



**United States
Department of
Agriculture**

**Agricultural
Marketing
Service**

**Fruit and
Vegetable
Programs**

**Fresh
Products
Branch**

United States Standards for Grades of Nectarines

Effective March 29, 2004

United States Standards for Grades of Nectarines¹

March 29, 2004

Grades

51.3145 U.S. Fancy.

51.3146 U.S. Extra No. 1.

51.3147 U.S. No. 1.

51.3148 U.S. No. 2.

51.3149 Reserved.

Tolerances

51.3150 Tolerances.

Application of Tolerances

51.3151 Application of tolerances.

Standard Pack

51.3152 Standard pack.

Definitions

51.3153 Mature.

51.3154 Well formed.

51.3155 Clean.

51.3156 Injury.

51.3157 Damage.

51.3158 Badly misshapen.

51.3159 Serious damage.

Metric Conversion Table

51.3160 Metric conversion table.

Grades

§51.3145 U.S. Fancy.

"U.S. Fancy" consists of nectarines of one variety which are mature but not soft or overripe, which are well formed, clean, and free from decay, broken skins which are not healed, worms, worm holes, and free from injury caused by bruises, growth cracks, hail, sunburn, sprayburn, scab, bacterial spot, scale, split pit, scars, russeting, other disease, insects, or mechanical or other means.

(a) Each nectarine shall have not less than one-third of its surface showing red color characteristic of the variety. (See §51.3150.)

§51.3146 U.S. Extra No. 1.

"U.S. Extra No. 1" consists of nectarines of one variety which are mature but not soft or overripe, which are well formed, clean, and free from decay, broken skins which are not healed, worms, worm holes and free from injury caused by split pit and free from damage caused by bruises, growth cracks, hail, sunburn, sprayburn, scab, bacterial spot, scale, scars, russeting, other disease, insects or mechanical or other means.

¹Compliance with the provisions of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug and Cosmetic Act, or with applicable State laws and regulations.

(a) At least 75 percent of the nectarines in any lot shall show some blushed or red color including therein at least 50 percent of the nectarines with not less than one-third of the fruit surface showing red color characteristic of the variety. (See §51.3150.)

§51.3147 U.S. No. 1.

“U.S. No. 1” consists of nectarines of one variety which are mature but not soft or overripe, which are well formed, clean, and free from decay, broken skins which are not healed, worms, worm holes, and free from injury caused by split pit and free from damage caused by bruises, growth cracks, hail, sunburn, sprayburn, scab, bacterial spot, scale, scars, russeting, other disease, insects, or mechanical or other means.

§51.3148 U.S. No. 2.

“U.S. No. 2” consists of nectarines of one variety which are mature but not soft or overripe, which are not badly misshapen, which are clean and free from decay, broken skins which are not healed, worms, worm holes, and free from serious damage caused by bruises, growth cracks, hail, sunburn, sprayburn, scab, bacterial spot, scale, split pit, scars, russeting, other disease, insects, or mechanical or other means.

§51.3149 [Reserved].

Tolerances

§51.3150 Tolerances.

In order to allow for variations incident to proper grading and handling in each of the following grades, the following tolerances, by count, based on a minimum 50-count sample, except when packages contain less than 50 fruit, a minimum 25-count sample shall be examined, (when packages contain less than 25 fruit adjoining packages shall be opened to obtain the 25-count minimum sample), are provided as specified:

(a) U.S. Fancy, U.S. Extra No. 1, and U.S. No. 1 grades -- (1) For defects at shipping point.² 8 percent for nectarines which fail to meet the requirements of the specified grade: **Provided**, That included in this amount not more than 4 percent shall be allowed for defects causing serious damage, including in this latter amount not more than one-half of 1 percent for nectarines which are affected by decay.

(2) For defects en route or at destination. 12 percent for nectarines which fail to meet the requirements of the specified grade: **Provided**, That included in this amount not more than the following percentages shall be allowed for defects listed:

- (i) 8 percent for permanent defects;
- (ii) 6 percent for defects causing serious damage, including therein not more than 4 percent for serious damage by permanent defects and not more than 2 percent for decay.

(3) For color -- (i) U.S. Fancy grade. 10 percent for nectarines in any lot which fail to meet the requirements of the grade.

(ii) U.S. Extra No. 1 grade and when specified in connection with a grade. Individual containers may contain not more than 10 percentage points less than the required percentage of nectarines showing the amount of color specified for the grade: **Provided**, That the entire lot

²Shipping point, as used in these standards, means the point of origin of the shipment in the producing area or at port of loading for ship stores or overseas shipment, or, in the case of shipments from outside the continental United States, the port of entry into the United States.

averages not less than the required percentage of nectarines showing the specified color for the grade.

(b) U.S. No. 2 grade -- (1) For defects at shipping point.² 8 percent for nectarines which fail to meet the requirements of the grade: **Provided**, That included in this amount not more than 4 percent shall be allowed for sunscald, decay, or serious damage by insects or heat injury, including in this latter amount not more than one-half of 1 percent for nectarines which are affected by decay.

(2) For defects en route or at destination. 12 percent for nectarines which fail to meet the requirements of the grade: **Provided**, That included in this amount not more than the following percentages shall be allowed for defects listed:

- (i) 8 percent for permanent defects including therein not more than 4 percent for sunscald, or serious damage by insects or heat injury; and,
- (ii) 2 percent for decay.

Application of Tolerances

§51.3151 Application of tolerances.

The contents of individual packages in the lot, based on sample inspection, are subject to the following limitations:

- (a) A package may contain not more than double any specified tolerance except that at least two defective specimens may be permitted in any package: **Provided**, That the averages for the entire lot are within the tolerances specified for the grade.

Standard Pack

§51.3152 Standard pack.

- (a) Nectarines shall be fairly uniform in size and shall be packed in boxes, lugs, crates, or cartons and arranged according to the approved and recognized methods. All such containers shall be tightly packed and well filled but the contents shall not show excessive or unnecessary bruising resulting from overfilling. The nectarines in the shown face shall be reasonably representative in size, color and quality of the contents of the container.
- (b) When packed in closed containers, the size shall be indicated by marking the container with the numerical count, the pack arrangement, or the minimum diameter or minimum and maximum diameters in terms of inches and not less than one-eighth fractions of inches, or a count-size based on equivalent tray pack size designations.
- (c) Boxes, lugs or cartons: (1) Nectarines packed in containers equipped with cell compartments, cardboard fillers or molded trays shall be of the proper size for the cells, fillers, or molds in which they are packed, and the number of nectarines in the container shall correspond to the count marked on the container.
(2) In order to allow for variations incident to proper packing, when packed in other types of packs in lugs, cartons, or boxes, the number of nectarines in the container may vary not more than two from the number marked on the container.
- (d) "Well filled" means that the nectarines packed in loose or volume filled containers are packed within 1 inch of the top of the container.
- (e) "Fairly uniform in size" means that when the average diameter of nectarines in any container is 2 inches or smaller not more than 5 percent, by count, of the nectarines in the container shall be outside a diameter range of one-fourth inch; when the average diameter of nectarines in any

container is over 2 inches not more than 5 percent, by count, of the nectarines in the container shall be outside a diameter range of three-eighths inch.

(f) Minimum size: When size is indicated in terms of minimum diameter not more than 5 percent, by count, of the fruit in any container may be smaller than the size marked.

(g) "Diameter" means the greatest dimension measured at right angles to a line from stem to blossom end of the fruit.

(h) Tolerances. In order to allow for variations incident to proper sizing and packing, not more than 10 percent, by count, of the containers in any lot may fail to meet the requirements for standard pack.

Definitions

§51.3153 Mature.

"Mature" means that the nectarine has reached the stage of growth which will insure a proper completion of the ripening process.

§51.3154 Well formed.

"Well formed" means that the nectarine has the shape characteristic of the variety and that bumps or other roughness do not materially detract from the appearance.

§51.3155 Clean.

"Clean" means that the fruit is practically free from dirt and other foreign material.

§51.3156 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 detracts from the appearance, or the edible or marketing quality of the fruit. The following specific defects shall be considered as injury:

(a) Growth cracks:

(1) When not healed;

(2) When more than one in number;

(3) When more than one-eighth inch in depth; or,

(4) When more than one-eighth inch in length.

(b) Heat injury, sprayburn or sunburn when the normal color of the skin or flesh is more than slightly changed, or when any indentation is present;

(c) Scab or bacterial spot when cracked, or when the aggregate area exceeds that of a circle one-eighth inch in diameter on a fruit 2 inches in diameter or smaller; or when the aggregate area exceeds that of a circle one-fourth inch in diameter on a fruit larger than 2 inches in diameter;

(d) Scale or scale marks when more than one large scale or scale mark or when more than three scales or scale marks of any size are present;

(e) Split pit when causing any unhealed crack, or when healed and aggregating more than one-fourth inch in length, or when affecting the shape to the extent that the fruit is not well formed;

(f) Drought spots or external gum spots which have an aggregate area exceeding that of a circle one-eighth inch in diameter;

(g) Scars, including those caused by hail, when the surface of the fruit is depressed more than one-sixteenth inch or when not light in color, or when not smooth, or when exceeding any of the following aggregate areas, or a combination of two or more types of scars the seriousness of

which exceeds the maximum allowed for any one type:

- (1) Light colored, smooth scars when the area exceeds that of a circle one-fourth inch in diameter on a fruit 2 inches in diameter or smaller; or when the area exceeds that of a circle one-half inch in diameter on a fruit larger than 2 inches in diameter;
- (2) Twig or limb scratches which are not well healed or which have an aggregate length of more than one-fourth inch; and
- (h) Russeting which exceeds any of the following aggregate areas of any one type of russeting, or a combination of two or more types of russeting the seriousness of which exceeds the maximum allowed for any one type:
 - (1) Rough or slightly rough russeting when the area exceeds that of a circle one-eighth inch in diameter on a fruit 2 inches in diameter or smaller; or when the area exceeds that of a circle one-fourth inch in diameter on a fruit larger than 2 inches in diameter;
 - (2) Fairly smooth or smooth russeting or staining when the area exceeds 10 percent of the fruit surface: **Provided**, That speckling characteristic of certain varieties shall not be considered as russeting or discoloration.

§51.3157 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 detracts from the appearance, or the edible or marketing quality of the fruit. The following specific defects shall be considered as damage:

- (a) Growth cracks:
 - (1) When not healed;
 - (2) When more than one in number;
 - (3) When more than one-eighth inch in depth;
 - (4) When more than three-eighths inch in length if within the stem cavity; or,
 - (5) When more than one-fourth inch in length if outside of the stem cavity;
- (b) Heat injury, sprayburn or sunburn:
 - (1) When the skin is blistered, cracked, or decidedly flattened;
 - (2) When the normal color of the skin or flesh has materially changed;
 - (3) When there is more than one indentation; or,
 - (4) When an indentation exceeds three-sixteenths inch in diameter;
- (c) Scab or bacterial spot when cracked, or when the aggregate area exceeds that of a circle one-fourth inch in diameter on a fruit 2 inches in diameter or smaller; or when the aggregate area exceeds that of a circle three-eighths inch in diameter on a fruit larger than 2 inches in diameter;
- (d) Scale or scale marks when the aggregate area exceeds that of a circle one-fourth inch in diameter;
- (e) Drought spots or external gum spots which have an aggregate area exceeding that of a circle one-fourth inch in diameter;
- (f) Scars, including those caused by hail, when the surface of the fruit is depressed more than one-sixteenth inch, or when exceeding any of the following aggregate areas, or a combination of two or more types of scars the seriousness of which exceeds the maximum allowed for any one type:
 - (1) Dark or rough scars when the area exceeds that of a circle one-fourth inch in diameter on a

fruit 2 inches in diameter or smaller; or when the aggregate area exceeds that of a circle three-eighths inch in diameter on a fruit larger than 2 inches in diameter;

(2) Fairly light colored, fairly smooth scars when the area exceeds that of a circle one-half inch in diameter on a fruit 2 inches in diameter or smaller; or when the area exceeds that of a circle five-eighths inch in diameter on a fruit larger than 2 inches in diameter;

(3) Light colored, smooth scars when the area exceeds that of a circle three-fourths inch in diameter on a fruit 2 inches in diameter or smaller; or when the area exceeds that of a circle seven-eighths inch in diameter on a fruit larger than 2 inches in diameter;

(4) Twig or limb scratches which are not well healed or which have an aggregate length of more than one-half inch; and

(g) Russeting which exceeds any of the following aggregate areas of any one type of russeting, or a combination of two or more types of russeting the seriousness of which exceeds the maximum allowed for any one type:

(1) Rough russeting when the area exceeds that of a circle one-fourth inch in diameter on a fruit 2 inches in diameter or smaller; or when the area exceeds that of a circle one-half inch in diameter on a fruit larger than 2 inches in diameter;

(2) Slightly rough russeting when the area exceeds that of a circle five-eighths inch in diameter on a fruit 2 inches in diameter or smaller; or when the area exceeds that of a circle three-fourths inch in diameter on a fruit larger than 2 inches in diameter;

(3) Fairly smooth or smooth russeting when the area exceeds 15 percent of the fruit surface: **Provided**, That discoloration occurring as yellow to brown staining of the skin shall not be considered as russeting and shall be considered as causing damage only when materially detracting from the appearance of the nectarine, and that speckling characteristic of certain varieties shall not be considered as russeting or discoloration.

§51.3158 Badly misshapen.

“Badly misshapen” means that the nectarine is so decidedly deformed that its appearance is seriously affected.

§51.3159 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 detracts from the appearance or the edible or marketing quality of the fruit. The following specific defects shall be considered as serious damage:

(a) Growth cracks:

(1) When not healed and more than one-eighth inch in length or depth;

(2) When healed and more than three-sixteenths inch in depth;

(3) When healed and aggregating more than five-eighths inch in length if within the stem cavity; or,

(4) When healed and aggregating more than one-half inch in length if outside of the stem cavity;

(b) Heat injury, sprayburn or sunburn:

(1) When the skin is blistered, cracked, or decidedly flattened;

(2) When causing any dark discoloration of the flesh;

(3) When there are more than two indentations;

(4) When the aggregate area of indentations exceeds that of a circle three-eighths inch in

diameter; or,

(5) When causing noticeable brownish or darker discoloration over more than one-fourth of the fruit surface;

(c) Scab or bacterial spot when the aggregate area exceeds that of a circle one-half inch in diameter on a fruit 2 inches in diameter or smaller; or when the aggregate area exceeds that of a circle three-fourths inch in diameter on a fruit larger than 2 inches in diameter;

(d) Scale or scale marks when the aggregate area exceeds that of a circle three-eighths inch in diameter;

(e) Split pit when causing any unhealed crack or when healed and aggregating more than three-eighths inch in length, or when affecting the shape to the extent that the fruit is badly misshapen;

(f) Drought spots or external gum spots which have an aggregate area exceeding that of a circle one-half inch in diameter;

(g) Scars, including those caused by hail, when the surface of the fruit is depressed more than three-sixteenths inch, or when exceeding any of the following aggregate areas, or a combination of two or more types of scars the seriousness of which exceeds the maximum allowed for any one type:

(1) Dark or rough scars when the area exceeds that of a circle three-fourths inch in diameter on a fruit 2 inches in diameter or smaller; or when the area exceeds that of a circle one inch in diameter on fruit larger than 2 inches in diameter;

(2) Scars which are not dark or rough when the area exceeds one-fourth of the fruit surface;

(h) Russeting which exceeds any of the following aggregate areas of any one type of russeting, or a combination of two or more types of russeting the seriousness of which exceeds the maximum allowed for any one type:

(1) Rough or slightly rough russeting when the area exceeds 10 percent of the fruit surface; or

(2) Fairly smooth or smooth russeting when the area exceeds 50 percent of the fruit surface:

Provided, That discoloration occurring as yellow to brown staining of the skin shall not be considered russeting and shall be considered as causing serious damage only when seriously detracting from the appearance of the nectarine, and that speckling characteristic of certain varieties shall not be considered as russeting or discoloration.

(i) Soft or overripe nectarines;

(j) Nectarines affected by decay;

(k) Unhealed broken skins except those associated with growth cracks; and,

(l) Wormy fruit or worm holes.

Metric Conversion Table
§51.3160 Metric conversion table.

Inches Millimeters (mm)

1/8 equals.....	3.2
1/4 equals.....	6.4
3/8 equals.....	9.5
1/2 equals.....	12.7
5/8 equals.....	15.9
3/4 equals.....	19.1
7/8 equals.....	22.2
1 equals.....	25.4
1-1/4 equals.....	31.8
1-1/2 equals.....	38.1
1-3/4 equals.....	44.5
2 equals.....	50.8
3 equals.....	76.2
4 equals.....	101.6