
Amaranth grains — Specification

African Standard under Review



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

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Amaranth grains – Specification

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

DARS 1349:2023(E)

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

- a) be free from insect infestation
- b) be free of off flavours and odours,
- c) have a colour characteristic of the variety, and
- d) 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.	10 ⁴	ISO 21527-2
ii)	<i>S. aureus</i> , per 25 g	Absent	ISO 6888-1
iii)	<i>E. coli</i> , 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.