

STANDARD FOR BITTER CASSAVA¹
(CODEX STAN 300-2010)

1. DEFINITION OF PRODUCE

This Standard applies to commercial bitter² varieties of cassava roots grown from *Manihot esculenta* Crantz, of the *Euphorbiaceae* family, to be supplied fresh to the consumer, after preparation and packaging. Cassava for industrial processing is excluded.

2. PROVISIONS CONCERNING QUALITY

2.1 MINIMUM REQUIREMENTS

In all classes, subject to the special provisions for each class and the tolerances allowed, the cassava must be:

- whole;
- sound, produce affected by rotting, mould or deterioration such as to make it unfit for consumption is excluded;
- clean, practically free of any visible foreign matter, except permitted substances³ used to prolong its shelf life;
- practically free of pests and damage caused by them affecting the general appearance of the produce;
- free of abnormal external moisture, excluding condensation following removal from cold storage;
- free of any foreign smell and/or taste⁴;
- firm;
- practically free of mechanical damage and bruising;
- free of loss of colour in the flesh.

The cut at the distal (narrow) end of the cassava should not exceed 2 cm in diameter.

The stalk end of the root should have a clean cut between 1 cm and 2.5 cm in length in case of varieties that have distinct stalk.

2.1.1 The cassava must have reached an appropriate degree of physiological development account being taken of the characteristics of the variety and the area in which they are grown.

The development and condition of the cassava must be such as to enable it:

- to withstand transport and handling; and
- to arrive in satisfactory condition at the place of destination.

2.2 CLASSIFICATION

Cassava is classified in three classes defined below:

2.2.1 "Extra" Class

Cassava in this class must be of superior quality. It must be characteristic of the variety and/or commercial type. It must be free of defects, with the exception of very slight superficial defects, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.

¹ Commonly known in certain regions by: manioc, mandioca, tapioca, aipim, yucca, etc.

² Bitter varieties of cassava are those containing more than 50 mg/kg of cyanides expressed as hydrogen cyanide (fresh weight basis).

³ In accordance with the *General Standard for Food Additives* (CODEX STAN 192-1995).

⁴ This provision allows for smell caused by conservation agents used in compliance with corresponding regulations.

2.2.2 Class I

Cassava in this class must be of good quality. It must be characteristic of the variety and/or commercial type. The following slight defects, however, may be allowed, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package:

- slight defects in shape;
- scarring or healed damage, not exceeding 5% of the surface area;
- scraped areas, not exceeding 10% of the surface area.

The defects must not, in any case, affect the flesh of the produce.

2.2.3 Class II

This class includes cassava which does not qualify for inclusion in the higher classes, but satisfy the minimum requirements specified in Section 2.1 above. The following defects, however, may be allowed, provided the cassava retains its essential characteristics as regards the quality, the keeping quality and presentation:

- defects in shape;
- scarring or healed damage, not exceeding 10% of the surface area;
- scraped areas, not exceeding 20% of the surface area.

The defects must not, in any case, affect the flesh of the produce.

3. PROVISIONS CONCERNING SIZING

Size is determined by the diameter at thickest cross-section of the produce, in accordance with the following table:

Size Code	Diameter (in centimeter)
A	3.5 – 7.5
B	7.6 – 10.0
C	> 10.0

In all cases, cassava must not be less than 300 g in weight nor less than 20 cm in length.

4. PROVISIONS CONCERNING TOLERANCES

Tolerances in respect of quality and size shall be allowed in each package for produce not satisfying the requirements of the class indicated.

4.1 QUALITY TOLERANCES

4.1.1 “Extra” Class

Five percent by number or weight of cassava not satisfying the requirements of the class, but meeting those of Class I or, exceptionally, coming within the tolerances of that class.

4.1.2 Class I

Ten percent by number or weight of cassava not satisfying the requirements of the class, but meeting those of Class II or, exceptionally, coming within the tolerances of that class.

4.1.3 Class II

Ten percent by number or weight of cassava satisfying neither the requirements of the class nor the minimum requirements, with the exception of produce affected by rotting or any other deterioration rendering it unfit for consumption.

4.2 SIZE TOLERANCES

For all classes, 10% by number or weight of cassava corresponding to the size immediately above and/or below that indicated on the package.

5. PROVISIONS CONCERNING PRESENTATION

5.1 UNIFORMITY

The contents of each package must be uniform in shape and contain only cassava of the same origin, variety and/or commercial type, quality and size. The visible part of the contents of the package must be representative of the entire contents.

5.2 PACKAGING

Cassava must be packed in such a way as to protect the produce properly. The materials used inside the package must be new⁵, clean, and of a quality such as to avoid causing any external or internal damage to the produce. The use of materials, particularly of paper or stamps bearing trade specifications is allowed, provided the printing or labelling has been done with non-toxic ink or glue.

Cassava shall be packed in each container in compliance with the *Code of Practice for Packaging and Transport of Fresh Fruits and Vegetables* (CAC/RCP 44-1995).

5.2.1 Description of Containers

The containers shall meet the quality, hygiene, ventilation and resistance characteristics to ensure suitable handling, shipping and preserving of the cassava. Packages must be free of all foreign matter and smell.

6. MARKING OR LABELLING

6.1 CONSUMER PACKAGES

In addition to the requirements of the *General Standard for the Labelling of Prepackaged Foods* (CODEX STAN 1-1985), the following specific provisions apply:

6.1.1 Nature of Produce

Each package shall be labelled as to the name of the produce and type (bitter) and may be labelled as to the name of the variety.

6.1.2 Preparation Instructions⁶

A statement indicating the following is required:

- cassava must not be eaten raw;
- cassava shall be peeled, de-pithed, cut into pieces, rinsed and fully cooked before consumption; and
- cooking or rinsing water must not be consumed or used for other food preparation purposes.

6.2 NON-RETAIL CONTAINERS

Each package must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked, and visible from the outside, or in the documents accompanying the shipment.

6.2.1 Identification

Name and address of exporter, packer and/or dispatcher. Identification code (optional)⁷.

⁵ For the purposes of this Standard, this includes recycled material of food-grade quality.

⁶ In the case of unpackaged bitter cassava, information on safe handling and preparation shall be made available to the consumer at the point of sale.

⁷ The national legislation of a number of countries requires the explicit declaration of the name and address. However, in the case where a code mark is used, the reference "packer and/or dispatcher (or equivalent abbreviations)" has to be indicated in close connection with the code mark.

6.2.2 Nature of Produce

Name of the produce and type (bitter) if the contents are not visible from the outside. Name of the variety (optional).

6.2.3 Origin of Produce

Country of origin and, optionally, district where grown or national, regional or local place name.

6.2.4 Commercial Identification

- Class;
- Size (size code or minimum and maximum diameter in centimetres);
- Net weight;
- Preparation instructions (see Section 6.1.2).

6.2.5 Official Inspection Mark (optional)

7. CONTAMINANTS

7.1 The produce covered by this Standard shall comply with the maximum levels of the *General Standard for Contaminants and Toxins in Food and Feed* (CODEX STAN 193-1995). In the absence of a Codex maximum level for hydrogen cyanide, an acceptable maximum level shall be set on a safety basis by the national legislation of the importing country.

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

8. HYGIENE

8.1 It is recommended that the produce covered by the provisions of this Standard be prepared and handled in accordance with the appropriate sections of the *Code of Practice – General Principles of Food Hygiene* (CAC/RCP 1-1969), *Code of Hygienic Practice for Fresh Fruits and Vegetables* (CAC/RCP 53-2003), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.

8.2 The produce should comply with any microbiological criteria established in accordance with the *Principles for the Establishment and Application of Microbiological Criteria for Foods* (CAC/GL 21-1997).