

DRAFT TANZANIA STANDARD

Plant protein based yoghurt - Specification

TANZANIA BUREAU OF STANDARDS

Plant protein based Yoghurt — Specification

0. Foreword

Plant protein based yoghurt is product with higher water content, and is made from soybean liquid preparation and coagulated by adding coagulant. Soy yoghurt prepared by fermentation of aqueous extract of soybean.

The fermentation is carried out by the mixed cultures of Lactic acid bacteria or any other suitable cultures. It may be plain or sweetened and/or flavored, dairy or non dairy product.

The health benefits of plants has led to the innovation of the plant products and expanded the vegetarian choices for vegans.

This Tanzania Standard has been developed to keep up with advancements of the food industry and to ensure the safety and quality of the product traded in the markets in order to safeguard the health of the consumers.

In preparation of this Tanzania standard assistance is derived from the following publications; The Food Safety and Standards (Food Products Standards and Food Additives) Regulations, 2011, -for India Authourity

In reporting the result of a test or analysis made in accordance with the 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 prescribes the requirements methods of sampling and test for plant protein-based yoghurt derived from plant protein isolates intended for human consumption.

This standard does not apply to soy yoghurt (curd).

2. Normative references

The following referenced documents 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.

CODEX STAN 192, General standard for Food additives

TZS 268, General atomic absorption spectrophotometric method for determination of lead in food and food stuffs.

TZS 109, General principles of food hygiene

TZS 538, Labelling of pre-packaged foods

EAS 161, Milk and milk products — Sampling — Inspection by attributes — Specification

TZS 118, Microbiology of the food chain -- Horizontal method for the enumeration of microorganisms -- Part 1: Colony count at 30 degrees C by the pour plate technique

TZS 122, Microbiology of food and feeding stuffs – Horizontal method for the detection of salmonella spp.

TZS 481, Nutrition labelling — Requirements

TZS 482, Claims — General requirements

TZS 550, Use of nutrition and health claims — Requirements

TZS 950, Milk and milk products -- Enumeration of colony-forming units of yeasts and/or moulds -- Colony-count technique at 25 degrees C

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

3. Terms and definitions

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

3.1

plant protein based yoghurt

product obtained by fermentation of plant based milk through the action of Lactobacillus bulgaricus and Streptococcus thermophilus.

3.2

protein isolate

is the most refined form of plant protein product containing the highest concentration of protein

3.2

sweetened plant protein based yoghurt

product to which sugar has been added

3.3

sugar

any carbohydrate sweetening substance

3.4

Plain plant protein based yoghurt

product to which no sugar and food additives has been added to impart sweet taste.

3.5

flavoured plant protein based yoghurt

product to which flavouring foods or other flavouring ingredients has been added

3.6

fruit plant protein based yoghurt

product to which fruits have been added

3.7

heat-treated plant protein based yoghurt

product to which has been subjected to heat treatment after fermentation

3.8

pasteurized plant protein based yoghurt

product which has been subjected to pasteurization process (heat treated at 72°C for 15 seconds or 63°C for 30 minutes) after fermentation

3.9

thermized plant protein based yoghurt

product that is heat-treated at 62 °C to 65 °C for 15 s to 20 seconds aimed at reducing the number of viableorganisms and prolonging shelf-life

3.10

sterilized plant protein based yoghurt

product that is heat-treated at a minimum of 115 °C for 15 seconds aimed at attaining commercial sterility and prolonged shelf-life

3.11

food grade packaging materials

packaging material, made of substances which are safe and suitable for their intended use and which will notimpart any toxic substance or undesirable odour or flavour to the product

4. Requirements

4.1 Raw materials

- a. Plant protein-based yoghurt shall be obtained from the following ingredients and shall comply with the relevant standard;
 - i. plant protein isolates
 - ii. lactic acid bacteria (*Streptococcus thermophilus* or *Lactobacillus bulgaricus*or any other suitableculture individually or in combination.
 - iii. Sugar
 - iv. Potable Water

b. Optional Ingredients

Plant protein-based yoghurt shall be obtained from the following optional ingredients and shall comply with the relevant standard;

- i. edible fruits, fruit pulps or juices, jams and honey may be used
- ii. canned or concentrated fruit juices
- iii. suitable amino acids

Types

The plant protein-based yoghurt shall be any of the following types:

(a) Plain

- (b) Sweetened
- (c) Flavoured, and
- (d) Flavoured and sweetened
- (e) Fruit added or in combination with the above

4.2 General Requirement

Plant protein based yoghurt shall;

- a) free from extraneous matter and harmful material and pathogenic bacteria.
- b) be of uniform composition,
- c) have a characteristic texture of the protein-based yoghurt

Specific requirements

Table 1 Specific requirements for plant protein based protein yoghurt.

S/N	Requirement	Limits	Test method
1	Total solids, % m/m min	8.5	ISO 13580
2	Fat, percent by mass, max	2.0	ISO 11870
3	Protein (N x 625), %	3.0	ISO 8968-1
	by mass, min		
4	Acidity, as lactic acid, percent by mass,	0.8-1.5	ISO 26323
5	pH,	4.0-5.0	ISO 26323
6	Gossypol , %, m/m max	0.065	ISO 6866

NOTE: Gossypol content shall be determined only if protein derived from groundnut, and cottonseed respectively have been used in formulating the plant protein-based yoghurt.

5. Food additives

Only the food additives permitted in CODEX STAN 192 standards for food additives

may be used

6. Contaminants

a. Pesticide residues

Plant protein based yoghurt shall comply with those maximum pesticide residue limits established by CODEXAlimentarius commission for similar commodities.

b. Heavy metals

The maximum content of lead (Pb) in Plant protein based yoghurt when determined in accordance with the method described in AOAC 972.25 shall not exceed 0.2 mg/kg.

The product shall not contain other heavy metal contaminants in amounts which may represent a hazard as established in Codex Stan 193

c. Aflatoxin

The maximum content of aflatoxins in the plant protein based yoghurt when determined in accordance with the method described in TZS 799 shall not exceed 5 μ g/kg (ppb) for aflatoxin B1 and 10 μ g/kg for total aflatoxins.

7. Hygiene

7.1Plant protein based yoghurt shall be produced, prepared and handled in accordance with TZS 109.7.2 Plant protein based yoghurt shall conform to the Microbiological limits established in Table 2:

s/n	Requirement	Limits	Test method
1	Total plate count, cfu/ml	10 ³	TZS 118-1ISO 4833-1
2	<i>E.coli</i> count per g, Max	Absent	TZS 730-2 ISO7251,
3	Salmonella spp., per 25g.	Absent	TZS 122/ ISO 6579- 1
4	Staphloccocus aureus per g	absent	TZS 125
5	Yeasts and mould count, per g, max	10 ²	ISO 6661

Table 2 — Microbiological limits for plant protein based yoghurt

8. Packaging

Plant protein based yoghurt shall be packaged in food grade packaging material which will safeguard the hygienic, nutritional, and organoleptic qualities of the product.

9.0 Labelling

9.1 In addition to the requirements in TZS 538, the following specific labelling requirements shall apply and shall be legibly and indelibly marked;

- I. The name of the product to be declared on the label shall be "**Plant protein based yoghurt**" or accompanied by the specific name of the cereals, pulses or oilseeds used or "X based yoghurt where X refers to the plantisolate used
- II. Type of the plant protein based yoghurt
- III. Net contents by weight in metric units.
- IV. Name, location and physical address of the manufacturer
- V. Country of origin
- VI. Lot identification
- VII. Date of manufacture
- VIII. Storage and handling conditions
- IX. Expiry date
- X. Instructions for disposal of used package
- XI. List of ingredients
- XII. Declaration of allergens

9.2 Nutrition labelling

The amount of micronutrients in the Plant protein bases yoghurt shall be declared on the label in accordance with TZS ??/EAS 803.

9.3 Nutrition and health claims

Plant protein based yoghurt may have claims on the importance of the micronutrients in nutrition and health. Nutrition and health claims shall comply with the requirements given in TZS481 and TZS 482

10.4 The language on the label shall be "Kiswahili", 'English'or both. A second language may be used depending on the designated market.

10.5 The packages of the capsules may also be marked with the TBS Standards Mark of Quality

NOTE — The TBS Standards Mark of Quality may be used by the manufacturers only under licence from TBS. Particulars of conditions under which the licences are granted, may be obtained from TBS