

CODEX ALIMENTARIUS

INTERNATIONAL FOOD STANDARDS



Food and Agriculture
Organization of
the United Nations



World Health
Organization

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STANDARD FOR CANNED CHESTNUTS AND CANNED CHESTNUT PUREE

CXS 145-1985

Adopted in 1985. Amended in 2015, 2017, 2022.

2022 Amendment

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

1.1.1 Canned chestnuts is the product: (a) prepared from fresh, sound, mature chestnuts of varieties conforming to the characteristics of the species *Castanea crenata* Sieb et Zucc. (Japanese chestnut) or *Castanea sativa* Miller (European chestnut) which shall be shelled and may be pellicled or unpellicled;ⁱ (b) packed with or without water which may or may not contain sugars, seasonings and other ingredients appropriate to the product; and (c) processed by heat in an appropriate manner, before or after being hermetically sealed in a container, so as to prevent spoilage.

1.1.2 Canned chestnut puree is the product: (a) pureed by sieving or other mechanical means in order to obtain a fruit pulp from chestnuts, as defined in Section 1.1.1(a); (b) packed with or without sugars and other ingredients appropriate to the product; and (c) heat processed by a procedure as defined in Section 1.1.1(c).

1.2 Styles

1.2.1 Canned chestnuts

Canned chestnuts may be packed in the following styles:

- (a) **Whole** – whole chestnuts which are pellicled or unpellicled and/or trimmed into a practical tetrahedron.
- (b) **Broken**ⁱⁱ – small pieces which may not be uniform in size and/or shape.

1.2.2 Canned chestnut puree

- (a) **Sweetened** – with added sugars listed in Section 2.1 (b); not less than 12 percent total soluble solids (12 °Brix).
- (b) **Unsweetened** – without added sugars; not less than 10 percent total soluble solids (10 °Brix).

1.2.3 Other styles

Any other presentation of the product shall be permitted provided that it:

- (a) is sufficiently distinctive from other forms of presentation laid down in this standard;
- (b) meets all other requirements of this standard; and
- (c) is adequately described on the label to avoid confusing or misleading the consumer.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 Packing media

Where a packing medium is used, it may consist of:

- (a) water – in which water is the sole packing medium;
- (b) water which may have one or more of the following nutritive sweeteners as defined by the Codex Alimentarius Commission added: sucrose, invert sugar syrup, dextrose, dried glucose syrup, glucose syrup, fructose, fructose syrup, honey.

2.2 Classification of packing media when nutritive sweeteners are added

2.2.1 When nutritive sweeteners are added to water, the liquid media shall be classified on the basis of the cut-out strength as follows:

slightly sweetened water	}	-	Not less than 10 °Brix
water slightly sweetened	}	-	but less than 14 °Brix
extra light syrup	}		
light syrup		-	Not less than 14 °Brix
		-	but less than 18 °Brix
heavy syrup		-	Not less than 18 °Brix
			but less than 22 °Brix
extra heavy syrup		-	Not less than 22 °Brix

ⁱ In the case of unpellicled chestnuts, they should be previously processed by alcohol so as to remove the astringency of the pellicles.

ⁱⁱ The term “broken” is translated into French as “brisure”.

2.2.2 The cut-out strength for any packing medium shall be determined on average, but no container may have a Brix value lower than that of the next category below.

2.3 Other ingredients

Canned chestnut puree may contain “sugars”, as listed in Section 2.1 (b); they shall amount to not more than 2 percent of total net contents. Canned chestnuts and chestnut puree may contain “salt” (sodium chloride) in an amount not exceeding one percent of total net contents.

2.4 Quality criteria

2.4.1 Colour

When colour is not added, canned chestnuts or canned chestnut puree shall have a normal colour characteristic of the varieties used. Browning and discolouration shall be regarded as defects.

2.4.2 Flavour

Canned chestnuts or canned chestnut puree shall have a normal flavour and odour free from flavours and odours foreign to the products.

2.4.3 Texture

2.4.3.1 Canned chestnuts shall have a reasonably uniform thick texture and shall not be excessively firm nor unreasonably soft.

2.4.3.2 Canned chestnut puree shall have a uniform consistency and particle size.

2.4.4 Uniformity of size

Whole – in 95 percent, by count, of units that are most uniform in size, the weight of the largest unit shall be no more than twice the weight of the smallest unit.

2.4.5 Defects and allowances

The product shall be substantially free from defects such as harmless plant material, shell, pellicle (in pellicled styles), blemished units, split and broken units (in whole styles) and discoloured units. Slight syneresis in canned chestnut puree should not be regarded as a defect. Certain common defects shall not be present in amounts greater than the following limitations:

- not more than 14 percent by mass of chestnuts on the net drained weight; and
- not more than 20 percent of chestnuts which are not whole on the net drained weight for the style “whole”.

2.4.6 Classification of “defectives”

A container that fails to meet one or more of the applicable quality requirements as set out in Section 2.4.1 through Section 2.4.5 (except extraneous plant material which is based on an average of the entire sample), shall be considered a “defective”.

2.4.7 Lot acceptance

A lot will be considered as meeting the applicable quality requirements referred to in Section 2.4.5. when the number of “defectives” as defined in Section 2.4.6 does not exceed the acceptance number (c) of an appropriate sampling plan with an acceptable quality limit (AQL) of 6.5. (See relevant Codex texts on methods of analysis and sampling).

3. FOOD ADDITIVES

Maximum level in the final product

3.1 Chelating agent

3.1.1 Sodium polyphosphate

Limited by good manufacturing practice (GMP)

3.2 Antioxidants

3.2.1 L-Ascorbic acid

300 mg/kg expressed as ascorbic acid,

3.2.2 Sodium ascorbate

singly or in combination

3.3 Acidifying agents

3.3.1 Citric acid

}

3.3.2 Malic acid

}

Limited by GMP

3.3.3 L-Tartaric acid

10 g/kg

3.4 Bleaching agent**3.4.1 Sulphur dioxide**

(not authorized in puree)

30 mg/kg, calculated as SO₂**3.5 Natural colouring agents****3.5.1 Turmeric (CI 75300)**

}

3.5.2 Crocin (CI 75100)

}

Limited by GMP

3.5.3 Carthamus yellow (CI 75140)

}

3.6 Flavourings**3.6.1 Extract of vanilla**

}

Limited by GMP

3.6.2 Vanillin

}

3.7 Thickening agents**3.7.1 Pectins**

Limited by GMP

3.8 Firming agents

Firming agents used in accordance with Table 1 and Table 2 of the *General Standard for Food Additives* (CXS 192-1995)¹ in food category 04.2.2.4 (Canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds or listed in Table 3 of the general standard¹ are acceptable for use for foods conforming to this standard.

4. CONTAMINANTS

Lead (Pb)

1 mg/kg

Tin (Sn)

250 mg/kg

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),² and other codes of practice recommended by the Codex Alimentarius Commission which are relevant to this product.

5.2 To the extent possible in GMP, 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 chestnuts or chestnut puree 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 “defectives”

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

6.1.3 Lot acceptance

A lot will be considered as meeting the requirement of Section 6.1.1 when the number of “defectives”, as defined in Section 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 packed with liquid packing medium shall be not less than the following percentages, calculated on the basis of the weight of distilled water at 20 °C which the sealed container will hold when completely filled:

- not less than 300 ml of water capacity of the container 60%
- less than 300 ml of water capacity of the container 55%

6.1.4.2 The requirements 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),³ the following specific provisions apply:

7.1 **Name of the food**

7.1.1 The name of the product shall be “chestnuts” if it meets the definition in Section 1.1.1 or “chestnut puree” if it meets the definition in Section 1.1.2.

7.1.2 The style, as appropriate, shall be declared as a part of the name or in close proximity to the name:

“Whole”

“Broken”

“Sweetened” } in the case of chestnut puree only

“Unsweetened” }

If the product is produced in accordance with the other styles provision in Section 1.2.3, the label shall contain in close proximity to the name of the product such additional words or phrases that will avoid misleading or confusing the consumer.

7.1.3 The term “unpellicled” shall be declared as appropriate as part of the name or in close proximity to the name.

7.1.4 The packing medium shall be declared as part of the name or in close proximity to the name:

7.1.4.1 When the packing medium is composed of water, the packing medium shall be declared as:

“In water” or “Packed in water”.

7.1.4.2 When nutritive sweeteners are added to water, the packing medium shall be declared as:

“Slightly sweetened water”

“Water slightly sweetened”

“Extra light syrup”

“Light syrup”

“Heavy syrup”

“Extra heavy syrup”

7.1.4.3 When the packing medium contains no added sweetening agents, the term “no added sugar” or other words of similar import may be used in association with, or in close proximity to the name of the food.

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).⁴

8. **METHODS OF ANALYSIS AND SAMPLING**

For checking compliance with this standard, the methods of analysis and sampling contained in the *Recommended Methods of Analysis and Sampling* (CXS 234-1999)⁵ relevant to the provisions in this standard shall be used.

NOTES

¹ FAO and WHO. 1995. *General Standard for Food Additives*. Codex Alimentarius Standard, No. CXS 192-1995. Codex Alimentarius Commission. Rome.

² FAO and WHO. 1969. *General Principles of Food Hygiene*. Codex Alimentarius Code of Practice, No. CXC 1-1969. Codex Alimentarius Commission. Rome.

³ FAO and WHO. 1985. *General Standard for the Labelling of Pre-packaged Foods*. Codex Alimentarius Standard, No. CXS 1-1985. Codex Alimentarius Commission. Rome.

⁴ 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.

⁵ FAO and WHO. 1999. *Recommended Methods of Analysis and Sampling*. Codex Alimentarius Standard, No. CXS 234-1999. Codex Alimentarius Commission. Rome.