



**United States  
Department of  
Agriculture**

**Agricultural  
Marketing  
Service**

**Fruit and  
Vegetable  
Division**

**Processed  
Products  
Branch**

# **United States Standards for Grades of Canned Blueberries**

**Effective date May 12, 1976**

This is the second issue, as amended, of the United States Standards for Grades of Canned Blueberries published in the **FEDERAL REGISTER** of April 9, 1976 (41 FR 15016) to become effective May 12, 1976. This issue supersedes the second issue, which has been in effect since August 19, 1959.

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 processed fruits and vegetables, 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 standards also serve as a basis for the inspection and grading of commodities by the Federal inspection service, the only activity authorized to approve the designation of U.S. grades as referenced in the standards, as provided under the Agricultural Marketing Act of 1946. This service, available as on-line (in-plant) or lot inspection and grading of all processed fruit and vegetable products, is offered to interested parties, upon application, on a fee-for-service basis. The verification of some specific recommendations, requirements, or tolerances contained in the standards can be accomplished only by the use of on-line inspection procedures. In all instances, a grade can be assigned based on final product factors or characteristics.

In addition to the U.S. grade standards, grading manuals or instructions for inspection of several processed fruits and vegetables are available upon request for a nominal fee. These manuals or instructions contain detailed interpretations of the grade standards and provide step-by-step procedures for grading the product.

Grade standards are issues by the Department after careful consideration of all data and views submitted, and the Department welcomes suggestions which might aid in improving the standards in future revisions. Comments may be submitted to, and copies of standards and grading manuals obtained from:

Chief, Processed Products Branch  
Fruit and Vegetable Division, AMS  
U.S. Department of Agriculture  
P.O. Box 96456, Rm. 0709, So. Bldg.  
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**United States Standards for Grades of Canned Blueberries**

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Authority: Agricultural Marketing Act of 1946, Secs. 203, 205, 60 Stat. 1087, as amended, 1090, as amended; (7 U.S.C. 1622, 1624).

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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

**§52.581 Product description.**

Canned blueberries is the product represented as defined in the Standard of Identity (21 CFR 27.35) for canned berries issued pursuant to the Federal Food, Drug, and Cosmetic Act.

**§52.582 Types of canned blueberries.**

- (a) Native (or wild) type.
- (b) Cultivated type.

**§52.583 Grades of canned blueberries.**

- (a) **U. S. Grade A or U. S. Fancy** is the quality of canned blueberries that possesses similar varietal characteristics; that possesses a very good color; that is practically free from defects; that possesses a good character; that possesses a normal flavor and odor; and that score not less than 90 points when scored in accordance with the scoring system outlined in this subpart.
- (b) **U. S. Grade B or U. S. Choice** is the quality of canned blueberries that possesses similar varietal characteristics; that possesses a good color; that are reasonably free from defects; that possesses a reasonably good character; that possesses a normal flavor and odor; and that score not less than 80 points when scored in accordance with the scoring system outlined in this subpart.
- (c) **U. S. Grade C or U. S. Standard** is the quality of canned blueberries that possesses similar varietal characteristics; that possesses a fairly good color; that are fairly free from defects; that possesses a fairly good character; that possesses a normal flavor and odor; and that score not less than 70 points when scored in accordance with the scoring system outlined in this subpart.
- (d) **U.S. Grade D or Substandard** is the quality of canned blueberries that fails to meet the requirements of U. S. Grade C or U. S. Standard.

**§52.584 Liquid media and brix measurements.**

- (a) Brix measurements requirements for the liquid media in canned blueberries 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 purpose of these grades. The designations of liquid packing media and Brix measurements, where applicable, are as follows:

<b>Designations</b>	<b>Brix Measurements</b>
Extra heavy sirup; or Extra heavily sweetened fruit juice(s) and water or Extra heavily sweetened fruit juice(s).	25° or more but not more than 35°
Heavy sirup or Heavily sweetened fruit juices(s) and water; or Heavily sweetened fruit juice(s).	20° or more but less than 25°
Light sirup or Lightly sweetened fruit juice(s) and water; or Lightly sweetened fruit juice(s).	15° or more but less than 20°
Slightly sweetened water; or Extra light sirup; or Slightly sweetened fruit juice(s) and water; or Slightly sweetened fruit juice(s).	Less than 15°
In water	Not applicable
In fruit juice(s) and water	Not applicable
In fruit juice(s)	Not applicable

**§52.585 Recommended fill of container.**

The recommended fill of container is not incorporated in the grades of the finished product since fill of container, as such, is not a factor of quality for the purpose of these grades. It is recommended that each container of canned blueberries be filled as full 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.

**§52.586 Recommended minimum drained weight.**

The minimum drained weight recommendations are not incorporated in the grades of the finished product since drained weight, as such, is not a factor of quality for the purpose of these grades. The drained weight of canned blueberries is determined by emptying the contents of the container upon a United States Standard Number 8 circular sieve of proper diameter containing 8 meshes to the inch (0.0937 inch,  $\pm$  3%, square openings) so as to distribute the product evenly, inclining the sieve to a 17 to 20 degree angle to facilitate drainage, and allowing to drain for two minutes. The drained weight (or drained blueberries) is the weight of the sieve and the blueberries 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.

**Table I**  
**Recommended Minimum Drained Weights for Canned Blueberries**

Container designations	Container size (over - all dimensions)		Recommended minimum drained weights
	Width	Height	
	Inches	Inches	Ounces
300 x 407 . . . . .	3	4 - 7/16	7.5
No. 2 . . . . .	3 - 7/16	4 - 9/16	10.0
No. 10 . . . . .	6 - 3/16	7	55.0

**§52.587     Ascertaining the grade.**

- (a) The grade of canned blueberries may be ascertained by considering, in conjunction with the requirements of the respective grade, the respective ratings for the factors of color, absence of defects, and character.
- (b) 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 each factor is:

<b>Factor:</b>	<b>Points</b>
Color . . . . .	20
Absence of defects . . . . .	40
Character . . . . .	<u>40</u>
Total score . . . . .	100

- (c) **Normal flavor and odor** means that the product is free from objectionable odors and objectionable flavors of any kind.

**§52.588     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 such factors and expressed numerically. The numerical range within each factor which is scored is inclusive (for example **18 to 20 points** means 18, 19, 20 points).

**§52.589 Color.**

- (a) **"A"classification.** Canned blueberries that possess a very good color may be given a score of 18 to 20 points. **Very good color** means a practically uniform, bright, dark blue - purple typical of blueberries which had been properly processed from well - matured blueberries.
- (b) **"B"classification.** If the canned blueberries possess a good color, a score of 16 to 17 points may be given. Canned blueberries that fall into this classification shall not be graded above U. S. Grade B or U. S. Choice, regardless of the total score for the product (this is a limiting rule). **Good color** means a reasonably uniform dark blue - purple color typical of blueberries which had been properly processed from reasonably well - matured blueberries.
- (c) **"C"classification.** If the canned blueberries possess a fairly good color, a score of 14 to 15 points may be given. Canned blueberries that fall into this classification shall not be graded above U. S. Grade C or U. S. Standard regardless of the total score for the product (this is a limiting rule). **Fairly good color** means a blue - purple color typical of blueberries which had been properly processed and which are not off color for any reason.
- (d) **"SStd" classification.** Canned blueberries 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 U. S. Grade D or Substandard, regardless of the total score for the product ( this is a limiting rule).

**§52.590 Absence of defects.**

- (a) **General.** The factor of absence of defects refers to the degree of freedom from harmless extraneous material (such as leaves and large stems); from clusters; from cap stems; from undeveloped berries, or edible berries other than blueberries; and from berries damaged by insect, pathological, or any other injury.
  - (1) **Cap stems** are small stems which attach berries to the branch and means single cap stems or joined double cap stems with or without berries attached.
  - (2) A **cluster** means three or more joined cap stems with or without berries attached.
  - (3) **Undeveloped berries** are mummified berries with wrinkled or tough skins or which may be pathologically defective.

(b) **"A" classification.** Canned blueberries that are practically free from defects may be given a score of 36 to 40 points. **Practically free from defects** means that the canned blueberries are reasonably free from cap stems and for each 20 ounces of net weight, or the equivalent thereof, there may be present:

- (1) Not more than a total of 2 whole leaves or large stems, provided such whole leaves and any other portions of leafy material do not exceed 1/2 square inch;
- (2) Not more than 5 berries that are undeveloped or edible berries other than blueberries or berries that are damaged; and
- (3) In Native (or wild) type, not more than an average of 12 clusters in all container comprising the sample, provided there are no more than 16 clusters in any single container; or
- (4) In Cultivated type, not more than 4 clusters.

(c) **"B" classification.** If the canned blueberries are reasonably free from defects, a score of 32 to 35 points may be given. Canned blueberries that fall into this classification shall not be graded above U. S. Grade B or U. S. Choice, regardless of the total score for the product ( this is a limiting rule). **Reasonably free from defects** means that the canned blueberries are reasonably free from cap stems and for each 20 ounces of net weight, or the equivalent thereof, there may be present:

- (1) Not more than a total of 4 whole leaves or large stems, provided such whole leaves and any other portions of leafy material do not exceed 3/4 square inch;
- (2) Not more than 8 berries that are undeveloped or edible berries other than blueberries or berries that are damaged; and
- (3) In Native (or wild) type, not more than an average of 20 clusters in all containers comprising the sample, provided there are no more than 28 clusters in any single container; or
- (4) In Cultivated type, not more than 8 clusters.

- (d) **"C" classification** If the canned blueberries are fairly free from defects, a score of 28 to 31 points may be given. Canned blueberries that fall into this classification shall not be graded above U.S. Grade C or U.S. Standard, regardless of the total score for the product (this is a limiting rule). **Fairly free from defects** means that the canned blueberries are fairly free from cap stems and for each 20 ounces of net weight, or the equivalent thereof, there may be present:
- (1) Not more than a total of 6 whole leaves or large stems, provided such whole leaves and any other portions of leafy material do not exceed 1 square inch;
  - (2) Not more than 10 berries that are undeveloped or edible berries other than blueberries or berries that are damaged; and
  - (3) In Native (or wild) type, not more than an average of 28 clusters in all containers comprising the sample, provided there are no more than 40 clusters in any single container; or
  - (4) In Cultivated type, not more than 12 clusters.
- (e) **"SStd" classification.** Canned blueberries that fail to meet the requirements of paragraph (d) of this section may be given a score of 0 to 27 points and shall not be graded above U.S. Grade D or Substandard, regardless of the total score for the product (this is a limiting rule).

**§52.591 Character.**

- (a) **"A" classification.** Canned blueberries that possess a good character may be given a score of 36 to 40 points. **Good character** means that the blueberries are reasonably firm, reasonably fleshy, practically whole, and practically intact with not more than 10 percent by weight of the drained blueberries that may be crushed, mushy, or broken berries.
- (b) **"B" classification.** If the canned blueberries possess a reasonably good character, a score of 32 to 35 points may be given. Canned blueberries that fall into this classification shall not be graded above U. S. Grade B or U. S. Choice, regardless of the total score for the product (this is a limiting rule). **Reasonably good character** mean that the blueberries may be lacking in firmness and fleshy texture but are reasonably intact with not more than 15 percent by weight of the drained blueberries that may be crushed, mushy, or broken berries.

- (c) **"C" classification.** If the canned blueberries possess a fairly good character, a score of 28 to 31 points may be given. Canned blueberries that fall into this classification shall not be graded above U. S. Grade C or U. S. Standard, regardless of the total score for the product (this is a limiting rule). **Fairly good character** means that the blueberries are fairly whole and fairly intact not more than 30 percent by weight of the drained blueberries that may be crushed, mushy, or broken berries.
  
- (d) **"SStd" classification.** Canned blueberries that fail to meet the requirements of paragraph (c) of this section may be given a score of 0 to 27 points and shall not be graded above U.S. Grade D or Substandard, regardless of the total score for the product (this is a limiting rule).

**§52.592      Ascertaining the grade of a lot.**

The grade of a lot of canned blueberries 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 through 52.83).

§52.593 Score sheet.

Size and kind of container .....			
Container marks or identification .....			
Label .....			
Net weight (ounces) .....			
Vacuum (inches) .....			
Drained Weight (ounces) .....			
Brix measurements .....			
Sirup designation (extra heavy, heavy, etc.) .....			
Type .....			
Factors		Score Points	
Color .....	20	"A" 18-20 "B" 16-17 <u>1/</u> "C" 14-15 <u>1/</u> "D" 0-13 <u>1/</u>	
Absence of defects .....	40	"A" 36-40 "B" 32-35 <u>1/</u> "C" 28-31 <u>1/</u> "D" 0-27 <u>1/</u>	
Character .....	<u>40</u>	"A" 36-40 "B" 32-35 <u>1/</u> "C" 28-31 <u>1/</u> "D" 0-27 <u>1/</u>	
Total Score .....	100		
Flavor and odor .....			
Grade .....			

1/ Indicates limiting rule

The U.S. Standards for Grades of Canned Blueberries, as amended herein, shall become effective May 12, 1976, and thereupon will supersede the U.S. Standards for Grades of Canned blueberries that have been in effect since August 19, 1959.

Dated: April 6, 1976

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 Administrator  
 Agricultural Marketing Service