

CODEX ALIMENTARIUS

INTERNATIONAL FOOD STANDARDS



Food and Agriculture
Organization of
the United Nations



World Health
Organization

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STANDARD FOR DRIED EDIBLE FUNGI

CXS 39-1981

Adopted in 1981. Amended in 2022, 2023.

2022 Amendments

Following decisions taken at the Forty-fifth Session of the Codex Alimentarius Commission in December 2022, Section 6.2 Labelling of non-retail containers was added.

2023 Amendments

Following decisions taken at the Forty-sixth Session of the Codex Alimentarius Commission in December 2023, the wording in Section 7. Methods of analysis and sampling was amended.

1. SCOPE

This standard applies to dried fungi (including freeze-dried fungi), whole or sliced, of all edible species, after preparation and packaging.ⁱ

2. DESCRIPTION

2.1 Definition of products

2.1.1 Whole dried fungi: the product obtained from cleaned and dried edible fungi. Their stalks may be shortened.

2.1.2 Whole caps without stems

2.1.3 Cut dried fungi: the product obtained from whole edible fungi sliced and dried, the thickness of individual slices being 1–4 mm.

2.1.4 Other styles

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

- (a) is sufficiently distinctive from other forms of presentation laid down in this standard;
- (b) meets all relevant requirements of this standard, including requirements relating to limitations on defects, drained weight, and any other requirements in this standard which are applicable to that style in the standard which most closely resembles the style, or styles intended to be provided for under this provision; and
- (c) is adequately described on the label to avoid confusing or misleading the consumer.

2.2 Definition of defects

2.2.1 Damaged fungi: whole fungi, with more than quarter of the cap missing, or, in the case of cut fungi, means fungi with more than one third of the total surface of the slice missing.

2.2.2 Carbonized fungi: whole or cut dried fungi with traces of carbonization on their surface.

2.2.3 Maggot-damaged fungi: fungi having holes caused by maggots.

2.2.4 Seriously maggot-damaged fungi: fungi having four or more holes caused by maggots.

2.2.5 Crushed fungi: parts of mushrooms passing through a sieve having a 5 x 5 mm mesh.

2.2.6 Fallen-off stalks: stalks separated from the caps.

2.2.7 Organic impurities of vegetable origin: admixtures of other edible fungi, parts of plants such as leaves, pine needles, etc.

2.2.8 Mineral impurities: those substances which, after ashing, remain as insoluble residues in hydrochloric acid.

2.3 Main species

All edible fungi permitted for sale by the competent authorities in the consuming countries.

3. ESSENTIAL QUALITY FACTORS

3.1 Raw material

The raw material used for the production of dried edible fungi shall meet the general requirements set out in the *General Standard for Edible Fungi and Fungus Products* (CXS 38-1981).¹

3.2 End product

3.2.1 Dried edible fungi shall be healthy, i.e. not spoiled; of a colour, flavour and taste appropriate for the species; clean, i.e. free of organic and mineral impurities; free, as far as possible, from maggot damage and damage caused by insects; undamaged.

ⁱ This standard also covers dried fungus shiitake.

3.2.2 Dried edible fungi shall be properly dried and conform with the following:

Product	Maximum water content
Freeze-dried fungi	6% m/m
Dried (other than freeze-dried) fungi	12% m/m
Dried fungus shiitake	13% m/m

3.3 Tolerances for defects

3.3.1 A maximum of 25 percent m/m of fungi not satisfying the end product requirements specified in Subsection 3.2.1 is allowed.

3.3.2 Within the tolerance provided for in subsection 3.2.1, the following individual tolerances shall apply:

Defects	Tolerance
mineral impurities	not more than 2% m/m
organic impurities of vegetable origin	not more than 0.02% m/m except for shiitake mushrooms for which the maximum shall be 1% m/m
maggot-damaged fungi:	
wild-growing fungi	not more than 20% m/m of total damage including serious damage
cultivated fungi	not more than 1% m/m of total damage including not more than 0.5% m/m of serious damage
crushed fungi	not more than 6% m/m
carbonized fungi	not more than 2% m/m
damaged fungi	not more than 20% m/m
fallen-off stalks shall be equal in number to caps, i.e. 1:1.	

4. HYGIENE

4.1 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.

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

4.3 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.

5. PACKAGING AND PRESENTATION

5.1 Uniformity

Packages (cartons, polyethylene bags, boxes) in a lot shall each contain fungi of the same commercial type and shall have a uniform net weight.

5.2 Packaging

Cartons, bags and boxes shall be such as to ensure adequate protection against humidity during storage and transport of the product. Any paper or other material used inside the package shall be new, waterproof and harmless to human health. Fungi shall not come into contact with printed inscriptions on the package.

5.3 Fungi shall be loosely packed in packing units.

6. 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:

6.1 The name of the food

Products complying with the definitions and other requirements of this standard shall be so designated as to specify:

6.1.1 the common and scientific name of the species of fungus used, but the terms "fungus" and "fungi" may be replaced by terms which have customarily been used to describe the genus or species concerned in the country in which the product is intended to be sold, e.g. "mushroom" or "mushrooms" for the genus *Agaricus*:

6.1.2 the type of product: "dried fungi" or "freeze-dried fungi";

6.1.3 the style: "whole", "caps" or "sliced".

6.1.4 If the product is produced in accordance with the other styles provision (Subsection 2.1.4), 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.

6.2 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

7. 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)⁵ relevant to the provisions in this standard, shall be used.

NOTES

¹ FAO and WHO. 1981. *General Standard for Edible Fungi and Fungus Products*. Codex Alimentarius Standard No. CXS 38-1981. 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.