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United States Standards for Grades of Canned Grapes

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This is a reprint of the United States Standards for Grades of Canned Grapes (41 FR 15016) which have been in effect since May 12, 1976 and were updated to modify the format and to correct and align the text as originally published in the CFR.

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

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 Canned Grapes

Section	Page No.
Product Description and Grades	2
§52.4021 Product description.	2
§52.4022 Grades.....	2
Liquid Media, Fill of Container, Drained Weights, and Fill Weights.....	2
§52.4023 Liquid media and Brix measurements.....	2
§52.4024 Recommended fill of container.	3
§52.4025 Recommended minimum drained weights.....	3
§52.4026 Recommended minimum fill weights.	5
Factors of Quality.....	6
§52.4027 Ascertaining the grade.....	6
§52.4028 Ascertaining the rating for the factors which are scored.	7
§52.4029 Color.....	7
§52.4030 Uniformity of size.	7
§52.4031 Absence of defects.	8
§52.4032 Character.....	9
Lot Inspection and Certification.....	10
§52.4033 Ascertaining the grade of a lot.	10
Score Sheet	11
§52.4034 Score sheet.....	11

Product Description and Grades
§52.4021 Product description.

- (a) **Canned grapes** is the product represented as defined in the Standards of Identity for canned grapes (21 CFR 145.140) issued pursuant to the Federal Food, Drug, and Cosmetic Act. For the purpose of these standards canned grapes are prepared from the light seedless varietal type and are stemmed.

§52.4022 Grades.

- (a) **U.S. Grades A (or U.S. Fancy)** is the quality of canned grapes that possess similar varietal characteristics; that possess a normal flavor; that possess a good color; that are practically uniform in size; that are practically free from defects; that possess a good character; and that for those factors which are rated in accordance with the scoring system outlined in this subpart, the total score is not less than 85 points: *Provided*, That the canned grapes may possess a reasonably uniform and reasonably bright typical color and may be reasonably uniform in size, if the total score is not less than 85 points.
- (b) **U.S. Grade B (or U.S. Choice)** is the quality of canned grapes that possess similar varietal characteristics; that possess a normal flavor; that possess a reasonably good color; that are reasonably uniform in size; that are reasonably free from defects; that possess a reasonably good character; and that for those factors which are rated in accordance with the scoring system outlined in this subpart, the total score is not less than 70 points: *Provided*, That the canned grapes may fail to be reasonably uniform in size, if the total score is not less than 70 points.
- (c) **Substandard** is the quality of canned grapes that fail to meet the requirements of U.S. Grade B.

Liquid Media, Fill of Container, Drained Weights, and Fill Weights
§52.4023 Liquid media and Brix measurements.

Cut-out requirements for liquid media in canned grapes are not incorporated in the grades of the finished product since sirup or any other liquid medium, as such, is not a factor of quality for the purposes of these grades. The **cut-out** Brix measurements, as applicable, for the respective designations are as follows:

Designations	Brix Measurements
Extra Heavy Sirup; or Extra Heavily Sweetened Fruit Juice(s) and Water; or Extra Heavily Sweetened Fruit Juice(s).	22° or more but not more than 35°.
Heavy Sirup; or Heavily Sweetened Fruit Juices(s) and Water; or Heavily Sweetened Fruit Juice(s).	18° or more but less than 22°.
Light Sirup; or Lightly Sweetened Fruit Juice(s) and Water; or Lightly Sweetened Fruit Juice(s).	14° or more but less than 18°.
Slightly Sweetened Water; or Extra Light Sirup; or Slightly Sweetened Fruit Juice(s) and Water; or Slightly Sweetened Fruit Juice(s).	Less than 14°.
In Water	Not applicable.
In Fruit Juice(s) and Water	Not applicable.
In Fruit Juice(s)	Not applicable.

§52.4024 Recommended fill of container.

The recommended fill of container for canned grapes is not incorporated in the grades of the finished product since fill of container, as such, is not a factor of quality for the purposes of these grades. It is recommended that each container be as full of grapes as practicable without impairment of quality and that the product and packing medium occupy not less than 90 percent of the volume of the container.

§52.4025 Recommended minimum drained weights.

(a) General.

- (1) The minimum drained weight recommendations in Table I of this subpart are not incorporated in the grades of the finished product since drained weight, as such, is not a factor of quality for the purposes of these grades.
- (2) The recommended minimum drained weights are based on equalization of the product 30 days or more after the product has been canned.

- (b) Method for ascertaining drained weight.** The drained weight of canned grapes is determined by emptying the contents of the container upon a U.S. Standard No. 8 circular sieve of proper diameter containing 8 meshes to the inch (0.0937-inch $\pm$ 3 percent, square openings) so as to distribute the product evenly, inclining the sieve slightly to facilitate drainage, and allowing to drain for 2 minutes. The drained weight is the weight of the sieve and grapes less the

weight of the dry sieve. A sieve 8 inches in diameter is used for the equivalent of No. 3 size cans (404 x 414) and smaller and a sieve 12 inches in diameter is used for containers larger than the equivalent of the No. 3 size can.

(c) Definitions of symbols.

(1) $\bar{X}_d$ The average drained weights of all the sample units in the sample.

(2) LL Lower limit for drained weights of individual sample units.

(d) Compliance with recommended drained weights. A lot of canned grapes is considered as meeting the minimum drained weight recommendations if the following criteria are met:

(1) The average of the drained weights from all the sample units in the sample meets the recommended minimum average drained weight (designated as $\bar{X}_d$ in Table I); and

(2) The number of sample units which fail to meet the recommended drained weight lower limit for individuals (designated as LL in Table I) does not exceed the applicable acceptance number specified in the single sampling plan of Table II.

Table I – Recommended Minimum Drained Weights for Canned Grapes

Container Designation (metal, unless otherwise stated)	Container Size (overall dimensions)		Overflow Capacity (fluid ounces)	In Any Liquid Medium (ounces)	
	Diameter (inches)	Height (inches)		LL	$\bar{X}_d$
8Z Tall	211	304	-----	4.7	5
8 oz Glass	-----	-----	8.2	4.7	5
No. 300	300	407	-----	8.6	9
No. 1 Tall	301	411	-----	9.4	10
No. 303	303	406	-----	9.4	10
No. 303 Glass	-----	-----	17.0	9.4	10
No. 2	307	409	-----	11.4	12
No. 2 ½	401	411	-----	16.1	17
No. 2 ½ Glass	-----	-----	28.35	16.1	17
No. 10	603	700	-----	60.3	62

Table II – Single Sampling Plan for Drained Weights

Sample Size (number of sample units)	3	6	13	21	29	38	48	60	72
Acceptance Number	0	1	2	3	4	5	6	7	8

§52.4026 Recommended minimum fill weights.

- (a) **General.** The minimum fill weight recommendations specified in Table III are not incorporated in the grades of the finished product since fill weight, as such, is not a factor of quality for the purposes of these grades.
- (b) **Method for ascertaining fill weight.** Fill weight is determined in accordance with the United States Standards for Inspection by Variables and the United States Standards for Determination of Fill Weights.

(c) **Definitions of terms and symbols.**

Subgroup means a group of sample units representing a portion of a sample.

$\bar{X}'_{min}$ means the minimum lot average fill weight.

$LWL_{\bar{X}}$ means the lower warning limit for subgroup averages.

$LRL_{\bar{X}}$ means the lower reject limit for subgroup averages.

LWL means the lower warning limit for individual fill weight measurements.

LRL means the lower reject limit for individual fill weight measurements.

$\bar{R}'$ means a specified average range value.

R_{max} means a specified maximum range for a subgroup.

Sampling allowance code means a code letter on the sampling allowance chart of the U.S. Standards for Inspection by Variables. This letter identifies the appropriate line which gives the amount of sampling allowance to be applied to the specification average for fill weights in order to determine compliance with requirements for fill weight averages for a sample.

- (d) **Compliance with recommended fill weights.** Compliance with the recommended fill weights shall be in accordance with the acceptance criteria specified in the U.S. Standards for Inspection by Variables and the U.S. Standards for Determination of Fill Weights.

Table III – Recommended Fill Weight Values for Canned Grapes

Container Designation (metal, unless otherwise stated)	$\bar{X}'_{min}$	$LWL_{\bar{X}}$	$LRL_{\bar{X}}$	LWL	LRL	$\bar{R}'$	R_{max}	Sampling Allowance Code
8 oz Tall	6.0	5.8	5.7	5.6	5.4	0.50	1.00	C
8 oz Glass	5.9	5.7	5.6	5.5	5.3	0.50	1.00	C
No. 300	10.3	10.0	9.9	9.7	9.4	0.70	1.50	E
No. 1 Tall	11.2	10.9	10.7	10.5	10.1	0.80	1.70	F
No. 303	11.4	11.1	10.9	10.7	10.3	0.80	1.70	F
No. 303 Glass	12.0	11.7	11.5	11.3	10.9	0.80	1.70	F
No. 2	14.0	13.6	13.4	13.2	12.8	0.90	2.00	G
No. 2 ½	20.3	19.8	19.6	19.3	18.8	1.20	2.50	I
No. 2 ½ Glass	20.1	19.6	19.4	19.1	18.6	1.20	2.50	I
No. 10	74.5	73.5	73.0	72.3	71.2	2.60	5.40	T

Factors of Quality

§52.4027 Ascertaining the grade.

(a) **General.** In addition to considering other requirements outlined in the standards the following quality factors are evaluated:

(1) **Factors not rated by score points.**

- (i) Varietal characteristics.
- (ii) Flavor.

(2) **Factors rated by score points.** The relative importance of each factor which is scored is expressed numerically on the scale of 100. The maximum number of points that may be given such factors are:

Factors	Points
Color	20
Uniformity of Size	20
Absence of Defects	30
Character	30
Total Score	100

- (b) **Definition of normal flavor.** Normal flavor means that the canned grapes are free from objectionable flavors and objectionable odors of any kind.

§52.4028 Ascertaining the rating for the factors which are scored.

The essential variations within each factor which is scored are so described that the value may be ascertained for each factor and expressed numerically. The numerical range within each factor which is scored is inclusive (for example, **17 to 20 points** means 17, 18, 19, or 20 points).

§52.4029 Color.

- (a) **General.** The factor of color does not apply to canned grapes which are artificially colored and spiced grapes and is not scored on such grapes but the other three factors (uniformity of size, absence of defects, and character) are scored and the total is multiplied by 100 and divided by 80, dropping any fractions to determine the total score.
- (b) **“A” classification.** Canned grapes that possess a good color may be given a score of 17 to 20 points. **Good color** means that the grapes possess a practically uniform and bright, light green to greenish-yellow color, typical of well-developed Thompson seedless grapes that have been properly prepared and processed; and that not more than 10 percent, by weight, of the drained grapes may possess a noticeably dull color, or a light tan cast.
- (c) **“B” classification.** If the canned grapes possess a reasonably good color, a score of 14 to 16 points may be given. Canned grapes that fall into this classification due to a noticeably dull color or a brownish cast shall not be graded above U.S. Grade B, regardless of the total score for the product (this is a partial limiting rule). **Reasonably good color** means that the grapes possess a reasonably uniform and reasonably bright color typical of Thompson seedless grapes that have been properly prepared and processed; and that the presence of grapes with a noticeably dull color or a brownish cast does not seriously affect the appearance or edibility of the product.
- (d) **“SStd” classification.** Canned grapes that fail to meet the requirements of paragraph (c) of this section may be given a score of 0 to 13 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

§52.4030 Uniformity of size.

- (a) **“A” classification.** Canned grapes that are practically uniform in size may be given a score of 17 to 20 points. **Practically uniform in size** means that the weight of the 5 percent, by count, consisting of the largest intact grapes in the sample unit is not more than twice the weight of the 5 percent, by count,

consisting of the smallest intact grapes in the sample unit.

- (b) **“B” classification.** If the canned grapes are reasonably uniform in size, a score of 14 to 16 points may be given. **Reasonably uniform in size** means that the grapes may vary in size as to appearance and weight provided such variation in size does not seriously affect the appearance of the product.
- (c) **“SStd” classification.** Canned grapes that fail to meet the requirements of paragraph (b) of this section may be given a score of 0 to 13 points and shall not be graded above U.S. Grade B, regardless of the total score for the product (this is a partial limiting rule).

§52.4031 Absence of defects.

- (a) **General.** The factor of absence of defects refers to the degree of freedom from main stems (or portions thereof), harmless extraneous material, attached or loose capstems, mutilated grapes, and any other defects not specifically mentioned that affect the appearance or edibility of the product.
- (b) **Definition of defects.**
 - (1) **Blemished** means any discolored area on or in the grape, which singly or in the aggregate, materially affects the appearance of the grape. Cracks without discoloration are considered processing cracks and are not scored as defects. (See §52.4032.)
 - (2) **Seriously blemished** means any blemished area on or in the grape (such as scab, scar tissue, and discolored cracks), which singly or in combination with other defects, seriously affects the appearance or edibility of the grape.
 - (3) **Mutilated** means that the grape is so spread open beyond the center or crushed or broken that it cannot be restored to its original shape or that the grape is severed into two or more separate parts.
- (c) **“A” classification.** Canned grapes that are practically free from defects may be given a score of 26 to 30 points. **Practically free from defects** means that:
 - (1) There may be present not more than one main stem (or portion thereof) or one piece of other harmless extraneous vegetable material for each 100 ounces, on an average, of total contents;
 - (2) There may be present not more than one capstem (either attached or loose) for each 4 ounces of total contents;

- (3) Not more than a total of 5 percent, by weight, of the drained grapes may be mutilated, blemished, or seriously blemished: *Provided*, That not more than 3 percent, by weight, of the drained grapes may be seriously blemished; and
 - (4) The presence of main stems (or portions thereof), other harmless extraneous vegetable material, loose or attached capstems, mutilated grapes, blemished or seriously blemished grapes, and any other defects, individually or collectively does not materially affect the appearance or edibility of the product.
- (d) **“B” classification.** Canned grapes that are reasonably free from defects may be given a score of 21 to 25 points. Canned grapes that fall into this classification shall not be graded above U.S. Grade B, regardless of the total score for the product (this is a limiting rule). **Reasonably free from defects** means that:
- (1) There may be present not more than a total of three main stems (or portions thereof) or pieces of other harmless extraneous vegetable material for each 100 ounces, on an average, of total contents;
 - (2) There may be present not more than one capstem (either attached or loose) for each two ounces of total contents;
 - (3) Not more than a total of 10 percent, by weight, of the drained grapes may be mutilated, blemished, or seriously blemished: *Provided*, That not more than 5 percent, by weight, of the drained grapes may be seriously blemished; and
 - (4) The presence of main stems (or portions thereof), other harmless extraneous vegetable material, loose or attached capstems, mutilated grapes, blemished or seriously blemished grapes, and any other defects, individually or collectively does not seriously affect the appearance or edibility of the product.
- (e) **“SStd” classification.** Canned grapes that fail to meet the requirements of paragraph (d) of this section may be given a score of 0 to 20 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

§52.4032 Character.

- (a) **General.** The factor of character refers to the fleshiness and texture of the canned grapes and to the presence of serious processing cracks.

- (1) **Serious processing crack** means a crack without any discoloration that is split to or beyond the approximate center of the grape but is not a mutilated grape. Processing cracks that are not serious are not scored.
- (b) **“A” classification.** Canned grapes that possess a good character may be given a score of 25 to 30 points. **Good character** means that the grapes are reasonably uniform in texture and are generally thick-fleshed and tender but not soft or flabby; and that not more than 5 percent, by weight, of the drained grapes may be affected by serious processing cracks.
- (c) **“B” classification.** If the canned grapes possess a reasonably good character, a score of 21 to 24 points may be given. Canned grapes that fall into this classification shall not be graded above U.S. Grade B, regardless of the total score for the product (this is a limiting rule). **Reasonably good character** means that the grapes are fairly uniform in texture and may be slightly soft but are not flabby; and that no more than 10 percent, by weight, of the drained grapes may be affected by serious processing cracks.
- (d) **“SStd” classification.** Canned grapes that fail to meet the requirement of paragraph (c) of this section may be given a score of 0 to 20 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

Lot Inspection and Certification

§52.4033 Ascertaining the grade of a lot.

The grade of a lot of canned grapes covered by these standards is determined by the procedures set forth in the Regulations Governing Inspection and Certification of Processed Fruits and Vegetables, Processed Products Thereof, and Certain Other Processed Food Products (7 CFR 52.1 to 52.87).

Score Sheet

§52.4034 Score sheet.

Number, size and kind of container			
Container marks or identification			
Label			
Net Weight (ounces)			
Vacuum (inches)			
Drained weight (ounces)			
Brix measurement			
Sirup designation (extra heavy, heavy, etc)			
Factors		Score points	
Color	20	(A)	17-20
		(B)	14-16 <u>2/</u>
		(SStd)	0-13 <u>1/</u>
Uniformity	20	(A)	17-20
		(B)	14-16
		(SStd)	0-13 <u>2/</u>
Absence of defects	30	(A)	26-30
		(B)	21-25 <u>1/</u>
		(SStd)	0-20 <u>1/</u>
Character	<u>30</u>	(A)	25-30
		(B)	21-24 <u>1/</u>
		(SStd)	0-20 <u>1/</u>
Total score	100		
Flavor () Normal () Off			
U.S. Grade			

1/ Indicates partial limiting rule.

2/ Indicates limiting rule.