



**United States
Department of
Agriculture**

**Agricultural
Marketing
Service**

**Fruit and
Vegetable
Division**

**Processed
Products
Branch**

United States Standards for Grades of Canned Apple Juice

Effective date March 11, 1982

This is the third issue of the United States Standards for Grades of Canned Apple Juice published in the **FEDERAL REGISTER** of February 9, 1982 (47 FR 5875) to become effective March 11, 1982. This issue supersedes the second issue, which has been in effect since July 1, 1971.

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:

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United States Standards for Grades of Canned Apple 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

§52.301 Product description.

- (a) **Canned apple juice** is the unfermented juice obtained from sound, ripe apples, with or without parts. Concentrated apple juice may be added, provided that any added apple juice concentrate shall not contribute more than one-fourth of the total apple juice solids in the finished apple juice. No water may be added directly to the finished food. Natural volatile apple juice components (apple essence) may be restored to a level that provides a natural apple juice flavor.
- (b) **The apple juice** may be processed with or without the addition of antioxidants and is sufficiently processed to assure preservation of the product in hermetically sealed containers.

§52.302 Styles of canned apple juice.

- (a) **Style I, Clear** - typical of clarified apple juice.
- (b) **Style II, Cloudy** - typical of non-clarified apple juice, but not a crushed or disintegrated apple product.

§52.303 Definitions of terms.

- (a) **Absence of defects** means the degree of freedom from sediment or other residue, dark specks, particles of seeds, coarse particles of pulp, or other defects.
- (b) **Acid** means grams of acid calculated as malic acid, per 100 g of apple juice determined by titration with standard sodium hydroxide solution, using phenolphthalein as indicator.
- (c) **Brix** means the percent, by weight, of natural apple soluble solids in the apple juice, corrected to 20° C (68°F).
- (d) **Color** means the apple juice is typical of freshly pressed juice.
- (e) **Flavor** means the degree of excellence and palatability of the apple juice with a distinct flavor and aroma typical of apple juice that has been properly processed.

§52.304 Grades.

- (a) **U.S. Grade A** is the quality of canned apple juice that:
- (1) Meets the applicable requirements of Table I or Table II; and
 - (2) Scores not less than 90 points.
- (b) **U.S. Grade B** is the quality of canned apple juice that:
- (1) Meets the applicable requirements of Table I or Table II; and
 - (2) Scores not less than 80 points.
- (c) **Substandard** is the quality of canned apple juice that fails to meet the requirements for U.S. Grade B.

§52.305 Fill of container.

The recommended fill of container is not incorporated in the grades of the finished product since fill of container is not a factor of quality for the purposes of these standards. It is recommended that each container be filled as full as practicable with apple juice and that the product occupies at least 90 percent of the volume of the container.

§52.306 Determining the grade.

- (a) **The grade of canned apple juice** is determined by considering the requirements of each grade with respect to the factors of color, absence of defects, and flavor.
- (b) **The relative importance of each factor** is expressed numerically on the scale of 0 to 100 points. The maximum number of points that may be given each factor is:

Factors:	Points
Color	20
Absence of defects	20
Flavor	<u>60</u>
Total Score	100

§52.307 Determining the rating for each factor.

The essential variations within each factor are so described that the value may be determined for each factor and expressed numerically. The numerical range within each factor is inclusive (for example, "18 to 20 points" means 18, 19, or 20 points).

§52.308 Requirements for grades.

TABLE I
STYLE I, CLEAR

Factors	Grade A	Grade B
Color:	Good	Reasonably good
	Bright, Sparkling	Slightly translucent
Score Points	18 - 20	16 - 17
Absents of Defects:		
Amorphous sediment or residue	Slight	Moderate
Nonamorphous sediment or residue, dark specks	Trace	Moderate
Particles of seeds, pulp or other defects	None	Slight
Score Points	18 - 20	16 - 17
Flavor:	Good	Reasonably good
Score Points	54 - 60	48 - 53
Total Score	90 - 100	80 - 89
Analytical		
Brix (Minimum)	11.0 degrees	10.5 degrees
Acid (calculated as malic)		
Minimum	0.24 g/100 g	0.19 g/100 g
Maximum	0.67 g/100 g	0.77 g/100 g

TABLE II
STYLE II, CLOUDY

Factors	Grade A	Grade B
Color	Good	Reasonably good
	Slightly translucent to definitely cloudy	Typical but not off-color
Score Points	18 - 20	16 - 17
Absence of Defects		
Amorphous and non-amorphous sediment or residue	Normal	Normal
Dark specks	Trace	Moderate
Particles of seeds, coarse particles of pulp or other defects	None	Slight
Score Points	18 - 20	16 - 17
Flavor	Good	Reasonably good
Score Points	54 - 60	48 - 53
Total Score	90 - 100	80 - 89
Analytical		
Brix (Minimum)	11.0 degrees	10.5 degrees
Acid (calculated as malic)		
Minimum	0.24 g/100 g	0.19 g /100 g
Maximum	0.67 g/100 g	0.77 g/100 g

§52.309 Determining the grade of lot.

The grade of a lot of canned apple juice covered by these standards is determined by the procedures found 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).

§52.310 Score sheet for canned apple juice.

Size and kind of container			
Container mark or identification			
Label			
Liquid measure (fl oz and/or mL			
Vacuum (in inches)			
Brix (degrees)			
Acid (malic: g/100g)			
Factors		Score points	
Color	20	"A"	18 - 20
		"B"	16 - 17 <u>1/</u>
		"SStd"	0 - 15 <u>2/</u>
Absence of defects	20	"A"	18 - 20
		"B"	16 - 17 <u>1/</u>
		"SStd"	0 - 15 <u>2/</u>
Flavor	<u>60</u>	"A"	54 - 60
		"B"	48 - 53 <u>1/</u>
		"SStd"	0 - 47 <u>2/</u>
Total Score		100	
Grade			

1/ May not be graded above Grade B.

2/ May not be graded above Substandard.

Done at Washington, D.C. on: February 3, 1982

/s/
 William T. Manley
 Deputy Administrator
 Marketing Program Operations