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Malted sorghum grains — Specification

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In order to match with technological development and to keep continuous progress in industries, standards are subject to periodic review. Users shall ascertain that they are in possession of the latest edition

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Foreword

Rwanda Standards are prepared by Technical Committees and approved by Rwanda Standards Board (RSB) Board of Directors in accordance with the procedures of RSB, in compliance with Annex 3 of the WTO/TBT agreement on the preparation, adoption and application of standards.

The main task of technical committees is to prepare national standards. Final Draft Rwanda Standards adopted by Technical committees are ratified by members of RSB Board of Directors for publication and gazettment as Rwanda Standards.

DRS 468 was prepared by Technical Committee RSB/TC 003 on *Cereals, pulses, legumes and cereal products*.

Committee membership

The following organizations were represented on the Technical Committee on *Cereals, pulses, legumes and cereal products*. (RSB/TC 003) in the preparation of this standard.

Adma International Ltd

Green Rev Ltd

Manosalwa Food Industries Ltd

Nyabihu TVET School

Nyarutarama Business Incubation Centre

Soma Gacye Ltd

UR-CAVM

Urwibutso Ese

Rwanda Standards Board (RSB) – Secretariat

Malted sorghum grains — Specification

1 Scope

This Draft Rwanda Standard specifies requirements, sampling and test methods for malted sorghum grains of varieties (cultivars) grown from *Sorghum bicolor* (L.) Moench intended for human consumption or further processing.

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.

ISO 15214, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of mesophilic lactic acid bacteria — Colony-count technique at 30 degrees C*

RS CAC/RCP 1, *Code of practice — General principles of food hygiene*

RS CODEX STAN 192, *General standard for food additives*

RS CODEX STAN 193, *Codex general standard for contaminants and toxins in food and feed*

RS EAS 12, *Potable water — Specification*

RS EAS 38, *Labelling of pre- packaged foods— General requirements*

RS EAS 757, *Whole sorghum grains — Specification*

RS ISO 16649-2, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of beta-glucuronidase-positive Escherichia coli — Part 2: Colony-count technique at 44 degrees C using 5-bromo-4-chloro-3-indolyl beta-D-glucuronide*

RS ISO 21527-2, *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*

RS ISO 2171, *Cereals, pulses and by-products — Determination of ash yield by incineration*

RS ISO 24333, *Cereals and cereal products — Sampling*

RS ISO 24557, *Pulses — Determination of moisture content — Air-oven method*

RS ISO 5498, *Agricultural food products — Determination of crude fibre content — General method*

3 Terms and definitions

For the purposes of this standard, the following terms and definitions apply.

3.1

malted sorghum grains

germinated and dried sorghum grains

3.2

foreign matter

organic and inorganic materials other than dried malted sorghum grains

3.3

food grade packaging material

packaging material, made of substances which are safe and suitable for their intended use and which will not impart any toxic substance or undesirable odour or flavour to the product

4 Requirements

4.1 Raw materials

The following raw materials shall be used in manufacturing malted sorghum grains:

- a) sorghum grains from which the malt is obtained shall comply with RS EAS 757; and
- b) potable water complying with RS EAS 12.

4.2 Optional ingredients

The following optional ingredients may be used:

- a) suitable ash from glasses and/or plant leaves; and
- b) suitable food additives complying with RS CODEX STAN 192.

4.3 General requirements

Malted sorghum grains shall be:

- a) clean, wholesome and uniform in size and shape;
- b) free from musty or other objectionable odour;
- c) practically free from live pests; and
- d) practically free from noxious or harmful seeds in amounts that could be harmful to human health.

4.4 Specific requirements

Malted sorghum grains shall comply with the specific requirements given in Table 1 when tested in accordance with test methods specified therein.

Table 1—Specific requirements for Malted sorghum grains

S/N	Characteristic	Requirement	Test method
i.	Moisture %, m/m, max.	13.5	RS ISO 24557
ii.	Foreign matter, %m/m, max.	2.0	RS ISO 605
iii.	Total ash (on dry basis), % m/m max.	4.0	RS ISO 2171
iv.	Crude fiber, % m/m max.	2.5	RS ISO 5498
v.	Carbohydrates % m/m min.		
vi.	Tannin content, % m/m, max.	0.5	ISO 9648

5 Hygiene

5.1 Malted sorghum grains shall be produced, prepared and handled in accordance with RS CAC/RCP 1

5.2 Malted sorghum grains shall not exceed the microbiological limits in Table 2 when tested in accordance with test methods specified therein.

Table 2—Microbiological limits for Malted sorghum grains

S/N	Microorganism	Maximum limit	Test method
i.	<i>Salmonella spp</i> , per 25 g	Absent	RS ISO 6579-1
ii.	<i>Escherichia coli</i> , cfu/g	Absent	RS ISO 16649-2
iii.	Yeast and moulds, cfu/g	10 ⁴	RS ISO 21527-2
iv.	<i>Staphylococcus aureus</i> per 25 g	Absent	RS ISO 6888-1
v.	Lactic acid bacteria, cfu/g	Absent	ISO 15214

6 Contaminants

6.1 Pesticides residues

Malted sorghum grains shall comply with those maximum residue limits for pesticides established by the Codex Alimentarius Commission.

6.2 Heavy metals

Malted sorghum grains shall comply with the limits for heavy metals specified in CODEX STAN 193.

6.3 Mycotoxins

Malted sorghum grains shall not exceed aflatoxin limits in Table 3 when tested in accordance with test method specified therein.

Table 3 — Aflatoxin limits for Malted sorghum grains

S/N	Type of aflatoxin	Maximum limit (µg/kg)	Test method
i.	Total aflatoxin	10	EAS 901
ii.	Aflatoxin B ₁	5	
iii.	Fumonisin	2 000	

7 Packaging

Malted sorghum grains shall be packed in new suitable bags made of paper, jute, polypropylene or any other suitable food grade packaging material capable of protecting quality and safety of the product. The mouth of each package shall be properly sealed.

8 Labelling

In addition to the requirements of RS EAS 38, the following specific labelling requirements shall be legibly and indelibly marked:

- a) name of product as “Malted sorghum grains”;
- b) name and address of manufacturer;
- c) date of manufacture;
- d) date of expiry;
- e) instruction for use;

- f) batch number;
- g) storage conditions; and
- h) country of origin.

9 Sampling

Sampling of malted sorghum grains shall be in accordance with RS ISO 24333.

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