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Branch**

# **United States Standards for Grades of Oranges (California and Arizona)**

**Effective December 27, 1999**

# United States Standards for Grades of Oranges (California and Arizona) <sup>1</sup>

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<sup>1</sup> Compliance 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.

## **Grades**

### **§51.1085 U.S. Fancy.**

"U.S. Fancy" consists of oranges of similar varietal characteristics which are mature, well colored, firm, well formed, of smooth texture, and which are free from decay, broken skins which are not healed, hard or dry skins, exanthema, growth cracks, dryness or mushy condition, and free from injury caused by bruises, split, rough, wide or protruding navels, creasing, scars, oil spots, scale, skin breakdown, sunburn, dirt or other foreign material disease, insects or mechanical or other means. (See §51.1091)

### **§51.1086 U.S. No. 1.**

"U.S. No. 1" consists of oranges of similar varietal characteristics which are mature, firm, well formed, of fairly smooth texture, and which are free from decay, broken skins which are not healed, hard or dry skins, exanthema, growth cracks, and free from damage caused by bruises, dryness or mushy condition, split, rough, wide or protruding navels, creasing, scars, oil spots, scale, skin breakdown, sunburn, dirt or other foreign material, disease, insects or mechanical or other means. Each fruit shall be well colored except Valencia oranges which shall be at least fairly well colored: **Provided**, That navel oranges in any lot which is destined for export and which is certified as meeting the standards for export need be only fairly well colored. (See §51.1091)

### **§51.1087 U.S. Combination.**

"U.S. Combination" consists of a combination of U.S. No. 1 and U.S. No. 2 oranges: **Provided**, That at least 40 percent, by count, of the oranges in each lot shall meet the requirements of the U.S. No. 1 grade. (See §51.1092)

### **§51.1088 U.S. No. 2.**

"U.S. No. 2" consists of oranges of similar varietal characteristics which are mature, fairly well colored, fairly firm, fairly well formed, which may be of slightly rough texture, and which are free from decay, broken skins which are not healed, hard or dry skins, exanthema, growth cracks, and free from serious damage caused by bruises, dryness or mushy condition, split or protruding navels, creasing, scars, oil spots, scale, skin breakdown, sunburn, dirt or other foreign material, disease, insects or mechanical or other means. (See §51.1091)

### **§51.1089 [Reserved].**

## **Tolerances**

### **§51.1090 Tolerances.**

In order to allow for variations incident to proper grading and handling in each of the foregoing grades, the tolerances, by count, based on a minimum 25 count sample, set forth in the U.S. Fancy, U.S. No. 1, U.S. No. 2, and U.S. Combination grades are provided as specified.

### **§51.1091 U.S. Fancy, U.S. No. 1 grades.**

**For defects at shipping point.** Not more than 10 percent, by count, of the oranges in any lot may fail to meet the requirements relating to color. In addition, not more than 10 percent, by count, of the oranges in any lot may fail to meet the remaining requirements of the specified grade, included in this amount not more than 5 percent shall be allowed for defects causing serious damage, included in this latter amount not more than 1 percent for decay.

**For defects en route or at destination.** Not more than 10 percent, by count, of the oranges in any lot may fail to meet the requirements relating to color. In addition, not more than 12 percent, by count, of the oranges in any lot may fail to meet the remaining requirements of the specified

grade: **Provided**, that included in this amount not more than the following percentages shall be allowed for defects listed: 10 percent for fruit having permanent defects; or 7 percent for defects causing serious damage, including therein not more than 5 percent for serious damage by permanent defects and not more than 3 percent for decay.

**§51.1091 U.S. No. 2 grade.**

**For defects at shipping point.** Not more than 10 percent, by count, of the oranges in any lot may fail to meet the requirements relating to color. In addition, not more than 10 percent, by count, of the oranges in any lot may fail to meet the remaining requirements of the specified grade, included in this amount not more than 1 percent for decay.

**For defects en route or at destination.** Not more than 10 percent, by count, of the oranges in any lot may fail to meet the requirements relating to color. In addition, not more than 12 percent, by count, of the oranges in any lot may fail to meet the remaining requirements of the specified grade: **Provided**, that included in this amount not more than the following percentages shall be allowed for defects listed: 10 percent for fruit having permanent defects; or not more than 3 percent for decay.

**§51.1092 U.S. Combination grade.**

**For defects at shipping point.** Not more than 10 percent, by count, of the oranges in any lot may fail to meet the requirements of the U.S. No. 2 grade relating to color. In addition, not more than 10 percent, by count, of the oranges in any lot may fail to meet the remaining requirements of the U.S. No. 2 grade, included in this amount not more than 1 percent for decay.

**For defects en route or at destination.** Not more than 10 percent, by count, of the oranges in any lot may fail to meet the requirements of the U.S. No. 2 grade relating to color. In addition, not more than 12 percent, by count, of the oranges in any lot may fail to meet the remaining requirements of the U.S. No. 2 grade: **Provided**, that included in this amount not more than the following percentages shall be allowed for defects listed: 10 percent for fruit having permanent defects; or not more than 3 percent for decay.

(a) **For defects at shipping point and en route or at destination.** No part of any tolerance shall be allowed to reduce for the lot as a whole, the 40 percent of U.S. No. 1 oranges required in the U.S. Combination grade, but individual samples may have not less than 30 percent of U.S. No. 1 required: **Provided**, That the entire lot averages within the percentage required.

**Application of Tolerances**

**§51.1093 Application of tolerances.**

(a) Individual samples, based on a minimum 25 count, are subject to the following limitations, unless otherwise specified. Individual samples shall have not more than one and one-half times a specified tolerance of 10 percent or more, and not more than double a specified tolerance of less than 10 percent: **Provided**, that at least one decayed fruit may be permitted in any sample: **And provided further**, that the averages for the entire lot are within the tolerances specified for the grade.

**Standard Pack**

**§51.1094 Standard pack.**

(a) Oranges shall be fairly uniform in size and shall be packed in boxes or cartons and arranged according to the approved and recognized methods.

(b) All such containers shall be tightly packed and well filled but the contents shall not show

excessive or unnecessary bruising because of overfilled containers. When oranges are packed in cartons or in wire-bound boxes, each container shall be at least level full at time of packing.

(c) "Fairly uniform in size" means that when oranges are packed for 113 carton count or smaller size, or equivalent sizes when packed in other containers, not more than 10 percent, by count, of the oranges in any sample may vary more than five-sixteenths inch in diameter; when packed for sizes larger than 113 carton count or equivalent sizes packed in other containers, not more than 10 percent, by count, of the oranges in any sample may vary more than seven-sixteenths inch in diameter.

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

(d) In order to allow for variations incident to proper packing, not more than 5 percent of the samples in any lot may fail to meet the requirements for standard pack.

### **Standard Sizing and Fill**

#### **§51.1095 Standard sizing and fill.**

(a) Boxes or cartons in which oranges are not packed according to a definite pattern do not meet the requirements of standard pack, but may be certified as meeting the requirements of standard sizing and fill: **Provided**, That the oranges in the samples are fairly uniform in size as defined in the standard pack section: **And provided further**, That the contents have been properly shaken down and the container is at least level full at time of packing.

(b) In order to allow for variations incident to proper packing, not more than 5 percent of the samples in any lot may fail to meet the requirements of standard sizing and fill.

### **Standards for Export**

#### **§51.1096 Standards for export.**

(a) Not more than a total of 10 percent, by count, of the oranges in any sample may be soft, affected by decay, have broken skins which are not healed, growth cracks, or be damaged by creasing or skin breakdown, or seriously damaged by split or protruding navels, or by dryness or mushy condition, except that:

(1) Not more than one-half of 1 percent shall be allowed for oranges affected by decay;

(2) Not more than 3 percent shall have broken skins which are not healed;

(3) Not more than 3 percent shall have growth cracks;

(4) Not more than 5 percent shall be soft;

(5) Not more than 5 percent shall be damaged by creasing;

(6) Not more than 5 percent shall be seriously damaged by split or protruding navels;

(7) Not more than 5 percent shall be seriously damaged by dryness or mushy condition; and,

(8) Not more than 5 percent shall be damaged by skin breakdown.

(b) Any lot of oranges shall be considered as meeting the standards for export if the entire lot averages within the requirements specified: **Provided**, That no sample from the containers in any lot shall have more than double the percentage specified for any one defect, and that not more than a total of 10 percent, by count, of the oranges in any sample has any of the defects enumerated in the standards for export.

## **Definitions**

### **§51.1097 Similar varietal characteristics.**

"Similar varietal characteristics" means that the oranges in any container are similar in color and type.

### **§51.1098 Well colored.**

"Well colored" means that the fruit is at least light orange in color, with not more than a trace of green at the stem end, and not more than 15 percent of the remainder of the surface of the fruit shows green color.

### **§51.1099 Firm.**

"Firm" means that the fruit does not yield more than slightly to moderate pressure.

### **§51.1100 Well formed.**

"Well formed" means that the fruit shows the normal shape characteristic of the variety.

### **§51.1101 Smooth texture.**

"Smooth texture" means that the skin is of fairly fine grain for the variety, the "pebbling" is not pronounced, and any furrows radiating from the stem end are shallow.

### **§51.1102 Injury.**

"Injury" means any defect which more than slightly affects the appearance, or the edible or shipping quality of the fruit. Any one of the following defects, or any combination of defects the seriousness of which exceeds the maximum allowed for any one defect, shall be considered as injury:

(a) Split, rough, wide or protruding navels when a split is unhealed or is more than one-eighth inch in length; or when the navel protrudes beyond the general contour of the fruit; or when flush with the contour but with the opening so wide, considering the size of the fruit, or the navel growth so folded and ridged that it detracts noticeably from the appearance of the fruit;

(b) Slight creasing which is more than barely visible, or which extends over more than 20 percent of the fruit surface;

(c) Scars (including sprayburn and fumigation injury) which exceed the following aggregate areas of different types of scars, or a combination of two or more types of scars the seriousness of which exceeds the maximum allowed for any one type:

(1) Scars which are very dark and which have an aggregate area exceeding that of a circle one-eighth inch in diameter;

(2) Scars which are dark, rough or deep and which have an aggregate area exceeding that of a circle one-fourth inch in diameter;

(3) Scars which are fairly light in color, slightly rough, or with slight depth and which have an aggregate area exceeding that of a circle one-half inch in diameter; and,

(4) Scars which are light in color, fairly smooth, with no depth and which have an aggregate area of more than 5 percent of the fruit surface;

(d) Oil spots (oleocellosis or similar injuries) which are depressed or soft, or which have an aggregate area of more than 2-1/2 percent of the fruit surface, or which are green and more than 4 in number;

(e) Scale when medium or large and more than 5 are present; and,

(f) Sunburn which appreciably changes the normal color or shape of the fruit, or which affects more than 10 percent of the fruit surface.

- (g) Skin breakdown when exceeding that of a circle 1/8 inch in diameter.
- (h) Bruising when segment walls are collapsed, or albedo and juice sacs are ruptured.

**§51.1103 Fairly smooth texture.**

"Fairly smooth texture" means that the skin does not feel noticeably rough or coarse for the variety. The size of the fruit should be considered in judging texture, as large fruit is not usually as smooth as smaller fruit. It is common for the fruit to show larger and coarser "pebbling" on the stem end portion than on the blossom end. The presence of furrows or grooves on the stem end portion of the fruit is a common condition in certain varieties, and the fruit shall not be considered as slightly rough unless the furrows or grooves are of sufficient depth, length, and number as to materially affect the appearance and smoothness of the orange.

**§51.1104 Damage.**

"Damage" means any defect which materially affects the appearance, or the edible or shipping quality of the fruit. Any one of the following defects, or any combination of defects the seriousness of which exceeds the maximum allowed for any one defect, shall be considered as damage:

- (a) Dryness or mushy condition when affecting all segments more than one-fourth inch at the stem end, or the equivalent of this amount, by volume, when occurring in other portions of the fruit;
- (b) Split, rough, wide or protruding navels when there are more than three splits, or when any split is unhealed or is more than one-fourth inch in length; or navels which flare, bulge, or protrude materially beyond the general contour of the fruit; or when the navel opening is so wide, considering the size of the fruit, or the navel growth so folded and ridged that it detracts materially from the appearance of the fruit;
- (c) Creasing which materially weakens the skin, or which extends over more than one-third of the fruit surface;
- (d) Scars (including sprayburn and fumigation injury) which exceed the following aggregate areas of different types of scars, or a combination of two or more types of scars the seriousness of which exceeds the maximum allowed for any one type:
  - (1) Scars which are very dark, with slight depth, and which have an aggregate area exceeding that of a circle one-fourth inch in diameter;
  - (2) Scars which are very dark, with no depth, and which have an aggregate area exceeding that of a circle one-half inch in diameter;
  - (3) Scars which are dark, and rough or deep, and which have an aggregate area exceeding that of a circle one-half inch in diameter;
  - (4) Scars which are dark, and slightly rough or with slight depth, and which have an aggregate area exceeding that of a circle three-fourths inch in diameter;
  - (5) Scars which are fairly light in color, slightly rough or with slight depth, and which have an aggregate area of more than 5 percent of the fruit surface; and,
  - (6) Scars which are light in color, fairly smooth, with no depth, and which have an aggregate area of more than 10 percent of the fruit surface;
- (e) Oil spots (oleocellosis or similar injuries) which are depressed or soft, or which have an aggregate area of more than 5 percent of the fruit surface, or which are green and more than 7 in number;
- (f) Scale when medium or large and more than 7 are present, or when medium or large scale,

outside the stem button area, aggregate more than a circle 5/8 inch in diameter.

(g) Sunburn which causes appreciable flattening of the fruit, drying or darkening of the skin, or affects more than 25 percent of the fruit surface.

(h) Skin breakdown when exceeding that of a circle 1/4 inch in diameter.

(i) Bruising when segment walls are collapsed, or albedo and juice sacs are ruptured.

**§51.1105 Fairly well colored.**

"Fairly well colored" means that the yellow or orange color predominates on the fruit.

**§51.1106 Fairly firm.**

"Fairly firm" means that the fruit may yield to moderate pressure but is not soft.

**§51.1107 Fairly well formed.**

"Fairly well formed" means that the fruit is not of the shape characteristic of the variety but is not decidedly flattened, pointed, extremely elongated, or otherwise badly deformed.

**§51.1108 Slightly rough texture.**

"Slightly rough texture" means that the skin is not decidedly rough, badly folded, badly ridged, or decidedly lumpy. Heavily "pebbled" skin shall be considered as slightly rough.

**§51.1109 Serious damage.**

"Serious damage" means any defect which seriously affects the appearance, or the edible or shipping quality of the fruit. Any one of the following defects, or any combination of defects the seriousness of which exceeds the maximum allowed for any one defect, shall be considered as serious damage:

(a) Dryness or mushy condition when affecting all segments more than one-half inch at the stem end, or the equivalent of this amount, by volume, when occurring in other portions of the fruit;

(b) Split or protruding navels when any split is unhealed or is more than one-half inch in length, or when two or more splits aggregate more than 1 inch in length; or navels which protrude seriously beyond the general contour of the fruit; or when the navel opening is so wide, considering the size of the fruit, or the navel growth so badly folded and ridged that it detracts seriously from the appearance of the fruit;

(c) Creasing which seriously weakens the skin, or which is distributed over practically the entire fruit surface;

(d) Scars (including sprayburn and fumigation injury) which exceed the following aggregate areas of different types of scars, or a combination of two or more types of scars the seriousness of which exceeds the maximum allowed for any one type:

(1) Scars which are very dark, very rough or very deep, and which have an aggregate area of more than 5 percent of the fruit surface;

(2) Scars which are dark, rough or deep, and which have an aggregate area of more than 10 percent of the fruit surface;

(3) Scars which are fairly light in color, slightly rough or of slight depth, and which have an aggregate area of more than 15 percent of the fruit surface; and,

(4) Scars which are light in color, fairly smooth, with no depth, and which have an aggregate area of more than 25 percent of the fruit surface;

(e) Oil spots (oleocellosis or similar injuries) which are depressed or soft, or which have an aggregate area of more than 10 percent of the fruit surface;

(f) Scale when medium or large and when aggregating more than a circle 3/4 inch in diameter.



(g) Sunburn which causes decided flattening of the fruit, drying or dark discoloration of the skin, or which affects more than one-third of the fruit surface.

(h) Skin breakdown when exceeding that of a circle  $\frac{5}{8}$  inch in diameter.

(i) Bruising when fruit has been split open, peel is badly watersoaked following bruising or albedo and juice sacs are ruptured causing a mushy condition affecting all segments more than  $\frac{3}{4}$  inch at bruised area or the equivalent of this amount, by volume, when affecting more than one area on the fruit.

**Note:** All references in this standard to area, aggregating area, or length are based on an orange  $2 \frac{7}{8}$  inches in diameter, allowing proportionately greater areas on larger fruit and lesser areas on smaller fruit.