shape but not to an extent which detracts materially from its appearance.

## §51.316 Injury.

"Injury" means any specific defect defined in this section or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects, which more than slightly detract from the appearance or the edible or shipping quality of the apple. In addition, specific defect measurements are based on an apple three inches in diameter. Corresponding smaller or larger areas would be allowed on smaller or larger fruit. Any reference to "inch" or "inches in diameter" refers to that of a circle of the specified diameter. Any reference to "aggregate area," "total area," or "aggregate affected area" means the gathering together of separate areas into one mass for the purpose of comparison to determine the extent affected. The following specific defects shall be considered as injury:
(a) Russeting in the stem cavity or calyx basin which cannot be seen when the apple is placed stem end or calyx end down on a flat surface shall not be considered in determining whether an apple is injured by russeting. Smooth net-like russeting outside of the stem cavity or calyx basin shall be considered as injury when an aggregate area of more than 10 percent of the surface is covered, and the color of the russeting shows no very pronounced contrast with the background color of the apple, or lesser amounts of more conspicuous net-like russeting when the appearance is affected to a greater extent than the amount permitted above.
(b) Sunburn or sprayburn, when the discolored area does not blend into the normal color of the fruit.
(c) Dark brown or black limb rubs which affect a total area of more than one-fourth inch in diameter, except that light brown limb rubs of a russet character shall be considered under the definition of injury by russeting.
(d) Hail marks, drought spots, other similar depressions or scars:
(1) When the skin is broken, whether healed or unhealed;
(2) When there is appreciable discoloration of the surface;
(3) When any surface indentation exceeds one-sixteenth inch in depth;
(4) When any surface indentation exceeds one-eighth inch in diameter; or
(5) When the aggregate affected area of such spots exceeds one-half inch in diameter.
(e) Bruises which are not slight and incident to proper handling and packing, and which are greater than:
(1) $1 / 8$ inch in depth;
(2) $5 / 8$ inch in diameter;
(3) any combination of lesser bruises which detract from the appearance or edible quality of the apple to an extent greater than any one bruise described in paragraphs (e)(1) or (2) of this section.
(f) Brown surface discoloration when caused by delayed sunburn, surface scald, or any other means and affects an area greater than $1 / 4$ inch in diameter.
(g) Disease: (1) Cedar rust infection which affects a total area of more than three-sixteenths inch in diameter.
(2) Sooty blotch or fly speck which is thinly scattered over more than 5 percent of the surface, or dark, heavily concentrated spots which affect an area of more than one-fourth inch in diameter.
(3) Red skin spots which are thinly scattered over more than one-tenth of the surface, or dark, heavily concentrated spots which affect an area of more than one-fourth inch in diameter.
(h) Insects: (1) Any healed sting or healed stings which affect a total area of more than one-eighth inch in diameter including any encircling discolored rings.
(2) Worm holes.
[67 FR 69663, Nov. 19, 2002; 67 FR 79516, Dec. 30, 2002]

## §51.317 Damage.

"Damage" means any specific defect defined in this section or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects, which materially detract from the appearance, or the edible or shipping quality of the apple. In addition, specific defect measurements are based on an apple three inches in diameter. Corresponding smaller or larger areas would be allowed on smaller or larger fruit. Any
reference to "inch" or "inches in diameter" refers to that of a circle of the specified diameter. Any reference to "aggregate area," "total area," or "aggregate affected area" means the gathering together of separate areas into one mass for the purpose of comparison to determine the extent affected. The following specific defects shall be considered as damage:
(a) Russeting in the stem cavity or calyx basin which cannot be seen when the apple is placed stem end or calyx end down on a flat surface shall not be considered in determining whether an apple is damaged by russeting, except that excessively rough or bark-like russeting in the stem cavity or calyx basin shall be considered as damage when the appearance of the apple is materially affected. The following types and amounts of russeting outside of the stem cavity or calyx basin shall be considered as damage:
(1) Russeting which is excessively rough on Roxbury Russet and other similar varieties.
(2) Smooth net-like russeting, when an aggregate area of more than 15 percent of the surface is covered, and the color of the russeting shows no very pronounced contrast with the background color of the apple, or lesser amounts of more conspicuous net-like russeting when the appearance is affected to a greater extent than the amount permitted above.
(3) Smooth solid russeting, when an aggregate area of more than 5 percent of the surface is covered, and the pattern and color of the russeting shows no very pronounced contrast with the background color of the apple, or lesser amounts of more conspicuous solid russeting when the appearance is affected to a greater extent than the above amount permitted.
(4) Slightly rough russeting which covers an aggregate area of more than one-half inch in diameter.
(5) Rough russeting which covers an aggregate area of more than one-fourth inch in diameter.
(b) Sunburn or sprayburn which has caused blistering or cracking of the skin, or when the discolored area does not blend into the normal color of the fruit unless the injury can be classed as russeting.
(c) Limb rubs which affect a total area of more than one-half inch in diameter, except that light brown limb rubs of a russet character shall be considered under the definition of damage by russeting.
(d) Hail marks, drought spots, other similar depressions, or scars:
(1) When any unhealed mark is present;
(2) When any surface indentation exceeds one-eighth inch in depth;
(3) When the skin has not been broken and the aggregate affected area exceeds one-half inch in diameter; or
(4) When the skin has been broken and well healed, and the aggregate affected area exceeds one-fourth inch in diameter.
(e) Stem or calyx cracks which are not well healed, or well healed stem or calyx cracks which exceed an aggregate length of one-fourth inch.
(f) Invisible water core existing around the core and extending to water core in the vascular bundles, or surrounding the vascular bundles when the affected areas surrounding three or more vascular bundles meet or coalesce, or existing in more than a slight degree outside the circular area formed by the vascular bundles. Provided, That invisible water core shall not be scored as damage against the Fuji variety of apples under any circumstances.
(g) Bruises which are not slight and incident to proper handling and packing, and which are greater than:
(1) $3 / 16$ inch in depth;
(2) $7 / 8$ inch in diameter;
(3) any combination of lesser bruises which detract from the appearance or edible quality of the apple to an extent greater than any one bruise described in paragraphs (g)(1) or (2) of this section.
(h) Brown surface discoloration when caused by delayed sunburn, surface scald, or any other means and affects an area greater than $1 / 2$ inch in diameter.
(i) Disease: (1) Scab spots which affect a total area of more than onefourth inch in diameter.
(2) Cedar rust infection which affects a total area of more than one-fourth inch in diameter.
(3) Sooty blotch or fly speck which is thinly scattered over more than one-
tenth of the surface, or dark, heavily concentrated spots which affect an area of more than one-half inch in diameter.
(4) Red skin spots which are thinly scattered over more than one-tenth of the surface, or dark, heavily concentrated spots which affect an area of more than one-half inch in diameter.
(5) Bitter pit or Jonathan spot when one or more spots affects the surface of the apple.
(j) Insects: (1) Any healed sting or healed stings which affect a total area of more than three-sixteenths inch in diameter including any encircling discolored rings.
(2) Worm holes.
[67 FR 69663, Nov. 19, 2002; 67 FR 79517, Dec. 30, 2002]

## §51.318 Serious damage.

"Serious damage" means any specific defect defined in this section; or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects which seriously detract from the appearance, or the edible or shipping quality of the apple. In addition, specific defect measurements are based on an apple three inches in diameter. Corresponding smaller or larger areas would be allowed on smaller or larger fruit. Any reference to "inch" or "inches in diameter" refers to that of a circle of the specified diameter. Any reference to "aggregate area,""total area," or "aggregate affected area" means the gathering together of separate areas into one mass for the purpose of comparison to determine the extent affected. The following specific defects shall be considered as serious damage:
(a) The following types and amounts of russeting shall be considered as serious damage:
(1) Smooth solid russeting, when more than one-half of the surface in the aggregate is covered, including any russeting in the stem cavity or calyx basin, or slightly rough, or excessively rough or bark-like russeting, which detracts from the appearance of the fruit to a greater extent than the amount of smooth solid russeting permitted: Provided, That any amount of russeting shall be permitted on Roxbury Russet and other similar varieties.
(2) [Reserved]
(b) Sunburn or sprayburn which seriously detracts from the appearance of the fruit.
(c) Limb rubs which affect more than one-tenth of the surface in the aggregate.
(d) Hail marks, drought spots, or scars, if they materially deform or disfigure the fruit, or if such defects affect more than one-tenth of the surface in the aggregate: Provided, That no hail marks which are unhealed shall be permitted and not more than an aggregate area of one-half inch shall be allowed for well healed hail marks where the skin has been broken.
(e) Stem or calyx cracks which are not well healed, or well healed stem or calyx cracks which exceed an aggregate length of one-half inch.
(f) Visible water core which affects an area of more than one-half inch in diameter.
(g) Disease: (1) Scab spots which affect a total area of more than threefourths inch in diameter.
(2) Cedar rust infection which affects a total area of more than three-fourths inch in diameter.
(3) Sooty blotch or fly speck which affects more than one-third of the surface.
(4) Red skin spots which affect more than one-third of the surface.
(5) Bitter pit or Jonathan spot which is thinly scattered over more than onetenth of the surface.
(h) Insects: (1) Healed stings which affect a total area of more than onefourth inch in diameter including any encircling discolored rings.
(2) Worm holes.
(i) Bruises which are not slight and incident to proper handling and packing, and which are greater than:
(1) $3 / 8$ inch in depth;
(2) $1 \frac{1}{8}$ inches in diameter;
(3) any combination of lesser bruises which detract from the appearance or edible quality of the apple to an extent greater than any one bruise described in paragraph (i)(1) or (2) of this section.
(j) Brown surface discoloration when caused by delayed sunburn, surface scald, or any other means and affects an area greater than $3 / 4$ inch in diameter.

