

United States Department of Agriculture

Agricultural Marketing Service

Fruit and Vegetable Division

Processed Products Branch

United States Standards for Grades of Fruit Preserves (Jams)

Effective date January 4, 1980

This is the fourth issue as amended, of the United States Standards for Grades of Fruit Preserves (or Jams). This issue was published in the **FEDERAL REGISTER** of December 4, 1979, to become effective January 4, 1980.

Previous issues of these standards were:

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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

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Authority:	Agricultural Marketing Act of 1946, Secs. 203, 205, 60 Stat. 1 amended, 1090, as amended (7 U.S.C. 1622, 1624).	087,	as

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.

§52.1111 Identity.

Fruit preserves (or jams) means preserves or jams as defined in the definitions and standards of identity for preserves, jams (21 CFR 150.160) issued pursuant to the Federal Food, Drug, and Cosmetic Act. The solids content of the finished fruit preserves or jams shall be not less than 65 degrees Brix. No correction is made for water-insoluble solids.

§52.1112 Types of fruit preserves (or jams).

- (a) **Type I**. Fruit preserves (or jams) that are prepared from a single fruit (except apple) listed in Group I or Group II are "Type I."
- (b) **Type II**. Fruit preserves (or jams) that are prepared from more than a single fruit listed in Group I or Group II are "Type II."

§52.1113 Kinds of fruit preserves (or jams) according to Group I or Group II designations.

Group I

Any one singly or in combination with not more than four of the following:

Blackberry (other than	Grape.
dewberry).	Grapefruit.
Black raspberry.	Huckleberry.
Blueberry.	Loganberry.
Boysenberry.	Orange.
Cherry.	Pineapple.
Crabapple.	Raspberry, red raspberry.
Dewberry (other than	Rhubarb.
boysenberry, loganberry	Strawberry.
and youngberry).	Tomato.
Tangerine.	Yellow Tomato.
Elderberry.	Youngberry.

Group II

Any one singly or in combination with not more than four of the following fruits and fruits in Group I: 1/

Apple (Type II only). Apricot. Cranberry. Damson, damson plum. Fig. Gooseberry. Greengage, greengage plum. Guava.	Nectarine. Peach (clingstone and freestone). Pear. Plum (other than greengage plum and damson plum). Quince. Red currant, currant (other than black currant).
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§52.1114 Grades of fruit preserves (or jams).

- (a) U.S. Grade A or U.S. Grade A for Manufacturing is the quality of fruit and preserves (or jams) that have a good consistency; that have a good color; that are practically free from defects; that have a good flavor; and that score not less than 85 points when scored in accordance with the scoring system outlined in this subpart, **Provided**: that no fruit preserve or jam shall be graded, inspected and/or certified as a manufacturing grade product unless it is suitably designated and/or labeled. Manufacturing grade product shall not be packaged in containers smaller than the equivalent of a number ten (No. 10) metal can (603 x 700).
- (b) U.S. Grade B is the quality of fruit preserves (or jams) that possess a reasonably good consistency; that possess a reasonably good color; that are reasonably free from defects; that possess a fairly good flavor; and that score not less than 70 points when scored in accordance with the scoring system outlined in this subpart.
- (c) **Substandard** is the quality of fruit preserves (or jams) that fail to meet the requirements of U.S. Grade B.

§52.1115 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 be filled with fruit preserves (or jams) as full as practicable without impairment of quality and that the product occupy not less than 90 percent of the volume of the container.

1/ In accordance with the limits specified in the definitions and standards of identity for preserves, jams. (21 CFR 150.160).

§52.1116 Ascertaining the grade.

- (a) The grade of fruit preserves (or jams) is ascertained by considering, in conjunction with the requirements of the respective grade, the respective ratings for the factors of consistency, color, absence of defects, and flavor.
- (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 such factors are:

Factors:	Points
Consistency	20
Color	20
Absence of defects	20
Flavor	_40
Total Score	100

§52.1117 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).

§52.1118 Consistency.

(a) General. The factor of consistency refers to the extent of the dispersion and size of the fruit or fruit particles throughout, and the gel-like properties of the product; **Provided**: that any requirements for wholeness of fruit are waived for products packaged in one and one-half (1-1/2) ounce and smaller containers; **And further provided**: that fruit puree as a single fruit ingredient may not be used.

(b) "A" classification.

(1) Fruit preserves (or jams) that have a good consistency may be given a score of 17 to 20 points. **Good consistency** means that the fruit or fruit particles are dispersed uniformly throughout the product; that the product has a tender gel or may have no more than a very slight tendency to flow, except that a slightly less viscous consistency may be present when the fruit is chiefly in the form of whole or almost whole units; and that in the following kinds the product does not have a macerated or pureed appearance, and is made from whole or almost whole fruit as indicated:

- (i) Apricots. Halves or pieces or combinations thereof.
- (ii) **Cherry.** Whole or almost whole or pieces of pitted cherries or combinations thereof.
- (iii) **Gooseberry.** Whole or almost whole berries or combinations thereof.
- (iv) Peach (clingstone and freestone). Slices or pieces or combinations thereof.
- (v) **Pineapple.** Crushed pieces or small pieces or combinations thereof.
- (vi) **Strawberry.** Whole or almost whole berries or combinations thereof.
- (2) Fruit preserves (or jams) for manufacturing that have a good consistency may be given a score of 17 to 20 points. Good consistency means that the product meets all of the requirements of (b) (1) of this section; Provided: that the product may have a moderate to very firm gel but may not be rubbery.
- (c) "B" classification. If the fruit preserves (or jams) possess a reasonably good consistency, a score of 14 to 16 points may be given. Fruit preserves (or jams) 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 consistency means that the fruit or fruit particles are dispersed reasonably uniformly throughout the product; and that the product may be firm but not rubbery or may be noticeably viscous but not excessively thin.
- (d) "SStd" classification. Fruit preserves (or jams) 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 limiting rule).

§52.1119 Color.

(a) "A" classification. Fruit preserves (or jams) that possess a reasonably good color may be given a score of 17 to 20 points. Good color means that the color is bright, practically uniform throughout, and characteristic of the variety or varieties of the fruit ingredients; and that the product is free from dullness of color due to any cause (including, but not being limited to, oxidation or improper cooling).

- (b) "B" classification. If the fruit preserves (or jams) possess a reasonably good color, a score of 14 to 16 points may be given. Fruit preserves (or jams) 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 color means that the color is reasonably uniform throughout, and characteristic of the variety or varieties of the fruit ingredients; however, the color may be slightly dull but may not be off color due to oxidation or improper processing or improper cooling or other causes.
- (c) "SStd" classification. Fruit preserves (or jams) that for any reason 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 Substandard, regardless of the total score for the product (this is a limiting rule).

§52.1120 Absence of defects.

- (a) General. The factor of absence of defects refers to the degree of freedom, in the applicable kinds, from substances ordinarily removed in the preparation for the manufacture of fruit preserves (or jams) and includes, but is not limited to, caps, leaves, stems, seeds, pits, peel, or any portions thereof; from blemished units, underdeveloped units, or otherwise damaged units; and from any defects not specifically mentioned that affect the appearance or edibility of the product.
 - (1) A cluster of cap stems means three or more joined cap stems.
 - (2) A **cap** means a loose or attached full cap or a portion of a cap to which at least one sepal-like bract or portion thereof is attached. A short stem that is attached to a cap is considered a part of that cap.
 - (3) A **short stem** means a stem that is 1/8 inch or less in length and which may include the center portion of a cap to which no sepal-like bract or portion thereof is attached. A short stem that is attached to a cap is considered a part of that cap.

- (4) A small stem means a stem that is longer than 1/8 inch but not more than 1/4 inch in length. A small stem that is attached to a cap is considered as a defect separate from that cap.
- (5) A medium stem means a stem that is longer than 1/4 inch but not more than 1/2 inch in length. A medium stem that is attached to a cap is considered as a defect separate from that cap.
- (6) A long stem means a stem that is longer that 1/2 inch in length. A long stem that is attached to a cap is considered as a defect separate from that cap.
- (7) A woody base-stem means any stem in grape preserves (or jams) with an enlarged woody base approximating 1/16 inch or more in diameter.
- (8) **Peel** means, with respect to those fruits, such as apples and peaches, that are commonly prepared for the manufacture of fruit preserves (or jams) by the removal of the skin or peel, any skin or peel whether or not it is attached.
- (9) Seeds means, with respect to those fruits, such as apples, grapes, and pears, that are prepared for the manufacture of fruit preserves (or jams) by the removal of the seeds, the seeds of such fruit. Seeds in fruit preserves (or jams) prepared from citrus fruits means any seed or any portion thereof, whether or not fully developed, that measures more than 3/16 inch in any dimension. Seeds are not considered as defects in fruit preserves (or jams) prepared from such fruits as figs and tomatoes.
- (10) Pit means, with respect to those fruits, such as apricots, cherries, plums, and peaches, that are prepared for the manufacture of fruit preserves (or jams) by the removal of the pits, a whole, intact pit. Portions of pits include:
 - (i) A **piece of pit** which means any portion of a pit that is more than 1/2 inch in any dimension.
 - (ii) A small piece of pit which means any portion of a pit that is not less than 1/4 inch nor more than 1/2 inch in any dimension;
 - (iii) And a **pit fragment** which means any portion of a pit that is less than 1/4 inch in any dimension.

- (11) Blemished, underdeveloped, or otherwise damaged means units of fruit in which the appearance or edible quality is damaged or blemished because of discolored skin, bruised spots, dark particles, insect or similar injury, hard areas, or units that are hard and shrivelled or damaged by mechanical, pathological, or other injury.
- (b) "A" classification. Fruit preserves (or jams) that are practically free from defects may be given a score of 17 to 20 points. **Practically free from defects** means with respect to:
 - (1) Type II and any kind or kinds with a macerated or pureed appearance (whether of Type I or II), that the defects do not materially affect the appearance or edibility of the product; and
 - (2) Type I, that the defects and defective units as applicable do not exceed the allowances for U.S. Grade A as specified in Table I, II, III, or IV of this section and that any defects whether or not specifically mentioned in such tables do not materially affect the appearance or edibility of the product.
- (c) "B" classification. If the fruit preserves (or jams) are reasonably free from defects, a score of 14 to 16 points may be given. Fruit preserves (or jams) 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 with respect to:
 - (1) Type II and any kind or kinds with a macerated or pureed appearance (whether of Type I or II), that the defects do not seriously affect the appearance or edibility of the product; and
 - (2) Type I, that the defects and defective units as applicable do not exceed the allowances for U.S. Grade B as specified in Table I, II, III, or IV of this section and that any defects whether or not specifically mentioned in such tables do not seriously affect the appearance or edibility of the product.

Table IAllowances for Defects

Kind of Preserves (or Jams)	Grade and Score Range	Stems	Leaves	Caps or Portions	Other Extraneous Material	Loose Sepal-Like Bracts	Seeds, Pits, or Portions Thereof	Blemished, Underdeveloped or Otherwise Damaged
Type I Only					Maxim	um Allowances		
Blackberry Boysenberry Dewberry	U.S. Grade A (17-20 points)		Total of 1 only per 96 ounces 1 per 10 per 8 ounces in 8 ounces in seedless				8 ounces in	2 per 8 ounces
Loganberry Youngberry	U.S. Grade B (14-16 points)		Total of 1 c	only per 32 c	ounces	3 per 8 ounces	20 per 8 ounces in seedless	4 per 8 ounces
	U.S. Grade A (17-20 points)		Total of 1 o	only per 32 c	ounces		1 per 32 ounces	5 per 8 ounces
Cherry	U.S. Grade B (14-16 points)		Total of 1 only per 16 ounces				1 per 32 ounces	8 per 8 ounces
Blueberry Elderberry	U.S. Grade A (17-20 points)			em or 1 leaf cap stems p	per 8 ounces; er 8 ounces			3 per 8 ounces
Huckleberry	U.S. Grade B (14-16 points)		; and 3 clu		aves per 16 stems per 16			5 per 8 ounces

Table II Allowances for Defects

Kind of Preserves (or Jams)	Grade and Score Range	Stems				Leaves	Other Extraneous	Seeds, Pits, or Portions Thereof			Peel	Blemished, Underdeveloped or
,	5	Short	Small	Medium	Long		Material			-		Otherwise
Type I Only		1/8" or less	over 1/8" to 1/4" incl.	over 1/4" to 1/2" incl.	Longer than 1/2"			Pit or pieces of pit	Small pieces of pit	Pit fragments		Damaged
							Maximum /	Allowances				
Apricot	U.S. Grade A (17-20 points)	1	only per 16 o	unces	None	1 only per 32 ounces	1 only per 200 ounces	1 only per 200 ounces	1 only per 128 ounces	1 only per 32 ounces	No limit	1 unit per 8 ounces
	U.S. Grade B (14-16 points)	1 only per 8 ounces			None	1 only per 16 ounces	1 only per 128 ounces	1 only per 200 ounces	1 only per 64 ounces	1 only per 16 ounces	No limit	4 units per 8 ounces
Peach Nectarine	U.S. Grade A (17-20 points)					1 only per 32 ounces	1 only per 32 ounces	1 only per 96 ounces	1 only per 64 ounces	1 only per 16 ounces	1 square inch per 16 ounces	2 units per 8 ounces
	U.S. Grade B (14-16 points)					1 only per 16 ounces	3 per 32 ounces	1 only per 48 ounces	1 only per 32 ounces	1 only per 8 ounces	1 square inch per 8 ounces	8 units per 8 ounces
Damson Plum Greengage Plum	U.S. Grade A (17-20 points)		Total of 1 per 8 ounces				1 only per 128 ounces	1 c	only per 32 o	unces	No limit	1 unit per 8 ounces
Plum (Others) U.S. Grade B (14-16 points)		Total of 3 per 16 ounces					1 only per 32 ounces	1 only per 16 ounces			No limit	2 units per 8 ounces

Table IIIAllowances for Defects

Kind of Preserves (or Jams) Type I Only	Grade and Score Range	Stems	Leaves	Other Extraneous Material	Loose Sepal- Like Bracts	Seeds, Pits, or Portions Thereof	Peel	Blemished, Underdeveloped or Otherwise Damaged
					Maximum A	Allowances		
Cranberry Currant (Other than black) Currant, Red	U.S. Grade A (17-20 points)		only per inces	1 only per 200 ounces	3 per 16 ounces		1 sq. inch per 16 oz. if prepared by peeling.	2 units per 8 ounces
Fig Gooseberry Rhubarb Tomato Tomato, Yellow	U.S. Grade B (14-16 points)	Total of 1 only per 32 ounces		1 only per 128 ounces	5 per 16 ounces		1 sq. inch per 8 oz. if prepared by peeling.	4 units per 8 ounces
	U.S. Grade A (17-20 points)							2 units per 8 ounces
Pineapple	U.S. Grade B (14-16 points)							4 units per 8 ounces
	U.S. Grade A (17-20 points)		of 1 per unces	1 only per 200 ounces		1 per 16 ounces		3 units per 8 ounces
Grapefruit Orange Tangerine	U.S. Grade B (14-16 points)		1 per 32 ices	1 only per 128 ounces		1 per 8 ounces		5 units per 8 ounces

Table IVAllowances for Defects

Kind of Preserves	Grade and		Ste	ms		Leaves	Caps or	Other	Loose	Seeds	Blemished,
(or Jams)	Score Range	Short	Small	Medium	Long			Extraneous Material	Sepal-Like Bracts		Underdeveloped or Otherwise
Type I Only		1/8" or less	over 1/8" to 1/4" incl.	over 1/4" to 1/2" incl.	Longer than 1/2"						Damaged
						Maxim	um Allowances	3			
	U.S. Grade A (17-20 points)	3 short or s	mall thin stems, i stem pe		woody base	1 only per 32 ounces		1 only per 200 ounces	3 per 16 ounces	3 seeds per 8 ounces	2 unit per 8 ounces
Grape	U.S. Grade B (14-16 points)	3 short or s	mall thin stems, i stem pe	ncluding only 1 v er 8 oz.	woody base	1 only per 32 ounces		1 only per 128 ounces	5 per 16 ounces	6 seeds per 8 ounces	4 units per 8 ounces
	U.S. Grade A	4 per				1	/2 Square inch	Area		4 units per	
	(17-20 points)	8 ounces	nces 2 small or medium or long stems, including only 1 long stem - or -				armless extran ch as weeds oi		8 ounces		
Strawberry			۰			per 32 our	nces				
Strawberry	U.S. Grade B	8 per				1	/2 Square inch	Area		8 units per	
	(14-16 points)	8 ounces		lium or long sten 1 long stem - or			armless extran ch as weeds oi		8 ounces		
			۰			per 32 our	се				
	U.S. Grade A	4 per 8				1	/2 Square inch	Area		4 units per	
Raspberry Raspberry,	(17-20 points)	ounces		mall or medium or long stems, including only 1 long stem - or -			armless extran ch as weeds oi				8 ounces
Black			•			per 32 our	nces				
Raspberry, Red	U.S. Grade B	8 per 8	•				/2 Square inch		8 units per		
	(14-16 points)	ounces	4 small or medium or long stems, including only 1 long stem - or -			1 piece harmless extraneous material such as weeds or grass					8 ounces
			•			per 32 our	nces				

- (d) "SStd" classification. Fruit preserves (or jams) that fail to meet the requirements for 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 product (this a limiting rule).
- (e) Allowances. Ascertaining compliance with, and explanation of, allowances in Tables I, II, III, and IV:
 - (1) The term **ounces** refers to **ounces of net weight** of any individual container, of the average net weight of all the containers, or of the aggregate net weight of all the containers comprising the sample as may be applicable. The allowances as stated may be interpolated into other equivalents for containers of other sizes or on an aggregate basis.
 - (2) When the unit of the allowance, such as per 200 ounces, is greater than in individual containers, the net weight of all containers in the sample may be aggregated to arrive at the approximate quantity by which to determine compliance with the stated allowance. For example, in a lot consisting of approximate 8 oz net weight containers and with defects permitted in 1 per 200 ounces, such defect would be permitted in a total of not less than twenty-five 8 oz containers (approximately 200 ounces in the aggregate).
 - (3) An occasional defect may be permitted if all the containers in a sample in the aggregate constitute a net weight less than the unit of allowance, provided such defect, singly or in combination with other defects, no more than slightly affects the appearance or edibility of the product.
- §52.1121 Flavor.
 - (a) "A" classification. Fruit preserves (or jams) that possess a good flavor, may be given a score of 34 to 40 points. **Good flavor** means:
 - (1) That the product possesses a good and distinct flavor; and
 - (2) That the flavor is characteristic of the applicable kind of fruit ingredient or applicable kinds of fruit ingredients.
 - (b) "B" classification. If the fruit preserves (or jams) possess a fairly good flavor, a score of 28 to 33 points may be given. Fruit preserves (or jams) 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). Fairly good flavor means:

- (1) That the product possesses a flavor reasonably characteristic of the applicable kind of fruit ingredient or applicable kinds of fruit ingredients; and
- (2) May possess a slightly caramelized flavor but is free from any bitter flavor or other objectionable flavor or off flavor of any kind.
- (c) "SStd" classification. Fruit preserves (or jams) that fail to meet the requirements of paragraph (b) of this section may be given a score of 0 to 27 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

§52.1122 Ascertaining the grade of a lot.

The grade of a lot of fruit preserves (or jams) 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 (CFR §52.1 through §52.83).

- **Effective date:** The United States Standards for Grades of Fruit Preserves (or Jams) as hereby amended shall become effective January 4, 1980, and thereupon will supersede United States Standards for Grades of Fruits Preserves (or Jams) which have been in effect since October 29, 1974
- NOTE: This final rule has been reviewed under the USDA criteria established to implement Executive Order 12044, Improving Government Regulations. A determination has been made that this action should not be classified significant under those criteria. A Final Impact Statement has been prepared and is available from Processed Products Branch, Fruit and Vegetable Quality Division, Food Safety and Quality Service, U.S. Department of Agriculture, Washington, D.C. 20250.

Done at Washington, D.C., on: November 28, 1979

Donald L Houston Administrator Food Safety and Quality Service