CODEX ALIMENTARIUS
INTERNATIONAL FOOD STANDARDS

Food and Agriculture Organization of the United Nations
World Health Organization

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STANDARD FOR GARI

CXS 151-1989

Adopted in 1989. Revised in 1995. Amended in 2013, 2019.

1. SCOPE

This Standard applies to gari destined for direct human consumption which is obtained from the processing of cassava tubers (*Manihot esculenta* Crantz).

2. DESCRIPTION

2.1 Definition of the product

Gari is the finished product obtained by artisanal or industrial processing of cassava tubers (*Manihot esculenta* Crantz). The processing consists of peeling, washing and grating of the tubers, followed by fermentation, pressing, fragmentation, granulation, drying if necessary, sifting and suitable heat treatment.[1] Gari is presented as flour of variable granule size.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Quality factors – general

3.1.1 Gari shall be safe and suitable for human consumption.

3.1.2 Gari shall be free from abnormal flavours, odours, and living insects.

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

3.2 Quality factors – specific

3.2.1 ***Moisture content*** 12.0% m/m max

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

3.3 Extraneous matter

According to good manufacturing practices, gari shall be practically free from extraneous matter.

4. CONTAMINANTS

4.1 Contaminants

The product covered by this Standard shall comply with the maximum levels of the *General Standard for Contaminants and Toxins in Food and Feed* (CXS 193-1995).

4.2 Pesticide residues

The product covered by this Standard shall comply with the maximum residue limits for pesticides established by the Codex Alimentarius Commission.

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) 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 micro-organisms 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 micro-organisms in amounts which may represent a hazard to health.

6. PACKAGING

6.1 Gari 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.

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[1] Suitable heat treatment means toasting, grilling or any other method of cooking capable of producing the characteristic organoleptic properties of the product. During the heat treatment, there is a partial gelatinization of the starch and the dehydration of gari grains.

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 Prepackaged Foods* (CXS 1-1985), the following specific provisions apply:

7.1 Name of the product

The name of the product to be shown on the label shall be “gari”.

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) 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
TOTAL ACIDITY	MIN: 0.6% determined as lactic acid – and – MAX: 1% determined as lactic acid	AOAC method 1975 14.064 – 14.065 – or – ISO/DP 7305
CRUDE FIBRE	MAX: 2%	ISO 5498:1981
ASH	MAX: 2.75%	ISO 2171 (1980) – Cereals, Pulses and Derived Products – Determination of Ash (Type I Method)
ENRICHMENT ■ vitamins ■ proteins ■ other nutrients	Conform with Legislation of the Country in Which the Product is Sold	None Defined
FOOD ADDITIVES	Conform with Legislation of the Country in Which the Product is Sold	None Defined
OPTIONAL INGREDIENTS ■edible fats or oils ■ salt	Conform with Legislation of the Country in Which the Product is Sold	None Defined
CLASSIFICATION		ISO 2591-1973, test sieving. The sieves used are AFNOR sieves with square mesh
■ extra-fine gari	MIN: 100% by weight shall pass through a 0.50 mm sieve – and – MIN: 40% by weight shall pass through a 0.25 mm sieve	
■ fine grain gari	MIN: 100% by weight shall pass through a 1 mm sieve – and – MAX: 40% by weight shall pass through a 0.5 mm sieve	
■ medium grain gari	MIN: 100% by weight shall pass through a 1.25 mm sieve – and – MAX: 40% by weight shall pass through 1.00 mm sieve	
■ coarse grain gari	MIN: 100% by weight shall pass through a 2 mm sieve – and – MAX: 40% by weight shall pass through a 1.25 mm sieve	
■ unclassified gari	Buyer preference	