



**United States  
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**Fruit and  
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Division**

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# **United States Standards for Grades of Bermuda-Granex-Grano Type Onions**

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# United States Standards for Grades of Bermuda-Granex-Grano Type Onions

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## **Grades**

### **§51.3195 U.S. No. 1.**

"U.S. No. 1" consists of onions which meet the following requirements:

(a) Basic requirements:

(1) Similar varietal characteristics;

(2) Mature;

(3) Fairly firm; and,

(4) Fairly well shaped.

(b) Free from:

(1) Decay;

(2) Wet sunscald;

(3) Doubles; and,

(4) Bottlenecks.

(c) Free from damage caused by:

- (1) Seedstems;
- (2) Splits;
- (3) Dry sunken areas;
- (4) Sunburn;
- (5) Sprouting;
- (6) Staining;
- (7) Dirt or foreign material;
- (8) Mechanical;
- (9) Tops;
- (10) Roots;
- (11) Translucent scales;
- (12) Watery scales;
- (13) Moisture;
- (14) Disease;
- (15) Insects; and,
- (16) Other means.

(d) For size and tolerances see §§51.3198 and 51.3199.

**§51.3196 U.S. Combination.**

"U.S. Combination" consists of a combination of U.S. No. 1 and U.S. No. 2 onions: **Provided**, that at least 50 percent, by weight, of the onions in each lot meet the requirements of U.S. No. 1 grade. (See §§51.3198 and 51.3199.)

**§51.3197 U.S. No. 2.**

"U.S. No. 2" consists of onions which meet the following requirements:

(a) Basic requirements:

- (1) Similar varietal characteristics; and,
- (2) Not soft or spongy.

(b) Free from:

- (1) Decay;
- (2) Wet sunscald; and,
- (3) Bottlenecks.

(c) Free from serious damage caused by:

- (1) Seedstems;
- (2) Dry sunken areas;
- (3) Sprouting;
- (4) Staining;
- (5) Dirt or other foreign material;
- (6) Mechanical;
- (7) Watery scales;
- (8) Insects;
- (9) Disease; and,
- (10) Other means.

(d) For size and tolerances see §§51.3198 and 51.3199.

**Size Classifications**

**§51.3198 Size classifications.**

Size shall be specified in connection with the grade in terms of minimum diameter, range in diameter, minimum diameter with a percentage of a certain size or larger, or in accordance with one of the size classifications listed below: **Provided**, that unless otherwise specified, onions shall not be less than 1 1/2 inches in diameter, with 60 percent or more 2 inches or larger in diameter.

Size Designation	Minimum Diameter		Maximum Diameter	
	Inches	Millimeters	Inches	Millimeters
Small.....	1	25.4	2 1/4	57.2
Repacker/ Prepacker <sup>1</sup> .	1 3/4	44.5	3	76.2
Medium.....	2	50.8	3 1/4	82.6
Large or Jumbo.....	3	76.2	( <sup>2</sup> )	.....
Colossal...	3 3/4	95.3	( <sup>2</sup> )	.....

<sup>1</sup> In addition to the sizes specified, a lot of onions designated as Repacker or Prepacker shall contain at least 60 percent or more 2 inches or larger in diameter.

<sup>2</sup> No requirement.

**Tolerances**

**§51.3199 Tolerances.**

In order to allow for variations incident to proper grading and handling in each of the foregoing grades the following tolerances, by weight, are provided as specified:

(a) For defects:

(1) **U.S. No. 1 and U.S. No. 2 grades.**

(i) Not more than 10 percent of the onions in a lot may fail to meet the requirements of these grades, but not more than one-fifth of this tolerance, or 2 percent, may be allowed for onions which are affected by decay or wet sunscald.

(2) **U.S. Combination grade.**

(i) When applying the foregoing tolerances to this grade no part of any tolerance shall be allowed to reduce, for the lot as a whole, the 50 percent of onions of the U.S. No. 1 grade, but individual containers shall have not less than 40 percent of the U.S. No. 1 grade.

(b) For size:

(1) Not more than 5 percent of the onions in a lot may be smaller than the minimum diameter specified. In addition, not more than 10 percent of the onions in a lot may be larger than the maximum diameter specified.

(2) When a percentage of the onions is specified to be a certain size and larger, individual packages containing more than 10 pounds may have not less than one-half of the percentage specified: **Provided**, that the entire lot averages within the percentage specified.

**Samples for Grade and Size Determination**

**§ 51.3200 Samples for grade and size determination.**

Individual samples shall consist of at least 20 pounds for onions packed to meet larger than 2 1/4

inches maximum diameter. When individual packages contain 20 pounds or more and the onions are packed for Large or Jumbo size or larger the package shall be the sample. When individual packages contain less than 20 pounds, a sufficient number of adjoining packages are opened to provide at least a 20 pound sample, except that for onions packed to meet 2 1/4 inches maximum diameter or smaller, the sample may consist of either 20 pounds or the individual package.

### **Application of Tolerances**

#### **§51.3201 Application of tolerances.**

Individual samples are subject to the following limitations:

(a) Samples which contain more than 20 pounds 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, except that at least one defective and one off-size onion may be permitted in any sample: **Provided**, that en-route or at destination when onions in containers of 50 pounds or more are packed to a minimum size of 3 inches or larger not more than three onions or more than 4 percent (whichever is the larger amount) may be affected by decay or wet sunscald: **And provided further**, that the averages for the entire lot are within the tolerances specified for the grade; and,

(b) Samples which contain 20 pounds or less shall have not more than double the tolerance specified, except that at least one defective and one off-size onion may be permitted in any sample: **Provided**, that the averages for the entire lot are within the tolerances specified for the grade.

### **Definitions**

#### **§51.3202 Similar varietal characteristics.**

"Similar varietal characteristics" means that the onions in any container are similar in color, shape and character of growth.

#### **§51.3203 Mature.**

"Mature" means that the onion is fairly well cured, and at least fairly firm.

#### **§51.3204 Fairly firm.**

"Fairly firm" means that the onion may yield slightly to moderate pressure but is not appreciably soft or spongy.

#### **§51.3205 Fairly well shaped.**

"Fairly well shaped" means that the onion shows the characteristic shape, not appreciably three-, four- or five- sided, thick necked or badly pinched.

#### **§51.3206 Wet sunscald.**

"Wet sunscald" means any sunscald which is soft, mushy, sticky or wet.

#### **§51.3207 Doubles.**

"Doubles" means onions which have developed more than one distinct bulb joined only at the base.

#### **§51.3208 Bottlenecks.**

"Bottlenecks" means onions which have abnormally thick necks with only fairly well developed bulbs.

#### **§51.3209 Damage.**

"Damage" unless otherwise specifically defined in this section, means any defect which materially affects the appearance, or the edible or shipping quality of the onions. Any one of the following

defects, or combination of defects the seriousness of which exceeds the maximum allowed for any one defect, shall be considered as damage:

- (a) Seedstems which are tough or woody, or which are more than 1/4 inch in diameter;
- (b) Splits when well cured onions are not practically covered by an outer scale, or when fairly well cured onions are not completely covered by one outer scale;
- (c) Dry sunken areas when the affected areas exceed the equivalent to that of a circle 1/2 inch in diameter on an onion 2 3/4 inches in diameter which does not have the outer papery scale covering the affected areas or when the affected areas exceed the equivalent to that of a circle 3/4 inch in diameter on an onion 2 3/4 inches in diameter which has the outer papery scale covering the affected areas. Correspondingly lesser or greater areas are allowed on smaller or larger onions;
- (d) Sunburn when dark green in color and affecting an area equivalent to that of a circle 1 inch in diameter on an onion 2 3/4 inches in diameter or correspondingly smaller or larger areas on smaller or larger onions, or when medium to light green in color and affecting more than 10 percent of the surface of the onion;
- (e) Sprouting when any sprout is visible, or when concealed within the neck scales and are more than 3/4 inch in length on an onion 2 inches or larger in diameter, or proportionately shorter on smaller onions;
- (f) Staining, dirt or other foreign material when more than 20 percent of the onions in a yellow, brown or red lot, or more than 15 percent of the onions in a white lot are appreciably stained. Onions with adhering dirt or other foreign matter shall be judged on the same basis as stained onions;
- (g) Mechanical when any cut extends deeper than one fleshy scale, or when any bruise breaks a fleshy scale;
- (h) Tops when more than 30 percent of the onions in a lot have tops 3 inches or more in length;
- (i) New roots when most roots on an individual onion have grown to a length of 1 inch or more;
- (j) Dry roots when practically all roots are 2 inches or more in length;
- (k) Translucent scales when more than the equivalent of two entire outer fleshy scales have a watersoaked condition; and,
- (l) Watery scales when more than the equivalent of the entire outer fleshy scale is affected by an off-color, watersoaked condition. The off-color must be of some shade of brown or yellow.

**§51.3210 Serious damage.**

"Serious damage" unless otherwise specifically defined in this section, means any defect which seriously affects the appearance, or the edible or shipping quality of the onions. 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) Seedstems when more than 1/2 inch in diameter;
- (b) Dry sunken areas when extending deeper than one fleshy scale, or when affecting an area equivalent to that of a circle 1 inch in diameter on an onion 2 3/4 inches in diameter, or correspondingly lesser or greater areas on smaller or larger onions;
- (c) Sprouting when any visible sprout is more than 1/2 in length;
- (d) Staining, dirt or foreign material when more than 25 percent of the onions in any lot are badly stained. Onions with adhering dirt or other foreign matter shall be judged on the same basis as

stained onions;

(e) Mechanical when any cut extends deeper than two fleshy scales, or when cuts seriously damage the appearance of the onion; and,

(f) Watery scales when more than the equivalent of two entire outer fleshy scales are affected by an off-colored, watersoaked condition. The off-color must be of some shade of brown or yellow.

**§51.3211 Diameter.**

"Diameter" means the greatest dimension of the onion at right angles to a line running from the stem to the root.

**Metric Conversion Table**

**§51.3212 Metric conversion table.**

Inches	Millimeters (mm)
1/8.....	3.2
1/4.....	6.4
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
1 1/2.....	38.1
1 3/4.....	44.5
2.....	50.8
2 1/2.....	63.5
2 3/4.....	69.9
3.....	76.2
3 1/2.....	88.9
4.....	101.6