



**United
States
Department
of
Agriculture**

**Agricultural
Marketing
Service**

**Fruit and
Vegetable
Programs**

**Processed
Products
Branch**

United States Standards for Grades of Frozen Celery

Effective January 9, 2004

This is the first issue of the United States Standards for Grades of Frozen Celery, to become effective January 9, 2004.

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. 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 Programs, AMS
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UNITED STATES STANDARDS FOR GRADES OF
FROZEN CELERY

EFFECTIVE January 9, 2004

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Authority: Agricultural Marketing Act of 1946, Sects. 203, 205, 60 Stat. 1087, as amended, 1090, as amended (7 U.S.C. 1622, 1627)

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.

52.6680 Product description.

Frozen celery is the product prepared from the clean, sound, succulent, and edible fresh stalks of the celery plant (*Apium graveolens*). The product is trimmed, properly prepared and properly processed, and then frozen and stored at temperatures necessary for preservation.

52.6681 Styles of frozen celery.

- (a) **Sliced celery** consists of trimmed stalks which have been cut transversely into pieces of approximate uniform length. **Bias sliced celery** are units where the stalk may be cut into angle slices up to 45 degrees. The length of sliced celery is determined by measuring the longitudinal axis of the slices.
- (b) **Diced celery** consists of trimmed stalks which have been cut into approximately cube-shaped dices.

52.6682 Definitions

- (a) **Basal portion** means the objectionable, fibrous material from the base of the celery plant, or roots from below the base of the celery plant which affect the appearance or eating quality.
- (b) **Blemished unit** means any unit which is so affected by discoloration or abnormalities as to materially affect the appearance of the unit.
- (c) **Brightness** means the extent that the overall appearance of the sample unit as a mass is affected by dullness.
- (d) **Extraneous vegetable material (EVM)** means any objectionable vegetable material from other than the celery plant which is harmless.
- (e) **Defect** means any nonconformance with a specified requirement.
- (f) **Insect damage** refers to any unit that possesses obvious insect damage.
- (g) **Insignificantly blemished unit** refers to very slight abnormalities, scars, discolorations, or any other imperfections on the individual unit which may affect the appearance slightly but which do not affect the edibility of the unit.
- (h) **Leaf material** means any dark green leafy pieces larger than 1/4" in length.

- (i) **Mechanical damage** means any unit of celery which is adversely affected by harvesting or processing equipment and includes sizing imperfections, to the extent that the appearance of the unit is noticeably affected.
- (j) **Normal flavor and odor** means that the product has a normal, typical flavor and odor, characteristic of properly prepared and processed celery and is free from any kind of objectionable flavor or objectionable odor.
- (k) **Percent**, or the symbol %, means: percent, by weight, in the **Sliced** style of frozen celery and percent, by weight, in the **Diced** style of frozen celery.
- (l) **Poorly trimmed units**, means any unit where celery strings are attached to the cut unit.
- (m) **Seriously blemished unit** means any unit which is so affected by discoloration or abnormalities (decay) as to seriously affect the appearance or edibility of the unit.

52.6683 Sample unit size.

- (a) A **sample unit of Sliced** celery shall be comprised of 283 grams of celery.
- (b) A **sample unit of Diced** celery shall be comprised of 283 grams of celery.

52.6684 Grades of frozen celery.

- (a) **U.S. Grade A** is the quality of frozen celery that:
 - (1) Possesses similar varietal characteristics in all styles;
 - (2) Has a normal flavor and odor;
 - (3) Has a good color;
 - (4) Is practically free from defects;
 - (5) Has a good character; and
 - (6) Scores not less than 90 points when scored in accordance with the scoring system outlined in this subpart.

- (b) **U.S. Grade B** is the quality of frozen celery that:
 - (1) Possesses similar varietal characteristics in all styles;
 - (2) Has a normal flavor and odor;
 - (3) Has a reasonably good color;
 - (4) Is reasonably free from defects;
 - (5) Has a reasonably good character; and
 - (6) Scores not less than 80 points when scored in accordance with the scoring system outlined in this subpart.
- (c) **Substandard** is the quality of frozen celery that fails to meet the requirements of U.S. Grade B.

52.6685 Ascertaining the grade of a sample unit.

- (a) **General.** The grade of a sample unit of frozen celery is ascertained by considering the factors of varietal characteristics and flavor and odor which are not scored; the ratings for the factors of color, defects, and character, which are scored; the total score; and the limiting rules which apply.
- (b) **Evaluating quality factors.** The rating for the factors of color, defects, and character (with respect to toughness and stringy units), and the evaluation of similar varietal characteristics are determined immediately after thawing to the extent that the product is sufficiently free from ice crystals to permit proper handling as individual units.
- (c) **Factors rated by score points.** The relative importance of each factor which is rated is expressed numerically on the scale of 100. The maximum number of points that may be given for each factor is:

Factors	Points
Color	30
Defects	40
Character	<u>30</u>
Total Score	100

52.6686 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 which is scored is inclusive (for example: 27 to 30 points means 27, 28, 29, or 30 points).

52.6687 Color.

- (a) **"A" classification.** Frozen celery that possesses a good color may be given a score of 27 to 30 points. **Good color** means that the color of frozen celery is uniformly bright, with the normal color distribution of bright green to near white. No more than 5 percent of the units by weight in the sample may possess a slight yellowish-brown cast, or vary materially from color typical of the variety.
- (b) **"B" classification.** Frozen celery that possesses a reasonably good color may be given a score of 24 to 26 points. Frozen celery that falls 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). No more than 10 percent of the units by weight in the sample may possess a slight yellowish-brown cast, or vary materially from color typical of the variety.
- (c) **"SStd" classification.** Frozen celery that fails to meet the requirements of paragraph (b) of this section may be given a score of 0 to 23 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

52.6688 Defects.

- (a) **General.** The factor of absence of defects refers to the degree of freedom from defective units as defined in paragraphs (b), (c) and (d) of this section or from any other defects present, whether or not specifically defined or listed therein, which would affect the appearance or edibility of the product.
- (b) **"A" classification.** Frozen celery that is practically free from defects may be given a score of 36 to 40 points. **Practically free from defects** means that:
 - (1) Any defects present, whether or not specifically defined or listed herein, do not materially detract from the appearance or edibility of the product; and
 - (2) The defects that may be present in the sample unit do not exceed the allowances specified in Table I.

- (c) **"B" classification.** Frozen celery that is reasonably free from defects may be given a score of 32 to 35 points. Frozen celery that falls 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:
- (1) Any defects present, whether or not specifically defined or listed herein, do not seriously detract from the appearance or edibility of the product; and
 - (2) The defects that may be present in the sample unit do not exceed the allowances specified in Table I.
- (d) **"SStd" classification.** Frozen celery that fails to meet the requirements of paragraph (c) of this section may be given a score of 0 to 31 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

Table I-Allowances For Defects In Frozen Celery

	Sliced and Bias Sliced Style		Diced style	
	Grade A	Grade B	Grade A	Grade B
	Maximum-per 283 grams*		Maximum-per 283 grams*	
Blemished units larger than 1/4".	Maximum of 3 % by weight	Maximum of 4 % by weight	Maximum of 3 % by weight	Maximum of 4 % by weight
Seriously blemished units larger than 1/4".	No more than 1 % by weight	No more than 2 % by weight	No more than 1 % by weight	No more than 2 % by weight
Leaf material larger than 1/4"	Not to exceed 10 pieces	Not to exceed 20 pieces	Not to exceed 10 pieces	Not to exceed 20 pieces
Extraneous vegetable material	1 piece	2 pieces	1 piece	2 pieces
Poorly trimmed; excessively trimmed; small units; misshapen units; or any combination of these	No more than 3 % by weight	No more than 5 % by weight	No more than 3 % by weight	No more than 5 % by weight
Mechanical damaged; crushed or broken units .	No more than 3 % by weight	No more than 3 % by weight	No more than 3 % by weight	No more than 3 % by weight
Insect damaged larger than 1/8"	No more than 0.5 %	No more than 1 %	No more than 0.5 %	No more than 1 %
Total: Blemished, seriously, poorly trimmed (mechanical)units above must be less than or equal to	No more than 3 % by weight	No more than 4 % by weight	No more than 3 % by weight	No more than 4 % by weight

* For a 10-ounce portion

52.6689 Character.

- (a) **General.** The factor of character refers to the uniformity of texture typical of properly processed celery, firm, practically free of objectionable coarse, tough or stringy units.
- (b) **"A" classification.** Frozen celery that possesses a good character may be given a score of 27 to 30 points. **Good character** means that the units are uniform in texture, and practically free from coarse, stringy or tough units. The units are crisp and firm.
- (c) **"B" classification.** Frozen celery that possesses a reasonably good character may be given a score of 24 to 26 points. Frozen celery that falls 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** means that the units may lack uniformity in texture, and are reasonably free from coarse, stringy, or tough units. The celery units lack crispness and firmness.
- (d) **"SStd" classification.** Frozen celery that fails to meet the requirements of paragraph (c) of this section may be given a score of 0 to 23 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

52.6690 Ascertaining the grade of a lot.

The grade of a lot of frozen celery covered by these standards is determined by the procedures set forth in the **Regulations Governing Inspection and Certification of Processed Products Thereof, and Certain Other Processed Foods Products** (§52.1 to §52.83).

Effective date. The U.S. Standards for Grades of Frozen Celery (which is the first issue) contained shall become effective January 9, 2004

Dated: January 9, 2004.

/s/

Robert C. Keeney
Deputy Administrator
Fruit and Vegetable Programs