



**JOINT FAO/WHO FOOD STANDARDS PROGRAMME  
FAO/WHO COORDINATING COMMITTEE FOR AFRICA  
22<sup>nd</sup> Session,**

**Nairobi, Kenya, 16-20 January 2017**

**PROPOSED DRAFT REGIONAL STANDARD FOR FERMENTED COOKED CASSAVA BASED  
PRODUCTS**

(Prepared by the Working Group electronic chaired by Cameroon and co-chaired by the Republic of Congo and Democratic Republic of Congo)

(At Step 3)

Governments and interested international organizations are invited to submit comments on **the proposed draft regional standard for fermented cooked cassava products as presented in Appendix I** at Step 3, and should do so in writing in conformity with the Uniform Procedure for the Elaboration of Codex Standards and Related Texts (see *Procedural Manual of the Codex Alimentarius Commission*) to: Kenya Codex Contact Point, email [akothe@kebs.org](mailto:akothe@kebs.org), [info@kebs.org](mailto:info@kebs.org), <mailto:ccnfsdu@bmel.bund.de> with copy to Secretariat, Codex Alimentarius Commission, Joint WHO/FAO Food Standards Programme, FAO, Rome, Italy, email [codex@fao.org](mailto:codex@fao.org) by **30 November 2016**.

**Format for submitting comments:** In order to facilitate the compilation of comments and prepare a more useful comments document, Members and Observers, which are not yet doing so, are requested to provide their comments in the format outlined in the Appendix II to this document.

### A. Background

At its twenty-first session, the FAO/WHO Coordinating Committee for Africa (CCAFRICA21) agreed to establish an electronic working group (eWG), chaired by Cameroon and co-chaired by the Republic of Congo and the Democratic Republic of Congo, to draft an Africa regional standard for fermented cooked cassava based products.

### B. Methodology

The eWG started its work on December 16, 2015, when the regularly enrolled members received a questionnaire to provide information and data on the standards project. The questionnaire included ten points:

- i. The name of the product,
- ii. The type of standard to be developed (product standard or good standard practice),
- iii. The scope of the standard,
- iv. The description of the products,
- v. The essential constituents and quality,
- vi. The usual contaminants in the products,
- vii. The types of packaging used,
- viii. The various product storage methods,
- ix. The data required for labelling,
- x. The parameters and methods of analysis.

Three countries (i.e. Cameroon, the Democratic Republic of Congo and Burundi) had expressed interest to participate in the project and provided answers to the questionnaire. Based on the responses provided, a first draft of the standard was developed and submitted for consideration to the Working Group. After thorough examination of the first draft, the project was revised, improved and submitted for approval to members of the working group.

### **C. Difficulties encountered**

The first difficulty lies in the clear description of the food variants. Miondo like chikwangue has many variants depending on the production area. It is quite difficult to clearly describe these variants. In the case of miondo, larger variants on the market have been described and selected; other variants are still undergoing specific research.

Regarding Chikwangue, it equally shows many variations, but insufficient data and information to distinguish them clearly forced the members of the working group to stick only to the generic name. It is therefore recommended that the DRC should continue to gather relevant information to enable a proper differentiation of the variants.

The second difficulty concerns specific quality criteria, including total acidity. Research is still carried out to achieve a consensus value for this parameter. In the absence of an appropriate risk assessment, the value of the maximum hydrocyanic acid content is that given for gari which is already under a particular standard.

The third difficulty concerns packaging. Fermented cooked cassava based products are packed in natural leaves that limit their microbiological stability and reduce their storage time. To preserve the unique characteristics of foods by enhancing their stability, it was recommended to associate primary packaging with secondary packaging which in addition shall bear the labelling information. Tertiary packaging is also planned in order to facilitate transportation.

### **Conclusion and recommendation**

There was a very low participation of countries in the work. The entire work was mainly done by Cameroon and the Democratic Republic of Congo (DRC).

Currently, further research is carried out to gather all missing information and data. It is therefore recommended that countries pursue research works each at his level, so that these missing data are provided during CCAFRICA 22.

The EWG has concluded its work on the development of the proposed draft regional standard for *fermented cooked cassava* and presents the draft for consideration by CCAFRICA22 (Appendix I).

## APPENDIX I

**DRAFT REGIONAL STANDARD FOR AFRICA FOR FERMENTED COOKED CASSAVA BASED PRODUCTS****1. SCOPE**

This standard applies to all fermented cooked cassava based products, except gari, which are intended for direct human consumption and obtained after processing of cassava tubers (*Manihotesculenta* Crantz)

**2. DESCRIPTION**

Fermented cooked cassava based products are presented in the form of cassava bread called "chikwangué" in Republic of Congo and Democratic Republic of Congo, "and Ebobolo and miondo" in Cameroon and "mangbèré" in Central Africa Republic.

These products are obtained from fresh cassava roots, peeled, cut, soaked in water for fermentation and pressed and dried before packaging and cooking.

However, for conservation facilitation reasons, fermented cooked cassava based products can be stored and transported fresh to a freezing or deep freezing temperature, and cooking is done at the place of consumption.

- a) **Chikwangué:** Chikwangué stick measures about 30 to 40 cm, it is packed in wild sheets derived from specific endemic herbaceous, grow in Central Africa sub region. Packed Chikwangué is wrapped with wild creepers.
- b) **Ebobolo (cassava stick).** Cassava stick is longer than the Chikwangué one and measures between 50 and 60 cm. It consists of nodes (20 to 25) defined by the tether rope. Its packaging is made from leaves of the same family and species than Chikwangué.
- c) **Miondo:** There are two types of miondo:
  - † **Miondo Sawa:** it is made of two scorched cassava slices of about 30 cm, each wrapped in sheets of *Megaphrynium macrostachyum* or *Sarcophrynium brachystachys*. The lamellae have a width of about 1.5 cm and a fairly uniform thickness of about 3 mm. The two slats once packaged are placed face to face and fastened as cassava stick.
  - † **Miondo of Grassfield (or Meedo).** It measures about 30 cm and it is made from scorched cassava cylindrical dough of about 2 cm in ternal section. It is packaged specifically in banana leaves (*Musa banana*) and tied with ropes of raffia or bamboo.
- d) **Mangbèré:** The mangbèré is either in the form of ball or stick form. It is morphologically very similar to the Chikwangué but shorter in length, about 20 cm, with the look of a chunky and ovoid bread, with a section that varies from 10 cm to the central part to 5 cm towards the ends. Mangbèré is packaged in the same leaves as chikwanga.

**3. ESSENTIAL COMPOSITION AND QUALITY FACTORS****3.1 GENERAL CRITERIA**

Fermented cooked cassava based products should be clean and safe for human consumption. They must be free from abnormal smell and taste, free of any foreign material, like the insect fragments, rodent hairs, grains of sand and dirt dust etc.

**3.2. SPECIFIC CRITERIA**

- i. The water content: 35%
- ii. The total acidity: *(to be determined by a more appropriate study)*
- iii. The fiber content: 2%
- iv. Ash content: 3%
- v. The maximum hydrocyanic acid content: less than or equal to 2 mg / kg as hydrocyanic acid in the free state.

**3.3. PROVISIONS CONCERNING PRESENTATION**

3.3.1 Ebobolo: A stick of Ebobolo measures approximately 60 cm (50-60 cm) length and has about 25 (20 to 25) nodes to a middle section (packed) of 2 to 3 cm. Wrapped in leaves of herbaceous plants mainly *Megaphrynium* and *Sarcophrynium brachystachy* own, without any expansion, it has an homogeneous texture, regular color and smell and free from foreign matter.

3.3.2 Chikwangué: Chikwangué stick measuring about 40 cm length and has about XXXX nodes for an average section (packed) 5 cm. Wrapped in sheets of *Megaphrynium macrostachyum* or

*Sarcophryniumbrachystachys*, clean, without any expansion, it has a homogeneous texture, regular color and smell and free from foreign matter.

3.3.3 Miondo: Miondo stick measures 30 cm length, with average section (packed) of 1.5 cm. It consists of two contiguous symmetrical facets. Wrapped in sheets of *Megaphryniummacrostachyum*, *Sarcophryniumbrachystachys* or banana leaves, clean, without any expansion. It has a homogeneous texture, regular color and smell, free from foreign matter.

3.3.4 Mangbèré: The ball of Mangbèré weighs about XXXXX kg, its stick form is about 20 cm. Wrapped in sheets of *Megaphryniummacrostachyum*, clean, without any expansion, it has a homogeneous texture, regular color and smell, free from foreign matter.

#### **4. CONTAMINANTS**

The products 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).

#### **5. PESTICIDE RESIDUES**

The products covered by this Standard shall comply with the maximum residue limits for pesticides and/or veterinary drugs established by the Codex Alimentarius Commission.

#### **6. HYGIENE**

It is recommended that the products covered by the provisions of this standard be prepared and handled in accordance with applicable sections of the *General Principles of Food Hygiene* (CAC/RCP 1-1969), and the *Code of Practice for the reduction of hydrocyanic acid (HCN) in cassava and cassava products* (CAC/RCP 73-2013).

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

#### **7. PACKAGING**

Products concerned by this standard are covered by three types of packaging:

- a) The primary packaging in contact with food, contains sales units. It is made of sheets of *Megaphryniummacrostachyum* or *Sarcophryniumbrachystachys* for Chikwangue, Mangbèré, Ebobolo and Miondo and banana leaves (*Musa banana*) for Meedo.
- b) The secondary packaging made of any kind of materials and consists of packages from two to five sales units. Miondo packet is made of 20 units of miondo double lamellae, whereas that of Meedo is made of 10 Meedo units.
- c) The tertiary packaging made of any kind of materials and contains a limited number of sales units packets.

The primary packaging, secondary and tertiary must be clean and preserve the hygienic, nutritional, technological and organoleptic quality of the product. They should not impart product any toxic substance or undesirable odor or flavor. Secondary and tertiary packaging should be robust and solidly designed for the use for which they are intended.

#### **8. LABELLING**

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

##### **8.1 Product Names**

The name of the products covered by this standard is " Fermented cooked cassava based products," followed by product specific name (Ebobolo, miondo, chikwangue, mangbèré).

##### **8.2 Location of label**

The label of products covered by this standard should be placed on the secondary packaging.

##### **8.3 Labelling of Non- Retail container**

Information for non-retail containers shall be given either 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 mark is clearly identifiable with the accompanying documents.

## **9 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 (CODEX STAN 234-1999) relevant to the provisions in this standard, shall be used.”

### GUIDANCE ON THE SUBMISSION OF COMMENTS

In order to facilitate the compilation of comments and the preparation of documents for comments, members and observers who do not yet are asked to submit their comments under the following headings:

- (i) General comments
- (ii) specific Observations

Specific comments should include a reference to the relevant section and/or subsection of the document to which the comments refer.

When it is proposed to amend a particular paragraph, members and observers are requested to provide their proposal for an amendment with a corresponding rationale. The new labels should be presented in **bold/underlined characters** and deleted passages should be presented in bar characters.

To facilitate the work of the secretariats that compile observations, members and observers are requested to refrain from using characters or a highlight in color because the documents are printed in black and white, and do not use the track changes feature, as these can be lost when comments are copied and pasted into a consolidated document.

In order to reduce the volume of translation work and to save paper, members and observers are requested to not to reproduce the document in full, but only the parts of the text to which the change or amendment is proposed.