

**DRAFT TANZANIA STANDARD**

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**Cassava millet composite flour — Specification**

*Draft Standard for Stakeholders' Comments*

**TANZANIA BUREAU OF STANDARDS**

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## 0. Foreword

The demand for the cassava millet composite flour is increasing thus, the need to ensure the safety and quality of the product produced and/or marketed in Tanzania.

**0.2** In reporting the result of a test or analysis made in accordance with this standard, if the final value observed or calculated, is to be rounded off, it shall be done in accordance with TZS 4 (See clause 2).

## 1 Scope

This Tanzania standard prescribes requirements, methods of sampling and testing for cassava millet composite flour for human consumption.

## 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.

TZS 4, Rounding off numerical values

EAS 82:2000, Milled cereal products — Methods of test

TZS 109, Food Processing units- Code of hygiene

TZS 122-1:2018/ISO 6579-1: 2017 - Microbiology of the food chain — Horizontal method for the detection, enumeration and serotyping of *Salmonella*- Part 1: Detection of *Salmonella* spp.

TZS 125-3:2018/ ISO 6888-3:2003- Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coagulase-positive staphylococci (*Staphylococcus aureus* and other species)- Part 3: Detection and MPN technique for low numbers

CODEX STAN 193, Codex general standards for contaminants and toxins in food and feed

TZS 465: 2010 (3rd Ed), Dried cassava chips — Specification

TZS 466: 2010 (3rd Ed), Cassava flour — Specification

TZS 472: 2010 (3rd Ed), Cassava and cassava products — Determination of total cyanogen's — Enzymatic assay method

ISO 9648, Sorghum — Determination of tannin content

TZS 538:2015 /EAS 38:2014 - Labelling of pre-packaged foods — General requirements

TZS 688:2017/EAS89:2017 Millet Flour-Specification

TZS 731: 2018/ ISO 7251: 2006- Microbiology of food and animal feeding stuffs- Horizontal method for the detection and enumeration of presumptive *Escherichia coli*- Most probable number technique

TZS 799: 2020 (3rd Ed)/ISO 16050 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

TZS 874: 2006 Pearl millet/ bull brush flour – Specification

TZS 961:2007/ISO 1666, Starch- Determination of moisture content - Oven-drying method

TZS 1665: 2014/EAS284:2013 Pearl millet grains – Specification

TZS 2044:2017/ISO 5985:2002 Animal feeding stuffs – Determination of ash insoluble in hydrochloric

TZS 2426-1: 2020/ ISO 21527-1: 2008- Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of yeasts and moulds - Part 1: Colony count technique in products with water activity greater than 0.95

ISO 24333, Cereals and cereal products- Sampling

TZS 2476:2019/ ISO 6492, Animal feeding stuffs -Determination of fat content

TZS 2480:2019/ ISO 5983-1:2005, Animal feeding stuffs - Determination of nitrogen content and calculation of crude protein content - Part 1: Kjeldahl method

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

### **3 Terms and definitions**

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

#### **3.1**

##### **cassava millet composite flour**

flour obtained by blending flours from dried cassava and millet (pearl and/or finger)  
or flour obtained by milling blended cassava flour/ chips and/or grits and pearl and/or finger millet flour  
and/or grains

#### **3.2**

##### **foreign matter**

inorganic matter such as sand, glass, metal, stones, clay, mud and organic matter such as chaff, straw,  
weed seeds and insects or insects fragments, rodent hairs

#### **3.3**

##### **food grade material**

material that will not transfer non-food chemicals into the food and contains no chemicals which would be  
hazardous to human health

## 4 Requirements

### 4.1 General requirements

4.1.1 Cassava millet composite flour shall be produced from cassava flour, grits and/or chips complying with TZS 466 and/or TZS 465, respectively and millet grains or flour complying with TZS 1665 and TZS 874, respectively.

4.1.2 Cassava millet composite flour shall be

- (a) homogeneous in particle size and colour;
- (b) practically free of filth and foreign matter;
- (c) free from rancid, objectionable odours or flavours

### 4.2 Specific requirements

4.2.1 Particle size

Testing for particle size shall be done in accordance with ISO 3588. Particle size for fine flour 100% shall pass through 0.5mm sieve and for medium flour 100% shall pass through 1mm sieve.

4.2.2 Cassava millet composite flour shall conform to the compositional quality requirements shown in Table 1.

**Table 1 — Compositional requirements of cassava millet composite flour**

S/NO	Characteristics	Requirements	Methods of test
1	Crude fibre content, % by mass on dry matter basis, max.	5	ISO 5498
2	Acid insoluble ash, % by mass, max.	0.4	TZS 2044
3	Moisture content, %, by mass, max.	13.5	TZS 961
4	Potential cyanide ,mg/kg,max	10	TZS 472
5	Protein content, %, by mass, min.	6.8	TZS 2480
6	Crude fat, %, by mass, max.	5	TZS 2476
9	Tannin content, %, by mass, max.	0.3	ISO 9648

## 5 Contaminants

Cassava millet composite flour shall comply with the maximum levels of the Codex General Standard for Contaminants and Toxins in Food and Feed (CODEX STAN 193).

## 5.1 Pesticide residues

Cassava millet composite flour shall conform to maximum residue limits for pesticide residues established by the Codex Alimentarius Commission for this commodity.

## 5.2 Mycotoxins

S/NO	Characteristics	Requirements	Methods of test
1	Aflatoxin, Total, ppb, max	10	TZS 799
2	Aflatoxin ,B1,ppb,max	5	
3	Fumonisin,ppm max	2	

## 6 Hygiene

Cassava millet composite flour shall be prepared and handled in a hygienic manner in accordance with TZS 109 and shall conform to microbiological limits specified in Table 2.

**Table 2 — Microbiological limits for cassava millet composite flour**

S/N	Micro-organism(s)	limits	Method of test
1	<i>Escherichia coli</i> , cfu/g,	absent	TZS 731
2	<i>Salmonella</i> , per 25g,	absent	TZS 122-1
3	Yeasts and moulds, cfu/g, max.	10 <sup>4</sup>	TZS 2426-1
4	<i>Staphylococcus aureus</i> cfu/g max	10 <sup>2</sup>	TZS 125-3

## 7 Sampling and test

### 7.1 Sampling

Sampling of cassava millet composite flour shall be done according to ISO 24333.

### 7.2 Test

Testing of cassava millet composite flour shall be done according to test methods prescribed in Table 1 and 2 of this standard.

## 8 Weights and Measures

Cassava millet composite flour shall be packaged in accordance with Weights and Measures requirements of the destination country.

## 9 Packing, marking and labelling

### 9.1 Packing

Cassava millet composite flour shall be packed in suitable food grade materials,

### 9.2 Marking and labelling

In addition to the requirements of TZS 538; the following labeling requirements shall apply and shall be legibly and indelibly marked

- a) the common name of the food to be declared on the label shall be 'Cassava millet composite flour';
- b) the net weight;
- c) the name and physical address of the manufacturer / distributor;
- d) the country of origin;
- e) batch number;
- f) date of manufacture and best before date
- g) the statement 'Human Food' shall appear on the package
- h) storage conditions as 'store in a cool dry place away from contaminants'
- i) instructions on disposal of used package
- j) The language on the label shall be Swahili and/or English Another language may be used depending on the designated market.

### 9.3 The container may also be marked with TBS Quality Mark.

NOTE: The TBS Standards Mark of Quality may be used by the manufacturers only under license from TBS. Particulars of conditions under which the license are granted may be obtained from TBS.