CODEX ALIMENTARIUS
INTERNATIONAL FOOD STANDARDS

Food and Agriculture Organization of the United Nations
World Health Organization

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STANDARD FOR PEARL MILLET FLOUR

CXS 170-1989

Adopted in 1989. Revised in 1995. Amended in 2019, 2023.

2023 Amendments

Following decisions taken at the Forty-sixth Session of the Codex Alimentarius Commission in December 2023, amendments were made in the Annex.

1. SCOPE

1.1 This standard applies to flour destined for direct human consumption which is obtained from pearl millet *Pennisetum americanum* L., Senegalese varieties “souna” and “sanio”.

1.2 This standard does not apply to grits or coarse grain obtained from pearl millet.

2. DESCRIPTION

The flour is the product destined for human consumption which is obtained from pearl millet grains (*Pennisetum americanum* L.) through a process of industrial milling during which the germ is removed to a large extent, and the endosperm is reduced to a sufficiently fine powder.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Quality factors – general

3.1.1 Pearl millet flour shall be safe and suitable for human consumption.

3.1.2 Pearl millet flour shall be free from abnormal flavours, odours, and living insects.

3.1.3 Pearl millet flour shall be free from filth (impurities of animal origins, including dead insects) in amounts which may represent a hazard to human health.

3.2 Quality factors – specific

3.2.1 ***Moisture content*** 13 percent m/m max

Lower moisture limits should be required for certain destinations in relation to the climate, duration of transport and storage.

4. CONTAMINANTS

4.1 Heavy metals

Pearl millet flour shall be free from heavy metals in amounts which may represent a hazard to human health.

4.2 Pesticide residues

Pearl millet flour shall comply with those maximum residue limits established by the Codex Alimentarius Commission (CAC) for this commodity.

4.3 Mycotoxins

Pearl millet flour shall comply with those maximum mycotoxin limits established by the CAC for this commodity.

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 CAC 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. PACKAGING

6.1 Pearl millet flour shall be packaged in containers which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

6.2 The containers, including packaging material, shall be made of substances which are safe and suitable for their intended use. They should not impart any toxic substance or undesirable odour or flavour to the product.

6.3 When the product is packaged in sacks, these must be clean, sturdy and strongly sewn or sealed.

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 Name of the product

The name of the product to be shown on the label shall be “pearl millet flour”.

7.2 Labelling of non-retail containers

Information for non-retail containers shall either be given on the container or in accompanying documents, except that the name of the product, lot identification and the name and address of the manufacturer or packer shall appear on the container. However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

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)[3] relevant to the provisions in this standard shall be used.

ANNEX

In those instances where more than one factor limit and/or method of analysis is given, we strongly recommend that users specify the appropriate limit and method of analysis.

Factor/Description	Limit	Method of analysis
PARTICLE SIZE		None defined
▪ fine flour	Min: 100% shall pass through a 0.5 mm sieve	
▪ medium flour	Min: 100% shall pass through a 1 mm sieve	
ASH	Range: 0.8 to 1.0% on a dry matter basis	Refer to Section 8
PROTEIN (N x 5.7)	Min: 8.0% on a dry matter basis	Refer to Section 8
FAT	Max: 5.0% on a dry matter basis	Refer to Section 8
CRUDE FIBRE	Max: 1.5 m/m on dry matter	Refer to Section 8
COLOUR	Range: 18 to 30 Kent-Jones units	Refer to Section 8
FOOD ADDITIVES	Conform with legislation of the country in which the product is sold	None defined

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. 1999. *Recommended methods of analysis and sampling*. Codex Alimentarius Standard, No. CXS 234-1999. Codex Alimentarius Commission. Rome.