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# United States Standards for Grades of Watermelons

**Effective Final Draft, 2021**



This issue of the United States Standards for Grades of Watermelons (\_\_\_ FR \_\_\_) supersedes the previous issue which has been in effect since March 23, 2006.

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 Watermelons

<b>Section</b>	<b>Page No.</b>
<b>Grades</b> .....	<b>3</b>
§51.1970 U.S. Fancy.....	3
§51.1971 U.S. No. 1.....	3
§51.1972 U.S. No. 2.....	4
<b>Tolerances</b> .....	<b>4</b>
§51.1973 Tolerances.....	4
<b>Application of Tolerances</b> .....	<b>6</b>
§51.1974 Application of tolerances.....	6
<b>Sample for Grade and Size Determination</b> .....	<b>7</b>
§51.1975 Sample for grade and size determination.....	7
<b>Size</b> .....	<b>7</b>
§51.1976 Size.....	7
<b>Definitions</b> .....	<b>8</b>
§51.1977 Mature.....	8
§51.1978 Fairly well formed.....	8
§51.1979 Similar varietal characteristics.....	8
§51.1980 Overripe.....	8
§51.1981 Badly misshapen.....	8
§51.1982 Seedless watermelons.....	8
§51.1983 Damage.....	8
§51.1984 Serious damage.....	9
§51.1985 Permanent defects.....	9
§51.1986 Condition defects.....	9
§51.1987 Classification of Defects.....	10

**Optional Internal Quality..... 10**  
§51.1988 Optional internal quality requirements. .... 11

DRAFT

**Grades**

**§51.1970 U.S. Fancy.**

"U.S. Fancy" consists of watermelons which meet the following requirements:

**(a) Basic requirements:**

- (1) Mature;**
- (2) Similar varietal characteristics;**
- (3) Fairly well formed;**
- (4) Not overripe;**

**(b) Free from:**

- (1) Anthracnose;**
- (2) Decay;**
- (3) Sunscald;**
- (4) Whiteheart;**

**(c) Free from damage by any means. See §51.1983.**

**(d) For tolerances see §51.1973.**

**§51.1971 U.S. No. 1.**

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

**(a) Basic requirements:**

- (1) Mature;**
- (2) Similar varietal characteristics;**
- (3) Fairly well formed;**
- (4) Not overripe;**

**(b) Free from:**

- (1) Anthracnose;**

- (2) Decay;
- (3) Sunscald;
- (c) Free from damage by any means. See §51.1983.
- (d) For tolerances see §51.1973.

**§51.1972 U.S. No. 2.**

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

- (a) Basic requirements:
  - (1) Mature;
  - (2) Similar varietal characteristics;
  - (3) Not overripe;
  - (4) Not badly misshapen;
- (b) Free from:
  - (1) Anthracnose;
  - (2) Decay;
  - (3) Sunscald;
- (c) Free from serious damage by any means. See §51.1984.
- (d) For tolerances see §51.1973.

**Tolerances**

**§51.1973 Tolerances.**

In order to allow for variations incident to proper grading and handling in each of the foregoing grades, the following tolerances, by count, shall be permitted in any lot:

**(a) U.S. Fancy.**

- (1)** For defects at shipping point.<sup>1</sup> 8 percent for watermelons which fail to meet the requirements of this grade: *Provided*, That included in this amount not more than 4 percent shall be allowed for defects causing serious damage: *And provided further*, That included in this latter amount not more than 1 percent shall be allowed for watermelons which are affected by Whiteheart, Sunscald, Anthracnose, or decay.
- (2) En route or at destination.** 10 percent for watermelons which fail to meet the requirements of this grade: *Provided*, That included in this amount not more than the following percentages shall be allowed for defects listed:
  - (i)** 8 percent for watermelons having permanent defects including therein not more than 4 percent for permanent defects causing serious damage.
  - (ii)** 8 percent for watermelons having condition defects including therein not more than 4 percent for condition defects causing serious damage and included in this latter amount not more than 2 percent shall be allowed for watermelons affected by Whiteheart, Sunscald, Anthracnose, or decay.

**(b) U.S. No. 1.**

- (1) For defects at shipping point.**<sup>1</sup> 10 percent for watermelons which fail to meet the requirements of this grade: *Provided*, That included in this amount not more than 5 percent shall be allowed for defects causing serious damage: *And provided further*, That included in this latter amount not more than 1 percent shall be allowed for watermelons affected by Anthracnose or decay.
- (2) En route or at destination.** 12 percent for watermelons which fail to meet the requirements of this grade: *Provided*, That included in this amount not more than the following percentages shall be allowed for defects listed:
  - (i)** 10 percent for watermelons having permanent defects including therein not more than 5 percent for permanent defects causing

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<sup>1</sup> Shipping 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 for overseas shipments, or, in the case of shipments from outside of the continental United States, port of entry into the United States.

serious damage.

- (ii) 10 percent for watermelons having condition defects including therein not more than 5 percent for condition defects causing serious damage and included in this later amount not more than 2 percent shall be allowed for watermelons affected by Anthracnose or decay.

**(c) U.S. No. 2.**

- (1) **For defects at shipping point.**<sup>1</sup> 10 percent for watermelons which fail to meet the requirements of this grade: *Provided*, That included in this amount not more than 1 percent shall be allowed for watermelons affected by Anthracnose or decay.
- (2) **En route or at destination.** 12 percent for watermelons which fail to meet the requirements of this grade: *Provided*, That included in this amount not more than 2 percent shall be allowed for watermelons affected by Anthracnose or decay.

**Application of Tolerances**

**§51.1974 Application of tolerances.**

In order to meet the requirements of a specified grade the average percentage of defective watermelons in the lot, based on sample inspection, shall be within the tolerance specified, and the number of defective watermelons in individual samples in the lot shall be within the limitations set forth in the following table:

<b>Lot Tolerance</b>	<b>Total<sup>1</sup></b>
12%	5
10%	4
8%	3
6%	3
5%	2
4%	2
3%	2
2%	1
1%	1

<sup>1</sup>Number of watermelons per 20 count sample.



**Sample for Grade and Size Determination**

**§51.1975 Sample for grade and size determination.**

Each sample shall consist of 20 watermelons. When individual containers contain at least 20 watermelons, the sample is drawn from one container; when individual containers contain less than 20 watermelons, a sufficient number of adjoining containers are opened to form a 20 count sample.

**Size**

**§51.1976 Size.**

Size may be specified in terms of average weight, minimum weight or minimum and maximum weight.

- (a) When the size of the watermelons is stated in terms of average weight, unless otherwise specified, the melons in any lot averaging less than 30 pounds shall not vary more than 3 pounds above or below the stated average, and the melons in any lot averaging 30 pounds or more shall not vary more than 5 pounds below the stated average.

<b>Table II</b>		
<b>Average Weight in Pounds</b>	<b>Minimum Weight (unless otherwise specified) in Pounds</b>	<b>Tolerances Permitted for Melons Below the Minimum Weight</b>
10	7	5%
12	9	5%
14	11	5%
16	13	5%
18	15	5%
20	17	5%
22	19	5%
24	21	5%
26	23	5%
28	25	5%
30	25	5%
32	27	5%
34	29	5%

- (b) In order to allow for variations incident to proper sizing, not more than 5 percent, by count, of the watermelons in any lot may be below the minimum size requirements: *Provided*, That when minimum and maximum weights are specified, not more than 5 percent, by count, may be below the specified minimum weight and not more than 5 percent, may be above the specified maximum weight.

## Definitions

### §51.1977 **Mature.**

“**Mature**” means that the watermelon has reached the stage of development at which the flesh is at least fairly sweet and shows characteristic color of a mature watermelon for the variety.

### §51.1978 **Fairly well formed.**

“**Fairly well formed**” means that the watermelons have characteristic shape but not necessarily the perfect type for the variety. They may be tapered at the ends or slightly constricted.

### §51.1979 **Similar varietal characteristics.**

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

### §51.1980 **Overripe.**

“**Overripe**” means that a watermelon has reached such an advanced stage of maturity that the flesh becomes mealy, less juicy or has an insipid taste.

### §51.1981 **Badly misshapen.**

“**Badly misshapen**” means that the watermelons are bottlenecks or gourdnecks.

### §51.1982 **Seedless watermelons.**

“**Seedless watermelons**” are watermelons which have 10 or less mature seeds, not to include pips/caplets, on the face of the melon which has been cut into four equal sections (one lengthwise cut and one crosswise cut).

### §51.1983 **Damage**

“**Damage**” means any specific defect described in §51.1987, Table III, 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 watermelons.

**§51.1984 Serious damage.**

“**Serious damage**” means any specific defect described in §51.1987, Table III, 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 watermelons.

**§51.1985 Permanent defects.**

“**Permanent defects**” means defects which are not subject to change during shipment or storage; including, but not limited to scars, hollow heart, sunburn, or immature watermelons.

**§51.1986 Condition defects.**

“**Condition defects**” means defects which are subject to change during shipment or storage, including but not limited to decay or Anthracnose.

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**§51.1987 Classification of Defects.**

<b>Table III</b>		
<b>Factor</b>	<b>Damage</b>	<b>Serious Damage<sup>1</sup></b>
Bruises, side <sup>2</sup>	Over 3 inches in diameter and sunken.	Over 5 inches in diameter and sunken or soft and springy with underlying flesh water-soaked.
Bruises, end <sup>2</sup>	Over 2 inches in diameter and sunken.	Over 2 inches in diameter with underlying flesh water-soaked.
Hail, rind worm injury, scars, and other similar defects.	Aggregating more than 3 sq. inches on a 15 lb. watermelon. The portion of rind worm injury occurring on the ground spot is only scorable when seriously detracting from the appearance.	Aggregating more than 7 sq. inches on a 15 lb. watermelon. Do not include any rind worm injury occurring on the ground spot.
Hollow heart <sup>2</sup>	Long type: Cracks aggregating more than 1-1/4 inch in width. Round type: Cracks aggregating more than 1-1/2 inch in width.	Long type: Cracks aggregating more than 1-1/2 inch in width. Round type: Cracks aggregating more than 2 inches in width.
Internal rind spot <sup>2</sup>	Aggregate area exceeds a circle 1 inch in diameter.	Aggregate area exceeds a circle 1-1/2 inch in diameter or when any spot penetrates the flesh.
Soft ends <sup>2</sup>	End yields readily to slight pressure applied by palm of the hand or shriveling is associated with the soft end.	-----
Sunburn	Area exceeds 5 sq. inches of greenish-yellow sunburn on a 15 lb. watermelon respectively.	Area exceeds 7 sq. inches of greenish-yellow sunburn on a 15 lb. watermelon respectively.
Transit rubs	Aggregating more than 3 sq. inches of medium brown discoloration on a 15 lb. watermelon respectively.	Aggregating more than 7 sq. inches of medium brown discoloration on a 15 lb. watermelon respectively.
Whiteheart <sup>2</sup>	A hard white streak of flesh extending through the heart of the watermelon exceeding a circle 1/4 inch in diameter.	A hard white streak of flesh extending through the heart of the watermelon exceeding a circle 1/2 inch in diameter.

<sup>1</sup>The following defects are considered serious damage when present in any degree: Sunscald, immaturity, Anthracnose, overripe, and decay.

<sup>2</sup>Scoring guide based on any size melon.

### **Optional Internal Quality**

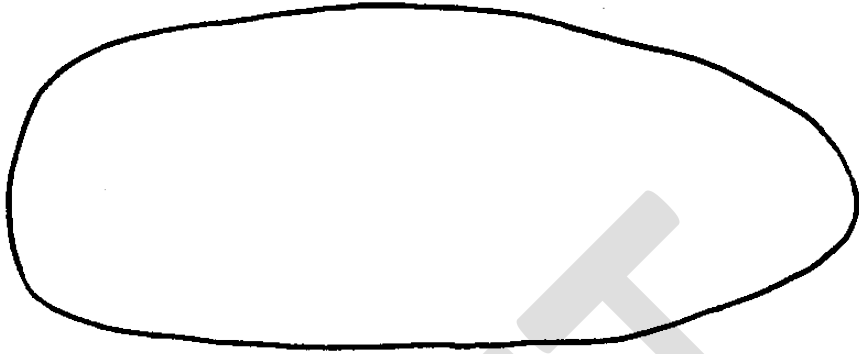
#### **§51.1988 Optional internal quality requirements.**

The following internal quality requirements may be specified in connection with the grade.

- (a) “Very good internal quality” means that the combined juice from the edible portion of a sample of watermelons selected at random contains not less than 10 percent soluble solids as determined by an approved refractometer.
- (b) “Good internal quality” means that the combined juice from the edible portion of a sample of watermelons selected at random contains not less than 8 percent soluble solids as determined by an approved refractometer.

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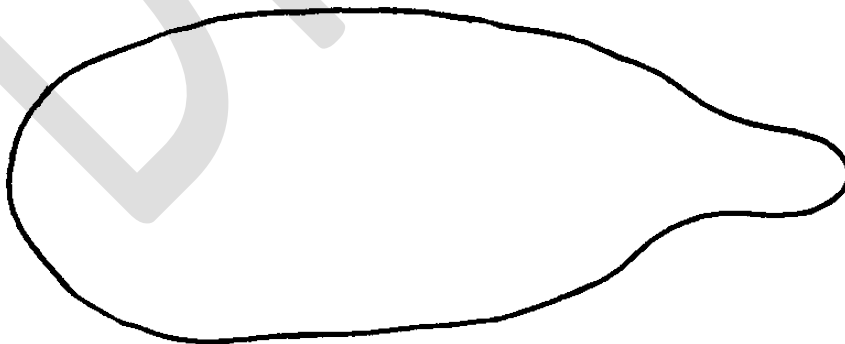
Shapes of Long Type Watermelons



Permissible in the U.S. No. 1 Grade

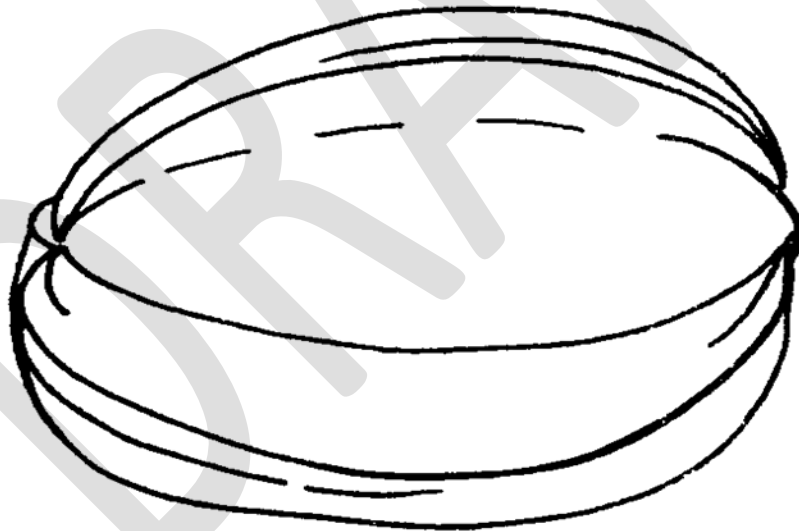
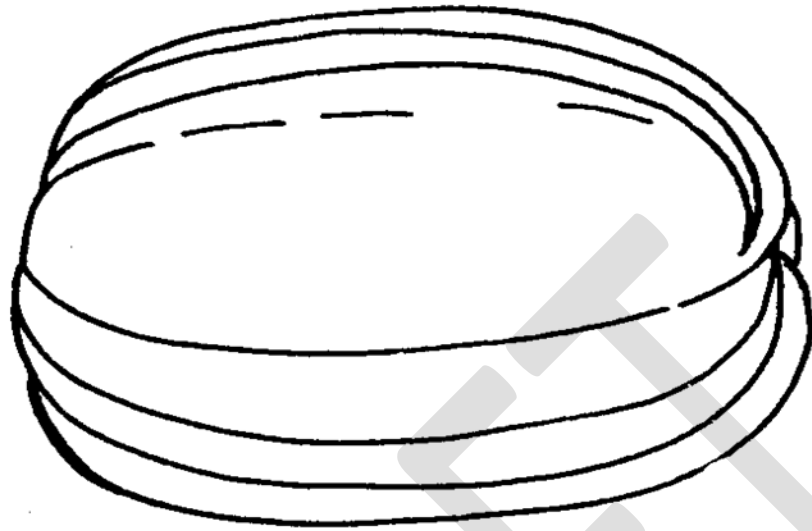


Permissible in the U.S. No. 2 Grade



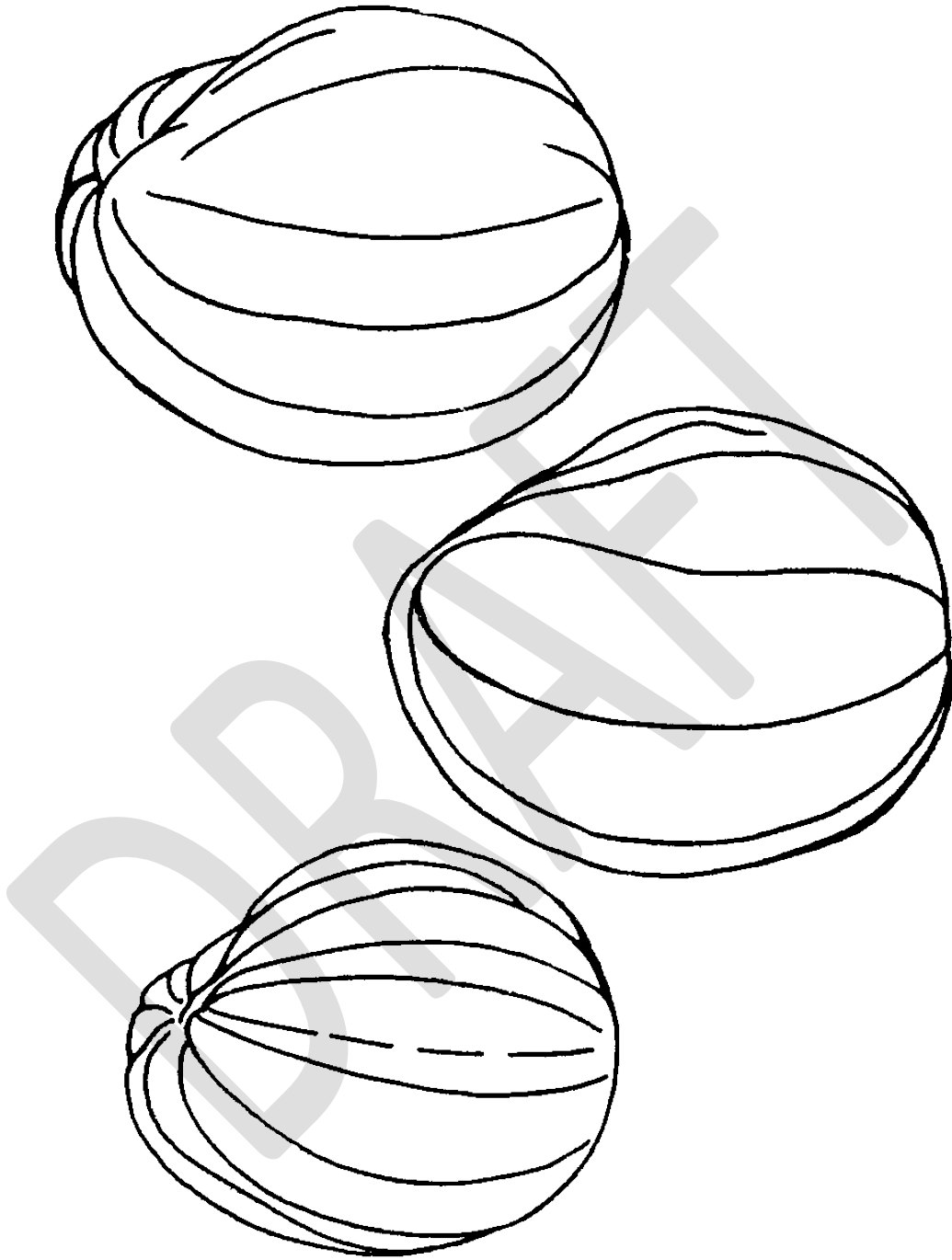
Cull. Not Permissible in U.S. No. 2 Grade

Illustration WAT 1



Two melons of round type illustrated above are permitted in U.S. No. 1 grade

Illustration WAT 2



Three ill-shaped melons of round type illustrated above are not permitted in U.S. No. 1 grade

Illustration WAT 3