CODEX ALIMENTARIUS
INTERNATIONAL FOOD STANDARDS

Food and Agriculture Organization of the United Nations
World Health Organization

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STANDARD FOR CANNED STRAWBERRIES

CXS 62-1981

Adopted in 1981. Amended in 2019, 2022.

2022 Amendments

Following decisions taken at the Forty-fifth Session of the Codex Alimentarius Commission in December 2022, amendments were made in Section 7.2 Labelling of non-retail containers.

1. DESCRIPTION

1.1 Product definition

This standard (formerly CAC/RS 62-1972) deals with canned strawberries is the product: a) prepared from strawberries of varieties (cultivars) conforming to the characteristics of the Genus *Fragaria* which are whole, clean, reasonably sound, of proper maturity and from which extraneous matter including calices and stems have been removed; b) packed with water or other suitable liquid packing medium; and c) processed by heat in an appropriate manner, before or after being sealed in a container, so as to prevent spoilage.

1.2 Varietal type

Canned strawberries may be of any suitable variety (cultivar) of cultivated strawberry.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 Packing media

2.1.1 Canned strawberries may be packed in any one of the following:

2.1.1.1 water – in which water is the sole packing medium;

2.1.1.2 fruit juice – in which strawberry juice, or any other compatible fruit juice is the sole packing medium;

2.1.1.3 water and fruit juice(s) – in which water and strawberry juice, or water and any other single fruit juice or water and two or more fruit juices, are combined to form the packing medium;

2.1.1.4 mixed fruit juices – in which two or more fruit juices, which may include strawberry, are combined to form the packing medium; and

2.1.1.5 with sugar(s) – any of the foregoing packing media 2.1.1.1 through 2.1.1.4 may have one or more of the following sugars added: sucrose, invert sugar syrup, dextrose, dried glucose syrup, glucose syrup.

2.1.2 ***Classification of packing media when sugars are added***

2.1.2.1 When sugars are added to strawberry juice or other fruit juices, the liquid media shall be not less than 14 °Brix and shall be classified on the basis of the cut-out strength as follows:

lightly sweetened (name of fruit) juice – not less than 14 °Brix
heavily sweetened (name of fruit) juice – not less than 18 °Brix

2.1.2.2 When sugars are added to water or water and strawberry juice or water and fruit juices the liquid media shall be classified on the basis of the cut-out strength as follows:

Basic syrup strengths

light syrup – not less than 14 °Brix
heavy syrup – not less than 18 °Brix

2.1.3 ***Optional packing media***

When not prohibited in the country of sale, the following packing media may be used:

slightly sweetened water	)	
water slightly sweetened	)	Not less than 10 °Brix but less than 14 °Brix
extra light syrup	)	
extra heavy syrup		More than 22 °Brix

2.1.4 The cut-out strength of sweetened juice or syrup shall be determined on sample average, but no container may have a Brix value lower than that of the minimum of the next category below, if such there be.

2.2 Quality criteria

2.2.1 ***Colour***

Except for artificially coloured canned strawberries, the strawberries shall have normal colour characteristics for canned strawberries and typical of the variety used.

2.2.2 ***Flavour***

Canned strawberries shall have a normal flavour and odour free from flavours and odours foreign to the product.

2.2.3 ***Texture***

The strawberries shall have a reasonably uniform texture and shall not be excessively firm or unreasonably soft.

2.2.4 ***Defects and allowances***

Canned strawberries shall be reasonably free from common defects within the limits set forth as follows:

	Defects	Maximum limits
(a)	Berries with parts of, or with complete calices	15%, by count
(aa)	Berries with complete calices, limited within the foregoing allowance to	5%, by count
(b)	Blemished berries (consisting of berries with spots caused by mould damage or bird pecks more than 5 mm in diameter and deformed berries)	15%, by count
(c)	Broken berries (where the major part is broken or entirely disintegrated)	20%, by count
	Total of all the foregoing defects – (a) and/or (aa), (b) and (c)	30%, by count
(d)	Extraneous plant material (based on averages):	
	(i) Stalks (stems) or parts thereof, each longer than 3 mm	1 piece per 100 grammes of drained strawberries
	(ii) Leaves, unattached calices, or portions of any of these, or other similar harmless extraneous plant material	1 sq. cm. per 100 grammes of drained strawberries

2.2.5 ***Mineral impurities***

Not more than 300 mg/kg of total contents.

2.2.6 ***Classification of "defectives"***

A container that fails to meet one or more of the applicable quality requirements, as set out in subsection 2.2.1 through 2.2.4 (except extraneous plant material which is based on averages), shall be considered a "defective".

2.2.7 ***Acceptance***

A lot will be considered as meeting the applicable quality requirements referred to in subsection 2.2.6 when:

(a) for those requirements which are not based on averages, the number of "defectives", as defined in subsection 2.2.6, does not exceed the acceptance number (c) of an appropriate sampling plan with an AQL of 6.5 (see relevant Codex texts on methods of analysis and sampling); and

(b) the requirements which are based on sample averages are complied with.

3. FOOD ADDITIVES

			Maximum level
3.1	**Acidifying agents**		
3.1.1	Citric acid	)	
3.1.2	Lactic acid	)	Limited by GMP
3.1.3	Malic acid	)	
3.1.4	L-Tartaric acid	)	

			Maximum level
3.2	**Colours**		
3.2.1	Érythrosine – CI 45 430	)	300 mg/kg of the final product,
3.2.2	Ponceau 4R – CI 16 255	)	singly or in combination
3.3	**Firming agents**		
3.3.1	Calcium chloride	)	350 mg/kg of the final product,
3.3.2	Calcium gluconate	)	calculated as total Ca
3.3.3	Calcium lactate	)	

4. CONTAMINANTS

	Maximum level
Lead (Pb)	1 mg/kg
Tin (Sn)	200 mg/kg calculated as Sn

5. HYGIENE

5.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the *General Principles of Food Hygiene* (CXC 1-1969),[1] and other codes of practice recommended by the Codex Alimentarius Commission which are relevant to this product.

5.2 To the extent possible in good manufacturing practice, the product shall be free from objectionable matter.

5.3 When tested by appropriate methods of sampling and examination, the product:

- shall be free from microorganisms in amounts which may represent a hazard to health;
- shall be free from parasites which may represent a hazard to health; and
- shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

6. WEIGHTS AND MEASURES

6.1 Fill of container

6.1.1 ***Minimum fill***

The container shall be well filled with strawberries and the product (including packing medium) shall occupy not less than 90 percent of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20 °C which the sealed container will hold when completely filled.

6.1.2 ***Classification of "defective"***

A container that fails to meet the requirement for minimum fill (90 percent container capacity) of subsection 6.1.1 shall be considered a "defective".

6.1.3 ***Acceptance***

A lot will be considered as meeting the requirement of subsection 6.1.1 when the number of "defectives", as defined in subsection 6.1.2, does not exceed the acceptance number (c) of an appropriate sampling plan with an AQL of 6.5 (see relevant Codex texts on methods of analysis and sampling).

6.1.4 ***Minimum drained weight***

6.1.4.1 The drained weight of the product shall be not less than 35 percent of the weight of distilled water at 20 °C which the sealed container will hold when completely filled.

6.1.4.2 The requirement for minimum drained weight shall be deemed to be complied with when the average drained weight of all containers examined is not less than the minimum required, provided that there is no unreasonable shortage in individual containers.

7. LABELLING

In addition to the requirements of the *General Standard for the Labelling of Pre-packaged Foods* (CXS 1-1985),[2] the following specific provisions apply:

7.1 The name of the food

7.1.1 The name of the product shall be "strawberries".

7.1.2 The packing medium shall be declared as part of the name, or in close proximity to the name.

7.1.2.1 When the packing medium is composed of water, or water and strawberry juice, or water and one or more fruit juices in which water predominates, the packing medium shall be declared as:

"In water" or "Packed in water"

7.1.2.2 When the packing medium is composed solely of strawberry juice, or any other single fruit juice, the packing medium shall be declared as:

"In strawberry juice" or "In (name of fruit) juice"

7.1.2.3 When the packing medium is composed of two or more fruit juices, which may include strawberry juice, it shall be declared as:

"In (name of fruits) juice" or "In fruit juices" or "In mixed fruit juices"

7.1.2.4 When sugars are added to strawberry juice or other fruit juices, the packing medium shall be declared as:

"Lightly sweetened (name of fruit) juice"

or

"Heavily sweetened (name of fruits) juice(s)"

or

"Lightly sweetened fruit juices"

or

"Heavily sweetened mixed fruit juices(s)"

as may be appropriate.

7.1.2.5 When sugars are added to water, or water and a single fruit juice (including strawberry juice) or water and two or more fruit juices, the packing medium shall be declared as:

"Light syrup" or "Heavy syrup" or "Water slightly sweetened" or "Slightly sweetened water" or "Extra light syrup" or "Extra heavy syrup"

as may be appropriate.

7.1.2.6 When the packing medium contains water and strawberry juice or water and one or more fruit juice(s), in which the fruit juice comprises 50 percent or more by volume of the packing medium, the packing medium shall be designated to indicate the preponderance of such fruit juice, as, for example:

"Strawberry juice and water" or "(name of fruit) juice(s) and water"

7.2 Labelling of non-retail containers.

The labelling of non-retail containers should be in accordance with the *General Standard for the Labelling of Non-Retail Containers of Foods* (CXS 346-2021).[3]

8. METHODS OF ANALYSIS AND SAMPLING

For checking the compliance with this standard, the methods of analysis and sampling contained in the *Recommended Methods of Analysis and Sampling* (CXS 234-1999)[4] relevant to the provisions in this standard shall be used.

NOTES

[1] FAO and WHO. 1969. *General Principles of Food Hygiene*. Codex Alimentarius Code of Practice, No. CXC 1-1969. Codex Alimentarius Commission. Rome.

[2] FAO and WHO. 1985. *General Standard for the Labelling of Pre-packaged Foods*. Codex Alimentarius Standard, No. CXS 1-1985. Codex Alimentarius Commission. Rome.

[3] FAO and WHO. 2021. *General Standard for the Labelling of Non-Retail Containers of Foods.* Codex Alimentarius Standard, No. CXS 346-2021. Codex Alimentarius Commission. Rome.

[4] FAO and WHO. 1999. *Recommended Methods of Analysis and Sampling.* Codex Alimentarius Standard, No. CXS 234-1999. Codex Alimentarius Commission. Rome.