



United States  
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Agriculture

Agricultural  
Marketing  
Service

Fruit and  
Vegetable  
Division

Processed  
Products  
Branch

# United States Standards for Grades of Canned Pears

## DRAFT

Effective date Xxxx xx, 2004

# DRAFT

This is the sixth issue, as amended, of the United States Standards for Grades of Canned Pears published in the **FEDERAL REGISTER** of Xxxx xx., 2004 (41 FR 15016) to become effective Xxxx xx, 2004. This issue supersedes the fifth issue, as amended, which has been in effect since May 12, 1976.

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  
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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.

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## §52.1611 Product description.

- (a) **Canned pears** means the canned product prepared from properly prepared, mature pears, as such product is purported to be in the standards of identity for canned pears (21 CFR 145.175; 145.176) issued pursuant to the Federal Food, Drug, and Cosmetic Act.
- (b) For the purposes of the standards in this subpart, the canned pears are peeled and the term **canned pears** includes **canned pears**, **canned spiced pears**, and **canned artificially sweetened pears** as defined in the aforesaid standards of identity.

## §52.1612 Styles.

- (a) **Halves or halved** are peeled pears, with cores and stems removed, cut longitudinally from stem to calyx into approximate halves.
- (b) **Quarters or quartered** are peeled pears, with cores and stems removed, cut longitudinally from stem to calyx into approximate quarters.
- (c) **Slices or sliced** are peeled pears, with cores and stems removed, cut longitudinally from stem to calyx into approximate equal segments smaller than quarters.
- (d) **Dice or diced** canned pears are peeled pears, with cores and stems removed, cut into approximate cubes.
- (e) **Whole** canned pears are peeled, cored, or uncored, whole pears with or without stems removed.
- (f) **Pieces or irregular pieces** are peeled and cored pears that are irregular in shapes and sizes.

## § 52.1613 Grades.

- (a) **U.S. Grade A (or U.S. Fancy)**, is the quality of halves, quarters, slices, diced, or whole canned pears that:
  - (1) Possess similar varietal characteristics;
  - (2) Possess a normal flavor and odor;
  - (3) Possess a good color;

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- (4) Are practically uniform in size and symmetry;
  - (5) Are practically free from defects;
  - (6) Possess a good character; and
  - (7) For those factors which are scored in accordance with the scoring system outlined in this subpart the total score is not less than 90 points;
  - (8) **Provided**, that halves, quarters, slices, diced, or whole pears may possess a reasonably good color and may be fairly uniform or reasonably uniform in size and symmetry, if the total score is not less than 90 points.
- (b) **U.S. Grade B (or U.S. Choice)** is the quality of halves, quarters, slices, diced, whole, or pieces or irregular pieces of canned pears that:
- (1) Possess similar varietal characteristics;
  - (2) Possess a normal flavor and odor;
  - (3) Possess a reasonably good color;
  - (4) Are reasonably uniform in size and symmetry for the applicable style;
  - (5) Are reasonably free from defects;
  - (6) Possess a reasonably good character; and
  - (7) For those factors which are scored in accordance with the scoring system outlined in this subpart the total score is not less than 80 points;
  - (8) **Provided**, that halves, quarters, slices, diced, or whole canned pears may be fairly uniform in size and symmetry, if the total score is not less than 80 points.
- (c) **U.S. Grade C (or U.S. Standard)**, is the quality of halves, quarters, slices, diced, whole, or pieces or irregular pieces of canned pears that:
- (1) Possess a normal flavor and odor;

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- (2) Possess a fairly good color;
- (3) Are fairly uniform in size and symmetry for the applicable style;
- (4) Are fairly free from defects;
- (5) Possess a fairly good character; and
- (6) For those factors which are scored in accordance with the scoring system outlined in this subpart the total score is not less than 70 points.

(d) **Substandard** is the quality of canned pears that fail to meet the applicable requirements of U.S. Grade C and is the quality of canned pears that may or may not meet the minimum standard of quality for canned pears issued pursuant to the Federal Food, Drug, and Cosmetic Act.

## §52.1614 Liquid media and Brix measurements.

**Cutout** requirements for liquid media in canned pears 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 designations of liquid packing media and the Brix measurements, where applicable, are as follows:

Designations	Brix measurements
<b>Extra heavy sirup; or Extra heavily sweetened fruit juice(s) and water; or Extra heavily sweetened fruit juice(s)</b>	22E or more but not more than 35E
<b>Heavy sirup; or Heavily sweetened fruit juice(s) and water; or Heavily sweetened fruit juice(s)</b>	18E or more but not more than 22E
<b>Light sirup; or Lightly sweetened fruit juice(s) and water; or Lightly sweetened fruit juice(s)</b>	14E or more but not more than 18E
<b>Slightly sweetened water; or Extra light sirup; or Slightly sweetened fruit juice(s) and water; or Slightly sweetened fruit juice(s)</b>	Less than 14E
<b>In water</b> <b>In fruit juice(s) and water</b> <b>In fruit juice</b> <b>In clarified juice</b> <b>Artificially sweetened</b>	Not applicable Not applicable Not applicable Not applicable Not applicable

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## §52.1615 Fill of container.

The standard of fill of container for canned pears is the maximum quantity of the pear units which can be sealed in the container and processed by heat to prevent spoilage, without crushing or breaking such ingredient. Canned pears that do not meet this requirement are **Below Standard in Fill**.

## §52.1616 Recommended drained weights.

### (a) General.

- (1) The minimum drained weight recommendations for the various applicable styles in Table I, II, and III 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 pears is determined by emptying the contents of the container, turning the seed cavities down in halves, upon a U.S. Standard No. 8 circular sieve, of proper diameter, containing 8 meshes to the inch (0.0937-inch (+-)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 pears 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 weight 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 pears is considered as meeting the minimum drained weight recommendations if the following criteria are met:

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- (1) The average of the drained weights from all the sample units in the sample meets the recommended average drained weight (designated as  $\bar{X}_d$ ), in Tables I, II, and III; and
- (2) The number of sample units which fail to meet the recommended minimum drained weight for individuals (designated as LL) in Tables I, II, and III does not exceed the applicable acceptance number specified in the single sampling plan of Table IV.

**TABLE I  
RECOMMENDED MINIMUM DRAINED WEIGHTS FOR CANNED PEARS  
QUARTERS, SLICES AND PIECES OR IRREGULAR PIECES STYLE**

Container designation (metal, unless otherwise stated)	Container size (overall dimensions)		Overflow capacity (fluid ounces)	In any sirup or other liquid medium (ounces)	
	Diameter (inches)	Height (inches)		LL	$\bar{X}_d$
5Z .....	211	200	--	2.6	3.0
5Z .....	211	202	--	2.9	3.3
6Z .....	300	200	--	3.3	3.7
7Z .....	211	212	--	3.8	4.2
8Z glass .....	--	--	8.2	4.4	4.8
8Z tall .....	211	304	--	4.5	4.9
No. 300 .....	300	407	--	8.3	8.9
No. 303 glass .....	--	--	17.0	8.8	9.4
No. 303 .....	303	406	--	9.0	9.6
No. 2 .....	307	409	--	11.1	11.8
No. 2 1/2 glass .....	--	--	28.35	16.1	16.9
No. 2 1/2 .....	401	411	--	16.4	17.2
No. 10 .....	603	700	--	64.0	65.5

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**TABLE II  
RECOMMENDED MINIMUM DRAINED WEIGHTS FOR CANNED PEARS  
HALVES STYLE**

Container designation (metal, unless otherwise stated)	In any sirup or other liquid medium (ounces)	
	LL	$\bar{X}_d$
8Z glass .....	4.1	4.7
8Z tall .....	4.2	4.8
No. 300:		
7 count or less .....	7.7	8.4
8 count or more .....	8.0	8.7
No. 303 glass:		
7 count or less .....	8.2	9.0
8 count or more .....	8.5	9.3
No. 303:		
7 count or less .....	8.5	9.3
8 count or more .....	8.8	9.6
No. 2:		
7 count or less .....	10.5	11.4
8 count or more .....	10.8	11.7
No. 2½:		
8 count or less .....	14.9	16.0
9 count or more .....	15.4	16.5
No. 2½:		
8 count or less .....	15.3	16.4
9 count or more .....	15.8	16.9
No. 10:		
25 count or less .....	60.8	62.7
26 count or more .....	62.2	64.1

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**TABLE III  
RECOMMENDED MINIMUM DRAINED WEIGHTS FOR CANNED PEARS  
DICED STYLE**

Container designation (metal, unless otherwise stated)	In any sirup or other liquid medium (ounces)	
	LL	$\bar{X}_d$
5Z glass .....	2.8	3.1
5Z .....	3.0	3.3
6Z .....	3.5	3.8
7Z .....	4.3	4.6
8Z glass .....	5.3	5.6
8Z tall .....	5.3	5.6
No. 300 .....	9.3	9.7
No. 303 glass .....	10.1	10.6
No. 303 .....	10.2	10.7
No. 2 .....	12.4	13.0
No. 2½ glass .....	18.2	18.8
No. 2½ .....	18.4	19.0
No. 10 .....	65.7	67.0

**TABLE IV  
SINGLE SAMPLING PLAN FOR DRAINED WEIGHTS**

Sample size (number of sample units) .....	3	6	13	21	29
Acceptance No .....	0	1	2	3	4

**§52.1617 Recommended fill weights.**

- (a) **General.** The minimum fill weight recommendations for the various applicable styles in Tables V, VI, and VII of this subpart are not incorporated in the grades of the finished product since fill weight, as such, is not a factor of quality for the purpose of these grades.

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(b) **Method for ascertaining fill weight.** The fill weight of canned pears for the applicable styles is determined in accordance with the U.S. Standards for Inspection by Variables and the U.S. 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 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) **Subgroup size.** The subgroup size for the determination of fill weights shall be 5 sample units.

(e) **Compliance with recommended fill weights.** Compliance with the recommended fill weights for canned pears 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.

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**TABLE V  
RECOMMENDED FILL WEIGHTS FOR HALVES STYLE (OUNCES)**

Container designation (metal, unless otherwise stated)	$\bar{X}'_{\min}$	$LWL_{\bar{X}}$	$LRL_{\bar{X}}$	LWL	LRL	$\bar{R}'$	$R_{\max}$	Sampling allowanc e code
8Z tall .....	5.1	4.6	4.4	4.1	3.6	1.2	2.5	I
No. 300: 7 count or less .....	8.8	8.2	7.9	7.5	6.8	1.5	3.2	L
8 count or more .....	9.1	8.5	8.2	7.8	7.1	1.5	3.2	L
No. 303 glass: 7 count or less .....	9.5	8.9	8.5	8.1	7.4	1.6	3.4	M
8 count or more .....	9.8	9.2	8.8	8.4	7.7	1.6	3.4	M
No. 303: 7 count or less .....	9.8	9.2	8.8	8.4	7.7	1.6	3.4	M
8 count or more .....	10.1	9.5	9.1	8.7	8.0	1.6	3.4	M
No. 2: 7 count or less .....	11.8	11.1	10.7	10.2	9.4	1.9	3.9	O
8 count or more .....	12.3	11.6	11.2	10.7	9.9	1.9	3.9	O
No. 2½ glass: 8 count or less .....	16.8	15.9	15.4	14.8	13.8	2.3	4.9	S
9 count or more .....	17.3	16.4	15.9	15.3	14.3	2.3	4.9	S
No. 2½: 8 count or less .....	17.2	16.3	15.8	15.2	14.2	2.3	4.9	S
9 count or more .....	17.7	16.8	16.3	15.7	14.7	2.3	4.9	S
No. 10: 25 count or less .....	66.0	64.5	63.7	62.6	60.9	4.0	8.4	Z
26 count or more .....	67.5	66.0	65.2	64.1	62.4	4.0	8.4	Z

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**TABLE VI  
RECOMMENDED FILL WEIGHTS FOR QUARTERS; SLICES;  
PIECES AND IRREGULAR PIECES STYLES (OUNCES)**

Container designation (metal, unless otherwise stated)	$\bar{X}'_{\min}$	$LWL_{\bar{x}}$	$LRL_{\bar{x}}$	LWL	LRL	$\bar{R}'$	$R_{\max}$	Sampling allowanc e code
5Z .....	3.2	2.8	2.6	2.4	2.0	0.90	2.0	G
5Z .....	3.5	3.1	2.9	2.7	2.3	0.90	2.0	G
6Z .....	4.0	3.6	3.4	3.2	2.8	0.90	2.0	G
7Z .....	4.6	4.2	4.0	3.8	3.4	0.90	2.0	G
8Z glass .....	5.1	4.7	4.5	4.3	3.9	0.90	2.0	G
8Z tall .....	5.2	4.8	4.6	4.4	4.0	0.90	2.0	G
No. 300 .....	9.4	8.9	8.7	8.4	7.9	1.2	2.5	I
No. 303 glass .....	10.0	9.5	9.2	8.9	8.3	1.3	2.7	J
No. 303 .....	10.2	9.7	9.4	9.1	8.5	1.3	2.7	J
No. 2 .....	12.6	12.0	11.7	11.3	10.6	1.5	3.2	L
No. 2½ glass .....	18.0	17.3	17.0	16.5	15.7	1.7	3.7	N
No. 2½ .....	18.3	17.6	17.3	16.8	16.0	1.7	3.7	N
No. 10 .....	70.0	68.7	68.1	67.2	65.8	3.3	6.9	W

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**TABLE VII  
RECOMMENDED FILL WEIGHTS FOR DICED STYLE (OUNCES)**

Container designation (metal, unless otherwise stated)	$\bar{X}'_{\min}$	$LWL_{\bar{X}}$	$LRL_{\bar{X}}$	LWL	LRL	$\bar{R}'$	$R_{\max}$	Sampling allowanc e code
5z .....	3.3	3.1	2.9	2.8	2.5	0.60	1.2	D
5z .....	3.6	3.4	3.2	3.1	2.8	0.60	1.2	D
6z .....	4.2	4.0	3.8	3.7	3.4	0.60	1.2	D
7z .....	4.9	4.7	4.5	4.4	4.1	0.60	1.2	D
8Z glass .....	6.0	5.8	5.6	5.5	5.2	0.60	1.2	D
8Z tall .....	6.0	5.8	5.6	5.5	5.2	0.60	1.2	D
No. 300 .....	10.4	10.0	9.8	9.6	9.2	0.90	2.0	G
No. 303 glass .....	11.4	11.0	10.8	10.5	10.0	1.1	2.2	H
No. 303 .....	11.5	11.1	10.9	10.6	10.1	1.1	2.2	H
No. 2 .....	14.0	13.5	13.3	13.0	12.5	1.2	2.5	I
No. 2½ glass .....	20.1	19.6	19.3	19.0	18.4	1.3	2.7	J
No. 2½ .....	20.3	19.8	19.5	19.2	18.6	1.3	2.7	J
No. 10 .....	74.5	73.4	72.9	72.1	70.9	2.8	5.9	U

**§52.1618    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 and odor.

**(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:

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Factors:	Points
Color .....	20
Uniformity of size and symmetry .....	20
Absence of defects .....	30
Character .....	<u>30</u>
Total score .....	100

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

## §52.1619 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, **18 to 20 points** means **18, 19, or 20 points**).

## §52.1620 Color.

- (a) **General.** The factor of color refers to the color typical of the variety and its uniformity in each unit and among the units. The factor of color for canned pears that are spiced is not based on any detailed requirements and is not scored but the color shall be normal for peeled spiced canned pears; the other three factors (uniformity of size and symmetry, absence of defects, and character as applicable), are scored and the total is multiplied by 100 and divided by 80, dropping any fractions to determine the total score.
- (b) **"A" Classification.** Halves, quarters, slices, diced, or whole styles of canned pears that possess a good color may be given a score of 18 to 20 points. **Good color** means that:
- (1) The units of pears individually and collectively possess a characteristic, practically uniform color that is a typical light yellow-white or light greenish-white or light beige-white color for properly prepared and properly processed canned pears;
  - (2) Any skin pigment on the units may affect no more than slightly the overall color of the units or the product;

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- (3) There is otherwise not more than a slight variation from a typical translucent color for properly prepared and properly processed canned pears; and
  - (4) In halves, quarters, slices, or whole styles not more than 10 percent, by count, of the units may possess **reasonably good color**, provided none of such units are **dead white** (or **chalky**) in appearance; or
  - (5) One unit of halves, quarters, slices, or whole in a container is permitted to have **reasonably good color** if such unit exceeds the allowance of 10 percent, by count: **Provided**, that in all containers comprising the sample such **reasonably good color** units do not exceed an average of 10 percent of the total number of units.
- (c) **"B" Classification.** Halves, quarters, slices, diced, or whole styles of canned pears that possess a reasonably good color and pieces or irregular pieces style of canned pears that possess at least a reasonably good color may be given a score of 16 or 17 points. Pieces or irregular pieces and shapes of canned pears 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 partial limiting rule). **Reasonably good color** means that:
- (1) The units of pears individually and collectively possess a reasonably characteristic and reasonably uniform typical color of properly prepared and properly processed canned pears;
  - (2) Any skin pigment on the units may materially affect the overall color of the units or product;
  - (3) Such characteristic color may show a very slight tint of pink or may be light tan (or beige) color, or may show a lack of uniformity or may vary in translucency; and
  - (4) In halves, quarters, slices, whole, or pieces or irregular pieces styles not more than 10 percent, by count, of the units may possess **fairly good color** including units that may be **dead white** (or **chalky**) in appearance; or
  - (5) One unit of halves, quarters, slices, whole, or pieces or irregular pieces in a container is permitted to have **fairly good color** including a unit that may be **dead white** (or **chalky**) in appearance, if such unit exceeds the allowance of 10 percent, by count: **Provided**, that in all containers comprising the sample such **fairly good color** units do not exceed an average of 10 percent of the total number of units.

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- (d) **"C" Classification.** Halves, quarters, slices, diced, whole, or pieces or irregular pieces styles of canned pears that possess a fairly good color may be given a score of 14 or 15 points. Canned pears that fall into this classification shall not be graded above U.S. Grade C, regardless of the total score for the product (this is a limiting rule). **Fairly good color** means that the units of pears individually and collectively may vary noticeably from a uniform, characteristic color; may be **dead white (or chalky)** in appearance; may have a slight pink or brown cast, but not a definitely pink or brown color; and are not off-color for any reason.
- (e) **"SStd" Classification.** Canned pears that fail to meet the requirements of paragraph (d) 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).

## §52.1621 **Uniformity of size and symmetry.**

- (a) **General.** The factor of uniformity of size and symmetry for pieces or irregular pieces of canned pears is not based on any detailed requirements and is not scored; the other three factors (color, absence of defects, and character as applicable) are scored and the total is multiplied by 100 and divided by 80, dropping any fractions to determine the total score.
- (b) **"A" Classification.** Halves, quarters, slices, diced or whole canned pears that are practically uniform in size and symmetry may be given a score of 18 to 20 points. **Practically uniform in size and symmetry** has the following meanings (and as summarized in Table VIII of this subpart), with respect to the following styles of canned pears:
  - (1) **Halves; quarters; whole.** The units are reasonably symmetrical and the weight of the largest full-size unit does not exceed the weight of the smallest full-size unit by more than 50 percent; the weight of each half is not less than three-fifths ounce; and the weight of each quarter is not less than three-tenths ounce.
  - (2) **Slices.** Not more than 10 percent, by count, of the units vary noticeably from the uniform shape of slices.
  - (3) **Diced.** The units are fairly symmetrical and not more than 10 percent, by weight, of the units may be of such size as to pass through 5/16-inch square openings.

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- (c) **"B" Classification.** Halves, quarters, slices, diced, or whole canned pears that are reasonably uniform in size and symmetry may be given a score of 16 or 17 points. **Reasonably uniform in size and symmetry** has the following meanings (and as summarized in Table VIII of this subpart), with respect to the following styles of canned pears:
- (1) **Halves; quarters; whole.** The units may vary in symmetry and the weight of the largest full-size unit does not exceed the weight of the smallest full-size unit by more than 75 percent; the weight of each half is not less than three-fifths ounce; and the weight of each quarter is not less than three-tenths ounce.
  - (2) **Slices.** Not more than 15 percent, by count, of the units may vary noticeably from the uniform shape of slices.
  - (3) **Diced.** The units may vary in symmetry and not more than 15 percent, by weight, of the units may be of such size as to pass through 5/16-inch square openings.
- (d) **"C" Classification.** Halves, quarters, slices, diced, or whole canned pears that are fairly uniform in size and symmetry may be given a score of 14 or 15 points. **Fairly uniform in size and symmetry** has the following meanings (and as summarized in Table VIII of this subpart) with respect to the following styles of canned pears:
- (1) **Halves; quarters; whole.** The units may vary in symmetry and the weight of the largest full-size unit may be not more than twice the weight of the smallest full-size unit; the weight of each half is not less than three-fifths ounce; and the weight of each quarter is not less than three-tenths ounce.
  - (2) **Slices.** Any amount of the units may vary noticeably from the uniform shape of slices.
  - (3) **Diced.** The units may vary in symmetry and not more than 20 percent, by weight, of the units may be of such size as to pass through 5/16-inch square openings.
- (e) **"SStd" Classification.** Canned pears of the applicable styles which fail to meet paragraph (d) of this section may be given a score of 0 to 13 points and shall not be graded above the following stated grade, regardless of the total score for the product (this is a limiting rule):

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- (1) **Halves, quarters, or whole canned pears** in which the weight of the largest full-size unit is more than twice the weight of the smallest full-size unit shall not be graded above Substandard, and are also **Below Standard in Quality - Mixed Sizes**.
- (2) **Halves** of canned pears in which the weight of any half is less than three-fifths ounce shall not be graded above Substandard and are also **Below Standard in Quality - Small Halves**.
- (3) **Quarters** of canned pears in which the weight of any quarter is less than three-tenths ounce shall not be graded above Substandard and are also **Below Standard in Quality - Small Quarters**.
- (4) **Slices and diced** canned pears shall not be graded above Substandard.

**TABLE VIII  
UNIFORMITY OF SIZE AND SYMMETRY REQUIREMENTS FOR CANNED PEARS**

Styles and criteria	"A" Classification	"B" Classification	"C" Classification
Halves; Quarters; Whole			
Symmetry of units	Reasonably symmetrical	May vary	May vary
Weight Variation (smallest vs. largest unit)	50 percent maximum	75 percent maximum	100 percent maximum
Weight of individual unit Halves Quarters	3/5 oz. minimum 3/10 oz. minimum	3/5 oz. minimum 3/10 oz. minimum	3/5 oz. minimum 3/10 oz. minimum
Slices			
Variation from uniform shape	10 percent, by count, may vary noticeably	15 percent, by count, may vary noticeably	Any amount may vary noticeably
Diced			
Variation in symmetry	Fairly symmetrical	May vary	May vary
Size that pass through 5/16 in. square openings.	10 percent, by weight, maximum	15 percent, by weight, maximum	20 percent, by weight, maximum

# DRAFT

## §52.1622 **Absence of defects.**

- (a) **General.** The factor of absence of defects refers to the degree of freedom from harmless extraneous vegetable material; from peel; from external stems; from interior stems, seeds, core material or portions thereof; from blemished units; from improperly, insufficiently, or unevenly trimmed units for the applicable style; and from any other defects or defective units which detract from the appearance or edibility of the product.
- (b) **Definitions of defects and defective units.**
  - (1) **Interior stem** means an interior stem or portion of an interior stem of any length that is definitely fibrous, tough, or woody which affects the edibility of the unit.
  - (2) **Loose seed** means any pear seed, or the equivalent in pieces of one seed, not included in core material.
  - (3) A unit of **core material** means portions of a seed cell cavity or of a loose core, with or without seeds, aggregating approximately one-half of a pear core. Core material in whole-peeled uncored style is not considered a defect.
  - (4) **Minor blemishes** on a unit include:
    - (i) Light brown areas, aggregating the area of a circle one-fourth inch or less in diameter, which significantly affect the appearance of the unit;
    - (ii) Definitely corky or hard spots (corns) on outer surfaces, aggregating the area of a circle one-half inch in diameter or less, which are not accompanied by material discoloration;
    - (iii) Any similar surface defect that no more than materially affects the appearance of the unit.
  - (5) **Blemishes** on a unit include:
    - (i) Scab, hail injury, discoloration (abnormal), or other abnormality, aggregating the area of a circle more than one-fourth inch in diameter;

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- (ii) Dark brown areas, aggregating the area of a circle one-fourth inch or less in diameter, which materially affect the appearance of the unit;
  - (iii) Definitely corky or hard spots (corns) on outer surfaces, aggregating the area of a circle more than one-half inch in diameter, which are not accompanied by material discoloration; and
  - (iv) Any dark brown, black, or other very dark spots, regardless of the area, which materially affect the appearance or edibility of the unit.
- (6) **Moderately trimmed** in the style of halves means that the unit:
- (i) Is noticeably trimmed but retains the resemblance of a normal shape for the unit; and/or
  - (ii) Has gouges or similar cuts, indentations, or knife marks on the backs, edges, or surfaces that no more than materially affect the appearance of the unit; and/or
  - (iii) Shows marks of double stemming; and/or
  - (iv) Possesses moderate trimming on the face; and/or
  - (v) Is deeply or nonsymmetrically cored and stemmed.
- (7) **Moderately trimmed** in the style of quarters, or whole means that the unit:
- (i) Is noticeably trimmed but retains the resemblance of a normal shape for the unit; and/or
  - (ii) Has gouges or similar cuts, indentations, or knife marks on the edges or surfaces that no more than materially affect the appearance of the unit.
- (8) **Seriously trimmed** in the style of halves means that the unit:
- (i) Is more than moderately trimmed; and/or
  - (ii) Is so trimmed (including gouges on the backs, edges, or surfaces) that the appearance is seriously affected but the unit retains a reasonably normal shape; and/or

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- (iii) Is so trimmed that parts of the calyx have not been removed so that the appearance is seriously affected.
- (9) **Seriously trimmed** in the style of quarters or whole means that the unit:
  - (i) Is more than moderately trimmed; and/or
  - (ii) Is so trimmed (including gouges on the edges or surfaces) that the appearance is seriously affected but the unit retains a reasonably normal shape.
- (10) **Crushed** means that the unit in the styles of halves, quarters, slices, or whole:
  - (i) Has lost its normal shape; and/or
  - (ii) Bears marks of crushing; and/or
  - (iii) Is crushed otherwise but not due to ripeness.
- (11) **Broken** means that the unit in the styles of halves, quarters, slices, or whole:
  - (i) Is severed into definite parts; but halves which are slightly split from the edge to the core cavity or at the stem end are not **broken**;
  - (ii) Portions equivalent to a full-size unit are considered as **one unit** in determining the percentage by count.
- (12) **Other defects or other defective units** include:
  - (i) Any not specifically defined or mentioned (such as, but not limited to, a unit in halves style which is only partially cored) which materially affect the appearance or edibility of the unit;
  - (ii) Any not specifically defined or mentioned (such as, but not limited to, a unit in halves style which is not completely cored) which seriously affect the appearance or edibility of the unit.

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- (c) **Explanation of terms.** For the purposes of Table IX of this subpart:
- (1) **1 unit** without further qualification means that an alternative allowance of one unit affected as described is permitted in a container when the percentage allowance by count would be exceeded by the one unit.
  - (2) **One unit (avg)** means that an allowance of one unit affected as described is permitted in a container when the percentage allowance by count would be exceeded by the one unit: **Provided**, that in all containers comprising the sample such units affected as described do not exceed the allowance on an average based on the total number of units in the sample.
  - (3) **Ounces** means avoirdupois weight based on total contents.
  - (4) **Average** (or the abbreviation **Avg**) with respect to the requirements of this section means the average as ascertained from all sample units.
- (d) **"A" Classification.** Halves, quarters, slices, diced, whole styles of canned pears that are practically free from defects may be given a score of 27 to 30 points. **Practically free from defects** means that the canned pears are practically free from any defects whether or not specifically mentioned that may affect the appearance or edibility of the product no more than slightly; and, in addition, the canned pears meet the requirements of Table IX for the applicable style.
- (e) **"B" Classification.** Halves, quarters, slices, diced, or whole styles or canned pears that are reasonably free from defects and pieces or irregular pieces style of canned pears that are at least reasonably free from defects may be given a score of 24 to 26 points. Canned pears 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 the canned pears are reasonably free from any defects whether or not specifically mentioned that materially affect the appearance or edibility of the product; and, in addition, the canned pears meet the requirements of Table IX for the applicable style.
- (f) **"C" Classification.** Halves, quarters, slices, diced, whole, or pieces or irregular pieces styles of canned pears that are fairly free from defects may be given a score of 21 to 23 points. Canned pears that fall into this classification shall not be graded above U.S. Grade C, regardless of the total score for the product (this is a limiting rule). **Fairly free from defects** means that the canned pears are fairly free from any defects whether or not specifically mentioned that seriously affect the appearance or edibility of the product; and, in addition, the canned pears meet the requirements of Table IX for the applicable style.

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- (g) **"SStd" Classification.** Canned pears which fail to meet the requirements of paragraph (f) of this section may be given a score of 0 to 20 points and shall not be graded above the following stated grades, as applicable, regardless of the total score for the product (this is a limiting rule):
- (1) Halves, quarters, whole canned pears shall not be graded above Substandard and may also be **Below Standard in Quality** for the applicable reasons:
    - (i) Not well peeled.
    - (ii) Partly crushed or broken.
    - (iii) Unevenly trimmed.
    - (iv) Blemished.
  - (2) Sliced, diced, pieces or irregular pieces canned pears shall not be graded above Substandard and may also be **Below Standard in Quality** for the applicable reasons:
    - (i) Not well peeled.
    - (ii) Blemished.

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**TABLE IX  
MAXIMUM ALLOWANCES FOR DEFECTIVE UNITS IN CANNED PEARS**

All styles except as otherwise stated	Grade A	Grade B	Grade C
Peel	1/4 sq. in. per 16 oz. (average)	1/2 sq. in. per 16 oz. (average)	1 sq. in. per 16 oz. (average)
External stems <u>1/</u>	1 per 100 oz.	1 per 100 oz.	1 per 100 oz.
Internal stems	1 per 60 oz.	1 per 30 oz.	1 per 15 oz.
Units of core material <u>2/</u>	1 per 60 oz.	1 per 30 oz.	1 per 15 oz.
Loose seeds	1 per 30 oz. (average)	1 per 15 oz. (average)	1 per 10 oz. (average)
Broken or crushed <u>3/</u>	5 percent, by count, or 1 unit	10 percent, by count, or 1 unit	10 percent, by count, or 1 unit
Seriously trimmed <u>4/</u>	None	None	10 percent, by count, or 1 unit
Moderately trimmed <u>4/</u>	Total: 10 percent by count	Total: 20 percent by count	No limit for moderately trimmed
Minor blemishes; and blemished (combined).	" "	" "	" "
With further limitations of --			
Minor blemishes; and blemished	10 percent, by count, but no more than 5 percent, by count, blemished or 1 unit (average)	20 percent, by count, but no more than 10 percent, by count, blemished or 1 unit (average)	Total: 30 percent, by count, but no more than 20 percent, by count, blemished or 1 unit (average)

1/ Does not apply to style of: Whole uncored with stems.

2/ Does not apply to style of: Whole uncored.

3/ Does not apply to style of: Diced or mixed pieces.

4/ Does not apply to style of: Sliced, diced, pieces or irregular pieces.

## §52.1623 Character.

- (a) **General.** The factor of character refers to the degree of ripeness, the texture, and tenderness of the product.
- (b) **"A" Classification.** Halves, quarters, slices, diced, or whole canned pears that possess a good character may be given a score of 27 to 30 points. **Good character** has the following meanings with respect to the various styles of canned pears:

# DRAFT

- (1) **Halves; quarters.** The units possess a texture typical of properly and uniformly ripened pears that are properly processed; the texture is fleshy and free from noticeable graininess or toughness; the units are tender; the units are uniformly intact and pliable but firm enough to possess well-defined edges with no visible breaking down of the flesh; and not more than 10 percent, by count, of the units may possess a reasonably good character. One unit in a container is permitted to have a reasonably good character if one unit exceeds the allowance of 10 percent, by count: **Provided**, that in all containers comprising the sample, the units with reasonably good character do not exceed an average of 10 percent, by count, of the total number of units.
  - (2) **Whole.** The units possess a texture typical of properly and uniformly ripened pears that are properly processed; the texture is fleshy and free from noticeable graininess or toughness; the units are uniformly intact and firm with no visible breaking down of the flesh; and not more than 10 percent, by count, of the units may possess a reasonably good character. One unit in a container is permitted to have a reasonably good character if one unit exceeds the allowance of 10 percent, by count: **Provided**, that in all containers comprising the sample the units with reasonably good character do not exceed an average of 10 percent, by count, of the total number of units.
  - (3) **Slices; diced.** The product generally possess a texture typical of properly and uniformly ripened pears that are properly prepared and processed and not more than 10 percent, by weight, of the drained pears may be disintegrated or mushy.
- (c) **"B" Classification.** Halves, quarters, slices, diced, or whole canned pears that possess a reasonably good character and pieces or irregular pieces of canned pears that possess at least a reasonably good character may be given a score of 24 to 26 points. Canned pears 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** has the following meanings with respect to the following styles of canned pears:

# DRAFT

- (1) **Halves; quarters; pieces or irregular pieces.** The units possess a texture typical of properly ripened pears that are properly processed; the units may possess a texture of moderate graininess; the units are reasonably tender or the tenderness may be variable within the unit; the units may be slightly firm or slightly ragged with slightly frayed edges or slightly soft but are not mushy; and not more than 10 percent, by count, of the units may possess a fairly good character. One unit in a container is permitted to have a fairly good character if one unit exceeds the allowance of 10 percent, by count: **Provided**, that in all containers comprising the sample the units with fairly good character do not exceed an average of 10 percent, by count, of the total number of units.
- (2) **Whole.** The units possess a texture typical of properly ripened pears that are properly processed; the units may possess a texture of moderate graininess; the units are reasonably tender or the tenderness may be variable within the unit; the units may be slightly firm or slightly ragged or slightly soft but are not mushy; and not more than 10 percent, by count, of the units may possess a fairly good character. One unit in a container is permitted to have a fairly good character if one unit exceeds the allowance of 10 percent, by count: **Provided**, that in all containers comprising the sample the units with fairly good character do not exceed an average of 10 percent, by count, of the total number of units.
- (3) **Slices, diced.** The units are reasonably tender or tenderness may be variable within the unit. The product generally possesses a texture typical of properly ripened pears that are properly prepared and processed and not more than 15 percent, by weight, of the drained pears may be disintegrated or mushy.
- (d) **"C" Classification.** Halves, quarters, slices, diced, whole, or pieces or irregular pieces of canned pears that possess a fairly good character may be given a score of 21 to 23 points. Canned pears that fall into this classification shall not be graded above U.S. Grade C, regardless of the total score for the product (this is a limiting rule). **Fairly good character** has the following meanings with respect to the following styles of canned pears:
  - (1) **Halves; quarters; pieces or irregular pieces.** The units possess a texture of properly processed pears which may be variable; the units may possess a texture of marked graininess; the units may be lacking uniformity of tenderness; the units may be markedly firm or markedly ragged with frayed edges or may be soft; and not more than 10 percent, by weight, of the drained pears may be mushy or consist of units with hard-calyx ends or units that are not tender.

# DRAFT

- (2) **Whole.** The units possess a texture of properly processed pears which may be variable; the units may possess a texture of marked graininess; the units may be lacking uniformity of tenderness; the units may be markedly firm or markedly ragged or soft; and not more than 10 percent, by count, by the units may be mushy or consist of units with hard-calyx ends or units that are not tender. One unit in a container is permitted to be mushy or possess hard-calyx ends or not tender: **Provided**, that in all containers comprising the sample, all of such units do not exceed an average of 10 percent, by count, of the total number of units.
- (3) **Slices, diced.** The product generally possesses a texture typical of properly prepared and processed pears and not more than 20 percent, by weight of the drained pears may be disintegrated or mushy.
- (e) **"SStd" Classification.** Halves, quarters, slices, diced, whole, and pieces or irregular pieces of canned pears that fail to meet the requirements of paragraph (d) of this section or that are **not tender** 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). Halves, quarters, slices, diced, whole, or mixed pieces of irregular sizes and shapes of canned pears that are **not tender** are also **Below Standard in Quality - Not Tender**.

## §52.1624 **Ascertaining the grade of a lot.**

The grade of a lot of canned pears 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).

# DRAFT

## §52.1625 Score sheet.

Size and kind of container .....			
Container mark or identification .....			
Label .....			
Net weight (ounces) .....			
Vacuum (inches) .....			
Drained weight (ounces) .....			
Styles .....			
( ) Halves		( ) Quarters	
( ) Sliced		( ) Diced	
		( ) Whole	
Pieces or Irregular Pieces <u>1/</u>			
Count .....			
Brix measurement .....			
Sirup designation (extra heavy, heavy, etc.) .....			
Factors		Score points	
Color .....	20	(A)	18 - 20
		(B)	16 - 17 <u>2/</u>
		(C)	14 - 15 <u>3/</u>
		(SStd)	0 - 13 <u>3/</u>
Uniformity of size and symmetry	20	(A)	18 - 20
		(B)	16 - 17
		(C)	14 - 15
		(SStd)	0 - 13 <u>3/</u>
Absence of defects .....	30	(A)	27 - 30
		(B)	24 - 26 <u>2/</u> <u>3/</u>
		(C)	21 - 23 <u>3/</u>
		(SStd)	0 - 20 <u>3/</u>
Character .....	<u>30</u>	(A)	27 - 30
		(B)	24 - 26 <u>2/</u> <u>3/</u>
		(C)	21 - 23 <u>3/</u>
		(SStd)	0 - 20 <u>3/</u>
Total score .....		100	
Flavor and odor ( ) normal ( ) off .....			
Grade .....			

- 1/ Limited to grade B, or lower.  
 2/ Partial limiting rule (pieces or irregular pieces).  
 3/ Limiting rule.

These U.S. Standards for Grades of Canned Pears, as herein amended, shall become effective May 12, 1976, and thereupon will supersede the U.S. Standards for Grades of Canned Pears which have been in effect since June 20, 1973.

# DRAFT

Dated: Xxxx xx, 2004, 1976

/s/  
A. J. Yates  
Administrator  
Agricultural Marketing Service