



DRAFT TANZANIA STANDARD

Mixed dry beans — Specification



Mixed dry beans — Specification

1.0 Scope

This Tanzania Standard specifies requirements, sampling and test methods for mixed dry common beans (*Phaseolus vulgaris* Linn.) intended for human consumption.

2.0 Normative references

The following 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.

AOAC 999.11, *Lead, Cadmium, Copper, Iron, and Zinc in foods, Atomic absorption spectrophotometry after dry ashing*

TZS109, *Code of practice – General Principle for Food Hygiene*

TZS 538, *Labelling of pre- packaged foods — General requirements*

TZS 330, *Cereals and pulses — Sampling*

TZS 331, *Cereals and pulses — Testing*

TZS 873, *Pulses and legumes – Sampling and test methods*

TZS 963 (Part 3), *Starch and derived products – Heavy metals content – Part 3 – Determination of lead content by atomic absorption spectrometry with electro-thermal atomization*

TZS 963 (Part 4), *Starch and derived products – Heavy metals content – Part 4 – Determination of cadmium content by atomic absorption spectrometry with electro-thermal atomization*

3.0 Terms and definitions

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

3.1

dry beans

dry threshed field and garden beans of the species *Phaseolus vulgaris* Linn.

3.2

damaged

beans and pieces of beans that are materially damaged or discoloured by frost, weather, disease, weevils or other insects, or other causes so as to materially affect the appearance and quality of the beans

3.3

broken/chipped/loose coat and split



beans with some but less than one-fourth of beans broken off or with one-fourth or more of the seed coat removed

3.4

caps

parts of the seed coat adhering to split or broken seed

3.5

clean-cut weevil-bored

beans from which weevils have emerged, leaving a clean-cut open cavity free from larvae, webbing, refuse, mould, or stain

3.6

germinated

beans which have sprouted

3.7

mouldy

beans with visible mycelial growth on their surface

3.8

shrivelled

beans which are under-developed and wrinkled over their entire surface excluding wrinkled beans

3.9

defective

pest damaged, discoloured, diseased, germinated, mouldy, immature and shrivelled grains, or otherwise materially damaged, which specifically do not include broken grains

3.10

foreign matter

extraneous matter than dry beans or other food grains comprising of:

"inorganic matter" includes metallic pieces, shale, glass, dust, sand, gravel, stones, dirt, pebbles, lumps or earth, clay, mud and animal filth etc; and

"organic matter" consisting of detached seed coats, straws, weeds and other inedible grains etc.

3.11



splits

pieces of beans that are not damaged, each of which consists of three-fourths or less of the whole bean, and that include any sound beans the halves of which are held together loosely

3.12

food grade material

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

3.13

mixed dry beans

dry beans that consist of a mixture of, different colour and shape groups irrespective of varieties.

4.0 Requirements

4.1 General requirements

Mixed dry beans shall be:

- a) the dried mature seeds of *Phaseolus vulgaris* Linn;
- b) of same size groups, as specified in Table 1

Table 1 — Description of size groups

| Type | Description of beans size group per100 g (G) |
|--|--|
| Large | $G \leq 140$ |
| Medium | $140 < G \leq 365$ |
| Small | $365 < G \leq 760$ |
| Note: Where G is the number of mixed beans in 100g | |

- c) well-filled, clean, wholesome,
- d) free from substances which render them unfit for human consumption
- e) be free from toxic or noxious weed seeds
- f) be free from live pests and diseases;
- g) free from off flavours, musty, sour or other undesirable odour, obnoxious smell and discolouration; and



4.2 Specific requirements

Mixed dry beans shall be categorized into three grades on the basis of the tolerable limits established in Table 2 when tested in accordance with test method specified therein.

Table 2 — Specific requirements for mixed dry beans

| S/N | Characteristics | Maximum limits | | | Method of test |
|--|----------------------------------|----------------|---------|---------|----------------|
| | | Grade 1 | Grade 2 | Grade 3 | |
| i. | Foreign matter, % m/m | 0.5 | 0.75 | 1 | TZS 873 |
| ii. | Inorganic matter, % m/m | 0.1 | 0.2 | 0.3 | |
| iii. | Other edible grains, % m/m | 0.1 | 0.2 | 0.5 | |
| iv. | Pest damaged beans, % m/m | 1 | 2 | 3 | |
| v. | Broken/split % m/m | 1 | 2 | 3 | |
| vi. | Rotten and diseased beans, % m/m | 2.0 | 4.0 | 5.0 | |
| vii. | Discoloured % m/m | 1 | | | |
| viii. | Total defectives beans, % m/m | 2.8 | 4.9 | 6.3 | |
| ix. | Filth | 0.1 | | | |
| x. | Moisture, % m/m | 14 | | | TZS 331 |
| NOTE The parameter, Total defective beans is not the sum total of the individual defects. It is limited to 70 % of the sum total of individual defects | | | | | |

5.0 Contaminants

5.1 Pesticide residues

Mixed dry beans shall comply with those maximum pesticide residue limits established by the Codex Alimentarius Commission for this commodity.

5.2 Heavy metals

Mixed dry beans shall comply with the maximum heavy metal limits indicated in Table 3 when tested in accordance with test method specified therein.



Table 3 — Heavy metals limits in mixed dry beans

| S/N | Characteristics | Maximum limits mg/kg | Test methods |
|-----|-----------------|----------------------|--------------|
| i. | Lead | 0.2 | TZS963-4 |
| ii. | Cadmium | 0.1 | TZS963-3 |

6.0 Hygiene

Mixed dry beans shall be produced, handled and stored in accordance with TZS 109.

7.0 Packaging, marking and labelling

7.1 Packaging

7.1.1 Mixed dry beans shall be packaged in food grade packaging materials

7.1.2 Each package shall contain mixed dry beans of the same grade designation.

7.2 Marking and labelling

7.2.1 In addition to the requirements in TZSS 538, each package shall be legibly and indelibly labelled with the following:

- a) product name as "Mixed dry beans";
- b) size group;
- c) grade;
- d) name, and address of the producer/packer/ distributor/ importer/exporter/vendor;
- e) net content shall be declared in the metric system;
- f) batch number;
- g) the declaration "Food for Human Consumption";
- h) storage instruction;
- i) crop year;
- j) packing date;
- k) instructions on disposal of used package; and
- l) country of origin.



8.2 Labelling of non-retail containers

Information in 8.1 shall be given either on the container or in accompanying documents, except that the name of the product, lot identification, and the name and address of the processor or packer as well as storage instructions, shall appear on the container. However, lot identification, and the name and address of the processor or packer may be replaced by an identification mark provided that such a mark is clearly identifiable with the accompanying documents.

9.0 Sampling

Sampling shall be done in accordance with the TZS 330.