



## **Specification for Rice Grains**

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## THE GAMBIA STANDARDS BUREAU

The Gambia Standards Bureau is a statutory Government specialized Agency established by The Gambia Standards Bureau Act 2010 to standardize products, methods, systems and for connected matters. Hence, the Bureau is the sole National Standardization Body. As such, it has been a member of International Standardization Bodies such as the International Organization for Standardization (ISO) since 2011, International Electrotechnical Commission (IEC) and the Standards and Metrology Institute for Islamic Countries (SMIIC) from 2012.

The objectives of the Bureau, as specified in its Act, are to: establish and promulgate standards for imported and locally-produced goods; facilitate domestic and international trade; foster and promote standards both for industrial efficiency and advancing economic development; promote the health and safety of consumers; enhance international cooperation in relation to standards and standardization. Thus, the National Quality Policy details the responsibilities of the Bureau in Standardization, Metrology and Conformity Assessment services in Testing, Inspection and Certification.

Therefore, the functions, of the Bureau are to define, prepare, publish, modify or amend Standards Specifications as well information-dissemination of standards. In addition to providing Testing, Inspection and Certification services for goods, systems and processes independently or in relation to conformity with its Standards Mark, the Bureau also conducts training and research. In Metrology, the Bureau serves as the custodian of primary national reference measurement standards through its National Metrology Laboratories and conducts calibration of measurement devices and physical standards.

The development of Gambian Standards (GAMS) is carried out by the Bureau through Technical Committees composed of a balanced representation of stakeholders, as may be appropriate to the subject in question. The Bureau ensures that Standards are developed in accordance with the *ISO/IEC Guide 21-1:2005: Regional or National adoption of International Standards and other International deliverables* and the *World Trade Organization Code of good practice for the preparation, adoption and application of standards*. To the greatest extent possible, Gambian Standards are aligned to or are adoptions of relevant international standards.

For further information on and copies of Gambian Standards, please contact The Gambia Standards Bureau.

## **COMMITTEE REPRESENTATIVES**

The Technical Committee on National Food Standards which supervised the development of this Gambian Standard consists of representatives from the following organizations:

**National Codex, Sanitary and Phytosanitary Committee (NCSPSC)**

**Food Safety and Quality Authority of The Gambia (FSQA)**

**National Nutrition Agency (NaNA)**

**Food Technology Unit of Department of Agriculture (FTU-DOA)**

**Animal Health and Production Services (AHPS)**

**Plant Protection Services (PPS)**

**National Agricultural Research Institute (NARI)**

**National Association of Food Processors (NAFP)**

**National Poultry Farmers Association of The Gambia (NPFA)**

**National Women Farmers Association (NAWFA)**

**Consumer Protection Association of The Gambia (CPAG)**

**Jawneh and Family Cashew Farm (JFCF)**

**Agribusiness Services and Production Association (ASPA)**

**Gambia Livestock Marketing Agency (GLMA)**

**Fisheries Department**

**Association of Fishing Companies**

The Working Group on plant base food products which developed this Gambian Standard consists of representatives from the following Organizations:

**Agribusiness Services and Production Association (ASPA)**

**National Women Farmers Association (NAWFA)**

**National Agricultural Research Institute (NARI)**

**Plant Protection Services (PPS)**

**Gambia Groundnut Cooperation (GGC)**

**GAMHOPE**

## Foreword

The Food and Agricultural Products Technical Committee through its sub-committee for rice developed the Standard in accordance with the Procedures of the ISO/IEC Guide 21-1 - Regional or national adoption of International Standards and other International Deliverables - Part 1: Adoption of International Standards. The method of adoption was Modified Adoption.

This Gambian Standard applies to specification for rice grains.

The Standard addresses the following:

- SCOPE
- NORMATIVE REFERENCES
- TERMS AND DEFINITIONS
- ESSENTIAL COMPOSITION AND QUALITY FACTORS
- CONTAMINANTS
- HYGIENE
- PACKAGING AND LABELLING
- METHODS OF SAMPLING AND ANALYSIS

This Standard can be obtained from The Gambia Standards Bureau.

## Specification for Rice Grains

### 1. Scope

This Gambian Standard specifies requirements for husked, milled and parboiled rice (*Oryza sativa* L. species) for human consumption; i.e., ready for its intended use as human food, presented in packaged form or sold loose from the package directly to the consumer. It also specifies the classification, methods of sampling and Test for rice.

It does not apply to other products derived from rice or to glutinous rice.

### 2. Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

- i. *ISO 605: 1991 – Methods of test for cereals and pulses. Determination of impurities, size, foreign odours, insects, and species and variety in pulses*
- ii. *EN 14084: 2003 – Foodstuffs – Determination of trace elements – Determination of lead, cadmium, zinc, copper and iron by atomic absorption spectrometry (AAS) after microwave digestion*
- iii. *ISO 16050:2003 – Foodstuffs – Determination of aflatoxin B1, and the total content of aflatoxins B1, B2, G1 and G2 in cereals, nuts and derived products - High-performance liquid chromatographic method*
- iv. *ISO 4833:2003 – Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of microorganisms – Colony – count technique at 30°C*
- v. *EN 14627: 2005 – Foodstuffs – Determination of trace elements – Determination of total arsenic by hydride generation atomic absorption spectrometry (HGAAS) after pressure digestion*
- vi. *ISO 7251: 2005 – Microbiology of food and animal feeding stuffs – Horizontal method for the detection and enumeration of presumptive *Escherichia coli* - Most probable number technique*

- vii. *ISO 21527-2: 2008 – Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of yeasts and moulds – Part 2: Colony count technique in products with water activity less than or equal to 0.95*
- viii. *ISO 6579: 2002 – Microbiology of food and animal feeding stuffs – Horizontal method for the detection of Salmonella spp.*
- ix. *ISO 24333: 2009 - Cereals and Cereal Products – Sampling*
- x. *ISO 712: 2009 - Cereals and Cereal Products – Determination of moisture content – Reference Method*
- xi. *ISO 7301:2011 – Rice – Specification*
- xii. *Association of Official Analytical Chemistry AOAC Official Method 971.21, 2005 Mercury in Foods, Flameless Atomic Absorption Spectrophotometric Method, 18<sup>th</sup> Edition, Chapter 9.2.22*
- xiii. *GAMS 23: 2020 - Gambian Standard for Good Hygienic Practices*
- xiv. *GAMS ISO 23560 2015: Gambian Standard on Woven polypropylene sacks for bulk packaging of foodstuffs*
- xv. *GAMS CODEX STAN 1-1985, Labelling of Pre-packaged foods*

### 3. Terms and Definitions

For the purposes of this standard the following definitions shall apply:

#### 3.1. Rice

Whole and broken kernels obtained from the species *Oryza sativa* L

#### 3.2. Paddy Rice

Rice which has retained its husk after threshing.

#### 3.3. Husked Rice (brown rice or cargo rice)

Paddy rice from which the husk only has been removed. The process of husking and handling may result in some loss of bran.

**3.4. Milled Rice (white rice)**

Husked rice from which all or parts of the bran germ have been removed by milling.

**3.5. Parboiled Rice**

May be husked or milled rice processed from paddy or husked rice that has been soaked in water and subjected to a heat treatment so that the starch is fully gelatinized, followed by a drying process.

**3.6. Glutinous Rice; waxy rice**

Kernels of special varieties of rice which have a white and opaque appearance. The starch of glutinous rice consists almost entirely of amylopectin. It has a tendency to stick together after cooking.

**3.7. Extraneous matter**

Organic and inorganic components other than kernels of rice.

**3.8. Filth**

Impurities of animal origin (including dead insects)

**3.9. Other organic extraneous matter**

Components such as foreign seeds, husk, bran, fragments of straw, etc.

**3.10. Whole kernel**

A kernel without any broken part

**3.11. Head rice**

A kernel, the length of which is equal to or greater than three quarters of the average length of the corresponding whole kernel.



**3.12. Broken kernel**

Fragment of the kernel.

**3.13. Large broken kernel**

Fragments of kernel, the length of which is less than three-quarters but greater than one-half of the average length of a corresponding whole kernel.

**3.14. Medium broken kernel**

Fragments of kernel, the length of which is equal to or less than one-half but greater than one-quarter of the average length of a corresponding whole kernel.

**3.15. Small broken kernel**

Fragments of kernel, the length of which is equal to or less than one-quarter of the average length of a corresponding whole kernel but which does not pass through a metal sieve with round perforation 1.4 mm in diameter.

**3.16. Chips**

Fragments of kernel which pass through a metal sieve with round perforations 1.4 mm in diameter.

**3.17. Heat-damaged kernels**

kernels, whole or broken, that have changed their normal colour as a result of heating. This category includes whole or broken kernels that are yellow due to alteration. Parboiled rice in a batch of non-parboiled rice is also included in this category.

**3.18. Damaged kernels**

Are kernels, whole or broken, showing obvious deterioration due to moisture, pests, diseases, or other causes, but excluding heat-damaged kernels.

**3.19. Immature kernels**

Unripe and/or undeveloped whole or broken kernels.

**3.20. Chalky kernels**

Whole or broken kernels except for glutinous rice, of which at least three-quarters of the surface has an opaque and floury appearance.

### **3.21. Red kernels**

Whole or broken kernels with a red-coloured pericarp covering more than one-quarter of their surface.

### **3.22. Red-streaked kernels**

kernels, whole or broken, with red streaks, the lengths of which may be equal to or greater than one-half of that of the whole kernel, but the surface area covered by these red streaks shall be less than one-quarter of the total surface.

### **3.23. Pecks**

whole or broken kernels of parboiled rice of which more than one-quarter of the surface is dark brown or black in colour.

## **4. Essential Composition and Quality Factors**

### **4.1. Quality factors**


#### **4.1.1. General Requirements**

In all classes subject to the special provisions for each class:

- (i) Rice shall be safe and suitable for human consumption.
- (ii) Rice shall be free from abnormal flavours, odours, living insects and mites.

#### **4.1.2. Specific Requirements**

When tested by the appropriate method of analysis as specified in *clause 2* of this Standard and other appropriate methods Rice shall comply with the requirements given in *Table 1*.



Only the informative sections of standards are publicly available. To have access to the full standard, you will need to purchase the standard from The Gambia Standards Bureau. You can contact the Bureau on **TEL:** 4464210, **Email:** [info@tgsb.gm](mailto:info@tgsb.gm)