



**JOINT FAO/WHO FOOD STANDARDS PROGRAMME
FAO/WHO COORDINATING COMMITTEE FOR AFRICA**

Twenty-fifth session

Kampala (Uganda)

27-31 January 2025

**PROPOSAL FOR NEW WORK
PROPOSAL TO DEVELOP A STANDARD FOR THIAKRY**

(Prepared by Senegal)

DISCUSSION PAPER

CONTEXT

Senegal had proposed the idea of developing a Codex regional standard for Africa on "Thiakry" pre-cooked cereal and/or vegetable granules at the 24th session of CCAFRICA held in Kampala (UGANDA) from 5 to 9 September 2022.

Subsequently, Senegal was asked to prepare a draft document to be presented at the next session of CCAFRICA.

"Thiakry" pre-cooked cereal and/or vegetable granules are widely consumed by the people of West Africa and are traded among various countries.

Therefore, this proposal will be discussed under Item 9.2 of the agenda of CCAFRICA25, which will be held from 27 to 31 January 2025.

INTRODUCTION

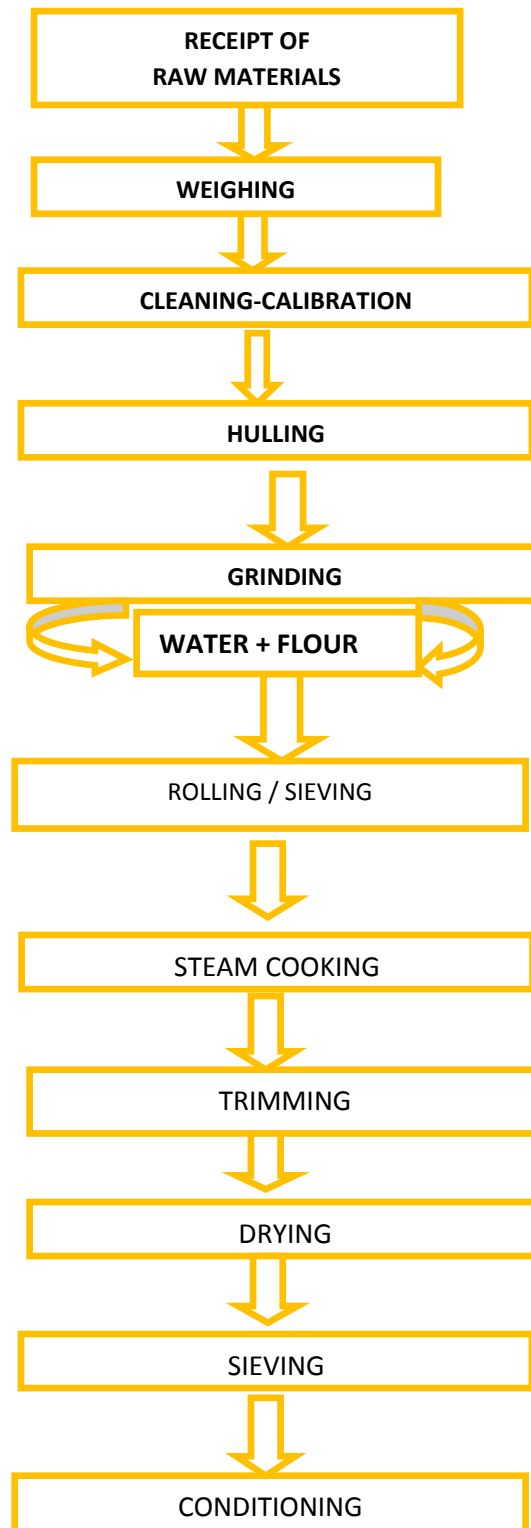
Cereals are staple foods in most West African countries and constitute an important source of income for the various actors in the chain, especially producers and processors.

They play an important role in the diet of the people of Senegal and those living in countries of the West African subregion. Cereals (particularly millet) are processed into various products such as pre-cooked granules known as "Thiakry" in Senegal and as "Dêguê" in Côte d'Ivoire, Burkina Faso and Mali.

Given the steady increase in the production and trade of thiakry in the region, there is a need to establish a standard to regulate the identity and quality in all their aspects, i.e., the nutritional value, safety, health, and hygiene of the product, and to provide an agreed frame of reference for regional consensus among major exporting and importing countries.

"Thiakry" pre-cooked cereal and/or vegetable granules are the product of the processing of cereals (millet and others) and/or vegetables. It is obtained by "rolling" (agglomeration) or "granulating" a moistened flour or a mixture of cereal (millet, maize, rice) and/or other vegetable (mango, cassava, sweet potato, banana, cowpea, etc.) flours, followed by thermal and physical treatments such as steaming, sieving and drying.

- Diagram of the production of “Thiakry”



Source: Food Technology Institute (ITA), Senegal

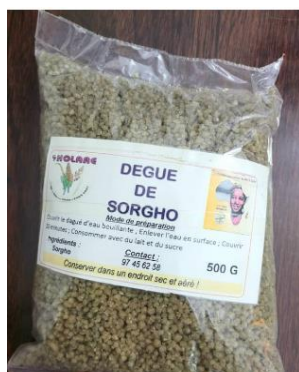
- **Production diagram of pre-cooked millet and sorghum granules (adapted from Broutin, 2003).**

Operations	Functions	Technology choices
Initial product: millet or sorghum flour		
Hydration and kneading	Hydrate and homogenize the flour to a water content of 45-46% for easy granulation	Manual operation
Crumbling	Break up the clumps of flour formed during kneading	Manual operation
Granulation	Form granules between 1.5 and 3mm in size	Manual granulation, with possible pre-granulation through a dégué témé sieve Couscous roller
Pre-steaming	Pre-cooking and gelatinization of the granules for good crush resistance	Couscous maker Steam Cooker
Crumbling	Break up the clumps to individualize granules and facilitate drying	Manual operation
Drying	Reduce the water content of granules to less than 10%	Gas dryer Solar dryer
Sieving	Homogenize the granules	Manual sieving Mechanical sieving
Weighing	Setting up a sales unit	Balance
Packaging	Protection against contamination, humidity, air	Heat sealer
Finished product: dégué, thiakry		

Source: Cruz J.F., Hounhouigan D.J., Havard M., Ferré T., 2019. Grain processing. Collection Agricultures tropicales en Poche, Quæ, Presses agronomiques de Gembloux, CTA, Versailles, Gembloux, Wageningen. 182 p. + four-colour notebook 16 p.

- **Examples of pre-cooked cereal and/or other vegetable flour granules**





OBJECTIVE

The proposal consists of developing a regional Codex standard for "Thiakry" pre-cooked cereal and/or vegetable granules.

THE NEED TO DEVELOP A STANDARD

The Codex Commission has standards on whole grain and hulled millet (CXS 169-1969) and CXS 170-1989 Standard on pearl millet flour, which were revised in 1995 and amended in 2023, but they do not concern "Thiakry" pre-cooked cereal and/or vegetable granules. This product specifically involves the processing of cereals such as millet.

METHODOLOGY

When developing the regional standard on "Thiakry", the common scope and quality parameters as well as the common reference for safety parameters such as contaminants, hygiene, food additives and labelling requirements should be considered.

Work on developing this regional standard will be entrusted to the Codex Coordinating Committee for Africa (CCAFRICA) with the support of the Codex Secretariat.

In the process of developing the standard, Codex Member countries should also provide comments/suggestions at the relevant stages.

RECOMMENDATION

It is recommended that CCAFRICA consider the importance and necessity of developing a standard on "Thiakry," given that establishing minimum requirements for quality parameters could create a unique benchmark for consumer protection and the assurance of fair practices in the food trade. The draft document for the new work is enclosed as Appendix I.

APPENDIX I

PROPOSAL FOR NEW WORK

DEVELOPMENT OF A REGIONAL STANDARD ON PRE-COOKED CEREAL AND/OR OTHER VEGETABLE FLOUR GRANULES; *THIAKRY*

DRAFT DOCUMENT

1. PURPOSE

This document recommends the development of a regional standard for pre-cooked cereal and/or other vegetable flour granules.

2. OBJECTIVE

The objective of this standard is to define the characteristics of the identity and quality of the product in the context of regional and international trade with the aim of protecting consumer health and promoting fair and equitable trade in the product.

3. PRODUCT DESCRIPTION

The term "pre-cooked cereal and/or other vegetable flour granules" is the product obtained by "rolling" (agglomerating) or "granulating" a moistened flour or a mixture of cereal (millet, maize, rice) and/or other vegetable (mango, cassava, sweet potato, banana, cowpea, etc.) flours, followed by thermal and physical treatments such as steaming, sieving and drying.

4. RELEVANCE TO CODEX STRATEGIC OBJECTIVES

The development of this standard is in line with the objectives set out in the Codex Strategic Plan 2020-2025 (protecting consumer health and ensuring fair practices in the food trade through the fine tuning of international and regional standards).

It will help achieve the following objectives:

2.2 Promote the submission and use of globally representative data in the development and review of Codex standards (Strategic Objective 2: Develop standards based on science and Codex risk-analysis analysis)

3.3 Recognize and promote the impact of Codex standards (Strategic Objective 3: Increase impact through the recognition and use of Codex standards)

4.2 Increase the sustainable and active participation of all Codex Members (Strategic Objective 4: Facilitate the participation of all Codex Members throughout the standard setting process)

5. ISSUES TO BE ADDRESSED

- Scope
- Description
- Composition and quality factors
- Additives
- Contaminants
- Hygiene
- Conditioning
- Labeling
- Sampling and analysis methods

6. ASSESSMENT WITH REGARD TO THE PRIORITIZATION CRITERIA**6.1. General criteria**

The quality of the product must meet the needs of consumers and comply with the minimum requirements for food safety.

A Codex standard for this product will contribute toward:

- improving its quality;
- protecting consumer health;
- promoting international trade in the product by conferring international recognition;

- increasing incomes of the actors along the chain through the added value created through international recognition. It would be particularly beneficial for developing countries, which are the main exporters and consumers of these products.

6.2. Production criteria

• Production volume

The pre-cooked cereal and/or other vegetable flour granules covered by the draft standard are mainly based on cereals, of which Africa is simultaneously a major producer and consumer.

Millet, one of the staple cereals of "pre-cooked cereal and/or other vegetable flour granules", is the seventh most popular cereal in the world. It is the Sahelian cereal par excellence because of its adaptation to the production conditions specific to this region. Thus, Nigeria and Niger are the two leading producer countries of this cereal in Africa, which is characteristic of the types of crops in this area, occupying more than 65% of the area sown.

At the global level, these two countries, with 2 Mt and 3.4 Mt, respectively, are behind India, which is the world's leading producer with 11.55 Mt.

In terms of area planted, the main countries are India (9.5 MHa), Niger (6.92 MHa) and Sudan (2.76 MHa) with a total area of 31.7 MHa worldwide over the period 2010 - 2022 and a total production estimated at 29.2 Mt per year.

Sorghum (*Sorghum bicolor*) is the world's fifth most popular cereal with 60 million tonnes, almost half of which is in Africa and a third in the Americas, while pearl millet (*Pennisetum glaucum*) (15 to 20 million tonnes) is produced mainly in India and Africa in the Sahel region (CIRAD, 2023).

Senegal is a major producer and consumer of cereals. Cereal production in 2022-2023 was 3 663 690 tonnes, of which 1 097 033 tonnes were millet (ANSD, 2023), while average consumption is estimated at 0.1 to 0.15 kg/head/day (USAID, 2017).

The processing of agricultural products makes it possible to add value to the product, diversify the offer, facilitate conservation and storage, and meet the new needs of final consumers.

• Markets

Artisanal processing in rural areas, and even more so in urban areas, is highly developed. Foods from this craft are still in demand, but today, in urban centres, a new market is developing: that of stabilised processed products made by small companies that aim for a longer shelf life and wider distribution. Resulting from traditional processes or innovations, they meet a growing demand for processed products that are easier and faster to prepare. Entrepreneurs are seeking to diversify the use of cereals by offering products adapted to consumer demand for a wide range of products, taste, quality, presentation, and preservation. Thus, in several countries, ready-to-use or pre-cooked dry products, sold in bags, are put on the market: millet and maize couscous in Senegal, pre-cooked fonio in Burkina Faso and Mali, infant flours and biscuits in Benin, Burkina Faso and Senegal. We have even noticed that these products are beginning to be exported to neighbouring countries and to international markets (millet semolina in bags from Senegal to Gabon, dry millet couscous and fonio from Senegal to France, Italy and the United States).

Cereals are a staple food in most West African countries and constitute an important source of income for various actors in the chain, especially producers and processors.

They occupy an important place in the diet of the Senegalese population and those of the countries of the West African sub-region. Cereals (particularly millet) are processed into various products such as pre-cooked granules known as "Thiakry" in Senegal and as "Dêguê" in Côte d'Ivoire, Burkina Faso and Mali.

Pre-cooked cereal and/or other vegetable flour granules are generally high value-added products (25 to 45% depending on the price of the raw material during the year). Profitability largely depends on the cost of raw materials. Prices and quality fluctuate greatly during the year and are higher during lean periods or years of low production.

These products are exported to West Africa (Mali, Burkina Faso) and to countries with a significant African diaspora, Europe (Italy, Spain and France) and America (the United States).

Table 1: Main destinations of quantities (in tonnes) exported in types of millet products from Senegal between 2009-2019

Types of products	Destinations	Quantity (tonnes)
Thiakry and Arraw (granules)	Mali	330.12
Thiakry and Arraw (granules)	Spain	141.18
Thiakry and Arraw (granules)	France	106.53
Thiakry and Arraw (granules)	Italy	102.19

Source: Barro, based on data (Directorate General of Taxes and Estates of Senegal (DGIG), 2018)

Table 2: Export earnings (in FCFA) from millet products from Senegal over the period 2009-2019 by country

Types of products	Destinations	Revenues (FCFA)
Thiakry and Arraw	Burkina Faso	60,457,255
Thiakry and Arraw	United States	45,652,227
Thiakry and Arraw	Spain	16,302,615
Thiakry and Arraw	Gambia	6,021,923

Source: Barro, based on data (Directorate General of Taxes and Estates of Senegal (DGIG), 2018)

- **Use of the product**

Pre-cooked cereal and/or other vegetable flour granules are consumed with milk or peanut paste as snacks or during traditional family celebrations in the West African region.

- **Diversity of legislations**

There is still no specific national or regional legislation for "pre-cooked cereal and/or other vegetable flour granules". These products are marketed in other African countries based on the Senegalese standard which stipulates that they must obtain a marketing authorization (AUT/FRA) issued by the competent trade authorities after analysis by an approved laboratory and inspection of the premises to verify compliance with good hygiene and manufacturing practices.

At the regional level, there is not yet an ECOWAS harmonised standard or a regional Codex standard.

7. RELEVANCE TO CODEX STRATEGIC OBJECTIVES

The development of a regional Codex standard for these products is in line with the Codex Strategic Plan 2020-2025, which aims to promote countries' integration of Codex standards into their national legislation and facilitate international trade.

8. DRAFT WORK SCHEDULE

STAGES	DATE
Review of the new activity by the FAO/WHO Coordinating Committee for Africa (CCAFRICA) at its 25th session	2025
Review of the new activity by the Codex Commission at its forty-eighth (47th) [sic] session	2025
Stage 3 review of the draft standard by the FAO/WHO Coordinating Committee for Africa (CCAFRICA) at its 26th session	2027
Adoption in Stage 5 by the Codex Alimentarius Commission (CAC) at its fiftieth (50th) session	2027
Stage 5 (or 5/8) review of the draft standard by the FAO/WHO Coordinating Committee for Africa (CCAFRICA) at its 27th session	2029
Stage 8 review for adoption by the Commission of the Codex Alimentarius (ACC) at its fifty-second (52nd) session	2029

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2. Codex Alimentarius Commission Strategic Plan 2020-2025;
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4. NS03-099: Pre-cooked cereal and/or other vegetable flour granules - Specifications;
5. Analysis of the local cereals (millet and maize) market in Senegal IPAR 2021.
6. Thiakry production diagram prepared by the Cereals and Legumes Workshop of the Food Technology Institute, Dakar-SENEGAL Website: www.ita.sn
7. Cruz J.F., Hounhouigan D.J., Havard M., Ferré T., 2019. Grain processing. Collection Agricultures tropicales en Poche, Quæ, Presses agronomiques de Gembloux, CTA, Versailles, Gembloux, Wageningen. 182 p. + four-colour notebook 16 p.