



**United States
Department of
Agriculture**

**Agricultural
Marketing
Service**

**Fruit and
Vegetable
Division**

**Processed
Products
Branch**

United States Standards for Grades of Frozen Peas and Carrots

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This is the first issue of the United States Standards for Grades of Frozen Peas and Carrots. This issue was published in the **FEDERAL REGISTER** of February 17, 1955 (20 FR 1010) to become effective March 20, 1955.

Voluntary U.S. grade standards are issued under the authority of the Agricultural Marketing Act of 1946, which provides for the development of official U.S. grades to designate different levels of quality. These grade standards are available for use by producers, suppliers, buyers, and consumers. As in the case of other standards for grades of processed fruits and vegetables, these standards are designed to facilitate orderly marketing by providing a convenient basis for buying and selling, for establishing quality control programs, and for determining loan values.

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

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

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

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United States Standards for Grades of Frozen Peas and Carrots

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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.

§52.2501 Product description.

Frozen peas and carrots is the product prepared from the fresh, clean, sound, immature seed of the common garden pea (*Pisum sativum*) and the fresh, clean, sound roots of the carrot plant (*Daucus carota sativa*). The peas are prepared by shelling, washing, sorting, and blanching. The carrots are prepared by washing, sorting, trimming, peeling, cutting into approximate cubes, and blanching. The prepared ingredients are properly drained and mixed; are frozen in accordance with good commercial practice; and are maintained at temperatures necessary for the preservation of the product.

§52.2502 Kinds, types, styles, and proportions of vegetables.

- (a) The kinds, types, styles, and proportions of the vegetables are as follows:
 - (1) **Peas.** Not less than 50 percent, by weight, of Early type or Sweet type peas.
 - (2) **Carrots.** Not less than 25 percent, by weight, of dices style carrots, predominantly 1/4 inch to 3/8 inch cubes.
- (b) Compliance with the requirement for proportions of ingredients will be determined by averaging the total weight of each ingredient in all containers in the sample: **Provided**, That any deviation from the requirement for proportions of ingredients in any one sample does not exceed that expected under good commercial practice.
- (c) The percentage, by weight, of the carrot ingredient consisting of units markedly smaller than one-half the volume of, or markedly larger than, the predominating size of the dice is determined by separating all such units from the carrot ingredient composited from all of the containers in the sample, weighing the units, and dividing the aggregate weight of all such units by the aggregate weight of the carrot ingredient as determined in paragraph (b) of this section.

§52.2503 Grades of frozen peas and carrots.

- (a) **U.S. Grade A or U.S. Fancy** is the quality of frozen peas and carrots in which each vegetable possesses similar varietal characteristics; in which the vegetables possess a good color, are practically free from defects, possess a good character, possess a good flavor, and score not less than 90 points when scored in accordance with the scoring system outlined in this subpart.

- (b) **U.S. Grade B or U.S. Extra Standard** is the quality of frozen peas and carrots in which each vegetable possesses similar varietal characteristics; in which the vegetables possess a reasonably good color, are reasonably free from defects, possess a good flavor, and score not less than 80 points when scored in accordance with the scoring system outlined in this subpart.
- (c) **U.S. Grade C or U.S. Standard** is the quality of frozen peas and carrots in which each vegetable possesses similar varietal characteristics; in which the vegetables possess a fairly good color, are fairly free from defects, possess a fairly good character, possess a fairly good flavor, and score not less than 70 points when scored in accordance with the scoring system outlined in this subpart.
- (d) **Substandard** is the quality of frozen peas and carrots that fail to meet the requirements of U.S. Grade C or U.S. Standard.

§52.2504 Ascertaining the grade.

- (a) The grade of frozen peas and carrots is ascertained by considering the factors of quality which are not scored and those which are scored, as follows:
 - (1) **Factors which are not scored.**
 - (i) **Varietal characteristics.**
 - (ii) **Flavor.**
 - (2) **Factors which are scored.** 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
Color	40
Defects	20
Character	<u>40</u>
Total Score	100

- (b) The scores for the factors of color and defects are determined immediately after thawing so that the product may be handled as individual units. The evaluation of the factors of flavor and character is made immediately after thawing and after cooking the product.

- (c) **Good flavor** means that the product and each of the vegetables has a good, characteristic, normal flavor and odor, free from objectionable flavors and objectionable odors of any kind.
- (d) **Fairly good flavor** means that the product after cooking may be lacking in good flavor and odor but is free from objectionable flavors and objectionable odors of any kind.

§52.2505 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).

§52.2506 Color.

- (a) **General.** The factor of color refers to the overall appearance of the product and to the color and brightness of the vegetables individually.
- (b) **"A" classification.** Frozen peas and carrots which possess a good color may be given a score of 36 to 40 points. **Good color** means that the product possesses a color that is bright and typical of young and tender peas and tender diced carrots and that the appearance of the product is not more than slightly affected by variations in the color of the carrots and of the peas.
- (c) **"B" classification.** If the frozen peas and carrots possess a reasonably good color, a score of 32 to 35 points may be given. Frozen peas and carrots that fall into this classification shall not be graded above U.S. Grade B or U.S. Extra Standard regardless of the total score for the product (this is a limiting rule). **Reasonably good color** means that the product possesses a color that is reasonably bright and typical of reasonably young and reasonably tender peas and tender diced carrots, and that the appearance of the product is not materially affected by variations in the color of the carrots and of the peas.
- (d) **"C" classification.** If the frozen peas and carrots possess a fairly good color, a score of 28 to 31 points may be given. Frozen peas and carrots that fall into this classification shall not be graded above U.S. Grade C or U.S. Standard regardless of the total score for the product (this is a limiting rule). **Fairly good color** means that the product possesses a color that is typical of fairly young and fairly tender peas and reasonably tender dived carrots, may be dull but not off color, and the color of each ingredient may be variable but not to the extent that the appearance of the product is seriously affected.

- (e) **"SStd" classification.** If the frozen peas and carrots fail to meet the requirements of paragraph (d) of this section, a score of 0 to 27 points may be given and the product shall not be graded above Substandard regardless of the total score for the product (this is a limiting rule).

§52.2507 Defects.

- (a) **General.** The factor of defects refers to the degree of freedom from harmless extraneous material, damaged units, seriously damaged units, and any other defects which detract from the appearance or edibility of the product.

(1) **Harmless extraneous material** means vegetable material common to the pea or carrot plant, such as leaves, stems or pods, and predominantly spherical or cylindrical harmless material from other plants, such as thistly buds, nightshade berries, or seeds, which are succulent and similar in color to frozen peas.

(2) **Damaged unit** means any pea or carrot dice that is affected by discoloration or other blemish to the extent that the appearance or edibility of the unit is materially affected and has the following specific meanings with respect to each vegetable:

(i) **Peas.** Any spotted or off-colored pea (such as brown, gray, cream, or yellow-white).

(ii) **Carrots.** Any unit possessing an unpeeled area greater than the area of a circle 1/8 inch in diameter; and any unit blemished by internal or external discoloration, by sunburn or green color, or by other means.

(3) **Seriously damaged unit** means a pea or carrot dice that is damaged to the extent that the appearance and edibility of the unit is seriously affected and includes units with very dark spots or discolored units and other similar injury regardless of the area affected.

(4) **Other defects** means any defects not specially mentioned that affect the appearance or edibility of the product and include but are not limited to the following:

(i) **Peas.** Mashed peas, broken peas, loose cotyledons, loose skins, and any portions thereof.

- (ii) **Carrots.** Crushed, broken, cracked or irregularly shaped units; units with excessively frayed edges and surfaces; and units markedly smaller than one-half the volume of, or markedly larger than, the predominating size of the dice.
- (b) **"A" classification.** Frozen peas and carrots that are practically free from defects may be given a score of 18 to 20 points. **Practically free from defects** means compliance with the following requirements:
 - (1) Not more than one piece or pieces of extraneous pea or carrot material having an aggregate area of 3/16 square inch, or one spherical or cylindrical piece of other harmless extraneous vegetable material, for each 40 ounces of the product.
 - (2) Not more than 10 damaged and seriously damaged units for each 10 ounces of the product of which not more than 2 units are seriously damaged: **Provided**, That damaged and seriously damaged units, either singly or in combination, no more than slightly affect the appearance or eating quality of the product.
 - (3) Not more than 12 percent, by weight, of the carrot ingredient consists of units markedly smaller than one-half the volume of, or markedly larger than, the predominating size of the dice: **Provided**, That not more than twice this allowance of 24 percent, by weight, of such units may be present in any single sample.
 - (4) Other defects, individually or collectively, do not more than slightly affect the appearance of the product.
- (c) **"B" classification.** If the frozen peas and carrots are reasonably free from defects a score of 16 or 17 points may be given. Frozen peas and carrots that fall into this classification shall not be graded above U.S. Grade B or U.S. Extra Standard regardless of the total score for the product (this is a limiting rule). **Reasonably free from defects** means compliance with the following requirements:
 - (1) Not more than one piece or pieces of extraneous pea or carrot material having an aggregate area of 3/8 square inch, or two spherical or cylindrical pieces of other harmless vegetable material for each 40 ounces of the product.
 - (2) Not more than 14 damaged and seriously damaged units for each 10 ounces of the product of which not more than 3 units are seriously damaged: **Provided**, That damaged and seriously damaged units, either singly or in combination, do not materially affect the appearance or edibility of the product.

- (3) Not more than 17 percent, by weight, of the carrot ingredient consists of units markedly smaller than one-half the volume of, or markedly larger than, the predominating size of the dice: **Provided**, That not more than twice this allowance or 34 percent, by weight, of such units may be present in any single sample.
 - (4) Other defects, individually or collectively, do not materially affect the appearance or eating quality of the product.
- (d) **"C" classification.** If the frozen peas and carrots are fairly free from defects a score of 14 or 15 points may be given. Frozen peas and carrots that fall into this classification shall not be graded above U.S. Grade C or U.S. Standard regardless of the total score for the product (this is a limiting rule). **Fairly free from defects** means compliance with the following requirements:
- (1) Not more than one piece or pieces of extraneous pea or carrot material having an aggregate area of 3/4 square inch, or three spherical or cylindrical pieces of other harmless vegetable material for each 40 ounces of the product.
 - (2) Not more than 17 damaged and seriously damaged units for each 10 ounces of the product of which not more than 5 units are seriously damaged: **Provided**, That the damaged and seriously damaged units, either singly or in combination, do not seriously affect the appearance or eating quality of the product.
 - (3) Not more than 25 percent, by weight, of the carrot ingredient consists of units markedly smaller than one-half the volume of, or markedly larger than, the predominating size of the dice: **Provided**, That not more than twice this allowance or 50 percent, by weight, of such units may be present in any single sample.
 - (4) Other defects, individually or collectively, do not seriously affect the appearance of the product.
- (e) **"SStd" classification.** Frozen peas and carrots 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).

§52.2508 Character.

- (a) **General.** The factor of character refers to the tenderness and maturity of the peas; and the tenderness and degree of freedom from stringy or coarse fibers in the carrots; and to the tenderness of the combined vegetables after cooking.

- (b) **Meaning of terms.** Unless indicated otherwise the meaning of the terms pertaining to the tenderness and maturity of each vegetable prior to cooking are the same as those in the applicable United States standards for grades of the respective frozen product.
- (c) **"A" classification.** Frozen peas and carrots which possess a good character may be given a score of 36 to 40 points. **Good character** means that the combined vegetables after cooking are tender and that each vegetable prior to cooking meets the following requirements:
- (1) **Peas.** The peas are reasonably tender and are the equivalent of frozen peas that would score not less than 34 points for the factor or **tenderness and maturity** as outlined in the **United States Standards for Grades of Frozen Peas.**
 - (2) **Carrots.** The carrots are tender, not fibrous, and possess a practically uniform texture.
- (d) **"B" classification.** If the frozen peas and carrots possess a reasonably good character a score of 32 to 35 points may be given. Frozen peas and carrots that fall into this classification shall not be graded above U.S. Grade B or U.S. Extra Standard regardless of the total score for the product (this is a limiting rule). **Reasonably good character** means that the combined vegetables after cooking are reasonably tender and that each vegetable prior to cooking meets the following requirements:
- (1) **Peas.** The peas are reasonably tender and are the equivalent of frozen peas that would score not less than 32 points for the factor of **tenderness and maturity** as outlined in the **United States Standards for Grades of Frozen Peas.**
 - (2) **Carrots.** The carrots are tender, not fibrous, and possess a practically uniform texture.
- (e) **"C" classification.** If the frozen peas and carrots possess a fairly good character a score of 28 to 31 points may be given. Frozen peas and carrots that fall into this classification shall not be graded above U.S. Grade C or U.S. Standard regardless of the total score for the product (this is a limiting rule). **Fairly good character** means that the combined vegetables after cooking are fairly tender and that each vegetable prior to cooking meets the following requirements:
- (1) **Peas.** The peas are at least fairly tender.

(2) **Carrots.** The carrots are at least reasonably tender, may be variable in texture but are not tough or hard, and there may be present a few units which possess a coarse fibrous texture.

(f) **"SStd" classification.** Frozen peas and carrots that fail to meet the requirements of paragraph (d) of this section may be given a score of 0 to 27 points and shall not be graded above Substandard regardless of the total score for the product (this is a limiting rule).

§52.2509 Ascertaining the grade of a lot.

The grade of a lot of frozen peas and carrots 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 to §52.83).

§52.2510 Score sheet for frozen peas and carrots.

Size and kind of container		
Container mark or identification		
Label		
Net weight (ounces)		
Kinds of ingredients	Aggregate weight each ingredient	Proportion of ingredients
Peas: () sweet; () early oz. %
Carrots: diced (approx. ". ." cubes) oz. %
Grand total weight oz.	100%
Factors	Score Points	
Color	40	"A" 36-40 "B" 32-35 <u>1/</u> "C" 28-31 <u>1/</u> "SStd" 0-27 <u>1/</u>
Defects	20	"A" 18-20 "B" 16-17 <u>1/</u> "C" 14-15 <u>1/</u> "SStd" 0-13 <u>1/</u>
Character	40	"A" 36-40 "B" 32-35 <u>1/</u> "C" 28-31 <u>1/</u> "SStd" 0-27 <u>1/</u>
Total Score	<u>100</u>	
Total Score		
Grade		

1/ Indicates limiting rule.

The United States Standards for Grades of Frozen Peas and Carrots (which is the first issue) contained in this subpart shall become effective 30 days after publication hereof in the Federal Register.

Dated: February 14, 1955

/s/
[Seal] Roy W. Lennartson,
Deputy Administrator,
Marketing Services.

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