



**United States  
Department of  
Agriculture**

**Agricultural  
Marketing  
Service**

**Fruit and  
Vegetable  
Programs**

**Fresh  
Products  
Branch**

# **United States Standards for Grades of Watermelons**

**Effective March 23, 2006**

# United States Standards for Grades of Watermelons<sup>1</sup>

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## **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:

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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.

- (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>2</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

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<sup>2</sup>Shipping points, 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, the port of entry into the United States.

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>2</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 3 percent shall be allowed for watermelons affected by Anthracnose and not more than 1 percent shall be allowed for watermelons affected by 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 serious damage.

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

(c) U.S. No. 2.

(1) **For defects at shipping point.**<sup>2</sup> 10 percent for watermelons which fail to meet the requirements of this grade: **Provided**, That included in this amount not more than 6 percent shall be allowed for watermelons affected by Anthracnose and not more than 1 percent shall be allowed for watermelons affected by 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 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

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<sup>2</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.

limitations set forth in the following table:

**Table I -- Maximum Number of Defective Watermelons Permitted in Any Sample**

Lot tolerance, percent	Total <sup>1</sup>
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 (13.6 kgs.) shall not vary more than 3 pounds (1.4 kgs.) above or below the stated average, and the melons in any lot averaging 30 pounds (13.6 kgs.) or more shall not vary more than 5 pounds (2.3 kgs.) below the stated average.

**Table II**

Average Weight		Minimum weight (unless otherwise specified)		Tolerances permitted for melons below the minimum weight (percent)
Pounds	Kilograms	Pounds	Kilograms	
		20	9.1	
22	10.1	19	8.6	5
24	10.9	21	9.5	5
26	11.8	23	10.4	5
28	12.7	25	11.3	5
30	13.6	25	11.3	5
32	14.5	27	12.2	5
34	15.4	29	13.2	5
36	16.3	31	14.1	5
38	17.2	33	15.0	5
40	18.1	35	15.9	5
42	19.0	37	16.8	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 of 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” 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 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, Anthracnose or sunburn.

**§51.1987 Classification of defects.**

**Table III**

Factor	Damage	Serious damage <sup>1</sup>
Sunburn.....	Area exceeds 9 sq. in. (58 sq. cm) of greenish-yellow sunburn of a 25-lb. (11.3 kg) watermelon.	Area exceeds 12 sq. in. (77 sq. cm) of greenish-yellow sunburn on a 25-lb. (11.3 kg) watermelon.
Hail, rind worm injury scars and other similar defects except Anthracnose.	Aggregating more than 5 sq. in. (32 sq. cm) on a 25-lb. (11.3 kg) watermelon.	Aggregating more than 12 sq. in. (77 sq. cm) on a 25-lb. (11.3 kg) watermelon.
Whiteheart.....	A hard white streak of flesh extending through the heart of the watermelon exceeding a circle 1/4 in. (6 mm) in diameter.	A hard white streak of flesh extending through the heart of the watermelon exceeding a circle 1/2 in. (13 mm) in diameter.
Hollow heart.....	Cracks aggregating more than 1-1/4 in. (33 mm) in width on a 25-lb. (11.3 kg) long-type watermelon or the aggregate width exceeds 2 in. (51 mm) on a 25-lb. (11.3 kg) round-type watermelon.	Cracks aggregating more than 1-1/2 in. (38 mm) in width on a 25-lb. (11.3 kg) long-type watermelon or the aggregate width exceeds 2-1/2 in. (64 mm) on a 25-lb. (11.3 kg) round-type watermelon.

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

Internal rind spot.....	Aggregate area exceeds a circle 1 in. (25 mm) in diameter.	Aggregate area exceeds a circle of 1-1/2 in. (38 mm) in diameter or when any spot penetrates the flesh.
Soft ends.....	End yields readily to slight pressure applied by palm of the hand or shriveling is associated with the soft end.	
Transit rubs.....	Aggregating more than 5 sq. in. (32 sq. cm) of medium brown discoloration on a 25-lb. (11.3 kg) watermelon.	Aggregating more than 12 sq. in. (77 sq. cm) of medium brown discoloration on a 25-lb. (11.3 kg) watermelon.
Bruises.....	Side bruises over 3 in. (76.2 mm) in diameter and sunken.  End bruises over 2 in. (50.8 mm) in diameter and sunken.	Over 5 in. (127 mm) in diameter and sunken or soft and springy with underlying flesh water-soaked.  Over 2 in. (50.8 mm) in diameter with underlying flesh water-soaked.

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

### **Optional Internal Quality Requirements**

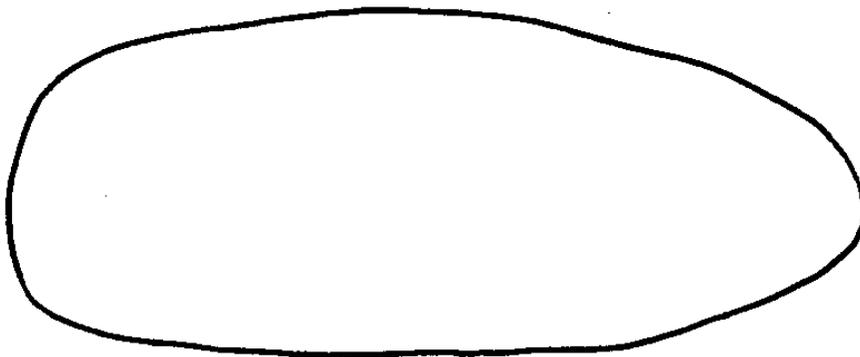
#### **§51.1988 Optional internal quality requirements.**

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

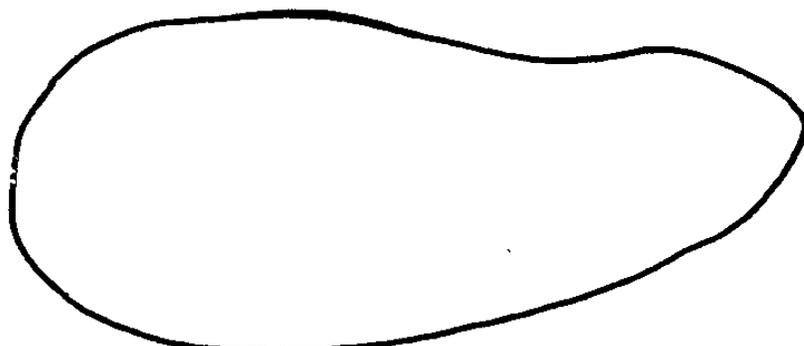
(a) “Very good internal quality” means that the combined juice from the edible portion of a sample of watermelons selected at random contains not less than 10 percent soluble solids as determined by an approved refractometer.

(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.

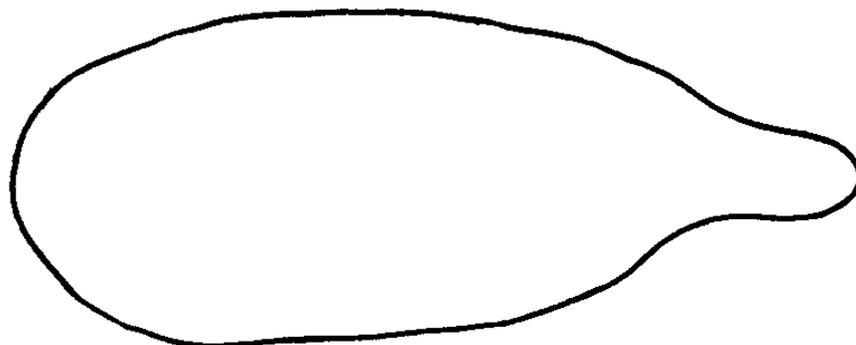
Shapes of Long Type Watermelons



Permissible in the U.S. No. 1 Grade

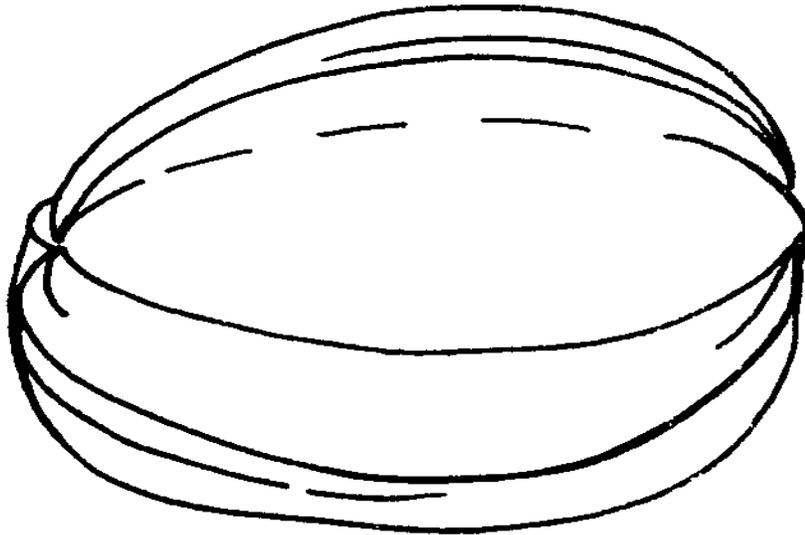
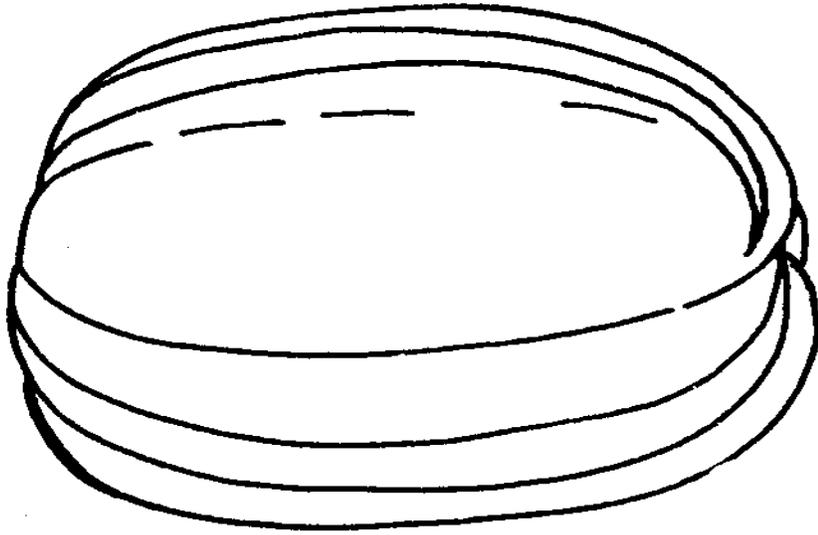


Permissible in the U.S. No. 2 Grade



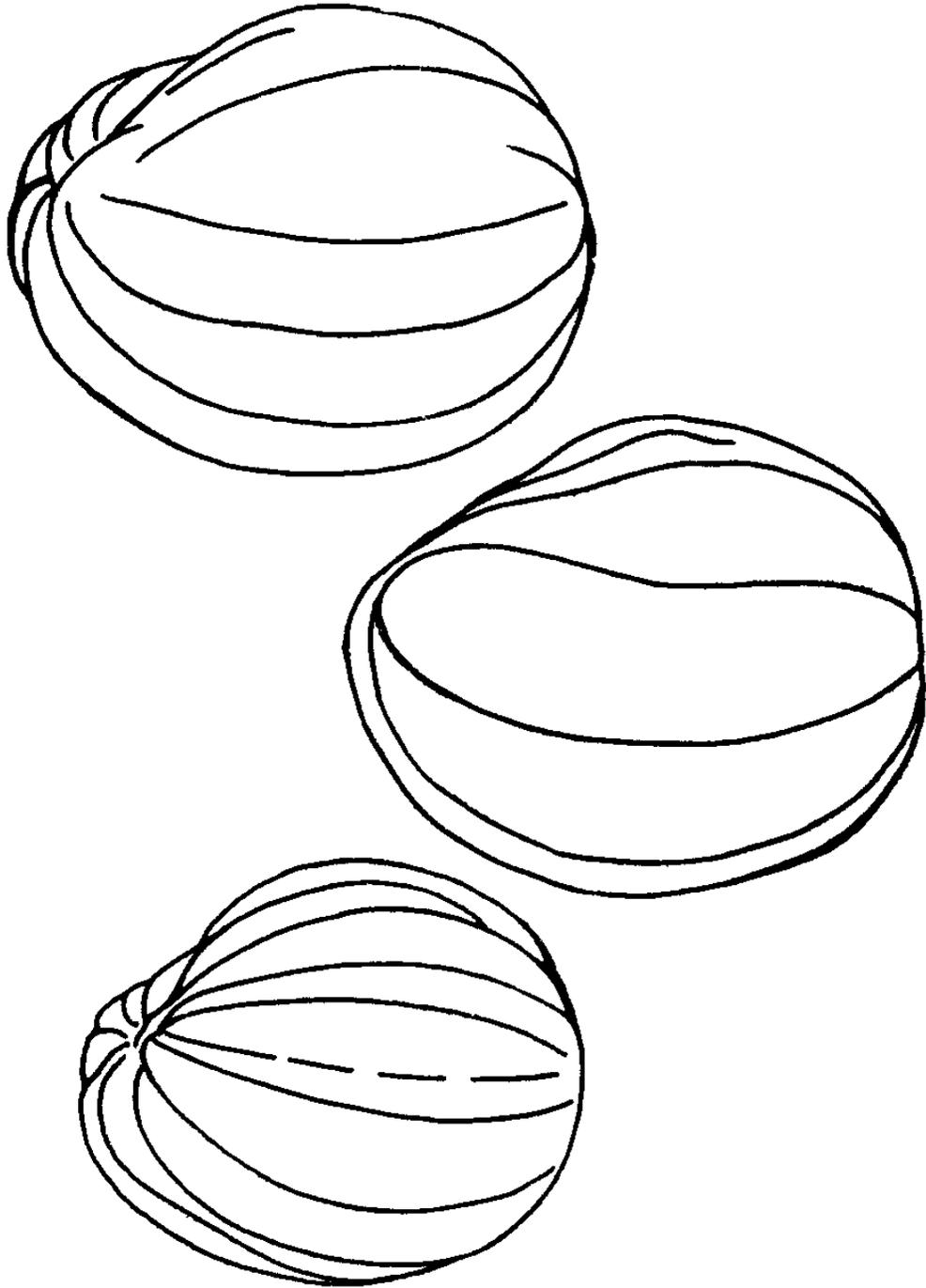
Cull. Not Permissible in U.S. No. 2 Grade

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