



**United States  
Department of  
Agriculture**

**Agricultural  
Marketing  
Service**

**Fruit and  
Vegetable  
Division**

**Processed  
Products  
Branch**

# **United States Standards for Grades of Pineapple Juice**

**Effective date April 1, 1987**

This is the first issue of the United States Standards for Grades of Pineapple Juice published in the **FEDERAL REGISTER** of March 2, 1987, (52 FR 6169) to become effective April 1, 1987. This issue supersedes the third issue of the United States Standards for Grades of Canned Pineapple Juice which has been in effect since March 16, 1957.

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  
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## United States Standards for Grades of Pineapple Juice

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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.

**§52.1761 Product description.**

- (a) **Pineapple juice** is the product as defined in the Standards for Pineapple Juice (21 CFR 146.185), issued under the Federal Food, Drug, and Cosmetic Act.
- (b) **Pineapple juice from concentrate** is the product as defined in the Standards for Pineapple Juice (21 CFR 146.185), issued under the Federal Food, Drug, and Cosmetic Act.

**§52.1762 Styles.**

- (a) **Unsweetened.**
- (b) **Sweetened.**

**§52.1763 Definitions of terms.**

In these U.S. Standards, unless otherwise required by the context, the following terms shall be construed to mean:

- (a) **Acid** means the grams of acid contained in 100 milliliters of the juice (calculated as anhydrous citric acid).
- (b) **Brix** means the soluble solids content as determined by the method prescribed in the **Official Methods of Analysis of the Association of Official Analytical Chemists - Solids by Means of Spindle** (Association of Official Analytical Chemists, Inc., **Official Methods of Analysis of the Association of Official Analytical Chemists**). This text is updated periodically, and any update or change in the method of analysis would be incorporated, as warranted, in the latest edition. The Brix may be determined by any other method that gives equivalent results.
- (c) **Brix/acid ratio** means the ratio of the degrees Brix of the juice to the grams of anhydrous citric acid per 100 milliliters of the juice.
- (d) **Color.**
  - (1) Pineapple juice.
    - (i) **Very good color** means the juice possesses a bright typical varietal color ranging from light yellowish beige to a golden amber or golden pinkish cast typical of freshly pressed and properly precessed juice from mature, well-ripened pineapple.

- (ii) **Good color** means the juice possesses a typical varietal color which may be slightly dull (but not off-color) yet normal for freshly pressed and properly precessed juice from mature, well-ripened pineapple.
  - (2) Pineapple juice from concentrate.
    - (i) **Very good color** means the juice possesses a typical varietal color ranging from light yellowish beige to a golden amber or golden pinkish cast typical of reconstituted and properly processed juice from mature, well-ripened pineapple.
    - (ii) **Good color** means the juice possesses a typical varietal color which may be slightly dull (but not off-color) yet normal for reconstituted and properly processed juice from mature, well-ripened pineapple.
- (e) **Defects** mean excess pulp, dark specks, pieces of shell, seeds, or other coarse or hard substances that are objectionable particles.
  - (1) **Practically free from defects** means the defects that are present do not more than slightly affect the appearance or palatability of the juice.
  - (2) **Reasonably free from defects** means the defects that are present do not more than materially affect the appearance or palatability of the juice.
- (f) **Finely divided insoluble solids** means the particles in the juice that separate from suspension by centrifuging.
- (g) **Flavor.**
  - (1) **Very good flavor** means the juice possesses a distinct varietal flavor that is typical of freshly extracted juice (pineapple juice) or typical of reconstituted juice (pineapple juice from concentrate) that is properly precessed from mature, well-ripened pineapple.
  - (2) **Good flavor** means the juice possesses a normal varietal flavor that may be slightly caramelized but is not off-flavor.
- (h) **Sample unit** means a container and/or its entire contents, a portion of the contents of one or more containers or other unit of commodity.

**§52.1764 Recommended sample unit sizes.**

The factors of quality and analysis may be determined based on the following sample unit sizes:

- (a) The entire contents of a container;
- (b) A representative portion of the contents of a container;
- (c) A combination of the contents of two or more containers; or
- (d) A representative portion of processed product stored or held in bulk containers.

**§52.1765 Grades.**

- (a) **U.S. Grade A** is the quality of pineapple juice or pineapple juice from concentrate that meets the applicable requirements of Table I or Table II.
- (b) **U.S. Grade B** is the quality of pineapple juice or pineapple juice from concentrate that meets the applicable requirements of Table I or Table II.
- (c) **Substandard** is the quality of pineapple juice or pineapple juice from concentrate that fails to meet the requirements for U.S. Grade B.

**§52.1766 Factors of quality and analysis.**

The grade of a lot of pineapple juice or pineapple juice from concentrate is based on observation and analysis of the juice for the following quality and analytical factors:

- (a) **Quality:**
  - (1) Color;
  - (2) Defects;
  - (3) Flavor; and
  - (4) Total Score.
- (b) **Analytical:**
  - (1) Acid measurement;

- (2) Brix measurement;
  - (3) Brix/acid ratio; and
  - (4) Finely divided insoluble solids.
- (c) The relative importance of each quality factor is expressed numerically on the scale of 100. The maximum number of points that may be given each factor is:

<b>Factors</b>	<b>Points</b>
Color .....	20
Defects .....	40
Flavor .....	<u>40</u>
Total Score .....	100

- (d) The essential variations within each factor are so described that the value may be determined for each factor and expressed numerically. The numerical range for the rating of each factor is inclusive (for example, **17 to 20** points means 17, 18, 19, or 20 points) and the score points shall be prorated relative to the degree of excellence for each factor.

**§52.1767 Fill of container.**

The standard of fill of container for pineapple juice or pineapple juice from concentrate is a fill of not less than 90 percent of the total capacity of the container except when the food is frozen. Pineapple juice or pineapple juice from concentrate that does not meet this requirement is **Below Standard in Fill**.

**§52.1768 Requirements for grades.**

**TABLE I - PINEAPPLE JUICE**

<b>FACTORS</b>	<b>GRADE A</b>		<b>GRADE B</b>	
Quality:				
Color: Score points:	Very good 17 to 20		Good 14 to 16	
Defects: Score points:	Practically free 34 to 40		Reasonably free 28 to 33	
Flavor: Score points:	Very good 34 to 40		Good 28 to 33	
Total score (minimum):	85 points		70 points	
Analytical:	Unsweetened	Sweetened	Unsweetened	Sweetened
Brix (minimum):	12.0°	12.5°	10.5°	11.0°
Acid (maximum):	1.10g/100mL	1.10g/100mL	1.35g/100mL	1.35g/100mL
Soluble pineapple juice solids (percent by weight of finished product prior to addition of sweetener - minimum):		12.0°		10.5°
Brix/acid ration (minimum):	12.0:1	12.0:1	12.0:1	12.0:1
Finely divided insoluble solids (percent by volume):	5 to 26%	5 to 26%	5 to 30%	5 to 30%

**TABLE II - PINEAPPLE JUICE FROM CONCENTRATE**

<b>FACTORS</b>	<b>GRADE A</b>		<b>GRADE B</b>	
Quality:				
Color: Score points:	Very good 17 to 20		Good 14 to 16	
Defects: Score points:	Practically free 34 to 40		Reasonably free 28 to 33	
Flavor: Score points:	Very good 34 to 40		Good 28 to 33	
Total score (minimum):	85 points		70 points	
Analytical:	Unsweetened	Sweetened	Unsweetened	Sweetened
Brix (minimum):	12.8°	13.0°	12.8°	13.0°
Acid (maximum):	1.10g/100mL	1.10g/100mL	1.35g/100mL	1.35g/100mL
Soluble pineapple juice solids (percent by weight of finished product prior to addition of sweetener - minimum):		12.8°		12.8°
Brix/acid ration (minimum):	12.0:1	12.0:1	12.0:1	12.0:1
Finely divided insoluble solids (percent by volume):	5 to 26%	5 to 26%	5 to 30%	5 to 30%



**§52.1769 Sample Size.**

The sample size used to determine whether pineapple juice meets the requirements of these standards shall be as specified in the sampling plans and procedures 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).

**§52.1770 Lot requirements.**

A lot of pineapple juice or pineapple juice from concentrate is considered as meeting the requirements for quality if:

- (a) The requirements specified in Table I or II, as applicable, are met; and
- (b) The sampling plans and procedures in 7 CFR 52.1 through 52.83 are met.

Done at Washington, D.C., on: February 24, 1987

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William T. Manley  
Deputy Administrator  
Marketing Programs