



**United States
Department of
Agriculture**

**Agricultural
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Service**

**Fruit and
Vegetable
Division**

**Processed
Products
Branch**

United States Standards for Grades of Peeled Potatoes

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This is the second issue of the United States Standards for Grades of Peeled Potatoes published in the **FEDERAL REGISTER** of June 11, 1986, (51 FR 21133) to become effective August 11, 1986. This issue supersedes the first issue, which has been in effect since June 8, 1954.

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. 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.

§52.2421 Product description.

Peeled potatoes are clean, sound, fresh tubers of the potato plant prepared by washing, peeling, trimming, sorting, and by proper treatment, to prevent discoloration, by any means permissible under the provisions of the Federal Food, Drug, and Cosmetic Act. The product is properly packed in suitable containers and securely closed to maintain the product in a sanitary condition.

§52.2422 Styles of peeled potatoes.

- (a) **Whole** means peeled potatoes consisting of whole potatoes that retain the approximate original conformation of the whole potato.
- (b) **Whole and cut** means peeled potatoes consisting of less than 50 percent, by weight, of whole potatoes, and the remainder cut into pieces.
- (c) **Cut and whole** means peeled potatoes consisting of less than 50 percent, by weight, of whole potatoes, and the remainder cut into pieces.
- (d) **Sliced** means peeled potatoes consisting of potato slices of practically uniform thickness with parallel surfaces.
- (e) **Diced** means peeled potatoes consisting of cubed potatoes.
- (f) **French style or shoestring** means peeled potatoes consisting of strips of potatoes.
- (g) **Cut** means peeled potatoes cut into pieces which do not conform to any of the foregoing styles.

§52.2423 Grades of peeled potatoes.

- (a) **U.S. Grade A** is the quality of peeled potatoes that possess similar varietal characteristics; that possess a normal flavor and odor; that possess a good color; that are practically free from defects; that possess a good texture; that are practically uniform in size; and that for those factors which are scored in accordance with the scoring system outlined in this subpart the total score is not less than 85 points: **Provided**, that the peeled potatoes may be reasonably uniform in size, if the total score is not less than 85 points.

- (b) **U.S. Grade B** is the quality of peeled potatoes that may or may not possess similar varietal characteristics; that possess a normal flavor and odor; that possess a reasonably good color; that are reasonably free from defects; that possess a reasonably good texture; that are reasonably uniform in size; 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 peeled potatoes that fail to meet the requirements of U.S. Grade B.

§52.2424 Size of peeled whole and peeled whole and cut potatoes.

- (a) The size of a round or intermediate shaped whole potato is determine by measuring the largest diameter at right angles to its longitudinal axis.
- (b) The size of long varieties and whole and cut potatoes is determined by weighing.

§52.2425 Size of potato slices in sliced potatoes.

The size of any slice in sliced potatoes is determined by measuring the smallest diameter of the largest surface of the slice.

§52.2426 Ascertaining the grade.

- (a) The grade of peeled potatoes may be ascertained by considering the requirements with respect to varietal characteristics, flavor, and odor which are not scored; and the factors of color, uniformity of size, defects, an texture which are scored.
- (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 factor is:

Factors	Points
Color	20
Uniformity of size	20
Defects	40
Texture	<u>20</u>
Total Score	100

- (c) The factors of flavor and odor, color, and texture are ascertained both before and after the product is cooked.
- (d) **Normal flavor and odor** means that the product is free from objectionable flavors and objectionable odors of any kind.

§52.2427 Ascertaining the rating of 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 is inclusive (for example, **17 to 20 points** means 17, 18, 19, or 20 points).

§52.2428 Color.

- (a) **"A" classification.** Peeled potatoes that possess a good color may be given a score of 17 to 20 points. **Good color** means that the peeled potatoes are free from oxidation and possess a practically uniform, typical color of peeled potatoes of similar varietal characteristics, and when cooked until tender the potatoes show no appreciable discoloration as a result of cooking.
- (b) **"B" classification.** If the peeled potatoes possess a reasonably good color, a score of 14 to 16 points may be given. Peeled potatoes 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 peeled potatoes possess a reasonably uniform color; the color of the units, individually or collectively, may be variable, dull, slightly oxidized, or otherwise discolored but not to the extent that the appearance is materially affected. When cooked until tender, the potatoes show no material discoloration as a result of cooking.
- (c) **"SStd" classification.** Peeled potatoes that fail to meet the requirements of paragraph (b) of this section may be given a score of 0 to 13 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

§52.2429 Uniformity of size.

- (a) **"A" classification.** Peeled potatoes that are practically uniform in size may be given a score of 17 to 20 points. **Practically uniform in size** has the following meanings with respect to the various styles of peeled potatoes:

- (1) **Whole.** The potatoes are not less than 1-1/2 inches in diameter and at least 40 percent of long varieties are 4-3/4 ounces in weight or larger and 60 percent of round or intermediate varieties are 2-1/8 inches or more in diameter.
 - (2) **Whole and cut potatoes.** The whole potatoes are not less than 1-1/2 inches in diameter, and the largest unit is not more than five times the weight of the smallest unit.
 - (3) **Cut and whole potatoes.** The whole potatoes are not less than 1-1/2 inches in diameter and the largest unit is not more than five times the weight of the smallest unit.
 - (4) **Sliced potatoes.** In 90 percent of the slices of the most uniform diameter, the diameter of the largest slice is not more than twice the diameter of the smallest slice and the smallest slice is not less than 1-1/2 inches in diameter.
 - (5) **Diced potatoes.** The units are practically uniform in size, and the aggregate weight of the units which are smaller than one-half of the predominant size of the cubes and of all large and irregular units does not exceed 20 percent of the weight of all the units.
 - (6) **French style or shoestring.** The strips of potatoes are practically uniform in size, and the aggregate weight of all the strips less than 1 inch in length and strips of substantially smaller cross section than the predominant size of strips does not exceed 15 percent of the weight of all the strips.
 - (7) **Cut.** The largest unit is not more than five times the weight of the smallest unit and not more than 25 percent, by weight, of individual units weigh less than 1/2 ounce each.
- (b) **"B" classification.** If the peeled potatoes are reasonably uniform in size, a score of 14 to 16 points may be given. **Reasonably uniform in size** has the following meanings with respect to the various styles of peeled potatoes:
- (1) **Whole.** The potatoes may vary considerable in size and are not less than 1-1/2 inches in diameter.
 - (2) **Whole and cut potatoes.** The units may vary considerable in size and the largest unit is not more than six times the weight of the smallest unit.

- (3) **Cut and whole potatoes.** The units may vary considerably in size and the largest unit is not more than six times the weight of the smallest unit.
 - (4) **Sliced potatoes.** In 90 percent of the slices of the most uniform diameter, the diameter of the largest slice is not more than three times the diameter of the smallest slice and the smallest slice is not less than 1-1/2 inches in diameter.
 - (5) **Diced potatoes.** The units are reasonably uniform in size, and the aggregate weight of the units which are smaller than one-half of the predominant size of the cubes and of all large and irregular units does not exceed 30 percent of the weight of all the units.
 - (6) **French style or shoestring.** The strips of potatoes are reasonably uniform in size, and the aggregate weight of all the strips less than 1 inch in length and strips of substantially smaller cross section than the predominant size of strips does not exceed 25 percent of the weight of all the strips.
 - (7) **Cut.** The units may vary considerably in size and not more than 50 percent, by weight, of the individual units weigh less than 1/2 ounce each.
- (c) **"SStd" classification.** Peeled potatoes that fail to meet the requirements of paragraph (b) of this section may be given a score of 0 to 13 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

§52.2430 Defects.

- (a) **General.** The factor of defects refers to the degree of freedom from peel, blemished units, and mechanical damage.
- (1) **Blemished** means units affected by brown or black internal or external discoloration, discolored or unpeeled eyes, sunburn, or units blemished by other means to such an extent that the appearance or eating quality of the unit is materially affected.
 - (2) **Seriously blemished** means any unit blemished to such an extent that the appearance or eating quality of the unit is seriously affected.

- (3) **Mechanical damage** means crushed units or units affected by frayed surfaces and frayed edges and knife marks or trimming or units mechanically damaged by other means to such an extent that the appearance or eating quality of the unit is seriously affected.
- (b) **"A" classification.** Peeled potatoes that are practically free from defects may be given a score of 34 to 40 points. **Practically free from defects** means that there may be present not more than:
- (1) 10 percent, by weight, of the units affected by mechanical damage;
 - (2) 2 percent, by weight, of blemished units: **Provided**, that not more than 1 percent, by weight, of all the units may consist of seriously blemished units; and that
 - (3) Peel, blemished units, seriously blemished units, and units affected by mechanical damage, individually or collectively, do not materially affect the appearance or eating quality of the product.
- (c) **"B" classification.** If the peeled potatoes are reasonably free from defects, a score of 28 to 33 points may be given. Peeled potatoes 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 there may be present not more than:
- (1) 20 percent, by weight, of the units affected by mechanical damage;
 - (2) 4 percent, by weight, of blemished units: **Provided**, that not more than 2 percent, by weight, of all the units may consist of seriously blemished units; and that
 - (3) Peel, blemished units, seriously blemished units, and units affected by mechanical damage, individually or collectively, do not seriously affect the appearance or eating quality of the product.
- (d) **"SStd" classification.** Peeled potatoes 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 Substandard, regardless of the total score for the product (this is a limiting rule).

§52.2431 Texture.

- (a) **"A" classification.** Peeled potatoes that possess a good texture may be given a score of 17 to 20 points. **Good texture** means that the units are fairly firm and typical of properly prepared fresh potatoes. The peeled potatoes are practically free from tough outer surfaces.
- (b) **"B" classification.** If the peeled potatoes possess a reasonably good texture, a score of 14 to 16 points may be given. Peeled potatoes 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 texture** means that the units may be not more than slightly flabby, and are reasonably free from tough outer surfaces.
- (c) **"SStd" classification.** Peeled potatoes that fail to meet the requirements of paragraph (b) of this section may be given a score of 0 to 13 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

§52.2432 Ascertaining the grade of a lot.

The grade of a lot of peeled potatoes covered by these standards is determined by the procedures set forth in the Regulations Governing Inspection and Certification of Processed Fruits and Vegetables, Processed Products Thereof, and Certain Other Processed Food Products (7 CFR 52.1 to 52.83).

§52.2433 Score sheet for peeled potatoes.

Size and kind of container			
Container marks or identification			
Label			
Net weight			
Style			
Size of whole or whole and cut potatoes (diameter or weight)			
Size of sliced potatoes (diameter)			
Factors		Score Points	
Color	20	"A"	17-20
		"B"	14-16 <u>1/</u>
		"SStd"	0-13 <u>1/</u>
Uniformity of size	20	"A"	17-20
		"B"	14-16
		"SStd"	0-13 <u>1/</u>
Defects	40	"A"	34-40
		"B"	28-33 <u>1/</u>
		"SStd"	0-27 <u>1/</u>
Texture	<u>20</u>	"A"	17-20
		"B"	14-16 <u>1/</u>
		"SStd"	0-13 <u>1/</u>
Total Score	100		
Normal flavor and odor			
U.S. Grade			

1/ Indicates limiting rule.

Done at Washington, DC on: June 5, 1986.

/s/ _____

W.H. Blanchard
Acting Administrator