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# **United States Standards for Grades of Oranges (Texas and States other than Florida, California, and Arizona)**

**Effective November 30, 2020**

This issue of the United States Standards for Grades of Oranges (Texas and States other than Florida, California, and Arizona) (85 FR 68421) supersedes the previous issue which has been in effect since September 5, 2003.

Voluntary U.S. grade standards are issued under the authority of the Agricultural Marketing Act of 1946, which provides for the development of official U.S. grades to designate different levels of quality. These grade standards are available for use by producers, suppliers, buyers, and consumers. As in the case of other standards for grades of fresh and processed fruits, vegetables, and specialty crops these standards are designed to facilitate orderly marketing by providing a convenient basis for buying and selling, for establishing quality control programs, and for determining loan values.

The U.S. grade standards and inspection instructions for all fresh and processed fruits, vegetables, and specialty crops are available on the internet and upon request at the address below. These documents provide detailed interpretations of the grade standards and provide step-by-step procedures for grading the product.

Grade standards are issued by the U.S. Department of Agriculture (USDA) after careful consideration of all data and views submitted during rulemaking. The Department welcomes suggestions for improving the standards in future revisions. Comments may be submitted to, and copies of standards and inspection instructions obtained from:

Director, Specialty Crops Inspection Division  
Specialty Crops Program,  
USDA, Agricultural Marketing Service  
1400 Independence Avenue, SW, STOP 0240  
Washington, D.C. 20250

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**Authority:** 7 U.S.C. 1621-1627.

**Note:** 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.

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**United States Standards for Grades of Oranges (Texas and States other than  
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**General**  
**§51.680      General.**

The standards in this subpart apply only to the common or sweet orange group and varieties belonging to the Mandarin group except tangerines for which separate U.S. Standards are issued.

**Grades**  
**§51.681      U.S. Fancy.**

“**U.S. Fancy**” consists of oranges which meet the following requirements:

**(a)**    Basic requirements:

- (1)**    Discoloration: Not more than one-tenth of the surface, in the aggregate, may be affected by discoloration. (See §51.700.);
- (2)**    Firm;
- (3)**    Mature;
- (4)**    Similar varietal characteristics;
- (5)**    Smooth texture;
- (6)**    Well colored; and
- (7)**    Well formed.

**(b)**    Free from:

- (1)**    Ammoniation;
- (2)**    Bruises;
- (3)**    Buckskin;
- (4)**    Caked melanose;
- (5)**    Creasing;
- (6)**    Decay;
- (7)**    Growth cracks;
- (8)**    Scab;
- (9)**    Skin breakdown;

- (10) Sprayburn;
  - (11) Undeveloped segments;
  - (12) Unhealed skin breaks; and
  - (13) Wormy fruit.
- (c) Free from injury caused by:
- (1) Green spots;
  - (2) Hail;
  - (3) Oil spots;
  - (4) Rough, wide or protruding navels;
  - (5) Scale;
  - (6) Scars;
  - (7) Split navels; and
  - (8) Thorn scratches.
- (d) Free from damage caused by:
- (1) Dirt or other foreign material;
  - (2) Disease;
  - (3) Dryness or mushy condition;
  - (4) Insects;
  - (5) Sunburn; and
  - (6) Other means.
- (e) For tolerances see §51.689.

**§51.682 U.S. No. 1.**

“U.S. No. 1” consists of oranges which meet the following requirements:

- (a) Basic requirements:

United States Standards for Grades of Oranges (Texas and States other than Florida, California, and Arizona) (November 30, 2020)

- (1)** Color:
    - (i)** Early and midseason varieties shall be fairly well colored.
    - (ii)** For Valencia and other late varieties, not less than 50 percent, by count, shall be fairly well colored and the remainder reasonably well colored.
  - (2)** Discoloration: Not more than one-third of the surface, in the aggregate, may be affected by discoloration. (See §51.700.);
  - (3)** Firm;
  - (4)** Fairly smooth texture;
  - (5)** Mature;
  - (6)** Similar varietal characteristics; and
  - (7)** Well formed.
- (b)** Free from:
- (1)** Bruises;
  - (2)** Caked melanose;
  - (3)** Decay;
  - (4)** Growth cracks;
  - (5)** Sprayburn;
  - (6)** Undeveloped segments;
  - (7)** Unhealed skin breaks; and
  - (8)** Wormy fruit.
- (c)** Free from damage caused by:
- (1)** Ammoniation;
  - (2)** Buckskin;
  - (3)** Creasing;
  - (4)** Dirt or other foreign material;

- (5) Disease;
- (6) Dryness or mushy condition;
- (7) Green spots;
- (8) Hail;
- (9) Insects;
- (10) Oil spots;
- (11) Scab;
- (12) Scale;
- (13) Scars;
- (14) Skin breakdown;
- (15) Split, rough or protruding navels;
- (16) Sunburn;
- (17) Thorn scratches; and
- (18) Other means.

(d) For tolerances see §51.689.

**§51.683 U.S. No. 1 Bright.**

The requirements for this grade are the same as for U.S. No. 1 except that no fruit may have more than one-tenth of its surface, in the aggregate, affected by discoloration.

(a) For tolerances see §51.689.

**§51.684 U.S. No. 1 Bronze.**

The requirements for this grade are the same as for U.S. No. 1 except that all fruit must show some discoloration and at least 10 percent, by count, of the fruit shall have more than one-third of their surface, in the aggregate, affected by discoloration. The predominating discoloration on these fruits shall be of rust mite type. For tolerances see §51.689.



**§51.685 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 55 percent, by count, meet the requirements of U.S. No. 1 grade for defects, *And provided further*, That the lot meets the basic requirement for discoloration as specified in the U.S. No. 2 grade. For tolerances see §51.689.

**§51.686 U.S. No. 2.**

“**U.S. No. 2**” consists of oranges which meet the following requirements:

**(a)** Basic requirements:

- (1)** Discoloration: Not more than one-half of the surface, in the aggregate, may be affected by discoloration. (See 51.700.)
- (2)** Fairly firm;
- (3)** Mature;
- (4)** Not more than slightly misshapen;
- (5)** Not more than slightly rough texture;
- (6)** Reasonably well colored; and
- (7)** Similar varietal characteristics.

**(b)** Free from:

- (1)** Bruises;
- (2)** Decay;
- (3)** Growth cracks;
- (4)** Unhealed skin breaks; and
- (5)** Wormy fruit.

**(c)** Free from serious damaged caused by:

- (1)** Ammoniation;
- (2)** Buckskin;
- (3)** Caked melanose;

- (4) Creasing;
- (5) Dirt or other foreign material;
- (6) Disease;
- (7) Dryness or mushy condition;
- (8) Green spots;
- (9) Hail;
- (10) Insects;
- (11) Oil spots;
- (12) Scab;
- (13) Scale;
- (14) Scars;
- (15) Skin breakdown;
- (16) Split, rough or protruding navels;
- (17) Sprayburn;
- (18) Sunburn;
- (19) Thorn scratches; and
- (20) Other means.

(d) For tolerances see §51.689.

**§51.687 U.S. No. 2 Russet.**

The requirements for this grade are the same as for U.S. No. 2 except that at least 10 percent by count of the fruit shall have more than one-half of their surface, in the aggregate, affected by any type of discoloration. For tolerances see §51.689.

**§51.688 U.S. No. 3.**

“U.S. No. 3” consists of oranges which meet the following requirements:

(a) Basic requirements:

- (1) Mature;
  - (2) May be misshapen;
  - (3) May be poorly colored. Not more than 25 percent of the surface may be of a solid dark green color;
  - (4) May be slightly spongy;
  - (5) May have rough texture;
  - (6) Not seriously lumpy or cracked; and
  - (7) Similar varietal characteristics.
- (b) Free from:
- (1) Decay;
  - (2) Unhealed skin breaks; and
  - (3) Wormy fruit.
- (c) Free from very serious damage caused by other means.
- (d) For tolerances see §51.689.

## **Tolerances**

### **§51.689 Tolerances.**

In order to allow for variations incident to proper grading and handling in each of the foregoing grades, the following tolerances, by count, based on a minimum 25 count sample, are provided as specified. No tolerance shall apply to wormy fruit.

- (a) Defects.
- (1) U.S. Fancy, U.S. No. 1, U.S. No. 1 Bright, U.S. No. 1 Bronze, U.S. No. 2, and U.S. No. 2 Russet Grades.
    - (i) *For defects at shipping point.*<sup>1</sup> Not more than 10 percent of the fruit in any lot may fail to meet the requirements of the specified grade: *Provided*, That included in this amount not more than 5 percent

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<sup>1</sup> Shipping point, as used in these standards, means the point of origin of the shipment in the production area or at port of loading for ship stores or overseas shipments, or in the case of shipments from outside the continental United States, the port of entry into the United States.

shall be allowed for defects causing very serious damage, including in this latter amount not more than 1 percent for decay.

(ii) *For defects en route or at destination.* Not more than 12 percent of the fruit in any lot may 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:

(A) 10 percent for fruit having permanent defects; or

(B) 7 percent for defects causing very serious damage, including therein not more than 5 percent for very serious damage by permanent defects and not more than 3 percent for decay.

(2) U.S. Combination.

(i) *For defects at shipping point.*<sup>1</sup> Not more than 10 percent of the fruit in any lot may fail to meet the requirements of the U.S. No. 2 grade: *Provided,* That included in this amount not more than 5 percent shall be allowed for defects causing very serious damage, including in this latter amount not more than 1 percent for decay.

(ii) *For defects en route or at destination.* Not more than 12 percent of the fruit in any lot may fail to meet the 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:

(A) 10 percent for fruit having permanent defects; or

(B) 7 percent for defects causing very serious damage, including therein not more than 5 percent for very serious damage by permanent defects and not more than 3 percent for decay.

(iii) *For defects at shipping point<sup>1</sup> and en route or at destination:* No part of any tolerance shall be allowed to reduce for the lot as a whole, the 55 percent of U.S. No. 1 fruit required in the U.S. Combination grade, but individual samples may have not more than 15 percent less than the required percentage for the grade: *Provided,* That the entire lot averages within the percentage required.

(3) U.S. No. 3.

(i) *For defects at shipping point.*<sup>1</sup> Not more than 10 percent of the fruit in any lot may fail to meet the requirements of the grade: *Provided,* That included in this amount not more than 1 percent for decay.

(ii) *For defects en route or at destination.* Not more than 12 percent of the fruit in any lot may 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:

(A) 10 percent for fruit having permanent defects; or

(B) 3 percent for decay.

(b) Discoloration.

(1) **U.S. No. 1, U.S. No. 1 Bright, U.S. Combination and U.S. No. 2.** Not more than 10 percent of the fruit in any lot may fail to meet the requirements relating to discoloration as specified in each grade. No sample may have more than 20 percent of the fruit with excessive discoloration: *Provided*, That the entire lot averages within the percentage specified.

(2) **U.S. No. 1 Bronze.** At least 10 percent of the fruit shall have more than one-third of the surface, in the aggregate, affected by discoloration, and no part of any tolerance shall be allowed to reduce this percentage. No sample may have less than 5 percent of the fruit with required discoloration: *Provided*, That the entire lot averages within the percentage specified. No tolerance shall apply to fruit showing no discoloration.

(3) **U.S. No. 2 Russet.** At least 10 percent of the fruit shall have more than one-half of the surface, in the aggregate, affected by discoloration, and no part of any tolerance shall be allowed to reduce this percentage. No sample may have less than 5 percent of the fruit with the required discoloration: *Provided*, That the entire lot averages within the percentage specified.

### **Application of Tolerances**

#### **§51.690 Application of tolerances.**

Individual samples are subject to the following limitations, unless otherwise specified in §51.689. 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 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**

#### **§51.691 Standard pack.**

(a) Fruit shall be fairly uniform in size. When packed in approved containers, fruit

shall be arranged according to approved and recognized methods.

- (b) **“Fairly uniform in size”** means that not more than 10 percent of fruit in any lot, and not more than double that amount in any sample, are outside the ranges of diameters given in Table 1.

**Table 1 to §51.691 paragraph (b) – 7/10 Bushel Carton**

Pack size/number of oranges	Diameter in inches	
	Minimum	Maximum
24	3-12/16	5-1/16
32	3-6/16	4-9/16
36	3-4/16	4-6/16
40	3-2/16	4-4/16
48	2-15/16	4
56	2-13/16	3-13/16
64	2-11/16	3-10/16
72	2-9/16	3-8/16
88	2-8/16	3-4/16
113	2-7/16	3
138	2-6/16	2-12/16
163	2-3/16	2-8/16

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

**Standard Sizing**

**§51.692 Standard sizing.**

- (a) Boxes, cartons, bag packs, or bulk loads 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: *Provided*, That the ranges are fairly uniform in size as defined in §51.691.
- (b) In order to allow for variations incident to proper packing, not more than 5 percent of the containers in any lot may fail to meet the requirements of standard sizing.

## **Definitions**

### **§51.693 Mature.**

“**Mature**” shall have the same meaning currently assigned that term in the laws and regulations of the State in which the orange is grown; or as the definition of such term may hereafter be amended.

### **§51.694 Similar varietal characteristics.**

“**Similar varietal characteristics**” means that the fruits in any container are similar in color and shape.

### **§51.695 Well colored.**

“**Well colored**” means that the fruit is yellow or orange in color with practically no trace of green color.

### **§51.696 Firm.**

“**Firm**” as applied to common oranges, means that the fruit is not soft, or noticeably wilted or flabby; as applied to oranges of the Mandarin group (Satsuma, King, Mandarin), means that the fruit is not extremely puffy, although the skin may be slightly loose.

### **§51.697 Well formed.**

“**Well formed**” means that the fruit has the shape characteristic of the variety.

### **§51.698 Smooth texture.**

“**Smooth texture**” means that the skin is thin and smooth for the variety and size of the fruit.

### **§51.699 Injury.**

“**Injury**” means any specific defect described in Table 1 to §51.713; or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects, which slightly detracts from the appearance, or the edible or marketing quality of the fruit.

### **§51.700 Discoloration.**

“**Discoloration**” means russetting of light shade of golden brown caused by rust mite or other means. Lighter shades of discoloration caused by smooth or fairly smooth, superficial scars or other means may be allowed on a greater area, or darker shades may be allowed on a lesser area, provided no discoloration caused by melanose or

other means may affect the appearance of the fruit to a greater extent than the shade and amount of discoloration allowed for the grade.

**§51.701 Fairly smooth texture.**

“**Fairly smooth texture**” means that the skin is not materially rough or coarse and that the skin is not thick for the variety.

**§51.702 Damage.**

“**Damage**” means any specific defect described in Table 1 to §51.713; 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.

**§51.703 Fairly well colored.**

“**Fairly well colored**” means that except for a one inch circle in the aggregate of green color, the yellow or orange color predominates over the green color on that part of the fruit which is not discolored.

**§51.704 Reasonably well colored.**

“**Reasonably well colored**” means that the yellow or orange color predominates over the green color on at least two-thirds of the fruit surface in the aggregate which is not discolored.

**§51.705 Fairly firm.**

“**Fairly firm**” as applied to common oranges, means that the fruit may be slightly soft, but not bruised; as applied to oranges of the Mandarin group (Satsuma, King, Mandarin) means that the fruit is not extremely puffy or the skin extremely loose.

**§51.706 Slightly misshapen.**

“**Slightly misshapen**” means that the fruit is not of the shape characteristic of the variety but is not appreciably elongated or pointed or otherwise deformed.

**§51.707 Slightly rough texture.**

“**Slightly rough texture**” means that the skin is not smooth or fairly smooth but is not excessively rough or excessively thick, or materially ridged, grooved or wrinkled.

**§51.708 Serious damage.**

“**Serious damage**” means any specific defect described in Table 1 to §51.713; 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.

**§51.709 Misshapen.**

“**Misshapen**” means that the fruit is decidedly elongated, pointed or flat sided.

**§51.710 Slightly spongy.**

“**Slightly spongy**” means that the fruit is puffy or slightly wilted but not flabby.

**§51.711 Very serious damage.**

“**Very serious damage**” means any specific defect described in Table 1 to §51.713; or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects, which very seriously detracts from the appearance, or the edible or marketing quality of the fruit.

**§51.712 Diameter.**

“**Diameter**” means the greatest dimension measured at right angles to a line from stem to blossom end of the fruit.

**§51.713 Classification of defects.**

**Table 1 to §51.713**

All references to area or aggregate area, or length in this standard are based on an orange 2-7/8 inches in diameter, allowing proportionately greater areas on larger fruit and lesser areas on smaller fruit.

<b>Factor</b>	<b>Injury</b>	<b>Damage</b>	<b>Serious Damage</b>	<b>Very Serious Damage</b>
Ammoniation		Not occurring as light speck type.	Scars are cracked or dark and aggregating more than a circle 3/4 inch in diameter or light colored and aggregating more than a circle 1-1/4 inches in diameter.	Aggregating more than 25 percent of the surface.
Buckskin		Aggregating more than a circle 1 inch in diameter.	Aggregating more than 25 percent of the surface.	Aggregating more than 50 percent of the surface.
Caked melanose			Aggregating more than a circle 3/4 inch in diameter.	Aggregating more than 25 percent of the surface.
Creasing		Materially weakens the skin, or extends over more than one-third of the surface.	Seriously weakens the skin, or extends over more than one-half of the surface.	Very seriously weakens the skin, or is distributed over practically the entire surface.

<b>Factor</b>	<b>Injury</b>	<b>Damage</b>	<b>Serious Damage</b>	<b>Very Serious Damage</b>
Dryness or mushy condition		Affecting all segments more than 1/4 inch at stem end, or the equivalent of this amount, by volume, when occurring in other portions of the fruit.	Affecting all segments more than 1/2 inch at stem end, or the equivalent of this amount, by volume, when occurring in other portions of the fruit.	Affecting all segments more than 3/4 inch at stem end, or the equivalent of this amount, by volume, when occurring in other portions of the fruit.
Green spots or oil spots	More than slightly affecting appearance.	Aggregating more than a circle 7/8 inch in diameter.	Aggregating more than a circle 1-1/4 inches in diameter.	
Hail	Not well healed, or aggregating more than a circle 1/4 inch in diameter.	Not well healed, or aggregating more than a circle 3/8 inch in diameter.	Not well healed, or aggregating more than a circle 1/2 inch in diameter.	Not well healed, or aggregating more than a circle 3/4 inch in diameter.
Scab		Materially detracts from the shape or texture, or aggregating more than a circle 5/8 inch in diameter.	Seriously detracts from the shape or texture, or aggregating more than a circle 3/4 inch in diameter.	Aggregating more than 25 percent of the surface.
Scale	More than a few adjacent to the "button" at the stem end, or more than 6 scattered on other portions of the fruit.	Aggregating more than a circle 5/8 inch in diameter.	Aggregating more than a circle 3/4 inch in diameter.	Aggregating more than 25 percent of the surface.

<b>Factor</b>	<b>Injury</b>	<b>Damage</b>	<b>Serious Damage</b>	<b>Very Serious Damage</b>
Scars	Depressed, not smooth, or detracts from appearance more than the amount of discoloration permitted in the grade.	Deep, rough or hard aggregating more than a circle 1/4 inch in diameter; slightly rough with slight depth aggregating more than a circle 7/8 inch in diameter; smooth or fairly smooth with slight depth aggregating more than a circle 1-1/4 inches in diameter.	Deep, rough aggregating more than a circle 1/2 inch in diameter; slightly rough with slight depth aggregating more than a circle 1-1/4 inches in diameter.	Deep, rough or unsightly that appearance is very seriously affected.
Skin breakdown		Aggregating more than a circle 1/4 inch in diameter.	Aggregating more than a circle 5/8 inch in diameter.	Aggregating more than 25 percent of the surface.
Sunburn		Skin is flattened, dry, darkened or hard, aggregating more than 25 percent of the surface.	Affecting more than one-third of the surface, hard, decidedly one-sided, or light brown and aggregating more than a circle 1-1/4 inches in diameter.	Aggregating more than 50 percent of the surface.
Sprayburn			Hard, or aggregating more than a circle 1-1/4 inches in diameter.	Aggregating more than 25 percent of the surface.

<b>Factor</b>	<b>Injury</b>	<b>Damage</b>	<b>Serious Damage</b>	<b>Very Serious Damage</b>
Split, rough or protruding navels	Split is unhealed; navel protrudes beyond general contour; opening is so wide, growth so folded and ridged that it detracts noticeably from appearance.	Split is unhealed, or more than 1/4 inch in length, or more than 3 well healed splits, or navel protrudes beyond the general contour, and opening is so wide, folded or ridged that it detracts materially from appearance.	Split is unhealed, or more than 1/2 inch in length, or aggregate length of all splits exceed 1 inch, or navel protrudes beyond general contour, and opening is so wide, folded and ridged that it seriously detracts from appearance.	Split is unhealed or fruit is seriously weakened.
Thorn scratches	Not slight, not well healed, or more unsightly than discoloration permitted in the grade.	Not well healed, or hard concentrated thorn injury aggregating more than a circle 5/8 inch in diameter.	Not well healed, or hard concentrated thorn injury aggregating more than a circle 3/4 inch in diameter.	Aggregating more than 25 percent of the surface.

**Metric Conversion Table**

§51.714 Metric conversion table.

Inches (in)	Millimeters (mm)
1/4	6.4
5/16	7.9
3/8	9.5
1/2	12.7
5/8	15.9
3/4	19.1
7/8	22.2
1	25.4
1-1/4	31.8
2-3/16	55.6
2-4/16	57.2
2-7/16	61.9
2-8/16	63.5
2-9/16	65.1
2-11/16	68.3
2-12/16	69.9
2-15/16	74.6
3-1/16	77.8
3-3/16	81.0
3-5/16	84.1
3-7/16	87.3
3-9/16	90.5
3-13/16	96.8

United States Standards for Grades of Oranges (Texas and States other than Florida,  
California, and Arizona) (November 30, 2020)