



DRAFT TANZANIA STANDARD

Whole and ground lemongrass- Specification

Draft for comments only

TANZANIA BUREAU OF STANDARDS

0. Foreword

Lemongrass is an herb derived from the mature leaves of the plant *Cymbopogon citratus* L. (Poaceae family). This Tanzania standard was prepared due to increasing utilization of lemongrass in culinary, cosmetic and fragrance to ensure the safety and quality of lemongrass produced for local and export market.

In the preparation of this Tanzania Standard assistance was derived from local lemongrass producers and processors.

In reporting the results of a test or analysis made in accordance with this Tanzania 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 specifies the requirements, methods of sampling and test for dried whole or ground lemongrass leaves (*Cymbopogon citratus* L.) intended for human consumption.

2 Normative references

The following referenced documents are indispensable for the application of this standard. 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
TZS 33, Spices and condiments — Sampling
TZS 109, Codes of hygiene for food processing units — General
TZS 118, Foodstuffs — General guidance for the enumeration of microorganisms — Colony Count Technique at 30 °C
TZS 122, Foodstuffs — Microbial examination for salmonella
TZS 268, General atomic absorption spectrophotometric method for determination of lead in food stuffs
TZS 538, Packaging and labeling of foods
TZS 730 (Part 2) (1st Ed) ISO 16649 (Part 2)- Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of -b-glucuronidase-positive Escherichia coli – Part 2 – Colony-count technique at 44 0C using 5-bromo-4-chloro-3-indolyl-b-D-glucuronide
TZS 731: 2018 (3rd Ed) ISO 7251 - Microbiology of food and feeding-stuffs – Horizontal method for the detection and enumeration of presumptive Escherichia Coli – Most Probable Number Technique
TZS 799, 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 1315, Spices and condiments — Determination of extraneous matter and foreign matter content
TZS 1317, Spices and condiments — Determination of acid insoluble ash
TZS 1318, Spices and condiments — Determination of moisture content Entrainment method
TZS 1492, Fruits and vegetables — Determination of tin content
TZS 1502, Fruits and vegetables — Determination of Arsenic content
Codex stan 193, Codex general standard for contaminants and toxins in food and feed
ISO 7609, Essential oils- Analysis by Gas Chromatography on capillary columns – General method

3. Terms and definitions

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

3.1 lemongrass

herb with a lemony scent produced from the stalk of the lemongrass plant (*Cymbopogon citratus*)

3.2 dried lemongrass leaves

dried plant leaves of the species *Cymbopogon citratus* L.

3.3 whole lemongrass

cut , chopped or whole dried lemongrass leaves

3.4 ground lemongrass

product obtained by grinding dried lemongrass leaves into different particle sizes

3.5 extraneous matter

all matter present in the sample which is not from leaves of the species under consideration

3.5 food grade container

container which shall safeguard the hygienic, safety, nutritional, technological, and organoleptic qualities of the product

4 Requirements

4.1 General requirements

Whole or ground lemongrass shall

- i. Be greenish
- ii. Be free from off odour
- iii. have a characteristic odour of lemongrass leaves
- iv. have fresh citrusy scent characteristic aroma of lemongrass leaves.
- v. be free from dirt, fungal growth, insect infestation, insect fragments and rodent contamination visible to the naked eye.

4.2 Specific Requirements

4.2.1 Lemongrass in all forms shall comply with the following specific requirements:

Table 1 — Physical-Chemical requirements for whole and ground lemongrass

S/No	Characteristics	Requirements	Test method (see clause 2)
i	Moisture % m/m, (max.)	10	TZS 1318
ii	Extrenous matter % m/m, max	1	TZS 1315
iii	Acid insoluble ash, %m/m,max	4	TZS 1317
iv	Essential oil (Citral (geranial+neral),% min	65	ISO 7609

4.2.2 Ground lemongrass shall be ground to such fineness that all of it passes through a sieve of 500 micron (0.500 mm).

5. Contaminants

5.1 The product shall comply with those maximum pesticide residue limits established by the Codex Stan 193

5.2 Heavy metals and Metallic contaminants

The product shall not contain any heavy and metallic contaminants in excess of levels specified in Table 2.

Table 2 — Limit for Heavy metals and metallic contaminants for whole and ground lemongrass

S/No	Characteristics	Limits (Max) mg/kg	Test method (see clause 2)
i	Arsenic (as As)	0.2	TZS 1502
ii	Tin (as Sn)	250	TZS 1492
iii	Lead (as Pb)	5.0	TZS 268

5.3 Aflatoxin

Whole and ground lemongrass shall not have more than 5 ppb aflatoxin B₁ and total aflatoxin of max 10 ppb when tested according to TZS 799.

6. Hygiene

6.1 Whole and ground lemongrass shall be prepared under good hygienic practices as stipulated in TZS 109 and shall comply with microbiological limits given in Table 3 when tested in accordance with the methods specified therein.

Table 3 Microbiological limits for whole and ground lemongrass

S No	Characteristic:	Limits (Max)	Test method
1	Total aerobic count, CFU/g	10 ⁶	TZS 118
2	Yeasts and Moulds,CFU/g	10 ⁴	TZS 730
3	<i>Escherichia coli</i> , CFU/g	Absent	TZS 731
4	<i>Salmonella</i> spp per 25 g.	Absent	TZS 122

7. Sampling and Tests

7.1 Sampling

Sampling shall be carried out in accordance with the method specified in TZS 33.

7.2 Testing

Tests shall be done in accordance with methods prescribed in Tables 1, 2 and 3.

8. Packing, marking and labelling

8.1 Packing

Whole and ground lemongrass shall be well packaged in a food grade container.

8.2 Marking and labelling

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

- i. Name of the product; lemongrass
- ii. Form of presentation "ground or whole lemongrass"
- iii. species name (optional);
- iv. Month and year of harvest;
- v. Net weight;
- vi. Name and physical address of the manufacturer/packer/distributor;
- vii. Date of manufacture
- viii. best before date;
- ix. Batch number;
- x. Instruction for use;
- xi. country of origin;
- xii. Storage condition.

8.2.2 Certification mark

Each container may also be marked with TBS certification mark.

NOTE: The use of TBS certification mark is governed by provisions of the standards Act 2009. Details of the conditions under which a license for the use of TBS certification mark may be granted to manufacturers or producers, may be obtained from TBS.