**Amaranth grains — Specification**

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This African Standard was prepared by the ARSO Technical Committee on Cereals, Pulsses and Derived Products (ARSO/TC 12).

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ARSO Central Secretariat

International House 3rd Floor

P. O. Box 57363 — 00200 City Square

NAIROBI, KENYA

Tel. +254-20-2224561, +254-20-311641, +254-20-311608

Fax: +254-20-218792

E-mail: [arso@arso-oran.org](http://www.arso-oran.org/arso@arso-oran.org)

Web: [www.arso-oran.org](http://www.arso-oran.org)

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**Amaranth grains – Specification**

## AFRICAN STANDARD

**1 Scope**

This African Standard specifies the requirements and methods of sampling and test of whole grains of amaranth (*Amaranthus. hypochondaricus* and *A. cruentus* and any other variety duly approved as a grain amaranth species) intended for human consumption.

**2 Normative references**

The following referenced documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

ARS 56, *Labelling of pre-packaged foods — Requirements*

ARS 53, *General principles of food hygiene — Code of practice*

ISO 24333, *Cereals and pulses — Sampling*

*ISO 712 - Determination of Moisture content in cereals and cereals product.*

ISO 605*, Pulses — Determination of impurities, size, foreign odours, insects, and species and variety — Test methods*

ISO 16649-1, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of β-glucuronidase-positive Escherichia coli — Part 1: Colony-count technique at 44 °C using membranes and 5-bromo-4-chloro-3-indolyl β-D-glucuronide*

ISO 6888-1, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) — Part 1: Technique using Baird-Parker agar medium*

*ISO 21527-2, 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*

ISO 1871, *Food and feed products — General guidelines for the determination of nitrogen by the Kjeldahl method*

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

**3 Terms and definitions**

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

**3.1**

**amaranth whole grains**

grains obtained from species of Amaranth(*Amaranthus. hypochondaricus, and A. cruentus*) and any other variety duly approved as a grain amaranth species

**3.2**

**extraneous matter**

organic and inorganic materials other than the amaranth grains

**3.3**

**inorganic matter**

extraneous matter such as stones, glass, pieces of soil and other mineral matter

**3.4**

**organic matter**

any animal or plant matter (seed coats, straws, weeds) other than the amaranthus grains, extraneous matter, harmful/toxic seeds and other inedible grains

**3.5**

**filth**

impurities of animal origin, including dead insects

**3.6**

**discolouration**

alterations of natural colour due to heat or weather damage

**3.7**

**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 Quality requirements**

**4.1 General quality requirements**

Amaranth grain shall

1. be free from insect infestation
2. be free of off flavours and odours,
3. have a colour characteristic of the variety, and
4. not be discoloured

**4.2 Specific quality requirements**

Amaranth grain shall comply with the specific quality requirements specified in Table 1.

**Table 1 — Specific quality requirements for amaranth grain**

|  |  |  |
| --- | --- | --- |
| **Characteristic** | **Level** | **Method of test** |
| Protein content, %, min. | 12 | ISO 1871 |
| Moisture content, % by mass, max | 12 | ISO 605 |
| Filth, %, max | 0.1 |
| extraneous matter, %, max | 0.2 |

**5 Contaminants**

**5.1 Pesticide residues**

Amaranth grain shall conform to those maximum residue limits for pesticides established by the Codex Alimentarius Commission for this commodity.

**5.2 Other contaminants**

Amaranth grain shall conform to those maximum levels in accordance CODEX STAN 193.

**6 Hygiene**

**6.1** Amaranth grains shall be produced, prepared and handled in accordance with ARS 53.

**6.2** When tested by appropriate standards for sampling and examination in Clause 2, the product shall be free from microorganisms in amounts which may represent a hazard to health and shall not exceed the limits stipulated in Table 2.

**Table 2 — Microbiological limits for Amaranth grain**

|  |  |  |  |
| --- | --- | --- | --- |
| **S/No** | **Type of micro-organism** | **Limits** | **Test method** |
| i) | Yeasts and moulds, cfu per g, max. | 104 | ISO 21527-2 |
| ii) | *S. aureus,* per 25 g | Absent | ISO 6888-1 |
| iii) | *E. coli*, per g, max | Absent | ISO 16649-1 |

**7 Packaging**

7.2 Amaranth grain shall be packaged in food grade packaging materials which will safeguard the hygienic, nutritional, technological and organoleptic qualities of the products.

7.3 Each package shall contain amaranth grain of the same variety and of the same grade designation.

**8 Labelling**

In addition to the requirements of ARS 56, the following labelling requirements shall apply and shall be legibly and indelibly marked:

a) common name of the food to be declared on the label shall be 'Amaranth grain' and variety (if applicable);

b) net contents by weight in metric (`System International') units;

c) name and physical address of the manufacturer / distributor;

d) country of origin;

e) lot identification;

f) statement “Food for Human Consumption” shall appear on the package;

g) storage conditions as “Store in a cool dry place away from contaminants”;

h) instructions on disposal of used package;

i) crop year; and

j) packing date.

**9 Method of sampling**

Sampling shall be carried out in accordance with ISO 24333.

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