



**United States
Department of
Agriculture**

**Agricultural
Marketing
Service**

**Fruit and
Vegetable
Division**

**Processed
Products
Branch**

United States Standards for Grades of Frozen Berries

Effective date May 24, 1967

This is the first issue, as amended, of the United States Standards for Grades of Frozen Berries published in the **FEDERAL REGISTER** of May 24, 1967 (32 FR 7576) to become effective May 24, 1967. This issue supersedes the first issue, which has been in effect since August 15, 1946.

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 issued 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.
Washington, D.C. 20090-6456

United States Standards for Grades of Frozen Berries

Section	Page No.
§52.5881	Product description. 2
§52.5882	Types of frozen berries. 2
§52.5883	Grades of frozen berries. 2
§52.5884	Grades of frozen berries for manufacturing. 2
§52.5885	Types of pack. 3
§52.5886	Ascertaining the grade. 4
§52.5887	Ascertaining the rating of each factor. 4
§52.5888	Color. 4
§52.5889	Absence of defects. 6
§52.5890	Character. 7
§52.5891	Ascertaining the grade of a lot. 9
§52.5892	Score sheet for frozen berries. 10
Authority:	Agricultural Marketing Act of 1946, Secs. 203, 205, 60 Stat. 1087, as amended, 1090, as amended (7 U.S.C. 1622, 1624).

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.

§52.5881 Product description.

Frozen berries are prepared from the properly ripened fresh fruit of the plant (Genus Rubus); are stemmed and cleaned; may be packed with or without packing media; and are frozen and stored at temperatures necessary for the preservation of the product.

§52.5882 Types of frozen berries.

- (a) **Blackberries.**
- (b) **Boysenberries.**
- (c) **Dewberries.**
- (d) **Loganberries.**
- (e) **Youngberries.**
- (f) Other similar types, such as **Nectarberries.**

§52.5883 Grades of frozen berries.

- (a) **U.S. Grade A or U.S. Fancy** frozen berries are berries of similar varietal characteristics which possess a practically uniform typical color; are practically free from defects; possess a good character; possess a normal flavor and odor; and score not less than 85 points when scored in accordance with the scoring system outlined herein.
- (b) **U.S. Grade B or U.S. Choice** frozen berries are berries of similar varietal characteristics which possess a reasonably uniform typical color; are reasonably free from defects; possess a reasonably good character; possess a normal flavor and odor; and score not less than 70 points when scored in accordance with the scoring system outlined herein.
- (c) **U.S. Grade D or Substandard** frozen berries are berries that fail to meet the requirements of U.S. Grade B or U.S. Choice.

§52.5884 Grades of frozen berries for manufacturing.

- (a) **U.S. Grade A for Manufacturing or U.S. Fancy Grade for Manufacturing** frozen berries are berries of similar varietal characteristics which possess a practically uniform typical color; possess a reasonably good character; possess a normal flavor and odor; and there may be present:

- (1) Not more than 4 sepal-like bracts per 16 ounces of net weight;
- (2) Not more than one stem or one leaf or a piece of leaf or the approximate equivalent of not full cap per 48 ounces of net weight; and
- (3) Not more than 5 percent, by weight, of berries that may be undeveloped or damaged.

(b) U.S. Grade B for Manufacturing or U.S. Choice Grade for Manufacturing frozen berries are berries of similar varietal characteristics which possess a reasonably uniform typical color; may possess a fairly good character typical of fairly well-ripened to very ripe berries with not more than 30 percent, by weight, for blackberries and not more than 40 percent, by weight, for boysenberries, dewberries, loganberries, youngberries, and other similar types that may be crushed; possess a normal flavor and odor; and there may be present:

- (1) Not more than 10 sepal-like bracts per 16 ounces of net weight;
- (2) Not more than one stem or one leaf or a piece of leaf or the approximate equivalent of one full cap per 16 ounces of net weight; and
- (3) Not more than 10 percent, by weight, of berries that may be undeveloped or damaged.

(c) U.S. Grade D for Manufacturing or Substandard for Manufacturing frozen berries are berries that fail to meet the requirements of U.S. Grade B for Manufacturing or U.S. Choice Grade for Manufacturing.

§52.5885 Types of pack.

- (a)** Frozen berries are often packed with added sugar or added sugar and water. Sugar packs are usually designated by the amount of fruit to sugar; for example, **6+1** means that at the time of packing, 1 pound of sugar was added to 6 pounds of berries.
- (b)** It is recommended that the quantity of liquid packing medium, if used, is not in excess of the amount normally required by good commercial practice.

§52.5886 **Ascertaining the grade.**

- (a) The grade of frozen berries is determined immediately after thawing to the extent that the units may be separated easily.
- (b) **Normal flavor and odor** means that the berries are free from objectionable or off flavors or objectionable odors of any kind.
- (c) The grade of frozen berries may be ascertained by considering in addition to the foregoing requirements, the following factors: Color, absence of defects, and character.
- (d) The relative importance of each factor has been expressed numerically on a scale of 100. The maximum number of points that may be given for each factor is:

Factors	Points
Color	30
Absence of defects	40
Character	<u>30</u>
Total Score	100

§52.5887 **Ascertaining the rating of each factor.**

The essential variations within each factor are so described that the value may be ascertained for each factor and expressed numerically. The numerical ranges within each factor are inclusive. For example, the range **25 to 30** means 25, 26, 27, 28, 29, and 30.

§52.5888 **Color.**

- (a) **"A" classification.** To receive a score of 25 to 30 points the frozen berries must possess a practically uniform typical color. **Practically uniform typical color** means that not more than a total of 10 percent, by weight, of the berries may vary markedly from the intensity and luster of the characteristic color of well-ripened berries, provided not more than 5 percent, by weight, of the berries vary markedly from the intensity and luster of the characteristic color of reasonably well-ripened berries.

- (b) **"B" classification.** If the frozen berries possess a reasonably uniform typical color, a score of 21 to 24 points may be given. Frozen berries 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. **Reasonably uniform typical color** means that not more than 15 percent, by weight, of the berries may vary markedly from the intensity and luster of the characteristic color of reasonably well-ripened berries, provided not more than 5 percent, by weight, of the berries are definitely off color for any reason.
- (c) **"D" classification.** Frozen berries that fail to meet the requirements of paragraph (b) of this section or that are definitely off color for any reason may be given a score of 0 to 20 points and shall not be graded above U.S. Grade D or Substandard, regardless of the total score for the product.
- (d) The evaluation of the score points for the factor of color may be determined from the following table which denotes the variation in color allowed for the score indicated:

Classification	Score Points	Marked variation from color of well-ripened berries	Marked variation from color of reasonably well-ripened berries	Definitely off color for any reason
		Maximum (by weight)		
A	30	None	None	
	29	2% including not more than 1%		
	28	4% including not more than 2%		
	27	6% including not more than 3%		
	26	8% including not more than 4%		
	25	10% including not more than 5%		
B	24	6% including not more than 1%	
	23	9% including not more than 2%	
	22	12% including not more than 3%	
	21	15% including not more than 5%	
D	20 or less	More than allowances permitted in (B) classification.		

§52.5889 Absence of defects.

- (a) General.** The factor of absence of defects refers to the degree of freedom from harmless extraneous vegetable material; from leaves, pieces of leaves, stems, and caps; from undeveloped berries; and from berries damaged by blemishes, insect, pathological, or other similar injury.
- (b) Definitions of defects:**

 - (1)** A berry is considered **undeveloped** if it is shriveled or if more than one-fourth of the berry possesses hard, undeveloped drupelets.
 - (2) Damage** includes any surface blemish having an aggregate area exceeding that of a circle 1/4 inch in diameter or any noticeable blemish that extends into the fruit tissue.
- (c) "A" classification.** To receive a score of 34 to 40 points the frozen berries must be practically free from defects. **Practically free from defects** means that there may be present not more than 2 sepal-like bracts per 16 ounces of net weight; not more than one stem or one leaf or piece of leaf or the approximate equivalent of one full cap per 48 ounces of net weight; and that not more than 5 percent, by weight, of berries may be undeveloped or damaged.
- (d) "B" classification.** If the frozen berries are reasonably free from defects, a score of 28 to 33 points may be given. Frozen berries 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. **Reasonably free from defects** means that there may be present not more than 5 sepal-like bracts and not more than one stem or one leaf or piece of leaf or the approximate equivalent of one full cap per 16 ounces of net weight; and that not more than 10 percent, by weight, of berries may be undeveloped or damaged.
- (e) "D" classification.** Frozen berries that fail to meet the requirements of paragraph (d) of this section may be given a score of zero to 27 points and shall not be graded above U.S. Grade D or Substandard, regardless of the total score for the product.
- (f)** The evaluation of the score for the factor of absence of defects may be determined from the following table which denotes the maximum allowance for each type of defect for the score indicated:

Classification	Score Points	Harmless extraneous material		Undeveloped or damaged berries	
		Sepal-like bracts	Leaves, stems, full caps		
		Maximum			(by weight)
		Per 16 ounces net weight	Per 48 ounces net weight		
A	40	0	None	0%	
	39	1	None	1%	
	38	1	1	2%	
	37	1	1	3%	
	36	2	1	3%	
	35	2	1	4%	
	34	2	1	5%	
			Per 16 ounces net weight		
B	33	3	None	6%	
	32	3	1	6%	
	31	4	1	7%	
	30	4	1	8%	
	29	5	1	9%	
	28	5	1	10%	
D	27 or less	More than allowances permitted in B Classification			

§52.5890 Character.

- (a) **General.** The factor of character refers to the maturity, texture, and appearance, as well as to the degree of disintegration of the berries. A berry is considered **crushed** if more than 50 percent of the drupelets are crushed, broken, or detached, or if the normal shape of the berry is otherwise materially affected or destroyed.

- (b) **"A" classification.** To receive a score of 26 to 30 points the frozen berries must possess a good character. **Good character** means that the berries are mature and ripe but not overripe, are fleshy and tender, and are practically intact; that the berries and accompanying liquor are practically free from detached seed cells; and that not more than 5 percent, by weight, of blackberries may be crushed and not more than 10 percent, by weight, of dewberries, boysenberries, loganberries, youngberries, or other similar types may be crushed.
- (c) **"B" classification.** If the frozen berries possess a reasonably good character, a score of 21 to 25 points may be given. Frozen berries 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. **Reasonably good character** means that the berries are reasonably mature and may be not more than slightly immature nor slightly overmature; that the berries may be not more than slightly lacking in fleshy texture; that the berries and any accompanying liquor are reasonably free from detached seed cells; and that not more than 15 percent, by weight, of blackberries may be crushed and not more than 20 percent, by weight, of dewberries, boysenberries, loganberries, youngberries, or other similar types may be crushed.
- (d) **"D" classification.** Frozen berries that fail to meet the requirements of paragraph (c) of this section may be given a score of zero to 20 points and shall not be graded above U.S. Grade D or Substandard, regardless of the total score for the product.
- (e) The evaluation of the score for character may be determined from the following table which denotes the maximum allowances for berries that are crushed.

Classification	Score Points	Maturity and texture	Detached seed cells	Crushed	
				Blackberries	Dewberries, Boysenberries, Loganberries, Youngberries, and other similar types
				Maximum (by weight)	
A	30	Ripe but not over-ripe; fleshy and tender.	Berries and accompanying liquor-practically free.	1%	2%
	29			2%	4%
	28			3%	6%
	27			4%	8%
	26			5%	10%
B	25	Not more than slightly immature nor slightly overmature; not more than slightly lacking in fleshy texture.	Berries and accompanying liquor-reasonably free.	7%	12%
	24			9%	14%
	23			11%	16%
	22			13%	18%
	21			15%	20%
D	20 or less	More than allowances permitted in B Classification.			

§52.5891 Ascertaining the grade of a lot.

The grade of a lot of frozen berries 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 (§52.1 through §52.83).

§52.5892 Score sheet for frozen berries.

No. size and kind of container		
Label: Style of pack: Fruit-sugar ratio (If shown)		
Container mark or identification	Container or sample	
	Cases	
Net weight (ounces)		
Type		
Factors	Score points	
Color	30	"A" 25-30 "B" 21-24 <u>1/</u> "SStd" 0-20 <u>1/</u>
Absence of defects	40	"A" 34-40 "B" 28-33 <u>1/</u> "SStd" 0-27 <u>1/</u>
Character	<u>30</u>	"A" 26-30 "B" 21-25 <u>1/</u> "SStd" 0-20 <u>1/</u>
Total Score	100	
Normal flavor and odor		
Grade		

1/ Limiting rule.

Published in the Federal Register of May 24, 1967 (32 F.R. 7576)

Dated: May 16, 1967

G.R. Grange,
Deputy Administrator,
Marketing Services.