.	
Ants	MB T411.	

(n) *Plants, bulbs, corms, tubers, rhizomes, and roots.* § 305.6 for methyl bromide (MB) fumigation, § 305.10 for combination (COM), and § 305.42(c) for miscellaneous (Misc.). The treatment schedules for which administration instructions are not provided are in

Plant material	Pest	Treatment schedule
<i>Anchusa</i> , <i>Astilbe</i> , <i>Clematis</i> , <i>Dicentra</i> , <i>Gardenia</i> , <i>Helleborus</i> , <i>Hibiscus</i> , <i>Kniphofia</i> , <i>Primula</i> .	Lesion nematodes (<i>Pratylenchus</i> spp.) ...	T553-2: Hot water dip at 118 °F for 30 minutes.
<i>Acalypha</i>	<i>Pratylenchus</i> spp	T570-1: Hot water dip at 110 °F for 50 minutes.
<i>Aconitum</i>	<i>Aphelenchoides fragariae</i> spp	T570-2: Hot water dip at 110 °F for 50 minutes.
<i>Allium</i> , <i>Amaryllis</i> , and bulbs	Bulb nematodes: <i>Ditylenchus dipsaci</i> , <i>D. destructor</i> .	T552-1: Presoak bulbs in water at 75 °F for 2 hours, then at 110-111 °F for 4 hours.
<i>Amaryllis</i>	<i>Ditylenchus destructor</i>	T565-1: Hot water dip at 110 °F for 4 hours immediately after digging.
Aquatic plants	Snails of the families: Ampullariidae, Bulinidae, Lymnaeidae, Planorbidae, Viviparidae.	T201-q: Hot water treatment at 112 °F for 10 minutes. (<i>Elodea</i> , <i>Danes</i> , and <i>Cabomba caroliniana</i> plants not tolerant to this treatment.)
<i>Armoracea</i> (horseradish roots), bulbs (not specifically provided for).	<i>Globodera rostochiensis</i> and <i>G. pallida</i> ..	T553-3: Hot water dip at 118 °F for 30 minutes.
<i>Astilbe</i> , <i>Bletilla hyacinthina</i> , <i>Cimicifuga</i> , <i>Epimedium pinnatum</i> , <i>Hosta</i> , <i>Paeonia</i> .	<i>Aphelenchoides besseyi</i>	T564-1: Presoak in water at 68 °F for 1 hour followed by hot water soak at 110 °F for 1 hour. Then dip in cold water and let dry.

Plant material	Pest	Treatment schedule
<i>Astilbe</i> roots	<i>Brachyrhinus</i> larvae	MB T202-b.
<i>Azalea</i>	<i>Chrysomyxa</i> spp	T501-1: Remove infested parts and treat all plants of same species in shipment with 4-4-50 Bordeaux dip or spray.
<i>Azalea</i> hybrid	<i>Chrysomyxa</i> spp	T501-2: Remove infested parts and treat all plants of same species in shipment with 4-4-50 Bordeaux dip or spray; or T505-1-1: Treat with mancozeb or other approved fungicide of equal effectiveness according to the label.
Banana roots	External feeders	T202-c: Pretreatment at 110 °F for 30 minutes. Then, hot water dip at 120 °F for 60 minutes.
<i>Begonia</i>	<i>Aphelenchoides fragariae</i>	T559-1: Dip in hot water at 118 °F for 5 minutes.
<i>Bletilla hyacinthina</i>	<i>Aphelenchoides fragariae</i>	T553-4: Dip in hot water at 118 °F for 30 minutes.
Bromeliads	External feeders	MB T201-e-1.
	Internal feeders such as borers and miners.	MB T201-e-2.
	<i>Phyllosticta bromeliae</i> <i>Uredo</i> spp	T507-1: Remove infested leaves and treat all plants of same species in shipment with Captan following label directions.
Cacti and other succulents	External feeders (other than soft scales) infesting collected dormant and non-dormant plant material.	MB T201-f-1.
	Borers and soft scales	MB T201-f-2.
<i>Calla</i> (rhizomes)	<i>Meloidogyne</i> spp	T556-1: Dip in hot water at 122 °F for 30 minutes.
<i>Camellia</i> (light infestation)	<i>Cylindrosporium camelliae</i>	<i>Light infestation:</i> T509-1-1: Remove infested leaves and dip or spray plant with 4-4-50 Bordeaux. Dry quickly and thoroughly. <i>Heavy infestation:</i> An inspector will refuse entry.
Christmas tree	<i>Phoma chrysanthemi</i>	T501-5: Remove infested parts and treat all plants of same species in shipment with 4-4-50 Bordeaux dip or spray.
<i>Chrysanthemum</i>	<i>Phoma chrysanthemi</i>	T501-4: Remove infested parts and treat all plants of same species in shipment with 4-4-50 Bordeaux dip or spray.
<i>Chrysanthemum</i> rooted and unrooted cuttings.	Aphids	MB T201-g-1.
	External feeders	COM T201-g-2.
	Leafminers, aphids, mites, etc. (<i>Chrysanthemum</i> spp. from Dominican Republic and Colombia when infested with Agromyzid leafminers requires no treatment unless destined to Florida.)	T201-g-3: Dip in hot water at 110-111 °F for 20 minutes.
<i>Chrysanthemum</i> (not including Pyrethrum).	<i>Meloidogyne</i> spp. and <i>Pratylenchus</i> spp	T557-1: Dip in hot water at 118 °F for 25 minutes.
Commodities infested with	Slugs of the families Agriolimacidae, Arionidae, Limacidae, Milacidae, Philomycidae, Veronicellidae, including the following genera: <i>Agriolimax</i> , <i>Arion</i> , <i>Colosius</i> , <i>Deroceras</i> , <i>Diplosolenodese</i> , <i>Leidyula</i> , <i>Limax</i> , <i>Meghimatium</i> , <i>Milax</i> , <i>Pallifera</i> , <i>Pseudoveronicella</i> , <i>Sarasinula</i> , <i>Semperula</i> , <i>Vaginulus</i> , <i>Veronicella</i> .	MB T201-l.
<i>Convallaria</i>	<i>Globodera rostochiensis</i> and <i>G. pallida</i> ..	T551-1: Keep the pips frozen until time for treatment. Then thaw enough to separate bundles just before treatment begins. Without preliminary warmup, immerse in hot water at 118 °F for 30 minutes.
<i>Crocus</i>	<i>Aphelenchoides subtenuis</i> , <i>Ditylenchus destructor</i> .	T565-2: Hot water at 110 °F for 4 hours immediately after digging.
Cycads (except <i>Dioon edule</i>)	External feeders	MB T201-h-1.
Deciduous woody plants (dormant)	External feeders	MB T201-a-1.
	Gypsy moth egg masses	MB T313-a or MB T313-b.
	Mealybugs	MB T305-c.

Plant material	Pest	Treatment schedule
Deciduous woody plants (dormant), root cuttings, scion wood cuttings, and non-foliated citrus whitefly host: <i>Acer</i> , <i>Berberis</i> , <i>Fraxinus</i> , <i>Philadelphus</i> , <i>Rosa</i> , <i>Spiraea</i> , <i>Syringa</i> .	Borers, Citrus whitefly hosts	MB T201-a-2 or MB T201-k-1.
<i>Dioon edule</i>	External feeders	MB T201-h-2.
<i>Dieffenbachia</i> , <i>Dracaena</i> , <i>Philodendron</i> (plants and cuttings).	External feeders	MB T201-i-1.
Evergreens (<i>Azalea</i> , <i>Berberis</i> , <i>Camellia</i> , <i>Cedrus</i> , <i>Cupressus</i> , <i>Ilex</i> , <i>Juniperus</i> , <i>Photinia</i> , <i>Podocarpus</i> , <i>Thuja</i> , and <i>Taxus</i>).	Internal feeders	MB T201-i-2.
	External feeders	MB T201-b-1.
Exceptions:		
<i>Araucaria</i>	External feeders	MB T201-c-1.
<i>Azalea indica</i>	External feeders	MB T201-c-2.
Cycads	External feeders	MB T201-l.
Hosts	<i>Dialeurodes citri</i>	MB T201-k-1.
<i>Daphne</i>	External feeders	MB T201-c-1.
<i>Lavandula</i>	External feeders	Misc. T201-p-1.
<i>Osmanthus americanus</i>	External feeders	COM T201-p-2.
<i>Pinus</i> (Canada to certain States) .....	.....	MB T201-j.
Peanuts	Gypsy moth egg masses	MB T313-a.
Foliated host plants of <i>Dialeurodes citri</i> , excluding <i>Osmanthus americanus</i> .	<i>Dialeurodes citri</i>	MB T201-k-1.
<i>Fragaria</i> (strawberry)	<i>Aphelenchoides fragariae</i>	T569-1: Hot water at 121 °F for 7 minutes.
	<i>Pratylenchus</i> spp.	T558-1: Dip in hot water at 127 °F for 2 minutes.
Garlic (see § 319.37-6(c))	<i>Brachycerus</i> spp. and <i>Dyspessa ulula</i>	MB T202-j.
<i>Gentiana</i>	<i>Septoria gentianae</i>	T507-2: Remove infested leaves and treat all plants of same species in shipment with Captan following label directions.
<i>Gladiolus</i>	<i>Taeniothrips simplex</i>	MB T202-e-1 or MB 202-e-2.
	<i>Ditylenchus destructor</i>	T565-3: Hot water at 110 °F for 4 hours immediately after digging.
Greenhouse-grown plants, herbaceous plants and cuttings, greenwood cuttings of woody plants.	External feeders, leafminers, thrips	MB T201-c-1.
	Borers and soft scales	MB T201-c-2.
Exceptions:		
Bromeliads	External feeders	MB T201-e-3-1.
Cacti and other succulents	External feeders	MB T201-j.
<i>Chrysanthemum</i>	External feeders	MB T201-g-1.
Cycads	External feeders	MB T201-1.
<i>Cyclamen</i>	Mites	MB T201-a-2.
<i>Dieffenbachia</i> , <i>Dracaena</i> , and <i>Philodendron</i> .	External feeders	MB T201-i-1.
<i>Kalanchoe synsepala</i>	Quarantine pests, excluding scale insects.	Misc. T201-p-1.
<i>Lavandula</i>	Quarantine pests	COM T201-p-2.
Orchids	<i>Dialeurodes citri</i>	MB T201-k-2.
<i>Osmanthus americanus</i>	Quarantine pests	Misc. T201-p-1.
<i>Pelargonium</i>	Quarantine pests	Misc. T201-p-1.
<i>Sedum adolphii</i>	Quarantine pests	Misc. T201-p-1.
Plants infested with	<i>Succinea horticola</i>	T201-o-1: Use a high-pressure water spray on the foliage to flush snails from the plants. The run-off drain must be screened to catch snails before drainage into the sewer system.
Plants infested with	<i>Veronicella</i> or other slugs	MB T201-1.
Horseradish roots from the countries of Armenia, Azerbaijan, Belarus, Bosnia, Herzegovina, Croatia, Czech Republic, Estonia, Georgia, Germany, Hungary, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Macedonia, Moldova, Poland, Russia, Serbia and Montenegro, Slovakia, Slovenia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.	External feeders	MB T202-f.
Host plants of <i>Aleurocanthus woglumi</i>	<i>Aleurocanthus woglumi</i>	MB T201-n.

Plant material	Pest	Treatment schedule
Host plants of <i>Omalonyx unguis</i> and <i>Succinea</i> .	<i>Omalonyx unguis</i> and <i>Succinea</i> spp. (snails).	T201–o–1: Use a high-pressure water spray on the foliage to flush snails from the plants. The run-off drain must be screened to catch snails before drainage into the sewer system; or T201–o–2: Dip plants with solution prepared by adding 3 level table-spoons of 25 percent Malathion wettable powder and 6 level teaspoons of 50 percent carbaryl wettable powder per gallon of water with a sticker-spreader formulation.
<i>Humulus</i>	<i>Heterodera humuli</i>	T553–5: Hot water at 118 °F for 30 minutes.
<i>Hyacinthus</i> (bulbs), <i>Iris</i> (bulbs and rhizomes), <i>Tigridia</i> .	<i>Ditylenchus dipsaci</i> and <i>D. destructor</i>	T554–1–1: Presoak in water at 70–80 °F for 2.5 hours followed by hot water immersion at 110–111 °F for 1 hour; or T554–1–2: Hot water immersion at 110–111 °F for 3 hours with no presoaking.
<i>Lilium</i> (bulbs)	<i>Aphelenchoides fragariae</i>	T566–3: Completely submerge in hot water at 102 °F.
Lily bulbs packed in subsoil	Internal feeders	MB T202–g.
<i>Lycoris</i>	<i>Taeniothrips eucharis</i>	MB T202–h.
<i>Muscari</i> , <i>Ornithogalum</i> , <i>Polianthes</i> (tuberose).	<i>Ditylenchus dipsaci</i>	T567–1: Dip in hot water at 113 °F for 4 hours.
<i>Narcissus</i>	<i>Steneotarsonemus laticeps</i>	MB T202–i–1; or MB T202–i–2; or T202–i–3: Hot water at 110–111 °F for 1 hour after bulbs reach 110 °F pulp temperature. Apply hot water within 1 month after normal harvest as injury to flower bud may occur.
	<i>Ditylenchus dipsaci</i>	T555–1: Presoak in water at 70–80 °F for 2 hours; then at 110–111 °F until all bulbs reach that temperature and hold for 4 hours.
Nonfoliated host plants of <i>Dialeurodes citri</i> , excluding <i>Osmanthus americanus</i> .	<i>Dialeurodes citri</i>	MB T201–k–2.
Orchids	<i>Ascochyta</i> spp	T513–1: Defoliate if leaf-borne only; inspector will refuse entry if pseudo-bulbs infested.
	<i>Cercospora</i> spp	T501–3: Remove infested parts and treat all plants of same species in shipment with 4–4–50 Bordeaux dip or spray.
	<i>Hemileia</i> spp., <i>Leptosphaeria</i> spp., <i>Mycosphaerella</i> spp., <i>Ophiotothella orchidearum</i> , <i>Phomopsis orchidophila</i> , <i>Phyllachora</i> spp., <i>Phyllosticta</i> spp., <i>Sphenospora</i> spp., <i>Sphaerodothis</i> spp., <i>Uredo</i> spp. (except <i>U. scabies</i>).	<i>Light infestation</i> : T509–2–1: Remove infested leaves and treat plant with 4–4–50 Bordeaux dip or spray. Dry quickly and thoroughly. <i>Heavy infestation</i> : An inspector will refuse entry.
Orchids, plants and cuttings (see MB T305–c for mealybugs).	External feeders (other than soft scales)	MB T201–d–1.
Orchids, plants and cuttings	External feeders (other than soft scales) infesting greenhouse grown plant material.	MB T201–d–2.
	Borers, cattleya fly, <i>Mordellistena</i> spp., soft scales, <i>Vinsonia</i> spp.	MB T201–d–3.
	<i>Cecidomyid</i> galls	T201–d–4: Excise all galls.
	Leaf miner, <i>Eurytoma</i> spp. infesting <i>Rhynchosyilis</i> .	T201–d–5: Hot water dip at 118 °F for ½ hour followed by a cool water bath.
Orchids to Florida	Rusts	T508–1: An inspector will refuse entry of all infested plants and all other plants of the same species or variety in the shipment. Other orchid species in the shipment that may have become contaminated must be treated with Captan. Repackage treated orchids in clean shipping containers.
<i>Oryza</i> (paddy rice)	<i>Aphelenchoides fragariae</i>	T559–2: Dip in hot water at 132.8 °F for 15 minutes.
Pineapple slips	Various	MB T201–e–3–1 or MB T201–e–3–2.

Plant material	Pest	Treatment schedule
Pines (<i>Pinus</i> spp.) from Canada and destined to California, Idaho, Oregon, or Utah. Precautionary treatment for pine trees and twigs and branches of all <i>Pinus</i> spp., except that Christmas trees and other pine decorative materials are exempt from treatment from November 1–December 31.	<i>Rhyacionia buoliana</i>	MB T201–j.
Plant cuttings:		
Scion wood	External feeders	MB T201–m–1.
Greenwood cuttings of woody plants and herbaceous plant cuttings.	External feeders	MB T201–m–2.
Root cuttings	External feeders	MB T201–m– or MB T201–m–4.
Exceptions to plant cuttings:		
Avocado	External feeders	COM T201–p–1.
<i>Chrysanthemum</i>	External feeders	MB T201–g–1.
<i>Dieffenbachia</i>	External feeders	MB T201–i–1.
<i>Dracaena</i>	External feeders	MB T201–i–2.
<i>Lavandula</i>	External feeders	COM T201–p–1.
Orchids	External feeders	MB T201–k–2.
<i>Philodendron</i>	External feeders	MB T201–i–1.
Plant material not tolerant to fumigation ..	Actionable pests	COM T201–p–1.
<i>Rhododendron</i>	<i>Chrysomyxa</i> spp.	T501–6: Remove infested parts and treat all plants of same species in shipment with 4–4–50 Bordeaux dip or spray; or T505–2–1: Treat with mancozeb or other approved fungicide of equal effectiveness according to the label instructions.
<i>Rosa</i> (except multiflora)	<i>Meloidogyne</i> spp.	T560–1: Dip in hot water at 123 °F for 10 minutes.
<i>Selaginella</i>	External feeders	MB T202–a–1 or MB T202–a–2.
	Internal feeders	MB T202–a–3.
<i>Senecio</i> (Lingularis)	<i>Aphelenchoides fragariae</i>	T568–1: Treat with hot water at 110 °F for 1 hour.
<i>Scilla</i>	<i>Ditylenchus dipsaci</i>	T565–4: Hot water at 110 °F for 4 hours immediately after digging.
<i>Solanum</i> (potato tubers)	<i>Globodera rostochiensis</i> , <i>G. pallida</i>	T565–5: Hot water at 110 °F for 4 hours immediately after digging.
Various plant commodities	<i>Meloidogyne</i> spp.	T553–1: Hot water at 118 °F for 30 minutes.
Yams and sweet potatoes .....	.....	MB T202–d.

(o) *Railroad cars (empty)*. The treatment schedules for which administration instructions are not provided are in §305.6 for methyl bromide (MB) fumigation.

Pest	Treatment schedule
<i>Globodera rostochiensis</i>	T406–c, steam cleaning: Steam at high pressure until all soil is removed. Treated surfaces must be thoroughly wet and heated.
<i>Pectinophora gossypiella</i>	MB T401–a.
<i>Trogoderma granarium</i>	MB T401–b.
Nematode cysts	T401–c, high pressure steam cleaning; or formaldehyde wetting spray (one part 40 percent commercial formalin to 9 parts water).

(p) *Rice straw and hulls*. The treatment schedules for which administration instructions are not provided are in §305.25 for dry heat (DH), §305.6 for methyl bromide (MB) fumigation, and §305.23 for steam sterilization (SS).

Plant material	Pest	Treatment schedule
Articles made with rice straw	Fungal diseases of rice or internal feeders.	DH T303–d–1 or SS T303–b–1 or SS T303–d–2.

Plant material	Pest	Treatment schedule
Articles made with rice straw for indoor use only.	Internal feeders	MB T303–d–2–2 or MB T303–d–2–3.
Brooms made of rice straw	Various rice-related diseases	DH T518–1.
Closely packed rice straw and hulls	Various rice-related diseases	SS T519–1.
Loose rice straw and hulls	Various rice-related diseases	SS T519–2.
Novelties made of rice straw	Various rice-related-diseases	DH T518–2–1 or SS T518–2–2.
Rice straw and hulls imported for purposes other than approved processing.	Fungal diseases of rice	SS T303–b–1 or SS T303–b–2.
Rice straw and hulls imported in small lots of 25 pounds or less.	Fungal diseases of rice	DH T303–c–1.

(q) *Seeds.* The treatment schedules for which numbers are specified and administration instructions are not provided are in §305.10 for combination (COM) treatments, §305.25 for dry heat

(DH), §305.6 for methyl bromide (MB) fumigation, §305.7 for phosphine (PH), and §305.24 for vapor heat (VH).

(1) Seeds other than noxious weed seeds.

Type of seeds	Pest	Treatment schedule
Alfalfa (<i>Medicago sativa</i>) from Europe	<i>Verticillium albo-atrum</i>	T520–1–1: Dust with 75 percent Thiram at the rate of 166 grams per 50 kilograms of seed (3.3g/kg); or T520–1–2: Treat with a slurry of Thiram 75 WP at a rate of 166 grams per 360 milliliters of water per 50 kilograms of seed (3.3 g pesticide/7.2 ml water/kg seed).
Avocado (no pulp)	<i>Conotrachelus</i> spp., <i>Heilipus lauri</i> , <i>Caulophilus latinasus</i> , <i>Copturus aguacatae</i> , <i>Stenomoma catenifer</i> .	MB T203–m.
Casuarina	<i>Bootanomyia</i> spp.	MB T203–o–l.
Chestnut and acorn	Internal feeders	MB T203–e.
Citrus (Rutaceae family)	Citrus canker	COM T203–p; or for seed from regions where citrus canker occurs, COM T511–1.
Conifer (species with small seeds, such as <i>Picea</i> spp., <i>Pinus sylvestris</i> , and <i>Pinus mugo</i>).	External feeders	MB T203–i–1.
Conifer (species with small seeds, such as <i>Picea</i> spp., <i>Pinus sylvestris</i> , and <i>Pinus mugo</i> and nutlike seeds or tightly packed seeds so as to make fumigant penetration questionable).	Internal feeders	MB T203–i–2.
Corn (small lots for propagation but not for food, feed, or oil purposes).	Various corn-related diseases	T510–2: Treat seeds with a dry application of Mancozeb in combination with Captan. Disinfect small bags containing corn (bags weighing 60 pounds or less) only with: (1) Dry heat at 212 °F for 1 hour; or (2) steam at 10 pounds pressure at a minimum of 240 °F for 20 minutes. Note: Bags with plastic liners must be opened prior to treatment.
Cottonseed (bagged, packaged, or bulk)	External feeders	MB T203–f–1 or MB T203–f–2 or MB T203–f–3 or PH T203–f–4.
<i>Hevea brasiliensis</i>	Seed boring insects	MB T203–j.
Pods and seeds of kenaf, hibiscus, and okra.	Internal feeders	MB T203–g–1 or MB T203–g–2 or PH T203–g–3.
Leguminosae=Fabaceae	<i>Bruchophagus</i> spp. and <i>Eurytoma</i> spp. ..	MB T203–o–3.
	<i>Caryedon</i> spp.	MB T203–c or MB T203–a–2.
	<i>Caryedon</i> spp. (in or with, etc.)	MB T203–o–4–1 or MB T203–o–4–2.
	<i>Rhagoletis cerasi</i> pupae (Diptera: Tephritidae).	MB T203–o–5.
<i>Lonicera</i> and other seeds	<i>Cryptophlebia illepida</i>	MB T203–k.
Macadamia nut	Juvenile <i>Helicella</i> spp. (snails) or internal feeders.	MB T203–h.
<i>Rosmarinus</i>	<i>Systole</i> spp.	MB T203–o–2.
<i>Umbelliferae</i>	Bruchidae	MB T203–d–1.
<i>Vicia</i> spp., excluding seeds of <i>Vicia faba</i>	Bruchidae	MB T203–d–2.
<i>Vicia</i> spp., including seeds of <i>Vicia faba</i>	<i>Trogoderma granarium</i>	MB T203–l.
Seeds		

Type of seeds	Pest	Treatment schedule
Seeds (excluding seeds of <i>Vicia</i> spp.)	Bruchidae excluding <i>Caryedon</i> spp. at NAP.	MB T203-b.
Seeds not specifically listed	External feeders	MB T203-a-1.
	Internal feeders	MB T203-a-2.
Seeds with infested pulp	Fruit flies and other pulp infesting insects	T203-n: Place seed in wire basket. Immerse in 118–125 °F water for 25 minutes. Remove pulp from seed under running tap water.

(2) Noxious weed seeds (devitalization treatment).

Weed seeds	Treatment schedule
<i>Asphodelus fistulosus</i> , <i>Digitaria</i> spp., <i>Oryza</i> spp., <i>Paspalum scrobiculatum</i> , <i>Prosopis</i> spp., <i>Solanum viarum</i> , <i>Striga</i> spp., <i>Urochloa panicoides</i> .	DH T412-a.
<i>Cuscuta</i> spp.	DH T412-b-1 or VH T412-b-2.

(r) *Ships, containers, and surrounding area*. The treatment schedules for which administration instructions are not provided are in §305.6 for methyl bromide (MB) fumigation.

Product	Pest	Treatment schedule
Asphalt surfaces and asphalt-base painted surfaces.	<i>Trogoderma granarium</i>	T402-b-3-2: Prepare 3 percent spray by adding 1 pound of 25 percent malathion wettable powder to each gallon of water. Spray at 2 gal/1000 ft ² or to the point of runoff.
Piers and barges	<i>Globodera rostochiensis</i>	T406-c, steam cleaning: Steam at high pressure until all soil is removed. Treated surfaces must be thoroughly wet and heated.
Metal and wood surfaces such as decks, bulkheads, piers, and other areas not subject to fumigations.	<i>Trogoderma granarium</i>	T402-b-3-1: Prepare 3 percent spray by mixing ½ pint emulsifiable concentrate (57 percent premium grade malathion) per gallon of water. Spray at 2 gal/1000 ft ² or to the point of runoff.
Ship holds and any nonplant cargo material within holds.	Quarantine significant snails of the family Achatinidea, including the following genera: <i>Achatina</i> , <i>Archachatina</i> , <i>Lignus</i> , <i>Limicolaria</i> .	MB T402-a-1.
Ship holds and any nonplant cargo material within holds.	Quarantine significant snails of the family Hygromiidae, including the following genera: <i>Canidula</i> , <i>Cernuella</i> , <i>Cochlicella</i> , <i>Helicella</i> , <i>Helicopsis</i> , <i>Monacha</i> , <i>Platytheba</i> , <i>Pseudotrachia</i> , <i>Trochoidea</i> , <i>Xerolenta</i> , <i>Xeropicta</i> , <i>Xerosecta</i> , <i>Xerotricha</i> .	MB T402-a-2.
Ship holds and any nonplant cargo material within holds.	Quarantine significant snails of the families Helicidae and Succineidae, including the following genera: <i>Caracollina</i> , <i>Cepaea</i> , <i>Cryptomphalus</i> , <i>Helix</i> , <i>Omalonyx</i> , <i>Otala</i> , <i>Succinea</i> , <i>Theba</i> .	MB T402-a-3.
Ship holds and storerooms with loosely packed material.	<i>Trogoderma granarium</i>	MB T402-b-1.
Ship holds and storerooms with tightly packed material.	<i>Trogoderma granarium</i>	MB T402-b-2.

(s) *Skins (goatskins, lambskins, and sheepskins)*. The treatment schedules for which administration instructions are not provided are in §305.6 for methyl bromide (MB) fumigation.

Pest	Treatment schedule
<i>Trogoderma granarium</i>	MB T416–a–1 or MB T416–a–2 or MB T416–a–3.

(t) *Soil.* The treatment schedules for which numbers are specified and administration instructions are not provided are in §305.6 for methyl bromide (MB) fumigation, §305.23 for steam sterilization (SS), and §305.25 for dry heat (DH).

Product	Pest	Treatment
Herbarium specimens of mosses and liverworts in soil and originating in golden nematode free countries.	Precautionary	MB T408–e–1.
Herbarium specimens of mosses and liverworts in soil and originating in golden nematode free countries.	<i>Globodera rostochiensis</i>	MB T408–e–2.
Soil	Potato cyst nematode	MB T502–3.
Soil	Various pests and pathogens found in soil (including <i>Striga</i>).	DH T408–a.
	Various pests and pathogens found in soil.	SS T408–b.
Soil (friable and moist, but not wet and not more than 12 inches in depth).	<i>Globodera rostochiensis</i>	MB T408–c–2.
Soil	Insects	T408–d–1: Screening through 16 mesh screens will remove most larvae and pupae, except smaller types; or T408–d–2: Freezing—0 °F for 5 days.
Soil (friable and moist, but not wet and not more than 12 inches in depth) in containers with dimensions that do not exceed 24 inches.	<i>Globodera rostochiensis</i>	MB T408–c–1.
Soil on equipment	Various pests and pathogens found in soil.	T408–b–1 (steam cleaning): Steam at high pressure until all soil is removed. Treated surfaces must be thoroughly wet and heated.
Soil contaminated equipment (precautionary treatment).	Soil fungi, nematodes, and certain soil insects.	T408–f, steam cleaning: Steam at high pressure until all soil is removed. Treated surfaces must be thoroughly wet and heated.
Soil contaminated non-food or non-feed commodities (soil must be friable and or moist, but not wet, and must not exceed 12 inches in dimension).	<i>Striga</i>	MB T408–g–1 or MB T408–g–2.

(u) *Sugarcane.*

Product	Pest	Treatment schedule
<i>Saccharum</i> (seed pieces)	<i>Xanthomonas albilineans</i> and <i>X. vasculorum</i> .	T514–1: Presoak in water at room temperature for 24 hours. Then immerse in water at 122 °F for 3 hours.
<i>Saccharum</i> (true seed fuzz)		T514–2: Immerse in 0.525 percent sodium hypochlorite solution for 30 minutes followed by at least 8 hours air drying before packaging (Dilute 1 part Clorox or similar solution containing 5.25 percent sodium hypochlorite; if using ultra strength chlorine bleach, use only ¾ as much bleach).
<i>Saccharum</i> (bagasse)		T514–3: Dry heat treatment for 2 hours at 158 °F.
Sugarcane (baled)	Various sugarcane-related diseases	T515–1: Introduce live steam into 25" vacuum until pressure reaches 15 to 20 pounds. Hold until center of bale is 220–230 °F and maintain for 30 minutes.
Sugarcane (loose)		T515–2–1: Introduce steam into 25" vacuum (or if with initial vacuum, "bleed" air until steam vapor fills chamber).

Product	Pest	Treatment schedule
		T515-2-3: Dry heat at 212 °F for 1 hour. T515-2-4: Remove the pulp in water at 190-205 °F, followed by drying at 212 °F for 1 hour. T515-2-5: Flash heated to 1,000 °F (Arnold dryer).

(v) *Wood articles including containers, oak logs and lumber, Christmas trees.* are in §305.6 for methyl bromide (MB) fumigation, §305.8 for sulfuryl fluoride (SF), and §305.28 for kiln sterilization (KS). The treatment schedules for which administration instructions are not provided

Material	Pest	Treatment schedule
Cut conifer Christmas trees	<i>Lymantria dispar</i> egg masses	MB T313-a.
Cut pine Christmas trees and pine logs ..	<i>Tomicus piniperda</i>	MB T313-b.
Wood surfaces (can be combined with other surfaces such as metal or concrete).	.....	SF T404-c-2.
Wood surfaces (can be combined with other surfaces such as metal or concrete).	Borers (wood wasps, cerambycids, and <i>Dinoderus</i>).	T404-b-5-1: (1) The spray must be applied by or under the supervision of pest control operators or other trained personnel responsible for insect control programs; (2) prepare the spray by thoroughly mixing 79 ml (2⅔ fluid ounces) of Dursban 4E with water for a total of 1 gallon of mixture (equivalent to 2.1 gallons in 100 gallons of water); and (3) apply as a 1 percent chlorpyrifos spray with suitable hand- or power-operated ground spray equipment to the point of runoff.
Oak logs	Oak wilt disease	MB T312-a.
Oak lumber	Oak wilt disease	MB T312-b.
Wood products including containers	Borers (wood wasps, cerambycids, and <i>Dinoderus</i>).	MB T404-b-1-1 or MB T404-b-1-2 or SF T404-b-2 or KS T404-b-4.
	<i>Globodera rostochiensis</i>	MB T404-a.
	Termites	MB T404-c-1-1 or MB T404-c-1-2.
	Borers and <i>Trogoderma granarium</i>	MB T404-d.

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§§ 305.3-305.4 [Reserved]

Subpart—Chemical Treatments

§ 305.5 Treatment requirements.

(a) *Certified facility.* The fumigation treatment facility must be certified by APHIS. Facilities are required to be inspected and recertified annually, or as often as APHIS directs, depending upon treatments performed, commodities handled, and operations conducted at the facility. In order to be certified, a fumigation facility must:

(1) Be capable of administering the required dosage range for the required duration and at the appropriate temperature.

(2) Be adequate to contain the fumigant and be constructed from material that is not reactive to the fumigant.

(3) For vacuum fumigation facilities, be constructed to withstand required negative pressure.

(b) *Monitoring.* Treatment must be monitored by an official authorized by APHIS to ensure proper administration of the treatment, including that the correct amount of gas reaches the target organism and that an adequate number and placement of blowers, fans, sampling tubes, or monitoring lines are used in the treatment enclosure. An official authorized by APHIS approves, adjusts, or rejects the treatment.

(c) *Treatment procedures.* (1) To kill the pest, all chemical applications must be administered in accordance with an Environmental Protection Agency (EPA) approved pesticide label

§ 305.6

7 CFR Ch. III (1–1–06 Edition)

and the APHIS-approved treatment schedule prescribed in this part. If EPA cancels approval for the use of a pesticide on a commodity, then the treatment schedule prescribed in this part is no longer authorized for that commodity. If the commodity is not listed on the pesticide label and/or a Federal quarantine or crisis exemption in accordance with FIFRA section 18, then no chemical treatment is available.

(2) Temperature/concentration readings must be taken for items known to be sorptive or whose sorptive properties are unknown when treatment is administered in chambers at normal atmospheric pressure.

(3) The volume of the commodity stacked inside the treatment enclosure must not exceed 2/3 of the volume of the enclosure. Stacking must be approved by an official authorized by APHIS before treatment begins. All commodities undergoing treatment must be listed on the label.

(4) Recording and measuring equipment must be adequate to accurately monitor the gas concentration, to ensure the correct amount of gas reaches the pests, and to detect any leaks in the enclosure. At least three sampling tubes or monitoring lines must be used in the treatment enclosure.

(5) An adequate number of blowers or fans must be used inside of the treatment enclosure to uniformly distribute gas throughout the enclosure. The circulation system must be able to recirculate the entire volume of gas in the enclosure in 3 minutes or less.

(6) The exposure period begins after all gas has been introduced.

(7) For vacuum fumigation: The vacuum pump must be able to reduce pressure in the treatment enclosure to 1–2 inches of mercury in 15 minutes or less.

§305.6 Methyl bromide fumigation treatment schedules.

(a) *Standard schedules.*

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
MBOFF	NAP ¹	70 or above	2	3.5
T101-a-1	NAP	80 or above	1.5	2
		70–79	2	2
		60–69	2.5	2
		50–59	3	2
		40–49	4	2
T101-a-2	15" vacuum	90 or above	2	2
		80–89	2.5	2
		70–79	3	2
		60–69	3	2.5
		50–59	3	3
		40–49	3	3.5
T101-a-3	See T101-a-1.			
T101-b-1	See T101-a-1.			
T101-b-1-1	NAP	80 or above	2.5	2
		70–79	3	2
		60–69	4	2
T101-b-2	NAP	70 or above	2	2
		60–69	2.5	2
		50–59	3	2
		45–49	3.5	2
		40–44	4	2
T101-b-3-1	NAP	90 or above	2.5	4
		80–89	3	4
		70–79	3.5	4
		60–69	4	4
T101-c-1	NAP	70 or above	2	4
T101-c-2	26" vacuum	70 or above	3	3.5
		60–69	3	4
		50–59	3	4.5
		40–49	3	5
T101-c-3	NAP	70 or above	2	3.5
		65–69	2	4
T101-c-3-1	NAP	70 or above	3	2
T101-d-1	See T101-a-1.			
T101-d-2	NAP	70 or above	3.5	11
		60–69	3.5	12
		50–59	3.5	13

Animal and Plant Health Inspection Service, USDA

§ 305.6

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
T101-d-3	NAP	40-49	3.5	14
T101-e-1	NAP	70 or above	2	3.5
		70 or above	3	2.5
		60-69	3	3
		50-59	3	3.5
T101-e-2	15" vacuum	40-49	3	4
		90 or above	2	1.5
		80-89	2	2
		70-79	2.5	2
		60-69	3	2
		50-59	3	3
		40-49	3	4
T101-e-3	See T101-a-1.			
T101-f-2	15" vacuum	90 or above	2	3
		80-89	2.5	3
		70-79	3	3
		60-69	3	3.5
T101-f-3	See T101-b-3-1.			
T101-g-1	See T101-a-2.			
T101-g-1-1	NAP	90 or above	2	3
		80-89	2.5	3
		70-79	3	3
		60-69	3	3.5
		50-59	3	4
T101-g-2	NAP	90 or above	2	3
		80-89	2.5	3
		70-79	3	3
		60-69	3	3.5
T101-h-1	See T101-a-1.			
T101-h-2	See T101-a-1.			
T101-h-2-1	NAP	70 or above	2	3.5
		65-69	2	4
T101-h-3	NAP	80 or above	1.5	2
		70-79	2	2
		60-69	2.5	2
T101-i-1	NAP	80 or above	1.5	2
		70-79	2	2
T101-i-1-1	NAP	70 or above	2	3.5
T101-i-2	See T101-a-1.			
T101-i-2-1	See T101-a-1.			
T101-j-1	See T101-b-2.			
T101-j-2	NAP	80 or above	1.5	2
		70-79	1.5	2
		65-69	1.75	2
		70-85	2.5	2
T101-j-2-1	NAP			
T101-k-1	See T101-a-1.			
T101-k-2	15" vacuum	90 or above	0.5	1.5
		80-89	1	1.5
		70-79	1.5	1.5
		60-69	2	1.5
		50-59	2.5	1.5
		40-49	3	1.5
T101-k-2-1	NAP	80 or above	1.5	2
		70-79	2	2
		60-69	2.5	2
		50-59	3	2
T101-l-1	See 101-g-1-1.			
T101-l-2	15" vacuum	90 or above	2	2
		80-89	2.5	2
		70-79	3	2
T101-m-1	See T101-a-2.			
T101-m-2	See T101-a-1.			
T101-m-2-1	NAP	70 or above	2	3.5
		65-69	2	4
T101-n-1	See T101-g-2.			
T101-n-2	See T101-b-2.			
T101-n-2-1	See T101-k-2-1.			
T101-n-2-1-1	NAP	70 or above	2	16
		60-69	2	24
		50-59	3	16
		40-49	3	24

§ 305.6

7 CFR Ch. III (1-1-06 Edition)

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
T101-o-1	See T101-a-1.			
T101-o-2	See T101-a-1.			
T101-p-1	See T101-a-1.			
T101-p-2	NAP	90 or above	1	2
		80-89	1.5	2
		70-79	2	2
		60-69	2.5	2
		50-59	3	2
		40-49	3.5	2
T101-q-2	NAP	90 or above	2	2
		80-89	2.5	2
		70-79	3	2
		60-69	3	2.5
		50-59	3	3
		40-49	3	3.5
T101-r-1	See T101-a-1.			
T101-r-2	NAP	70 or above	2	6
T101-s-1	NAP	70 or above	2	2
		60-69	2.5	2
		50-59	3	2
		40-49	4	2
T101-s-2	See T101-a-1.			
T101-t-1	NAP	90 or above	4	3
		80-89	4	4
		70-79	5	4
		60-69	5	5
		50-59	6	5
		40-49	6	6
T101-t-2	See T101-a-1.			
T101-u-1	26" vacuum	80 or above	3	2
		70-79	4	2
		60-69	4	3
		50-59	4	4
		40-49	4	5
T101-u-2	NAP	80 or above	2.5	2
		70-79	3	2
T101-v-1	See T101-b-2.			
T101-v-2	NAP	70 or above	2.75	2
T101-w-1	15" vacuum	80 or above	2	2
		70-79	3	2
		60-69	4	2
		50-59	4	3
		40-49	4	4
T101-w-1-2	NAP	70 or above	2	2
T101-w-2	See T101-h-3.			
T101-x-1	See T101-h-3.			
T101-x-1-1	NAP	70 or above	2.5	2.5
T101-x-2	See T101-a-1.			
T101-y-1	See T101-k-2-1.			
T101-y-2	See T101-a-1.			
T101-z-1	NAP	90 or above	2	3
		80-89	2.5	3
		70-79	3	3
		60-69	3	3.5
		50-59	3	4
		40-49	4	4
T101-z-2	See T101-k-2-1.			
T104-a-1	See T101-a-1.			
T104-a-2	See T101-b-1-1.			
T201-a-1/T201-a-2 (except <i>Brachyrhinus</i> larvae).	NAP/26" vacuum	90-96	2	2
		80-89	2.5	2
		70-79	3	2
		60-69	3	2.5
		50-59	3	3
		40-49	3	3.5
T201-a-1/T201-a-2 (<i>Brachyrhinus</i> larvae).	NAP/26" vacuum	90-96	2	2.5
		80-89	2.5	2.5
		70-79	3	2.5
		60-69	3	3

Animal and Plant Health Inspection Service, USDA

§ 305.6

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
T201-b-1 (except <i>Brachyrhinus</i> larvae).	NAP	50-59	3	3.5
		40-49	3	4
		90-96	1.5	2
		80-89	2	2
T201-b-1 (<i>Brachyrhinus</i> larvae) ...	NAP	70-79	2.5	2
		60-69	2.5	2.5
		50-59	2.5	3
		40-49	2.5	3.5
T201-c-1 ²	NAP	90-96	2	2.5
		80-89	2.5	2.5
		70-79	3	2.5
		60-69	3	3
T201-c-2 ³	15" vacuum	50-59	3	3.5
		40-49	3	4
		80-90	1.5	2
		70-79	2	2
T201-d-1 (except <i>Brachyrhinus</i> larvae).	NAP	60-69	2.5	2
		50-59	3	2
		40-49	3	2
		90-96	2	2
T201-d-1 (<i>Brachyrhinus</i> larvae) ...	NAP	80-89	3	2.5
		70-79	3	2
		60-69	3	2.5
		50-59	3	3
T201-d-2	NAP	40-49	3	3
		90-96	3	3.5
		80-89	2	2.5
		70-79	2.5	2.5
T201-d-3	15" vacuum	60-69	3	3
		50-59	3	3.5
		40-49	3	4
		90-96	1	2
T201-e-1/T201-e-2	NAP/15" vacuum	80-89	1.5	2
		70-79	2	2
		60-69	2.5	2
		50-59	3	2
T201-e-3-1	NAP	40-49	3.5	2
		90-96	3	1
		80-89	3	1.5
		70-79	3	2
T201-e-3-2	26" vacuum	60-69	3	2
		50-59	3	2.5
		40-49	3	3
		90-96	2	3.5
T201-f-1/T201-f-2 (except <i>Brachyrhinus</i> larvae).	NAP/15" vacuum	90-96	2	1.5
		80-89	2	2
		70-79	3	2
		60-69	3	2.5
T201-f-1/T201-f-2 (<i>Brachyrhinus</i> larvae).	NAP/15" vacuum	50-59	3	3
		40-49	3	3
		90-96	2	3.5
		80-89	2.5	2.5

§ 305.6

7 CFR Ch. III (1-1-06 Edition)

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
		80-89	2.5	2.5
		70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
		40-49	3	4
T201-g-1	NAP	70 or above	0.75	2
T201-h-1/T201-h-2	15" vacuum/26" vacuum	90-96	2	2
		80-89	2.5	2
		60-79	3	2
		40-59	3	2.5
T201-i-1/T201-i-2	NAP/26" vacuum	90-96	2	1.5
		80-89	2	2
		70-79	3	2
		60-69	3	2.5
		50-59	3	3
T201-j	NAP	75	4	2
		74	4	2 hrs 1 min
		73	4	2 hrs 2 min
		72	4	2 hrs 4 min
		71	4	2 hrs 7 min
		70	4	2 hrs 9 min
		69	4	2 hrs 11min
		68	4	2 hrs 14min
		67	4	2 hrs 16 min
		66	4	2 hrs 19 min
		65	4	2 hrs 22 min
		64	4	2 hrs 25 min
		63	4	2 hrs 28 min
		62	4	2 hrs 31 min
		61	4	2 hrs 35 min
		60	4	2 hrs 38 min
		59	4	2 hrs 41 min
		58	4	2 hrs 43 min
		57	4	2 hrs 46 min
		56	4	2 hrs 49 min
		55	4	2 hrs 52 min
		54	4	2 hrs 55 min
		53	4	2 hrs 58 min
		52	4	3 hrs 1 min
		51	4	3 hrs 5 min
		50	4	3 hrs 8 min
		49	4	3 hrs 12 min
		48	4	3 hrs 15 min
		47	4	3 hrs 19 min
		46	4	3 hrs 24 min
		45	4	3 hrs 28 min
T201-k-1 (except <i>Brachyrhinus</i> larvae).	NAP	85-96	1	4
		80-84	2	2.5
		70-79	2	3.5
T201-k-1 (<i>Brachyrhinus</i> larvae) ...	NAP	85-96	1.5	4
		80-84	2.5	2.5
		70-79	2	3.5
T201-k-2 (except <i>Brachyrhinus</i> larvae).	NAP	90-96	2	2
		80-89	2.5	2
		70-79	3	2
		60-69	3	2.5
		50-59	3	3
		40-49	3	3.5
T201-k-2 (<i>Brachyrhinus</i> larvae) ...	NAP	90-96	2	2.5
		80-89	2.5	2.5
		70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
		40-49	3	4
T201-l	NAP	90-96	1	2
		80-89	1.25	2
		70-79	1.5	2
		60-69	1.75	2
T201-m-1 (except <i>Brachyrhinus</i> larvae).	NAP	90-96	2	2

Animal and Plant Health Inspection Service, USDA

§ 305.6

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
		80-89	2.5	2
		70-79	3	2
		60-69	3	2.5
		50-59	3	3
		40-49	3	3.5
T201-m-1 (<i>Brachyrhinus</i> larvae) ..	NAP	90-96	2	2.5
		80-89	2.5	2.5
		70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
		40-49	3	4
T201-m-2	NAP	80-90	1.5	2
		70-79	2	2
		60-69	2.5	2
		50-59	3	2
		40-49	3.5	2
T201-m-3 (except <i>Brachyrhinus</i> larvae).	NAP	90-96	2	2
		80-89	2.5	2
		70-79	3	2
		60-69	3	2.5
		50-59	3	3
		40-49	3	3.5
T201-m-3 (<i>Brachyrhinus</i> larvae) ..	NAP	90-96	2	2.5
		80-89	2.5	2.5
		70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
		40-49	3	4
T201-m-4	NAP	90-96	2	2.5
		80-89	2.5	2.5
		70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
		40-49	3	4
T201-n	NAP	85 or above	1	2
		80-85	1.25	2
		70-79	1.5	2
		65-69	1.75	2
		90-96	2	2
T202-a-1 (except <i>Brachyrhinus</i> larvae).	NAP	80-89	2.5	2
		70-79	3	2
		60-69	3	2.5
		50-59	3	3
		40-49	3	3.5
T202-a-1 (<i>Brachyrhinus</i> larvae) ...	NAP	90-96	2	2.5
		80-89	2.5	2.5
		70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
		40-49	3	4
T202-a-2	NAP	90-96	2	2.5
		80-89	2.5	2.5
		70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
		40-49	3	4
T202-a-3 (except <i>Brachyrhinus</i> larvae).	26" vacuum	90-96	2	2
		80-89	2.5	2
		70-79	3	2
		60-69	3	2.5
		50-59	3	3
		40-49	3	3.5
T202-a-3 (<i>Brachyrhinus</i> larvae) ...	26" vacuum	90-96	2	2.5
		80-89	2.5	2.5
		70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
		40-49	3	4

§ 305.6

7 CFR Ch. III (1-1-06 Edition)

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
T202-b	26" vacuum	70-96	4	2
		60-69	4	2.5
		50-59	4	3
T202-d	NAP	40-49	4	4
		90-96	2.5	4
		80-89	3	4
T202-e-1	NAP	70-79	3.5	4
		60-69	4	4
		90-96	2	3
T202-e-2	26" vacuum	80-89	2.5	3
		70-79	3	3
		60-69	3	3.5
T202-f (except <i>Brachyrhinus</i> larvae).	15" vacuum	50-59	3	4
		40-49	3	4.5
		90-96	2	2
T202-f (<i>Brachyrhinus</i> larvae)	15" vacuum	80-89	2.5	2
		70-79	3	2
		60-69	3	2.5
T202-g	NAP	50-59	3	3
		40-49	3	3.5
		90-96	2	2.5
T202-h (except <i>Brachyrhinus</i> larvae).	26" vacuum	80-89	2.5	2.5
		70-79	3	2.5
		60-69	3	2.5
T202-h (<i>Brachyrhinus</i> larvae)	26" vacuum	50-59	3	3
		40-49	3	3.5
		90-96	2	2.5
T202-i-1	NAP	80-89	2.5	2.5
		70-79	3	2.5
		60-69	3	2.5
T202-i-2	NAP	50-59	3	3
		40-49	3	3.5
		90-96	2	2.5
T202-j	15" vacuum	80-89	2	2
		70-79	2.5	2
		60-69	3	2
		50-59	3	2.5
		40-49	3	3
		90-96	2	3.5
		80-89	2	1.5
		70-79	2	2
		60-69	2.5	2
		50-59	3	2
		40-49	3	3
		90-96	3	3
		80-89	3	3
		70-79	3	3
		60-69	3	4

Animal and Plant Health Inspection Service, USDA

§ 305.6

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
T203-a-1	NAP	80-96	2.5	2.5
		70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
		40-49	3	4
T203-a-2	26" vacuum	80-96	2.5	2.5
		70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
		40-49	3	4
T203-b (except <i>Caryedon</i> spp.)	26" vacuum	70-96	3	2.5
		60-69	3	3
		50-59	3	3.5
		40-49	3	4
		40-96	5	2
T203-b (<i>Caryedon</i> spp.)	26" vacuum	50 or above	2	24
T203-c	NAP	70 or above	3.5	11
T203-d-1	NAP	60-69	3.5	12
		50-59	3.5	13
		40-49	3.5	14
		70-96	3	2.5
		60-69	3	3
T203-d-2 (except <i>Vicia faba</i>)	26" vacuum	50-59	3	3.5
		40-49	3	4
		70-96	3	3.5
		60-69	3	3
		50-59	3	3
T203-d-2 (<i>Vicia faba</i>)	26" vacuum	40-49	3	4
		70-96	3	3.5
		60-69	3	4
		50-59	3	4.5
		40-49	3	5
T203-e	26" vacuum	80-96	3	2
		70-79	4	2
		60-69	4	3
		50-59	4	4
		40-49	4	5
T203-f-1	NAP	60 or above	6	12
		60 or above	3	24
		40-59	7	12
		40-59	4	24
		40-59	7	12
T203-f-2	NAP	60 or above	7	12
		60 or above	5	24
		40-59	8	12
		40-59	6	24
		40 or above	4	2
T203-f-3	NAP	40 or above	4	2
T203-g-1	NAP	60-96	2	12
		60-96	1	24
		40-59	3	12
		40-59	2	24
		40 or above	4	2
T203-g-2	26" vacuum	40 or above	4	2
		40 or above	4	2
		70 or above	4	4
		80-96	2.5	2.5
		70-79	3	2.5
T203-h	26" vacuum	60-69	3	3
		50-59	3	3.5
		40-49	3	4
		80-96	2.5	2.5
		70-79	3	2.5
T203-i-1	NAP	60-69	3	3
		50-59	3	3.5
		40-49	3	4
		80-96	2.5	2.5
		70-79	3	2.5
T203-i-2	26" vacuum	60-69	3	3
		50-59	3	3.5
		40-49	3	4
		80-96	2.5	2.5
		70-79	3	2.5
T203-j	NAP	60-69	3	3
		50-59	3	3.5
		40-49	3	4
		80-96	2.5	2
		70-79	3	2
T203-k	NAP	60-69	3	2.5
		70 or above	2	2
		60-69	2.5	2
		50-59	3	2
		40-49	3.5	2
T203-l	NAP	90 or above	2.5	12
		80-89	3.5	12
		80-89	3	2
		80-89	3	2
		70-79	4	2
T203-m 26" vacuum	90-96	2	2	2
		80-89	3	2
		80-89	3	2
		80-89	3	2
		70-79	4	2

§ 305.6

7 CFR Ch. III (1-1-06 Edition)

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
		60-69	4	3
		50-59	4	4
		40-49	4	5
T203-o-1	26" vacuum	70 or above	3.5	6
T203-o-2	26" vacuum	80-86	2.5	3.5
		70-79	3	4
		60-69	3	4.5
		50-59	3	5
		40-49	3	4
T203-o-3	26" vacuum	70 or above	4	4
T203-o-4-1	26" vacuum	50 or above	2	24
T203-o-4-2	26" vacuum	70 or above	3.5	3
T203-o-5	NAP	70 or above	4	8
T301-a-1-1 (bulk shipments)	NAP	60 or above	6	12
		60 or above	4	24
		40-59	7	12
		40-59	5	24
T301-a-1-1 (other than bulk shipments).	NAP	60 or above	6	12
		60 or above	3	24
		40-59	7	12
		40-59	4	24
T301-a-1-2	26" vacuum	60 or above	8	3
		40-59	9	3
T301-a-2	NAP	40 or above	7	12
		40 or above	5	24
T301-a-3	NAP	40 or above	7	12
		40 or above	4	24
T301-a-4	NAP	40 or above	7	12
		40 or above	5	24
T301-a-5-1	NAP	40 or above	3	24
T301-a-5-2	26" vacuum	40 or above	4	2
T301-b-1-1	NAP	60 or above	8	24
		40-59	11	24
T301-b-1-2	26" vacuum	60 or above	8	3
		40-59	9	3
T301-b-2	NAP	90 or above	2.5	12
		80-89	3.5	12
T301-b-3	NAP	90 or above	4	24
		80-89	6	24
		70-79	8	24
T301-c	NAP	40 or above	8	16
		40 or above	10.5	12
T301-d-1-1	NAP	90 or above	2.5	2
		80-89	3	2
		70-79	4	2
		60-69	4	3
		55-59	5	3
		50-54	5.5	4
		40-49	6	8
T302-a-1-1	NAP	70 or above	2	6
T302-b-1-2	See T301-a-1-1 or T301-a-1-2.			
T302-c-1	NAP	90 or above	2.5	12
		80-89	3.5	12
		70-79	4.5	12
		60-69	6	12
		50-59	7.5	12
		40-49	9	12
T302-c-2	26" vacuum	60 or above	8	3
		40-59	9	3
T302-c-3	26" vacuum	90-96	2.5	12
		80-89	3.5	12
		70-79	4.5	12
		60-69	6	12
		50-59	10	12
		40-49	12	12
T302-e-1	NAP	80-96	2.5	2.5
		70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
		40-49	3	4

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
T302-e-2	26" vacuum	80-96	2.5	2.5
		70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
		40-49	3	4
T302-g-1	NAP	90-95	4	3
		80-89	4	4
		70-79	5	4
		60-69	5	5
		50-59	6	5
T302-g-2	26" vacuum	40-49	6	6
		80-96	3	2
		70-79	4	2
		60-69	4	3
		50-59	4	4
T303-d-2-2	26" vacuum	40-49	4	5
		60 or above	2.5	2.5
		50-59	3.5	2.5
		40-49	5	2.5
		60 or above	2.5	24
T303-d-2-3	NAP	50-59	3	24
		40-49	4	24
		60 or above	2.5	32
		50-59	3.5	32
		40-49	4.5	32
T304-a	NAP	60 or above	2.5	32
		50-59	3.5	32
		40-49	4.5	32
		60 or above	2.5	2.5
		50-59	3.5	2.5
T304-b	26" vacuum	40-49	5	2.5
		80-89	1.5	2
		70-79	2	2
		60-69	2.5	2
		50-59	3	2
T305-a	NAP	40-49	3.5	2
		80-90	2.5	2
		70-79	3	2
		60-69	3	2.5
		50-59	3	3
T305-b	15" vacuum	40-49	3	3.5
		80 or above	2.5	2
		70-79	3	2
		60-69	4	2
		50-59	4	2
T305-c	NAP	40-49	3	2
		80 or above	2.5	2
		70-79	3	2
		60-69	4	2
		40 or above	8	16
T306-a	26" vacuum	40 or above	10.5	12
		40 or above	16	8
		60 or above	6	12
		60 or above	4	24
		40-59	7	12
T306-b (bulk shipments)	NAP	40-59	5	24
		60 or above	6	12
		60 or above	3	24
		40-59	4	24
		60 or above	3	24
T306-b (other than bulk shipments).	NAP	60 or above	3	24
		40-59	7	12
		40-59	4	24
		90 or above	4	24
		80-89	8	24
T306-c-1	NAP	70-79	8	24
		60-69	12	24
		50-59	12	28
		40-49	12	32
		60 or above	8	3
T306-c-2	26" vacuum	40-59	9	3
		90 or above	4	24
		80-89	6	24
		70-79	8	24
		60-69	12	24
T306-d-1	NAP	50-59	12	28
		40-49	12	32
		60 or above	8	3
		40-59	9	3
		60 or above	2.5	2.5
T306-d-2	26" vacuum	50-59	3.5	2.5
		60 or above	2.5	2.5
		40-59	9	3
		40-59	9	3
		60 or above	2.5	2.5
T309-a (except sawflies)	26" vacuum	50-59	3.5	2.5

§ 305.6

7 CFR Ch. III (1-1-06 Edition)

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
T309-a (sawflies)	26" vacuum	40-49	5	2.5
		60 or above	2.5	5
		50-59	3.5	5
T309-b-1	NAP	40-49	5	5
		60 or above	2.5	16
		50-59	3.5	16
T309-b-2	NAP	40-49	4.5	16
		60 or above	3	24
		50-59	5	24
T310-a	NAP	40-49	7	24
		90 or above	4	3
		80-89	5	3
		70-79	6	4
		60-69	7	5
T310-b	26" vacuum	50-59	8	7
		40-49	8	16
		80 or above	3	2.5
		70-79	3	3.5
		60-69	4	4
T312-a	NAP	50-59	5.5	5
T312-b	NAP	40 or above	15	72
T313-a	NAP	40 or above	15	48
		75 or above	1.5	2.5
		7-74	2	2.5
		60-69	2.5	3
		60-69	3	2.5
		50-59	3	4
		50-59	4	2.5
		40-49	3.5	4.5
		40-49	5	2.5
		60 or above	3	4
T313-b	NAP	60 or above	4	3
		50-59	3.5	4
		50-59	4	3.5
		40-49	4	4
		40-49	4	4
T401-a	NAP	40 or above	4	12
		40 or above	8	3
		90 or above	2.5	12
T401-b	NAP	80-89	3.5	12
		70-79	4.5	12
		60-69	6	12
		50-59	7.5	12
		40-49	9	12
		55 or above	8	24
		55 or above	8	72
T402-a-1	NAP	80 or above	6	10
		55-79	6	16
		40-54	8	24
T402-a-2	NAP	90 or above	2.5	12
		80-89	3.5	12
		70-79	4.5	12
		60-69	6	12
		50-59	7.5	12
T402-a-3	NAP	40-49	9	12
		90-96	4	24
		80-89	6	24
		70-79	8	24
		55 or above	8	72
T402-b-1	NAP	70 or above	8	16
		90-96	1	2
		80-89	1.25	2
		70-79	1.5	2
		60-69	1.75	2
T402-b-2	NAP	80 or above	6	10
		55-79	6	16
		40-54	8	24
T403-a-2-1	NAP	7 or above	6	6
		80 or above	6	10
		40-79	6	16
T403-a-2-2	26" vacuum	40 or above	6	6
		80 or above	6	10
		40-79	6	16
T403-a-3	NAP	40 or above	6	6
		90-96	1	2
		80-89	1.25	2
T403-a-4-1	NAP	70-79	1.5	2
		60-69	1.75	2
		80 or above	6	10
		55-79	6	16
		40-54	8	24
T403-a-4-2	26" vacuum	7 or above	6	6
		80 or above	6	10
		40-79	6	16
T403-a-5-1	NAP	40 or above	6	6
T403-a-5-2	26" vacuum	40 or above	6	6
T403-b	Use T401-b or 402-b-2.			

Animal and Plant Health Inspection Service, USDA

§ 305.6

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
T403-c	26" vacuum	40 or above	8	16
		40 or above	10.5	12
		40 or above	16	8
T403-e-1-1	NAP	90 or above	2.5	12
		80-89	3.5	12
		70-79	4.5	12
		60-69	6	12
		50-59	7.5	12
		40-49	9	12
T403-e-1-2	NAP	90-96	4	24
		80-89	6	24
		70-79	8	24
		60-69	12	24
		50-59	12	28
		40-49	12	32
T403-e-2	NAP	40 or above	10	48
T403-f	NAP	70 or above	3	3
		60-69	3.5	3
		50-59	4	3
		45-49	4.5	3
		40-44	5	3
T404-a	26" vacuum	40 or above	8	16
		40 or above	10.5	12
		40 or above	16	8
T404-b-1-1	NAP	70 or above	3	16
		40-69	5	16
T404-b-1-2	26" vacuum	70 or above	4	4
		40-69	4	5
T404-c-1-1	NAP	40 or above	3	24
T404-c-1-2	26" vacuum	70 or above	4	3
		40-69	4	4
		80 or above	3.5	24
		70-79	4.5	24
T404-d	NAP	60-69	6	24
		50-59	7.5	24
		40-49	9	24
		60 or above	15	24
		40 or above	4	12
T406-b	NAP	40 or above	8	3
T408-c-1	See T403-c for loose and friable material only.	60 or above	15	24
		70 or above	2	3.5
T408-c-2	NAP	40 or above	8	16
T408-e-1	26" vacuum	40 or above	10.5	12
T408-e-2	26" vacuum	40 or above	16	8
		60 or above	10	24
		60 or above	20	15.5
T408-g-1	Chamber	60 or above	15	24
T408-g-2	Tarpaulin	60 or above	2	2.5
T411	NAP	90-96	2.5	2.5
		80-89	2.5	2.5
		70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
		40-49	3	4
T413-a	NAP	90 or above	2.5	12
		80-89	3.5	12
		70-79	4.5	12
		60-69	6	12
		50-59	7.5	12
		40-49	9	12
T413-b	26" vacuum	60 or above	8	3
		40-59	9	3
T414	NAP	50 or above	3.5	4
		50 or above	2.5	8
		50 or above	2	16
		40-49	4.5	4
		40-59	3.25	8
T416-a-1	NAP	40-49	2.25	16
		90 or above	2.5	12
		80-89	3.5	12

§ 305.7

7 CFR Ch. III (1-1-06 Edition)

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
T416-a-2	26" vacuum	70-79	4.5	12
		60-69	6	12
		50-59	7.5	12
		40-49	9	12
		60 or above	8	3
T416-a-3	26" vacuum	40-59	9	3
		90-96	2.5	12
		80-89	3.5	12
		70-79	4.5	12
		60-69	6	12
T502-1, T502-2, T502-3	26" vacuum	50-59	10	12
		40-49	12	12
		40 or above	8	16
T506-1, T506-2-1	26" vacuum	40 or above	8	16
		40 or above	10.5	12
		40 or above	16	8

¹ Normal atmospheric pressure.
² See T201-p-3 (§ 305.35(c)) for material not tolerant to fumigation.
³ See footnote 2.

(b) *MBSFF, fumigation with methyl bromide for sapote fruit fly.* Regulated citrus fruits originating inside an area quarantined for sapote fruit fly that are to be moved outside the quarantined area may be treated with methyl bromide fumigation in APHIS-approved chambers. Exposure period for this treatment is 2 hours. To enhance equal concentrations of methyl bromide throughout the chamber, a fan should be placed near the point of gas introduction, and allowed to run for at least 15 minutes. Fruit pulp temperature must be between 21.1 °C and 29.4 °C (70 °F and 85 °F). This temperature requirement refers to fruit pulp only and not to air temperature within the chamber. Fruit taken from a cooling room may have to be prewarmed before fumigation is attempted. To determine fruit pulp temperature, stab several fruit to the center with a suitable thermometer that reads at least in whole degrees (F or C). The lowest temperature should be used, not the average. The methyl bromide dosage is set at a rate of 2.5 pounds of 100 percent pure,

type "Q" (for quarantine use only) methyl bromide per 1,000 cubic feet of chamber space. Dosage is based upon chamber volume, not the volume of the fruit being treated. Fruit should be in cartons approved for fumigation. Cartons must be placed on pallets. There should be an air space of at least 1 foot between adjacent pallet loads; at least 1 foot between chamber walls and the nearest carton of fruit; and at least 2 feet between the height of the stack and the ceiling of the chamber. The compressed liquid methyl bromide inside the cylinder must be put through a volatilizer prior to injection into the chamber. Water temperature in the volatilizer must never fall below 65.6 °C (150 °F) at any time during gas injection. However, if, prior to treatment, representative sampling reveals a level of infestation greater than 0.5 percent for the lot, then the fruit is ineligible for treatment.

§305.7 Phosphine treatment schedules.

Treatment schedule	Pressure	Temperature (°F)	Dosage rate	Exposure period (hours)
T203-f-4	NAP ¹	50 or above	2.1 grams/cubic meter	120
T203-g-3	NAP	50 or above	2.1 grams/cubic meter	120
T301-a-6	NAP	50 or above	60 grams/1000 ft ³	120
T301-d-1-2	NAP	50 or above	36 grams/1000 ft ³	72
T311	NAP	50 or above	60 grams/1000 ft ³	168

¹ Normal atmospheric pressure.

§ 305.8 Sulfuryl fluoride treatment schedules.

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
T310-d	NAP ¹	70 or above	2	24
		50-69	2.5	24
		40-49	3	24
DT404-b-2	NAP	70 or above	4	16
		60-69	4	24
		50-59	5	24
		40-49	6.5	24
			5	32
T404-c-2	NAP	70 or above	1	16
		60-69	1.5	24
		50-59	2.5	24

¹ Normal atmospheric pressure.

§ 305.9 Aerosol spray for aircraft treatment schedules.

(a) *Military aircraft.* Aerosol disinfection of U.S. military aircraft must conform to requirements in the latest edition of "Quarantine Regulations of the Armed Forces" (Army Reg. 40-12; SECNAVINST 6210.2A; AFR 161-4).

(b) *Aerosol schedules.*

Treatment schedule	Aerosol	Rate
T409-b	d-phenothrin (10%)	8g/1,000 ft ³ .
T409-c-1	Resmethrin (2%) ..	10g/1,000 ft ³ .
T409-c-3	Resmethrin (1.2%)	16.66/1,000 ft ³ .

§ 305.10 Treatment schedules for combination treatments.

(a) *Fumigation followed by cold treatment.* (1) Treatment requirements for chemical treatments in § 305.5 and for cold treatment in § 305.15 must be followed.

(2) Normal atmospheric pressure must be used for the methyl bromide portion of the treatment.

(3) In the following table, CT represents cold treatment, and MB represents methyl bromide fumigation:

Treatment schedule	Type of treatment	Temperature (°F)	Dosage rate (lb/1000 ft ³)	Exposure period
T108-a-1 ¹	MB	70 or above	2	2 hours.
		CT		4 days.
				11 days.
T108-a-2 ²	MB	70 or above	2	2.5 hours.
		CT		4 days.
				6 days.
T108-a-3 ³	MB	70 or above	2	10 days.
		CT		3 hours.
				3 days.
T108-b	MB	48-56		6 days.
		50 or above	1.5	2 hours.
		40-49	2	2 hours.
MB&CTMedfly	CT	33 or below		21 days.
		48-56		6 days.
		70 or above	2	2 hours.
MB&CTMedfly	CT	33-37		4 days.
		38-47		11 days.
		70 or above	2	2.5 hours.
MB&CTMedfly	CT	34-40		4 days.
		41-47		6 days.
		48-56		10 days.
MB&CTMedfly	MB	70 or above	2	3 hours.
		CT		3 days.
				6 days.
MB&CTOFF ⁴	MB	70 or above	2	2 hours.
		CT		4 days.
				11 days.
MB&CTOFF ⁴	CT	33-37		4 days.
		38-47		11 days.
		70 or above	2	2 hours.

Treatment schedule	Type of treatment	Temperature (°F)	Dosage rate (lb/1000 ft ³)	Exposure period
	MB	70 or above	2	2.5 hours.
	CT	34–40 .....	.....	4 days.
		41–47 .....	.....	6 days.
		48–56 .....	.....	10 days.
	MB	70 or above	2	3 hours.
	CT	43–47 .....	.....	3 days.
		48–56 .....	.....	6 days.

¹ For Hawaiian-grown avocados only, a single transient heat spike of no greater than 39.6 °F (4.2 °C) and no longer than 2 hours, during or after 6 days of cold treatment, does not affect the efficacy of the treatment.

² See footnote 1.

³ See footnote 1.

⁴ Following fumigation, the fruit must be aerated 2 hours before refrigeration (but refrigeration must begin no more than 24 hours after fumigation is completed).

(b) *Cold treatment followed by fumigation.* (1) Treatment requirements for chemical treatments in §305.5 and for cold treatment in §305.15 must be followed.

(2) Use normal atmospheric pressure for the methyl bromide portion of the treatment.

(3) In the following table, CT represents cold treatment, and MB represents methyl bromide fumigation:

Treatment schedule	Type of treatment	Temperature (°F)	Dosage rate (lb/1000 ft ³)	Exposure period
T109–a–1	CT	34 or below .....	.....	40 days.
	MB	50 or above	3	2 hours.
T109–a–2	CT	34 or below .....	.....	40 days.
	MB	59 or above	2 pounds 6 ounces	2 hours.
T109–d–1	CT	33 or below .....	.....	21 days.
	MB	70 or above	2	2 hours.
		60–69	2.5	
		40–59	3	
CT&MBOFF	CT	33 .....	.....	21 days.
	MB	40–59	3	2 hours.
		60–69	2.5	2 hours.
		70–79	2	2 hours.

(c) *T203–p and T511–1, hot water and chemical dip for citrus (Rutaceae) seeds for citrus canker.* (1) If any mucilaginous material, such as pulp, is adhering to the seed, the seed must be washed to remove it.

(2) The seed must be immersed in water heated to 125 °F or above for 10 minutes.

(3) Then the seed must be immersed for at least 2 minutes in a solution containing 200 parts per million sodium hypochlorite at a pH of 6.0 to 7.5.

(4) Seed from regions where citrus canker occurs must be drained, dried, and repacked near original moisture content.

(d) *T201–g–2 and T201–p–2, hand removal plus malathion-carbaryl chemical dip.* (1) Pests must be removed by hand from infested parts.

(2) The solutions must be prepared by adding 3 level tablespoons of 25 percent malathion wettable powder and 3 level tablespoons of 50 percent carbaryl wettable powder to each gallon of water. The addition of a sticker-spreader formulation may be required for hard to wet plants. Fresh chemicals must be used and the dip must be prepared for same day use. (For T201–p–2, when the actionable pests are scale insects or their immature crawlers and the label permits, the solution is prepared as indicated, except the 25 percent malathion wettable powder is increased to 4 level tablespoons.)

(3) The entire plant, including the roots, must be submerged in the chemical dip for 30 seconds.

§ 305.11 Miscellaneous chemical treatments.

(a) *CC1 for citrus canker.* The fruit must be thoroughly wetted for at least 2 minutes with a solution containing 200 parts per million sodium hypochlorite.

(b) *CC2 for citrus canker.* The fruit must be thoroughly wetted with a solution containing sodium o-phenyl phenate (SOPP) at a concentration of 1.86 to 2.0 percent of the total solution, for 45 seconds if the solution has sufficient soap or detergent to cause a visible foaming action or for 1 minute if the solution does not contain sufficient soap to cause a visible foaming action.

§§ 305.12–305.14 [Reserved]**Subpart—Cold Treatments****§ 305.15 Treatment requirements.**

(a) *Approved facilities and carriers.* Cold treatment facilities or carriers must be approved by APHIS. Re-approval is required annually, or as often as APHIS directs, depending on treatments performed, commodities handled, and operations conducted at the facility. In order to be approved, facilities and carriers must:

(1) Be capable of keeping treated and untreated fruits, vegetables, or other articles separate so as to prevent reinfestation of articles and spread of pests;

(2) Have equipment that is adequate to effectively perform cold treatment.

(b) *Cold treatment enclosures.* All enclosures in which cold treatment is performed, including refrigerated containers, must:

(1) Be capable of precooling, cooling, and holding fruit at temperatures less than or equal to 2.2 °C (36 °F).

(2) Maintain pulp temperatures according to treatment schedules with no more than a 0.3 °C (0.54 °F) variation in temperature.

(3) Be structurally sound and adequate to maintain required temperatures.

(c) *Monitoring.* Treatment must be monitored by an official authorized by APHIS to ensure proper administration of the treatment. An official authorized by APHIS must approve the recording devices and sensors used to

monitor temperatures and conduct an operational check of the equipment before each use and ensure sensors are calibrated. An official authorized by APHIS approves, adjusts, or rejects the treatment.

(d) *Compliance agreements.* Facilities located in the United States must operate under a compliance agreement with APHIS. The compliance agreement must be signed by a representative of the cold treatment facility and APHIS. The compliance agreement must contain requirements for equipment, temperature, circulation, and other operational requirements for performing cold treatment to ensure that treatments are administered properly. Compliance agreements must allow officials of APHIS to inspect the facility to monitor compliance with the regulations.

(e) *Work plans.* Facilities located outside the United States must operate in accordance with a work plan. The work plan must be signed by a representative of the cold treatment facility, the national plant protection organization of the country of origin (NPPO), and APHIS. The work plan must contain requirements for equipment, temperature, circulation, and other operational requirements for performing cold treatment to ensure that cold treatments are administered properly. Work plans for facilities outside the United States may include trust fund agreement information regarding payment of the salaries and expenses of APHIS employees on site. Work plans must allow officials of the NPPO and APHIS to inspect the facility to monitor compliance with APHIS regulations.

(f) *Treatment procedures.* (1) All material, labor, and equipment for cold treatment performed on vessels must be provided by the vessel or vessel agent. An official authorized by APHIS monitors, manages, and advises in order to ensure that the treatment procedures are followed.

(2) Fruit that may be cold treated must be safeguarded to prevent cross-contamination or mixing with other infested fruit. Before loading in cold treatment containers, packages of fruit must be pre-cooled to a treatment temperature or to a uniform temperature

§ 305.16

7 CFR Ch. III (1–1–06 Edition)

not to exceed 4.5 °C (40 °F) or precooled at the terminal to 2.2 °F (36 °F).

(3) Breaks, damage, etc., in the treatment enclosure that preclude maintaining correct temperatures must be repaired before use. An official authorized by APHIS must approve loading of compartment, number and placement of sensors, and initial fruit temperature readings before beginning the treatment.

(4) At least three temperature sensors must be used in the treatment compartment during treatment.

(5) The time required to complete the treatment begins when the temperature reaches the required temperature.

(6) Only the same type of fruit in the same type of package may be treated together in a container; no mixture of fruits in containers will be treated.

(7) Fruit must be stacked to allow cold air to be distributed throughout the enclosure, with no pockets of warmer air, and to allow random sampling of pulp temperature in any location in load. Temperatures must be recorded at intervals no longer than 1 hour apart. Gaps of longer than 1 hour may invalidate the treatment or indicate treatment failure.

(8) Cold treatment is not completed until so designated by an official authorized by APHIS or the certifying official of the foreign country; shipments of treated commodities may not be discharged until full APHIS clearance has been completed, including review and approval of treatment record charts.

(9) Pretreatment conditioning (heat shock or 100.4 °F for 10 to 12 hours) of fruits is optional and is the responsibility of the shipper.

(10) Cold treatment of fruits in break-bulk vessels or containers must be initiated by an official authorized by APHIS if there is not a treatment technician who has been trained to initiate cold treatments for either break-bulk vessels or containers.

§ 305.16 Cold treatment schedules.

Treatment schedule	Temperature (°F)	Exposure period
T107-a ¹	34 or below ...	14 days.
	35 or below ...	16 days.
	36 or below ...	18 days.
T107-a-1	34 or below ...	15 days.
	35 or below ...	17 days.
T107-b	33 or below ...	18 days.

Treatment schedule	Temperature (°F)	Exposure period
T107-c	34 or below ...	20 days.
	35 or below ...	22 days.
	32 or below ...	11 days.
	33 or below ...	13 days.
	34 or below ...	15 days.
T107-d	35 or below ...	17 days.
	32 or below ...	13 days.
	33 or below ...	14 days.
	34 or below ...	18 days.
	35 or below ...	20 days.
T107-e	36 or below ...	22 days.
T107-f	31 or below ²	22 days.
	32 or below ...	10 days.
T107-g	33 or below ...	11 days.
	34 or below ...	12 days.
	35 or below ...	14 days.
	0 or below	7 days.
	T107-h	33.4 or below	13 days.
T107-j	33.8 or below	15 days.
	34.5 or below	18 days.
	33.8 or below	13 days.
	34.5 or below	18 days.
	CTMedfly	34 or below ...	14 days.
35 or below ...		16 days.
36 or below ...		18 days.
T403-a-2-3 (for temperatures below 55 °F).	0	48 hours.
T403-a-4-3, T403-a-5-3, T403-a-6-1.	0	48 hours.
T403-a-6-2	0	32 hours.
	10	48 hours.
T403-a-6-3	0	8 hours.
	10	16 hours.
	20	24 hours.

¹ For Hawaiian-grown avocados only, a single transient heat spike of no greater than 39.6 °F (4.2 °C) and no longer than 2 hours, during or after 6 days of cold treatment, does not affect the efficacy of the treatment.

² Commence when sensors are at 31 °F or below. If the temperature exceeds 31.5 °F, extend the treatment one-third of a day for each day, or part of a day, that the temperature is above 31.5 °F. If the exposure period is extended, the temperature during the extension period must be 34 °F or below. If the temperature exceeds 34 °F at any time, the treatment is nullified. Also, some freeze damage may occur if the pulp temperature drops below approximately 29.5 °F. This varies with the commodity.

Subpart—Quick Freeze Treatments

§ 305.17 Authorized treatments; exceptions.

(a) Quick freeze is an authorized treatment for all fruits and vegetables imported into the United States or moved interstate from Hawaii or Puerto Rico, except for those fruits and vegetables listed in paragraph (b) of this section. Quick freeze for fruits and vegetables imported into the United States or moved interstate from Hawaii or Puerto Rico must be conducted in accordance with §§ 318.13-4a, 318.58-4a, and 319.56-2c, respectively.

(b) Quick freeze is not an authorized treatment for:

(1) Avocados with seeds from South America, Central America, or Mexico.

(2) Citrus with peel from Afghanistan, Andaman Islands, Argentina, Bangladesh, Brazil, Cambodia, China (People's Republic of), Comoros, Cote d'Ivoire, Federated States of Micronesia, Fiji Islands, Home Island in Cocos (Keeling) Islands, Hong Kong, India, Indonesia, Japan and adjacent islands, Korea, Laos, Madagascar, Malaysia, Maldives, Mauritius, Mozambique, Myanmar, Nepal, Oman, Pakistan, Palau, Papua New Guinea, Paraguay, Philippines, Reunion Islands, Rodrigues Islands, Ryukyu Islands, Saudi Arabia, Seychelles, Sri Lanka, Taiwan, Thailand, Thursday Island, United Arab Emirates, Uruguay, Vietnam, Yemen, and Zaire.

(3) Mangoes with seeds from Barbados, Dominica, French Guiana, Guadeloupe, Martinique, St. Lucia, and all countries outside of North, Central, and South America and their adjacent islands (which include the Caribbean Islands and Bermuda).

(4) Corn-on-the-cob from Albania, Algeria, Bosnia and Hercegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Macedonia, Morocco, Sardinia, Serbia and Montenegro, Slovenia, Spain, Syria, Tunisia, and Turkey.

(5) Black currants unless authorized in an import permit to specified areas.

(c) Quick freeze may damage commodities and is recommended for thick-skinned fruits and vegetables, such as durian and coconut, that will be processed into another form (*e.g.*, for puree, juice, or mashed vegetables).

[70 FR 33269, June 7, 2005, as amended at 70 FR 41092, July 15, 2005]

§ 305.18 Quick freeze treatment schedule.

(a) *T110*. (1) Initially, lower the commodity's temperature to 0 °F or below.

(2) Hold the temperature of the commodity at 20 °F or below for at least 48 hours.

(3) The commodity may be transported during the 48-hour treatment period, but the temperature must be maintained at 20 °F or below prior to release.

(4) The fruits and vegetables may not be removed from the vessel or vehicle

transporting them until an inspector has determined that they are in a satisfactory frozen state upon arrival. If the temperature of the fruits or vegetables in any part of a shipment is found to be above 20 °F at the time of inspection upon arrival, the entire shipment must remain on board the vessel or vehicle under such safeguards as may be prescribed by the inspector until the temperature of the shipment is below 20 °F, or the shipment is transported outside the United States or its territorial waters, or is otherwise disposed of to the satisfaction of the inspector.

(b) [Reserved]

§ 305.19 [Reserved]

Subpart—Heat Treatments

§ 305.20 Treatment requirements.

(a) *Certified facility*. The treatment facility must be certified by APHIS. Recertification is required annually, or as often as APHIS directs, depending upon treatments performed, commodities handled, and operations conducted at the facility. In order to be certified, a heat treatment facility must:

(1) Have equipment that is capable of adequately circulating air or water (as relevant to the treatment), changing the temperature, and maintaining the changed temperature sufficient to meet the treatment schedule parameters.

(2) Have equipment used to record, monitor, or sense temperature, maintained in proper working order.

(3) Keep treated and untreated fruits, vegetables, or articles separate so as to prevent reinfestation and spread of pests.

(b) *Monitoring*. Treatment must be monitored by an official authorized by APHIS to ensure proper administration of the treatment. An official authorized by APHIS approves, adjusts, or rejects the treatment.

(c) *Compliance agreements*. Facilities located in the United States must operate under a compliance agreement with APHIS. The compliance agreement must be signed by a representative of the heat treatment facilities located in the United States and APHIS. The compliance agreement must contain

requirements for equipment, temperature, water quality, circulation, and other measures for performing heat treatments to ensure that treatments are administered properly. Compliance agreements must allow officials of APHIS to inspect the facility to monitor compliance with the regulations.

(d) *Work plans.* Facilities located outside the United States must operate in accordance with a work plan. The work plan must be signed by a representative of the heat treatment facilities located outside the United States the national plant protection organization of the country of origin (NPPO), and APHIS. The work plan must contain requirements for equipment, temperature, water quality, circulation, and other measures to ensure that heat treatments are administered properly. Work plans for facilities outside the United States must include trust fund agreement information regarding payment of the salaries and expenses of APHIS employees on site. Work plans must allow officials of the NPPO and APHIS to inspect the facility to monitor compliance with APHIS regulations.

(e) *Treatment procedures.* (1) Before each treatment can begin, an official authorized by APHIS must approve the loading of the commodity in the treatment container.

(2) Sensor equipment must be adequate to monitor the treatment, its type and placement must be approved by an official authorized by APHIS, and the equipment must be tested by an official authorized by APHIS prior to beginning the treatment. Sensor equipment must be locked before each treatment to prevent tampering.

(3) Fruits, vegetables, or articles of substantially different sizes must be treated separately; oversized fruit may be rejected by an official authorized by APHIS.

(4) The treatment period begins when the temperature specified by the treat-

ment schedule has been reached. An official authorized by APHIS may abort the treatment if the facility requires an unreasonably long time to achieve the required temperature.

§305.21 Hot water dip treatment schedule for mangoes.

Mangoes may be treated using schedule T102-a:

(a) Fruit must be presorted by weight class. Treatment of mixed loads is not allowed.

(b) The mangoes must be treated in the country of origin at a certified facility under the monitoring of an official authorized by APHIS. Prior to each use, an official authorized by APHIS must test and determine that the treatment tank, temperature recording device, and other monitoring equipment of the tank are adequate to conduct the treatment.

(c) Water in the treatment tank must be treated or changed regularly to prevent microbial contamination. Chlorinated water must be used.

(d) Pulp temperature must be 70 °F or above before starting the treatment.

(e) Fruit must be submerged at least 4 inches below the water's surface.

(f) Water must circulate constantly and be kept at 115 °F or above throughout the treatment with the following tolerances:

(1) During the first 5 minutes of a treatment, temperatures below 113.7 °F are allowed if the temperature is at least 115 °F at the end of the 5-minute period.

(2) For treatments lasting 65–75 minutes, temperatures may fall no lower than 113.7 °F for no more than 10 minutes under emergency conditions.

(3) For treatments lasting 90–110 minutes, temperatures may fall no lower than 113.7 °F for no more than 15 minutes under emergency conditions.

(g) Dip time is as follows:

(1)

Origin	Shape of mango ¹	Weight (grams)	Dip time ² (minutes)
Puerto Rico, U.S. Virgin Islands, or West Indies (excluding Aruba, Bonaire, Curacao, Margarita, Tortuga, or Trinidad and Tobago).	Flat, elongated varieties	Up to 400	65
		400–570	75
	Rounded varieties	Up to 500	75
		500–700	90
		701–900	110

Origin	Shape of mango ¹	Weight (grams)	Dip time ² (minutes)
Central America (north of and including Costa Rica) or Mexico.	Flat, elongated varieties	Up to 375	65
		375–570	75
	Rounded varieties	Up to 500	75
		500–700	90
Panama, South America, or West Indies islands of Aruba, Bonaire, Curacao, Margarita, Tortuga, or Trinidad and Tobago.	Flat, elongated varieties	701–900	110
		Up to 375	65
	Rounded varieties	375–570	75
		Up to 425	75
		425–650	90

¹ Flat, elongated varieties include Frances, Carrot, Zill, Ataulfo, Carabao, Irwin, and Manila, and rounded varieties include Tommy Atkins, Kent, Hayden, and Keitt.
² See paragraph (g)(2) of this section for required dip times if the fruit is hydrocooled within 30 minutes of removal from the hot water immersion tank.

(2) Dip times in paragraph (g)(1) of this section are valid if the fruit is not hydrocooled within 30 minutes of removal from the hot water immersion tank. If hydrocooling starts immediately after the hot water immersion treatment, then the original dip time must be extended for an additional 10 minutes. Hydrocooling is optional but may be done only at temperatures of 70 °F or above.

§305.22 Hot water immersion treatment schedules.

(a) *T102-d.* (1) Fruit must be grown and treated in Hawaii.

(2) Fruit must be submerged at least 4 inches below the water’s surface in a hot water immersion treatment tank certified by APHIS.

(3) The fruit must be submerged for 20 minutes after the water temperature reaches at least 120.2 °F in all locations of the tank. The water must circulate continually and be kept at 120.2 °F or above for the duration of the treatment. Temperatures exceeding 121.1 °F can cause phytotoxic damage.

(4) Hydrocooling for 20 minutes at 75.2 °F is recommended to prevent injury to the fruit from the hot water immersion treatment.

(b) *T102-d-1.* (1) Fruit must be at ambient temperature before treatment begins.

(2) Fruit must be submerged at least 4 inches below the water’s surface in a hot water immersion treatment tank certified by APHIS.

(3) The fruit must be submerged for 20 minutes after the water temperature reaches at least 120.2 °F in all locations of the tank. The water must circulate continually and be kept at 120.2 °F or above for the duration of the treatment. Temperatures exceeding 121.1 °F can cause phytotoxic damage.

(4) Hydrocooling for 20 minutes at 75.2 °F is recommended to prevent injury to the fruit from the hot water immersion treatment.

(c) *T102-e.* (1) Fruit must be submerged at least 4 inches below the water’s surface in a hot water immersion treatment tank certified by APHIS.

(2) Water must circulate continually and be kept at 120.2 °F or above for 20 minutes. Treatment time begins when the water temperature reaches at least 120.2 °F in all locations of the tank. Temperatures exceeding 125.6 °F or treatment times significantly exceeding 20 minutes can cause phytotoxic damage.

(3) Cooling and waxing the fruit are both optional and are the sole responsibility of the processor.

§305.23 Steam sterilization treatment schedules.

Treatment schedule	Temperature (°F)	Pressure	Exposure period (minutes)	Directions
T303-b-1		10 lbs	20	Use 28" vacuum. Steam sterilization is not practical for treatment of bales with a density of greater than 30 pounds per cubic foot.

Treatment schedule	Temperature (°F)	Pressure	Exposure period (minutes)	Directions
T303–b–2		10 lbs	20	Use 28" vacuum. If without initial vacuum, bleed air until steam vapor escapes. Steam sterilization is not practical for treatment of bales with a density of greater than 30 pounds per cubic foot.
T303–d–2	260	20 lbs	15	
	250	15 lbs	20	
T309–c	240	10 psi	20	Use 25 Prime vacuum.
T406–d	140	NAP ¹	60	
				Steam at NAP, tarpaulin or tent. For treatment enclosures of 4,000 ft ³ or less, the minimum air temperature must be 40 °F. For treatment enclosures greater than 4,000 ft ³ and less than or equal to 6,000 ft ³ , the minimum air temperature must be 60 °F. Treatment is not recommended for treatment enclosures greater than 6,000 ft ³ .
T408–b	250	15 psi	30	Preheat laboratory autoclaves. Restrict soil depth to 2 inches when treating quantities of soil in trays. Restrict each package weight to 5 pounds or less when treating individual packages. Load with adequate spacing. Large commercial steam facilities that operate at pressures up to 60 pounds psi will permit treatment of greater soil depth.
T503–1–3 or T503–2–3 (nonbaled).	240	NAP	10	
T503–1–3 or T503–2–3 (baled).	240	10 lbs	20	
T504–1–2, T504–2–2	242	10 lbs	20	
T506–2–3 Loose masses of material.		20 lbs	10	Introduce live steam into a closed chamber containing the material to be treated until the required temperature and pressure are indicated. The temperature/pressure relationship must be maintained at or above this point for the required exposure period. No initial vacuum is needed, but air must be released until steam escapes.
		15 lbs	15	
		10 lbs	20	
T506–2–3 Closely packed material (such as soil).				Exhaust the air in the chamber to a high vacuum, and then introduce live steam until the required positive pressure is reached.
T510–1	212			Live steam from jet of nozzle into loose masses of material until all parts reach 212 °F.
T518–2–2	260	20 lbs	15	
	250	15 lbs	20	
T519–1		10 lbs	20	Introduce steam into 28" vacuum.
T519–2	259	20 lbs	10	
	240	10 lbs	20	Introduce steam into 28" vacuum (or if without initial vacuum, "bleed" air until steam vapor escapes).

¹ Normal atmospheric pressure.

[70 FR 33269, June 7, 2005, as amended at 70 FR 41092, July 15, 2005]

§305.24 Vapor heat treatment schedules.

(a) *T106-a-1, T106-a-2, T106-a-3, T106-a-4.* (1) The temperature of the fruit pulp must be increased gradually to 110 °F until the center of the fruit reaches that temperature in 8 hours.

(2) The fruit temperature must be held at 110 °F for 6 hours.

(b) *T106-a-1-1.* (1) The temperature of the fruit pulp must be increased to 110 °F until the center of fruit reaches that temperature in 6 hours. During the first 2 hours, the temperature must be increased rapidly. The increase over the next 4 hours must be gradual.

(2) The fruit temperature must be held at 110 °F for 4 hours.

(c) *T106-b-1, T106-b-2, T106-b-3, T106-b-4, T106-b-5, T106-b-6, T106-b-7, T106-b-8.* The temperature of the article must be increased using saturated water vapor at 112 °F until the approximate center of the fruit reaches 112 °F. The fruit temperature must be held at 112 °F for 8.75 hours; then immediately cooled.

(d) *T106-c (Quick run-up).* (1) The temperature of the article must be increased until the approximate center of fruit reaches 117 °F in a time period of at least 4 hours.

(2) During the last hour of treatment, the relative humidity in the chamber

must be maintained at 90 percent or greater.

(e) *T106-d*. (1) The fruit must be sized before treatment. Temperature probes must be placed in the center of the largest fruits. The temperature of the fruit must be increased using saturated water vapor at 117.5 °F until the pulp temperature near the seed reaches 115.7 °F. The pulp temperature must be held at 115.7 °F or above for 30 minutes; then immediately cooled.

(f) *T106-d-1*. (1) The fruit must be sized before the treatment. Temperature probes must be placed in the center of the largest fruits.

(2) The temperature of the fruit must be increased using saturated water vapor at 117.5 °F until the center of the fruit reaches 114.8 °F in a minimum of 4 hours.

(3) The fruit temperature must be maintained at 114.8 °F for 10 minutes.

(g) *T106-e*. (1) Raise temperature of the fruit using saturated water vapor at 116.6 °F until the approximate center of the fruit reaches 114.8 °F within a minimum time period of 4 hours.

(2) Hold fruit temperature at 114.8 °F or above for 20 minutes. If post-treatment cooling is conducted, wait 30 minutes after the treatment to start the forced cooling process.

(h) *T106-f*. (1) The temperature probes must be placed in the approximate cen-

ter of the largest fruits at the seed's surface.

(2) The temperature of the fruit must be increased to 117 °F. The total runup time for all sensors must take at least 60 minutes.

(3) The fruit temperature must be held at 117 °F or above for 20 minutes. During the treatment, the relative humidity must be maintained at 90 percent or greater.

(4) The fruit must be hydrocooled under a cool water spray until the fruit sensors reach ambient temperature.

(5) Inspectors will examine the fruit for live quarantine pests. If pests are found, the inspector will reject the treatment.

(i) *T106-g*. (1) The internal temperature of the fruit must be increased using saturated water vapor until the approximate center of fruit reaches 117 °F in a minimum time of 1 hour or longer.

(2) The fruit temperature must be held at 117 °F or above for 20 minutes. During the treatment, the relative humidity must be maintained at 90 percent or greater.

(j) *T412-b-2*. The commodity must be heated to 212 °F for 15 minutes.

§ 305.25 Dry heat treatment schedules.

Treatment schedule	Temperature (°F)	Time	Directions
T302-a-1-2	168 minimum	At least 2 hours	Spread the ears of corn in single layers on slats or wire shelves.
T303-c-1	212	1 hour.	
T303-d-1	180-200	2 hours.	
T408-a	230-249	16 hours	Spread soil in layers 0.5 inches in depth to ensure uniform heat penetration.
	250-309	2 hours.	
	310-397	30 minutes.	
	380-429	4 minutes.	
	430-450	2 minutes.	
T412-a	248	15 minutes	Start timing when the entire mass reaches 248 °F. ¹
T412-b-1	212	15 minutes.	
T503-1-4, T503-2-4, T504-1-1, T504-2-1.	212	1 hour	Treat small bales only.
T518-1	170	4.5 hours	May take 2 hours to reach temperature.
T518-2-1	180-200	2 hours.	

¹A minimum of two temperature probes must be placed in the heat treating equipment in order to determine that all niger seed being treated reaches the target temperature. The treatment temperature must be recorded accurately, precisely, and regularly during treatment. The monitoring equipment must be locked before each treatment begins to prevent tampering. Seed processing equipment must have the capability to divert for retreatment any nontreated seeds or treated seeds that do not meet treatment standards.

§ 305.26 Khapra beetle treatment schedule for feeds and milled products.

Feeds and milled products may be treated for khapra beetle using schedule T307-a. The temperature must be 180 °F in any part of the products, or the temperature must be at 150 °F for a total of 7 minutes. All parts of the commodity being moved through or manipulated in the heated area must meet the time and temperature requirements. This treatment must be specifically authorized in each case by the Director of Plant Health Programs, PPQ, APHIS.

§ 305.27 Forced hot air treatment schedules.

(a) *T103-a-1*. (1) The temperature probes must be placed into the center of the largest fruit in the load. The number and placement of temperature probes must be approved by APHIS' Center for Plant Health Science and Technology (CPHST) before APHIS can authorize treatment. CPHST grants approval of treatment equipment and facilities through a chamber certification procedure.

(2) APHIS may reject the treatment if the size of an individual fruit exceeds the maximum size authorized by APHIS.

(3) Fruit can be sized before or after the heat treatment. The largest fruit in a load can be identified by either sizing all fruit prior to heating and selecting the largest size class in the load or acquiring fruit of the largest permitted maximum commercial size class.

(4) The fruit containing the temperature probes must be placed inside the hot air chamber at chamber locations specified by APHIS during the chamber certification.

(5) Fruit temperature must be increased within specifications:

(i) The fruit center temperature must be increased to 111.2 °F within 90 minutes or more (minimum approach time is 90 minutes) for all temperature probes.

(ii) The fruit center temperature must be kept at 111.2 °F or hotter for 100 minutes.

(iii) The temperature of the fruit center must be recorded every 2 minutes for the duration of the treatment.

(iv) The total treatment time will vary with the time required to reach 111.2 °F.

(v) Fruit must be cooled after the treatment is completed.

(b) *T103-b-1, T103-d-1, and T103-d-2*.

(1) Temperature sensors must be inserted into the centers of the largest fruits. The number of sensors must be approved in advance by APHIS. Sensors must be physically placed in various parts of the load so that high, middle, and low areas are all represented.

(2) Fruit (placed in open trays, bulk bins, or ventilated boxes) must be loaded into the treatment chamber, and sensors must be attached to the recorder monitor.

(3) The monitor must be set to record temperatures from all sensors at least once every 5 minutes.

(4) The fruit in the chamber must be heated using forced hot air, until the fruit center temperature (all sensors) reaches at least 117 °F. Treatment time may vary, but in every case, it must be at least 4 hours in duration, which includes the lead-up time. The total time required for the fruit to reach 117 °F is counted as part of the 4-hour minimum treatment time.

(5) The temperature of the forced air used to heat the fruit in the chamber may be constant or increased in a series of two or more steps or ramped over the treatment duration.

(6) The fruit may be cooled by forced air or hydrocooling. Cooling can be initiated immediately after all sensors reach at least 117 °F.

(c) *T103-c-1*. (1) Size and weight of fruit: Standard fruit size 8-14; must not exceed 1½ pounds.

(2) At least three of the largest mangoes must be probed at the seed's surface. Sensors must be inserted into the thickest portion of the fruit's pulp.

(3) The temperature must be recorded at least once every 2 minutes until the treatment is concluded.

(4) Air heated to 122 °F must be introduced in the chamber.

(5) The treatment must be concluded once the temperature at the seed's surface reaches 118 °F.

(d) *T103-e.* (1) The temperature of the fruit must be raised using forced hot air until the fruit center temperature (all sensors) reaches at least 117 °F in a minimum time of 1 hour. Heat the fruit in the chamber.

(2) The fruit temperature must be held at 117 °F or above for 20 minutes.

During the treatment, the relative humidity must be maintained at 90 percent or greater.

[70 FR 33269, June 7, 2005, as amended at 70 FR 41092, July 15, 2005]

§ 305.28 Kiln sterilization treatment schedule.

T404-b-4

Dry bulb temperature (°F)	Wet bulb depression (°F)	Percent relative humidity	Percent moisture content	Thickness of lumber (inches)	Exposure (hours)
140	7	82	13.8	1	3
				2	5
				3	7
130	16	60	9.4	1	10
				2	12
				3	14
125	15	61	9.7	1	46
				2	48
				3	50

§ 305.29 Vacuum heat treatment schedule.

T111-a-1. Place bay leaves in a vacuum chamber. Starting at 0 hour, gradually reduce to 0.133 Kpa vacuum at 8 hours. Maintain the vacuum until the end of the treatment. Gradually increase the temperature in the vacuum chamber from ambient temperature at 0 hour to 60 °C at 5 hours. After 5 hours, gradually lower the temperature to 30 °C at 22 hours. The length of the treatment is 22 hours.

[70 FR 36332, June 23, 2005]

§ 305.30 [Reserved]

Subpart—Irradiation Treatments

§ 305.31 Irradiation treatment of imported fruits and vegetables for certain fruit flies and mango seed weevils.

(a) *Approved doses.* Irradiation at the following doses for the specified fruit flies and seed weevils, carried out in accordance with the provisions of this section, is approved as a treatment for all fruits and vegetables:

IRRADIATION FOR FRUIT FLIES AND SEED WEEVILS IN IMPORTED FRUITS AND VEGETABLES

Scientific name	Common name	Dose (Gray)
(1) <i>Bactrocera dorsalis</i> ...	Oriental fruit fly	250
(2) <i>Ceratitis capitata</i>	Mediterranean fruit fly ...	225

IRRADIATION FOR FRUIT FLIES AND SEED WEEVILS IN IMPORTED FRUITS AND VEGETABLES—Continued

Scientific name	Common name	Dose (Gray)
(3) <i>Bactrocera cucurbitae</i> .	Melon fly	210
(4) <i>Anastrepha fraterculus</i> .	South American fruit fly	150
(5) <i>Anastrepha suspensa</i> .	Caribbean fruit fly	150
(6) <i>Anastrepha ludens</i> ...	Mexican fruit fly	150
(7) <i>Anastrepha obliqua</i> ..	West Indian fruit fly	150
(8) <i>Anastrepha serpentina</i> .	Sapote fruit fly	150
(9) <i>Bactrocera tryoni</i>	Queensland fruit fly	150
(10) <i>Bactrocera jarvisi</i> ...	(No common name)	150
(11) <i>Bactrocera latifrons</i>	Malaysian fruit fly	150
(12) <i>Sternochetus mangiferae</i> (Fabricus).	Mango seed weevil	300

(b) *Location of facilities.* Where certified irradiation facilities are available, an approved irradiation treatment may be conducted for any fruit or vegetable either prior to shipment to the United States or in the United States. Irradiation facilities certified under this section may be located in any State on the mainland United States except Alabama, Arizona, California, Florida, Georgia,¹ Kentucky,

¹Irradiation facilities may be located at the maritime ports of Gulfport, MS, or Wilmington, NC, or the airport of Atlanta, GA, if the following special conditions are met:

Continued

Louisiana, Mississippi,¹ Nevada, New Mexico, North Carolina,¹ South Carolina, Tennessee, Texas, and Virginia. Prior to treatment, the fruits and vegetables to be irradiated may not move into or through any of the States listed in this paragraph, except that movement is allowed through Dallas/Fort Worth, Texas, as an authorized stop for air cargo, or as a transloading location for shipments that arrive by air but that are subsequently transloaded into trucks for overland movement from Dallas/Fort Worth into an authorized State by the shortest route.

(c) *Compliance agreement with importers and facility operators for irradiation in the United States.* If irradiation is conducted in the United States, both the importer and the operator of the irradiation facility must sign compliance agreements with the Administrator. In the facility compliance agreement, the facility operator must agree to comply with any additional requirements found necessary by the Administrator to prevent the escape, prior to irradiation, of any fruit flies that may be associated with the articles to be irradiated. In the importer compliance agreement, the importer must agree to comply with any additional requirements found necessary by the Administrator to ensure the shipment is not diverted to a destination other than an approved treatment facility and to prevent escape of plant pests from the articles to be irradiated during their transit from the port of first arrival to the irradiation facility in the United States.

(d) *Compliance agreement with irradiation facilities outside the United States.* If

The articles to be irradiated must be imported packaged in accordance with paragraph (g)(2)(i)(A) of this section; the irradiation facility and APHIS must agree in advance on the route by which shipments are allowed to move between the vessel on which they arrive and the irradiation facility; untreated articles may not be removed from their packaging prior to treatment under any circumstances; blacklight or sticky paper must be used within the irradiation facility, and other trapping methods, including Jackson/methyl eugenol and McPhail traps, must be used within the 4 square miles surrounding the facility; and the facility must have contingency plans, approved by APHIS, for safely destroying or disposing of fruit.

irradiation is conducted outside the United States, the operator of the irradiation facility must sign a compliance agreement with the Administrator and the plant protection service of the country in which the facility is located. In this agreement, the facility operator must agree to comply with the requirements of this section, and the plant protection service of the country in which the facility is located must agree to monitor that compliance and to inform the Administrator of any noncompliance.

(e) *Certified facility.* The irradiation treatment facility must be certified by the Administrator. Recertification is required in the event of an increase or decrease in the amount of radioisotope, a major modification to equipment that affects the delivered dose, or a change in the owner or managing entity of the facility. Recertification also may be required in cases where a significant variance in dose delivery has been measured by the dosimetry system. In order to be certified, a facility must:

(1) Be capable of administering the minimum absorbed ionizing radiation doses specified in paragraph (a) of this section to the fruits and vegetables;²

(2) Be constructed so as to provide physically separate locations for treated and untreated fruits and vegetables, except that fruits and vegetables traveling by conveyor directly into the irradiation chamber may pass through an area that would otherwise be separated. The locations must be separated by a permanent physical barrier such as a wall or chain link fence 6 or more feet high to prevent transfer of cartons, or some other means approved during certification to prevent reinfestation of articles and spread of pests;

(3) If the facility is located in the United States, the facility will only be certified if the Administrator determines that regulated articles will be safely transported to the facility from the port of arrival without significant risk that plant pests will escape in

²The maximum absorbed ionizing radiation dose and the irradiation of food is regulated by the Food and Drug Administration under 21 CFR part 179.

transit or while the regulated articles are at the facility.

(f) *Monitoring and interagency agreements.* Treatment must be monitored by an inspector. This monitoring will include inspection of treatment records and unannounced inspections of the facility by an inspector, and may include inspection of articles prior to or after irradiation. Facilities that carry out irradiation operations must notify the Director of Preclearance, PPQ, APHIS, 4700 River Road Unit 140, Riverdale, MD 20737-1236, of scheduled operations at least 30 days before operations commence, except where otherwise provided in the facility preclearance work plan. To ensure the appropriate level of monitoring, before articles may be imported in accordance with this section, the following agreements must be signed:

(1) *Irradiation treatment framework equivalency work plan.* The plant protection service of a country from which articles are to be imported into the United States in accordance with this section must sign a framework equivalency work plan with APHIS. In this plan, both the foreign plant protection service and APHIS will specify the following items for their respective countries:

(i) Citations for any requirements that apply to the importation of irradiated fruits and vegetables;

(ii) The type and amount of inspection, monitoring, or other activities that will be required in connection with allowing the importation of irradiated fruits and vegetables into that country; and

(iii) Any other conditions that must be met to allow the importation of irradiated fruits and vegetables into that country.

(2) *Facility preclearance work plan.* Prior to commencing importation into the United States of articles treated at a foreign irradiation facility, APHIS and the plant protection service of the country from which articles are to be imported must jointly develop a preclearance work-plan that details the activities that APHIS and the foreign plant protection service will carry out in connection with each irradiation facility to verify the facility's compliance with the requirements of this section.

Typical activities to be described in this work plan may include frequency of visits to the facility by APHIS and foreign plant protection inspectors, methods for reviewing facility records, and methods for verifying that facilities are in compliance with the requirements for separation of articles, packaging, labeling, and other requirements of this section. This facility preclearance work plan will be reviewed and renewed by APHIS and the foreign plant protection service on an annual basis.

(3) *Trust fund agreement.* Irradiated articles may be imported into the United States in accordance with this section only if the plant protection service of the country in which the irradiation facility is located has entered into a trust fund agreement with APHIS. That agreement requires the plant protection service to pay, in advance of each shipping season, all costs that APHIS estimates it will incur in providing inspection and treatment monitoring services at the irradiation facility during that shipping season. Those costs include administrative expenses and all salaries (including overtime and the Federal share of employee benefits), travel expenses (including per diem expenses), and other incidental expenses incurred by APHIS in performing these services. The agreement will describe the general nature and scope of APHIS services provided at irradiation facilities covered by the agreement, such as whether APHIS inspectors will monitor operations continuously or intermittently, and will generally describe the extent of inspections APHIS will perform on articles prior to and after irradiation. The agreement requires the plant protection service to deposit a certified or cashier's check with APHIS for the amount of those costs, as estimated by APHIS. If the deposit is not sufficient to meet all costs incurred by APHIS, the agreement further requires the plant protection service to deposit with APHIS a certified or cashier's check for the amount of the remaining costs, as determined by APHIS, before any more articles irradiated in that country may be imported into the United States. After a final audit at the conclusion of each shipping season, any

overpayment of funds would be returned to the plant protection service or held on account until needed, at the option of the plant protection service.

(g) *Packaging.* Fruits and vegetables that are irradiated in accordance with this section must be packaged in cartons in the following manner:

(1) All fruits and vegetables treated with irradiation must be shipped in the same cartons in which they are treated. Irradiated fruits and vegetables may not be packaged for shipment in a carton with nonirradiated fruits and vegetables.

(2) For all fruits and vegetables irradiated prior to arrival in the United States:

(i) The fruits and vegetables to be irradiated must be packaged either:

(A) In insect-proof cartons that have no openings that will allow the entry of fruit flies. The cartons must be sealed with seals that will visually indicate if the cartons have been opened. The cartons may be constructed of any material that prevents the entry of fruit flies and prevents oviposition by fruit flies into the articles in the carton³; or

(B) In noninsect-proof cartons that are stored immediately after irradiation in a room completely enclosed by walls or screening that completely precludes access by fruit flies. If stored in noninsect-proof cartons in a room that precludes access by fruit flies, prior to leaving the room each pallet of cartons must be completely enclosed in polyethylene, shrink-wrap, or another solid or netting covering that completely precludes access to the cartons by fruit flies.

(ii) To preserve the identity of treated lots, each pallet-load of cartons containing the fruits and vegetables must be wrapped before leaving the irradiation facility in one of the following ways:

(A) With polyethylene shrink wrap;

(B) With net wrapping; or

³If there is a question as to the adequacy of a carton, send a request for approval of the carton, together with a sample carton, to the Animal and Plant Health Inspection Service, Plant Protection and Quarantine, Center for Plant Health Inspection and Technology, 1017 Main Campus Drive, suite 2500, Raleigh, NC 27606.

(C) With strapping so that each carton on an outside row of the pallet load is constrained by a metal or plastic strap.

(iii) Packaging must be labeled with treatment lot numbers, packing and treatment facility identification and location, and dates of packing and treatment. Pallets that remain intact as one unit until entry into the United States may have one such label per pallet. Pallets that are broken apart into smaller units prior to or during entry into the United States must have the required label information on each individual carton.

(h) *Containers or vans.* Containers or vans that will transport treated commodities must be free of pests prior to loading the treated commodities.

(i) *Phytosanitary certificate.* For each shipment treated in an irradiation facility outside the United States, a phytosanitary certificate, with the treatment section completed and issued by the national plant protection organization, must accompany the shipment.

(j) *Dosimetry systems at the irradiation facility.* (1) Dosimetry mapping must indicate the doses needed to ensure that all the commodity will receive the minimum dose prescribed.

(2) Absorbed dose must be measured using an accurate dosimetry system that ensures that the absorbed dose meets or exceeds the absorbed dose required by paragraph (a) of this section (150, 210, 225, 250, or 300 gray, depending on the target species of fruit fly or seed weevil).

(3) When designing the facility's dosimetry system and procedures for its operation, the facility operator must address guidance and principles from American Society for Testing and Materials (ASTM) standards⁴ or an equivalent standard recognized by the Administrator.

(k) *Records.* An irradiation processor must maintain records of each treated lot for 1 year following the treatment date and must make these records

⁴Designation ISO/ASTM 51261-2002(E), "Standard Guide for Selection and Calibration of Dosimetry Systems for Radiation Processing," American Society for Testing and Materials, *Annual Book of ASTM Standards*.

available for inspection by an inspector during normal business hours (8 a.m. to 4:30 p.m., Monday through Friday, except holidays). These records must include the lot identification, scheduled process, evidence of compliance with the scheduled process, ionizing energy source, source calibration, dosimetry, dose distribution in the product, and the date of irradiation.

(l) *Request for certification and inspection of facility.* Persons requesting certification of an irradiation treatment facility must submit the request for approval in writing to the Animal and Plant Health Inspection Service, Plant Protection and Quarantine, Center for Plant Health Inspection and Technology, 1017 Main Campus Drive, suite 2500, Raleigh, NC 27606. The initial request must identify the owner, location, and radiation source of the facility, and the applicant must supply additional information about the facility construction, treatment protocols, and operations upon request by APHIS if APHIS requires additional information to evaluate the request. Before the Administrator determines whether an irradiation facility is eligible for certification, an inspector will make a personal inspection of the facility to determine whether it complies with the standards of this section.

(m) *Denial and withdrawal of certification.* (1) The Administrator will withdraw the certification of any irradiation treatment facility upon written request from the irradiation processor.

(2) The Administrator will deny or withdraw certification of an irradiation treatment facility when any provision of this section is not met. Before withdrawing or denying certification, the Administrator will inform the irradiation processor in writing of the reasons for the proposed action and provide the irradiation processor with an opportunity to respond. The Administrator will give the irradiation processor an opportunity for a hearing regarding any dispute of a material fact, in accordance with rules of practice that will be adopted for the proceeding. However, the Administrator will suspend certification pending final determination in the proceeding if he or she determines that suspension is necessary to prevent the spread of any

dangerous insect. The suspension will be effective upon oral or written notification, whichever is earlier, to the irradiation processor. In the event of oral notification, written confirmation will be given to the irradiation processor within 10 days of the oral notification. The suspension will continue in effect pending completion of the proceeding and any judicial review of the proceeding.

(n) *Department not responsible for damage.* This treatment is approved to assure quarantine security against the listed fruit flies. From the literature available, the fruits and vegetables authorized for treatment under this section are believed tolerant to the treatment; however, the facility operator and shipper are responsible for determination of tolerance. The Department of Agriculture and its inspectors assume no responsibility for any loss or damage resulting from any treatment prescribed or monitored. Additionally, the Nuclear Regulatory Commission is responsible for ensuring that irradiation facilities are constructed and operated in a safe manner. Further, the Food and Drug Administration is responsible for ensuring that irradiated foods are safe and wholesome for human consumption.

(Approved by the Office of Management and Budget under control number 0579-0155)

§ 305.32 Irradiation treatment of regulated fruit to be moved interstate from areas quarantined for Mexican fruit fly.

Irradiation, carried out in accordance with the provisions of this paragraph, is approved as a treatment for any fruit listed as a regulated article in § 301.64-2(a) of this chapter.

(a) *Approved facility.* The irradiation treatment facility and treatment protocol must be approved by the Animal and Plant Health Inspection Service. In order to be approved, a facility must:

(1) Be capable of administering a minimum absorbed ionizing radiation dose of 150 Gray (15 krad) to the fruit;⁵

(2) Be constructed so as to provide physically separate locations for treated and untreated fruit, except that fruit traveling by conveyor directly

⁵ See footnote 2 of this subpart.

into the irradiation chamber may pass through an area that would otherwise be separated. The locations must be separated by a permanent physical barrier such as a wall or chain link fence 6 or more feet high to prevent transfer of cartons;

(3) Complete a compliance agreement with the Animal and Plant Health Inspection Service as provided in §301.64–6 of this chapter; and

(4) Be certified by Plant Protection and Quarantine for initial use and annually for subsequent use. Recertification is required in the event that an increase or decrease in radioisotope or a major modification to equipment that affects the delivered dose. Recertification may be required in cases where a significant variance in dose delivery is indicated.

(b) *Treatment monitoring.* Treatment must be carried out under the monitoring of an inspector. This monitoring must include inspection of treatment records and unannounced inspection visits to the facility by an inspector. Facilities that carry out continual irradiation operations must notify an inspector at least 24 hours before the date of operations. Facilities that carry out periodic irradiation operations must notify an inspector of scheduled operations at least 24 hours before scheduled operations.⁶

(c) *Packaging.* Fruits and vegetables that are treated within a quarantined area must be packaged in the following manner:

(1) The cartons must have no openings that will allow the entry of fruit flies and must be sealed with seals that will visually indicate if the cartons have been opened. They may be constructed of any material that prevents the entry of fruit flies and prevents oviposition by fruit flies into the fruit in the carton.⁷

(2) The pallet-load of cartons must be wrapped before it leaves the irradiation facility in one of the following ways:

- (i) With polyethylene sheet wrap;
- (ii) With net wrapping; or

⁶Inspectors are assigned to local offices of the Animal and Plant Health Inspection Service, which are listed in telephone directories.

⁷See footnote 3 of this subpart.

(iii) With strapping so that each carton on an outside row of the pallet load is constrained by a metal or plastic strap.

(3) Packaging must be labeled with treatment lot numbers, packing and treatment facility identification and location, and dates of packing and treatment.

(d) *Dosage.* The fruits and vegetables must receive a minimum absorbed ionizing radiation dose of 150 Gray (15 krad).⁸

(e) *Dosimetry systems.* (1) Dosimetry mapping must indicate the dose needed to ensure the fruit will receive the minimum dose prescribed.

(2) Absorbed dose must be measured using an accurate dosimetry system that ensures that the absorbed dose meets or exceeds 150 Gray (15 krad).

(3) When designing the facility's dosimetry system and procedures for its operation, the facility operator must address guidance and principles from American Society for Testing and Materials (ASTM) standards.⁹

(f) *Records.* Records or invoices for each treated lot must be made available for inspection by an inspector during normal business hours (8 a.m. to 4:30 p.m., Monday through Friday, except holidays). An irradiation processor must maintain records as specified in this section for a period of time that exceeds the shelf life of the irradiated food product by 1 year, and must make these records available for inspection by an inspector. These records must include the lot identification, scheduled process, evidence of compliance with the scheduled process, ionizing energy source, source calibration, dosimetry, dose distribution in the product, and the date of irradiation.

(g) *Request for approval and inspection of facility.* Persons requesting approval of an irradiation treatment facility and treatment protocol must submit the request for approval in writing to the Animal and Plant Health Inspection Service, Plant Protection and Quarantine, Oxford Plant Protection Center, 901 Hillsboro St., Oxford, NC 27565. Before the Administrator determines

⁸See footnote 2 of this subpart.

⁹See footnote 4 of this subpart.

whether an irradiation facility is eligible for approval, an inspector will make a personal inspection of the facility to determine whether it complies with the standards of paragraph (a) of this section.

(h) *Denial and withdrawal of approval.*

(1) The Administrator will withdraw the approval of any irradiation treatment facility when the irradiation processor requests in writing the withdrawal of approval.

(2) The Administrator will deny or withdraw approval of an irradiation treatment facility when any provision of this section is not met. Before withdrawing or denying approval, the Administrator will inform the irradiation processor in writing of the reasons for the proposed action and provide the irradiation processor with an opportunity to respond. The Administrator will give the irradiation processor an opportunity for a hearing regarding any dispute of a material fact, in accordance with rules of practice that will be adopted for the proceeding. However, the Administrator will suspend approval pending final determination in the proceeding, if he or she determines that suspension is necessary to prevent the spread of any dangerous insect infestation. The suspension will be effective upon oral or written notification, whichever is earlier, to the irradiation processor. In the event of oral notification, written confirmation will be given to the irradiation processor within 10 days of the oral notification. The suspension will continue in effect pending completion of the proceeding and any judicial review of the proceeding.

(i) *Department not responsible for damage.* This treatment is approved to assure quarantine security against Mexican fruit fly. From the literature available, the fruits authorized for treatment under this section are believed tolerant to the treatment; however, the facility operator and shipper are responsible for determination of tolerance. The Department of Agriculture and its inspectors assume no responsibility for any loss or damage resulting from any treatment prescribed or supervised. Additionally, the Nuclear Regulatory Commission is responsible for ensuring that irradiation facilities

are constructed and operated in a safe manner. Further, the Food and Drug Administration is responsible for ensuring that irradiated foods are safe and wholesome for human consumption.

(Approved by the Office of Management and Budget under control number 0579-0215)

§305.33 Irradiation treatment of regulated articles to be moved interstate from areas quarantined for Mediterranean fruit fly.

Irradiation, carried out in accordance with the provisions of this section, is approved as a treatment for any berry, fruit, nut, or vegetable listed as a regulated article in §301.78-2(a) of this chapter.

(a) *Approved facility.* The irradiation treatment facility and treatment protocol must be approved by the Animal and Plant Health Inspection Service. In order to be approved, a facility must:

(1) Be capable of administering a minimum absorbed ionizing radiation dose of 225 Gray (22.5 krad) to the fruits and vegetables;¹⁰

(2) Be constructed so as to provide physically separate locations for treated and untreated fruits and vegetables, except that fruits and vegetables traveling by conveyor directly into the irradiation chamber may pass through an area that would otherwise be separated. The locations must be separated by a permanent physical barrier such as a wall or chain link fence 6 or more feet high to prevent transfer of cartons;

(3) Complete a compliance agreement with the Animal and Plant Health Inspection Service as provided in §301.78-6 of this chapter; and

(4) Be certified by Plant Protection and Quarantine for initial use and annually for subsequent use. Recertification is required in the event that an increase or decrease in radioisotope or a major modification to equipment that affects the delivered dose. Recertification may be required in cases where a significant variance in dose delivery is indicated.

(b) *Treatment monitoring.* Treatment must be carried out under the monitoring of an inspector. This monitoring

¹⁰See footnote 2 of this subpart.

must include inspection of treatment records and unannounced inspection visits to the facility by an inspector. Facilities that carry out continual irradiation operations must notify an inspector at least 24 hours before the date of operations. Facilities that carry out periodic irradiation operations must notify an inspector of scheduled operations at least 24 hours before scheduled operations.¹¹

(c) *Packaging.* Fruits and vegetables that are treated within a quarantined area must be packaged in the following manner:

(1) The cartons must have no openings that will allow the entry of fruit flies and must be sealed with seals that will visually indicate if the cartons have been opened. They may be constructed of any material that prevents the entry of fruit flies and prevents oviposition by fruit flies into the fruit in the carton.¹²

(2) The pallet-load of cartons must be wrapped before it leaves the irradiation facility in one of the following ways:

- (i) With polyethylene sheet wrap;
- (ii) With net wrapping; or
- (iii) With strapping so that each carton on an outside row of the pallet load is constrained by a metal or plastic strap.

(3) Packaging must be labeled with treatment lot numbers, packing and treatment facility identification and location, and dates of packing and treatment.

(d) *Dosage.* The fruits and vegetables must receive a minimum absorbed ionizing radiation dose of 225 Gray (22.5 krad).¹³

(e) *Dosimetry systems.* (1) Dosimetry must demonstrate that the absorbed dose, including areas of minimum and maximum dose, is mapped, controlled, and recorded.

(2) Absorbed dose must be measured using a dosimetry system that can accurately measure an adsorbed dose of 225 Gray (22.5 krad).

(3) The utilization of the dosimetry system, including its calibration and the number and placement of dosimeters used, must be in accordance

with the American Society for Testing and Materials (ASTM) standards.¹⁴

(f) *Records.* Records or invoices for each treated lot must be made available for inspection by an inspector during normal business hours (8 a.m. to 4:30 p.m., Monday through Friday, except holidays). An irradiation processor must maintain records as specified in this section for a period of time that exceeds the shelf life of the irradiated food product by 1 year, and must make these records available for inspection by an inspector. These records must include the lot identification, scheduled process, evidence of compliance with the scheduled process, ionizing energy source, source calibration, dosimetry, dose distribution in the product, and the date of irradiation.

(g) *Request for approval and inspection of facility.* Persons requesting approval of an irradiation treatment facility and treatment protocol must submit the request for approval in writing to the Animal and Plant Health Inspection Service, Plant Protection and Quarantine, Oxford Plant Protection Center, 901 Hillsboro St., Oxford, NC 27565. Before the Administrator determines whether an irradiation facility is eligible for approval, an inspector will make a personal inspection of the facility to determine whether it complies with the standards of paragraph (a) of this section.

(h) *Denial and withdrawal of approval.*

(1) The Administrator will withdraw the approval of any irradiation treatment facility when the irradiation processor requests in writing the withdrawal of approval.

(2) The Administrator will deny or withdraw approval of an irradiation treatment facility when any provision of this section is not met. Before withdrawing or denying approval, the Administrator will inform the irradiation processor in writing of the reasons for the proposed action and provide the irradiation processor with an opportunity to respond. The Administrator will give the irradiation processor an opportunity for a hearing regarding any dispute of a material fact, in accordance with rules of practice that will be adopted for the proceeding.

¹¹ See footnote 6 of this subpart.

¹² See footnote 3 of this subpart.

¹³ See footnote 2 of this subpart.

¹⁴ See footnote 4 of this subpart.

However, the Administrator will suspend approval pending final determination in the proceeding, if he or she determines that suspension is necessary to prevent the spread of any dangerous insect infestation. The suspension will be effective upon oral or written notification, whichever is earlier, to the irradiation processor. In the event of oral notification, written confirmation will be given to the irradiation processor within 10 days of the oral notification. The suspension will continue in effect pending completion of the proceeding and any judicial review of the proceeding.

(i) *Department not responsible for damage.* This treatment is approved to assure quarantine security against Mediterranean fruit fly. From the literature available, the fruits and vegetables authorized for treatment under this section are believed tolerant to the treatment; however, the facility operator and shipper are responsible for determination of tolerance. The Department of Agriculture and its inspectors assume no responsibility for any loss or damage resulting from any treatment prescribed or supervised. Additionally, the Nuclear Regulatory Commission is responsible for ensuring that irradiation facilities are constructed and operated in a safe manner. Further, the Food and Drug Administration is responsible for ensuring that irradiated foods are safe and wholesome for human consumption.

(Approved by the Office of Management and Budget under control number 0579-0088)

§305.34 Administrative instructions prescribing methods for irradiation treatment of certain fruits and vegetables from Hawaii.

(a) *Approved irradiation treatment.* Irradiation, carried out in accordance with the provisions of this section, is approved as a treatment for the following fruits and vegetables at the specified dose levels:

IRRADIATION FOR PLANT PESTS IN HAWAIIAN FRUITS AND VEGETABLES	
Commodity	Dose (Gray)
Abiu	250
Atemoya	250
Bell pepper	250

IRRADIATION FOR PLANT PESTS IN HAWAIIAN FRUITS AND VEGETABLES—Continued

Commodity	Dose (Gray)
Carambola	250
Eggplant	250
Litchi	250
Longan	250
Mango	300
Papaya	250
Pineapple (other than smooth Cayenne)	250
Rambutan	250
Sapodilla	250
Italian squash	250
Sweetpotato	400
Tomato	250

(b) *Conditions of movement.* Fruits and vegetables from Hawaii may be authorized for movement in accordance with this section only if the following conditions are met:

(1) *Location.* The irradiation treatment must be carried out at an approved facility in Hawaii or on the mainland United States. Fruits and vegetables authorized under this section for treatment on the mainland may be treated in any State on the mainland United States except Alabama, Arizona, California, Florida, Georgia, Kentucky, Louisiana, Mississippi, Nevada, New Mexico, North Carolina, South Carolina, Tennessee, Texas, or Virginia. Prior to treatment, the fruits and vegetables may not move into or through Alabama, Arizona, California, Florida, Georgia, Kentucky, Louisiana, Mississippi, Nevada, New Mexico, North Carolina, South Carolina, Tennessee, Texas, or Virginia, except that movement is allowed through Dallas/Fort Worth, Texas, as an authorized stop for air cargo, or as a transloading location for shipments that arrive by air but that are subsequently transloaded into trucks for overland movement from Dallas/Fort Worth into an authorized State by the shortest route.

(2) *Approved facility.* The irradiation treatment facility and treatment protocol must be approved by the Animal and Plant Health Inspection Service. In order to be approved, a facility must:

(i) Be capable of administering the minimum absorbed ionizing radiation

doses specified in paragraph (a) of this section to the fruits and vegetables;¹⁵

(ii) Be constructed so as to provide physically separate locations for treated and untreated fruits and vegetables, except that fruits and vegetables traveling by conveyor directly into the irradiation chamber may pass through an area that would otherwise be separated. The locations must be separated by a permanent physical barrier such as a wall or chain link fence six or more feet high to prevent transfer of cartons. Untreated fruits and vegetables shipped to the mainland United States from Hawaii in accordance with this section may not be packaged for shipment in a carton with treated fruits and vegetables;

(iii) Complete a compliance agreement with the Animal and Plant Health Inspection Service as provided in §318.13–4(d) of this chapter; and

(iv) Be certified by Plant Protection and Quarantine for initial use and annually for subsequent use. Recertification is required in the event that an increase or decrease in radioisotope or a major modification to equipment that affects the delivered dose. Recertification may be required in cases where a significant variance in dose delivery is indicated.

(3) *Treatment monitoring.* Treatment must be carried out under the monitoring of an inspector. This monitoring must include inspection of treatment records and unannounced inspectional visits to the facility by an inspector. Facilities that carry out continual irradiation operations must notify an inspector at least 24 hours before the date of operations. Facilities that carry out periodic irradiation operations must notify an inspector of scheduled operations at least 24 hours before scheduled operations.¹⁶

(4) *Packaging.* (i) Fruits and vegetables that are treated in Hawaii must be packaged in the following manner:

(A) The cartons must have no openings that will allow the entry of fruit flies and must be sealed with seals that will visually indicate if the cartons have been opened. They may be constructed of any material that prevents

the entry of fruit flies and prevents oviposition by fruit flies into the fruit in the carton.¹⁷

(B) The pallet-load of cartons must be wrapped before it leaves the irradiation facility in one of the following ways:

(1) With polyethylene sheet wrap;

(2) With net wrapping; or

(3) With strapping so that each carton on an outside row of the pallet load is constrained by a metal or plastic strap.

(C) Packaging must be labeled with treatment lot numbers, packing and treatment facility identification and location, and dates of packing and treatment.

(ii) Cartons of untreated fruits and vegetables that are moving to the mainland United States for treatment must be shipped in shipping containers sealed prior to interstate movement with seals that will visually indicate if the shipping containers have been opened.

(iii) Litchi and longan from Hawaii may not be moved interstate into Florida. All cartons in which litchi or longan are packed must be stamped “Not for importation into or distribution in FL.”

(5) *Dosage.* The fruits and vegetables must receive the minimum absorbed ionizing radiation dose specified in paragraph (a) of this section.¹⁸

(6) *Dosimetry systems.* (i) Dosimetry must demonstrate that the absorbed dose, including areas of minimum and maximum dose, is mapped, controlled, and recorded.

(ii) Absorbed dose must be measured using a dosimeter that can accurately measure the absorbed doses specified in paragraph (a) of this section.

(iii) The number and placement of dosimeters used must be in accordance with American Society for Testing and Materials (ASTM) standards.¹⁹

(7)(i) *Certification on basis of treatment.* A certificate shall be issued by an inspector for the movement of fruits and vegetables from Hawaii that have been treated and handled in Hawaii in accordance with this section. To be

¹⁵ See footnote 2 of this subpart.

¹⁶ See footnote 6 of this subpart.

¹⁷ See footnote 3 of this subpart.

¹⁸ See footnote 2 of this subpart.

¹⁹ See footnote 4 of this subpart.

certified for interstate movement under this section, litchi from Hawaii must be inspected in Hawaii and found free of the litchi fruit moth (*Cryptophlebia* spp.) and other plant pests by an inspector before undergoing irradiation treatment in Hawaii for fruit flies, and sweetpotato from Hawaii must be inspected in Hawaii and found free of the gray pineapple mealybug (*Dysmicoccus neobrevipes*) and the Kona coffee-root knot nematode (*Meloidogyne konaensis*) by an inspector before undergoing irradiation treatment in Hawaii.

(ii) *Limited permit.* A limited permit shall be issued by an inspector for the interstate movement of untreated fruits and vegetables from Hawaii for treatment on the mainland United States in accordance with this section. To be eligible for a limited permit under this section, untreated litchi from Hawaii must be inspected in Hawaii and found free of the litchi fruit moth (*Cryptophlebia* spp.) and other plant pests by an inspector, and untreated sweetpotato from Hawaii must be inspected in Hawaii and found to be free of the gray pineapple mealybug (*Dysmicoccus neobrevipes*) and the Kona coffee-root knot nematode (*Meloidogyne konaensis*) by an inspector.

(8) *Records.* Records or invoices for each treated lot must be made available for inspection by an inspector during normal business hours (8:00 a.m. to 4:30 p.m., Monday through Friday, except holidays). An irradiation processor must maintain records as specified in this section for a period of time that exceeds the shelf life of the irradiated food product by 1 year, and must make these records available for inspection by an inspector. These records must include the lot identification, scheduled process, evidence of compliance with the scheduled process, ionizing energy source, source calibration, dosimetry, dose distribution in the product, and the date of irradiation.

(c) *Request for approval and inspection of facility.* Persons requesting approval of an irradiation treatment facility and treatment protocol must submit the request for approval in writing to the Animal and Plant Health Inspection Service, Plant Protection and Quar-

antine, Center for Plant Health Science and Technology, 1017 Main Campus Drive, suite 2500, Raleigh, NC 27606. Before the Administrator determines whether an irradiation facility is eligible for approval, an inspector will make a personal inspection of the facility to determine whether it complies with the standards of paragraph (b)(2) of this section.

(d) *Denial and withdrawal of approval.*

(1) The Administrator will withdraw the approval of any irradiation treatment facility when the irradiation processor requests in writing the withdrawal of approval.

(2) The Administrator will deny or withdraw approval of an irradiation treatment facility when any provision of this section is not met. Before withdrawing or denying approval, the Administrator will inform the irradiation processor in writing of the reasons for the proposed action and provide the irradiation processor with an opportunity to respond. The Administrator will give the irradiation processor an opportunity for a hearing regarding any dispute of a material fact, in accordance with rules of practice that will be adopted for the proceeding. However, the Administrator will suspend approval pending final determination in the proceeding, if he or she determines that suspension is necessary to prevent the spread of any dangerous insect infestation. The suspension will be effective upon oral or written notification, whichever is earlier, to the irradiation processor. In the event of oral notification, written confirmation will be given to the irradiation processor within 10 days of the oral notification. The suspension will continue in effect pending completion of the proceeding and any judicial review of the proceeding.

(e) *Department not responsible for damage.* This treatment is approved to assure quarantine security against the Trifly complex and other plant pests. From the literature available, the fruits and vegetables authorized for treatment under this section are believed tolerant to the treatment; however, the facility operator and shipper are responsible for determination of tolerance. The Department of Agriculture and its inspectors assume no

responsibility for any loss or damage resulting from any treatment prescribed or supervised. Additionally, the Nuclear Regulatory Commission is responsible for ensuring that irradiation facilities are constructed and operated in a safe manner. Further, the Food and Drug Administration is responsible for ensuring that irradiated foods are safe and wholesome for human consumption.

(Approved by the Office of Management and Budget under control number 0579–0198)

§§ 305.35–305.39 [Reserved]

Subpart—Treatments for Garbage

§305.40 Garbage treatment schedules for insect pests and pathogens.

(a) *T415-a, heat treatment.* Incinerate to ash. Caterers under compliance agreement using an incinerator for garbage must comply with the following conditions:

- (1) Incinerator must be capable of reducing garbage to ash.
- (2) Incinerator must be maintained adequately to ensure operation.

(b) *T415-b, dry heat or steam.* The garbage must be heated to an internal temperature of 212 °F for 30 minutes followed by burial in a landfill.

(1) The sterilizer used to perform the treatment must be capable of heating garbage to an internal temperature of 212 °F and maintaining it at that temperature for a minimum of 30 minutes.

(2) The sterilization cycle must be re-evaluated and adjusted twice a year using thermocouple to recalibrate the temperature recording device. Adjusting the sterilization cycle semiannually will ensure that all garbage processed is heated to a minimum internal temperature of 212 °F for at least 30 minutes and that the temperature recording device accurately reflects the internal temperature of the sterilizer.

(3) The caterer administering the treatment under a compliance agreement must comply with the following conditions:

(i) The operator must date and initial time/temperature records for each batch of garbage sterilized. The supervisor must review and sign each time/temperature record. The facility must

retain records for 6 months for review by APHIS.

(ii) The drain in the bottom of the sterilizer must be cleaned between each cycle to ensure proper heat circulation.

(4) All reevaluations and adjustments must be observed by APHIS.

(c) *T415-c, grinding and discharge into a sewage system.* The sewage system must be approved by the Administrator upon his/her determination that the system is designed and operated in such a way as to preclude the discharge of sewage effluents onto land surface or into lagoons or other stationary waters and otherwise is adequate to prevent the spread of plant pests and livestock or poultry diseases.

§305.41 [Reserved]

Subpart—Miscellaneous Treatments

§305.42 Miscellaneous treatment schedules.

(a) *T102-b, T102-b-1, T102-b-2, soapy water and wax.* (1) The fruit must be immersed in a soapy water bath of one part soap solution (such as Deterfrut) to 3,000 parts water for 20 seconds.

(2) The soapy bath must be followed with a pressure shower rinse to remove all excess soap.

(3) The fruit must be immersed for 20 seconds in an undiluted wax coating (such as Johnson’s Wax Primafresh 31 Kosher fruit coating). The wax coating must cover the entire surface of the fruit.

(b) *T102-c, warm, soapy water and brushing for durian and other large fruits such as breadfruit.* (1) Detergent (such as Deterfrut) must be added to warm water (110–120 °F) at the rate of one part detergent or soap to 3,000 parts water.

(2) The fruit must be immersed for at least 1 minute in the warm detergent water.

(3) The fruit must be scrubbed with a brush with stiff bristles to remove any insects.

(4) The fruit must be rinsed with a pressure shower to rinse the fruit free of residue (detergent and dead insects).

(5) An inspector will inspect each brushed and cleaned fruit. If any insects remain, the fruit must be re-treated or destroyed.

(c) *Three alternative treatments for plant material not tolerant to fumigation.* Treatments are based on the character of the plant material and the type of pests that may be found.

(1) T201-p-1: For plant pests, except scale insects, hand removal of pests or infested parts of plants followed by a detailed inspection to ensure plants are pest free may be employed;

(2) See hand removal plus malathion-carbaryl chemical dip T201-p-2 (§305.10(d)) for alternative treatment; or

(3) T201-p-3: Following the hand removal of the visible plant pests or infested plant parts, the plant material must be treated with hot water at 112 °F for 20 minutes. This treatment is not effective against mature scale insects.

PART 318—HAWAIIAN AND TERRITORIAL QUARANTINE NOTICES

Subpart—Hawaiian Fruits, Vegetables, and Flowers

QUARANTINE

Sec.

318.13 Notice of quarantine.

318.13a Administrative instructions providing exemptions from specified requirements.

RULES AND REGULATIONS

318.13-1 Definitions.

318.13-2 Regulated articles.

318.13-3 Conditions of movement.

318.13-4 Conditions governing the issuance of certificates or limited permits.

318.13-4a Administrative instructions authorizing the movement from Hawaii of frozen fruits and vegetables.

318.13-4b Administrative instructions; conditions governing the interstate movement from Hawaii of certain fruits for which treatment is required.

318.13-4c Administrative instructions approving methyl bromide fumigation as a condition for certification of tomatoes for movement from Hawaii.

318.13-4d-318.13e [Reserved]

318.13-4f Administrative instructions prescribing methods for irradiation treatment of certain fruits and vegetables from Hawaii.

318.13-4g Administrative instructions governing movement of avocados from Hawaii to Alaska.

318.13-4h [Reserved]

318.13-4i Administrative instructions; conditions governing the movement of green bananas from Hawaii.

318.13-4j Administrative instructions governing the interstate movement of cut blooms of gardenia from Hawaii.

318.13-5 Application for inspection.

318.13-6 Container marking and identity.

318.13-7 Products as ships' stores or in the possession of passengers or crew.

318.13-8 Articles and persons subject to inspection.

318.13-9 Inspection of means of conveyance.

318.13-10 Inspection of baggage, other personal effects, and cargo.

318.13-11 Disinfection of means of conveyance.

318.13-12 Posting of warning notice and distribution of baggage declarations.

318.13-13 Movements by the Department of Agriculture.

318.13-14 Parcel post inspection.

318.13-15 Costs and charges.

318.13-16 Withdrawal of certificates, transit permits, limited permits, or compliance agreements.

318.13-17 Transit of fruits and vegetables from Hawaii into or through the continental United States.

Subpart—Sweetpotatoes

318.30 Notice of quarantine.

318.30a Administrative instructions authorizing movement from Puerto Rico of certain sweetpotatoes grown under specified conditions.

Subpart—Territorial Cotton, Cottonseed, and Cottonseed Products

QUARANTINE

318.47 Notice of quarantine.

318.47a Administrative instructions relating to Guam.

RULES AND REGULATIONS

318.47-1 Definitions.

318.47-2 Articles the movement of which is prohibited or regulated.

318.47-3 Conditions governing the issuance of certificates and permits.

318.47-4 Shipments by the Department of Agriculture.

Subpart—Fruits and Vegetables From Puerto Rico or Virgin Islands

QUARANTINE

318.58 Notice of quarantine.