

DRAFT UGANDA STANDARD

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Plant protein – Based Yoghurt — Specification



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Foreword

Uganda National Bureau of Standards (UNBS) is a parastatal under the Ministry of Trade, Industry and Cooperatives established under Cap 327, of the Laws of Uganda, as amended. UNBS is mandated to coordinate the elaboration of standards and is

- (a) a member of International Organisation for Standardisation (ISO) and
- (b) a contact point for the WHO/FAO Codex Alimentarius Commission on Food Standards, and
- (c) the National Enquiry Point on TBT Agreement of the World Trade Organisation (WTO).

The work of preparing Uganda Standards is carried out through Technical Committees. A Technical Committee is established to deliberate on standards in a given field or area and consists of key stakeholders including government, academia, consumer groups, private sector and other interested parties.

Draft Uganda Standards adopted by the Technical Committee are widely circulated to stakeholders and the general public for comments. The committee reviews the comments before recommending the draft standards for approval and declaration as Uganda Standards by the National Standards Council.

The committee responsible for this document is Technical Committee UNBS/TC 2, *Food and Agriculture Subcommittee SC3, Cereals, pulses and related products*.

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Plant protein – Based Yoghurt — Specification

1 Scope

This standard prescribes the requirements and the methods of sampling and test for plant protein-based yoghurt obtained from protein isolates.

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.

AOAC 972.25, *Lead in food. Atomic absorption spectrophotometry*
CAC/RCP 57, *Code of hygiene practice for milk and milk products*

CODEX STAN 192, *General standard for Food additives*

EAS 38, *Labelling of pre-packaged foods*

EAS 38, *Labelling of pre-packaged foods*

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

US ISO 4833, *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*

US ISO 6785, *Milk and milk products — Detection of Salmonella spp.*

US ISO 6611, *Milk and milk products -- Enumeration of colony-forming units of yeasts and/or moulds -- Colony-count technique at 25 degrees C*

US ISO 8086, *Milk and milk products -- Sampling -- Inspection by attributes*

US ISO 11822-2, *Milk and milk products -- Enumeration of presumptive Escherichia coli -- Part 2: Colony-count technique at 44 degrees C using membranes*

US 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*

US ISO 13580, *Yogurt — Determination of total solids content (Reference method)*

3 Terms and definitions

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

3.1 3.1

yoghurt

cultured milk product obtained by lactic acid fermentation through the action of *Lactobacillus bulgaricus* and *Streptococcus thermophilus*

3.2**sweetened yoghurt**

yoghurt to which one or more sugars only have been added

3.3**sugar**

any carbohydrate sweetening matter

3.4**plain yoghurt**

yoghurt to which no sugar and food additives have been added

3.5**flavoured yoghurt**

yoghurt to which flavouring foods or other flavouring ingredients have been added

3.6**fruit yoghurt**

yoghurt to which fruits have been added

3.7**heat-treated yoghurt**

yoghurt which has been subjected to heat treatment after fermentation

3.8**pasteurized yoghurt**

yoghurt which has been subjected to pasteurization process (see EAS 69) after fermentation

3.9**thermized yoghurt**

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

3.10**sterilized yoghurt**

yoghurt 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 packaging materials**

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 RAW MATERIALS**4.1 Plant** Plant protein-based yoghurt shall be obtained from

- a) plant protein isolates or other oilseed protein sources that conform to the relevant Uganda Standards
- b) lactic acid organisms (*Streptococcus thermophilus* or *Lactobacillus bulgaricus*) or any other suitable culture individually or in combination.

4.2 Optional

- a) Edible fruits, fruit pulps or juices, jams and honey may be used that conform to the relevant Uganda Standards
- b) Canned or concentrated fruit juices shall comply with the requirements that conform to the relevant Uganda Standards
- c) milk or milk powder or suitable amino acids that conform to the relevant Uganda Standards

4.1 Types

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

- a) Plain,
- b) Sweetened,
- c) Flavoured, and
- d) Flavoured and sweetened.

4.1.2 Flavoured protein-based yoghurt shall further be identified according to the flavour added, such as vanilla-flavoured, fruit-flavoured or spice flavoured.

5 Quality requirements

5.1 General requirements

Plant protein based yoghurt shall;

- a) be of uniform composition,
- b) free from extraneous matter and harmful material and pathogenic bacteria.
- c) have a body and texture of the protein-based yoghurt
- d) shall be firm and uniform with negligible whey separation.
- e) have a pleasing flavour and clean acid taste, thus shall not be of taster acid, musty, metallic, bitter or flat. The flavour shall not be yeasty, coarse or over-ripened.

5.2 The plant protein based yoghurt shall have the specific requirements stated in table 1 below

Table 2 Specific requirements for plant protein based protein yoghurt.

S/N	Requirement	Limits	Test method
1	Total solids, percent by mass/mas	8.5	ISO 13580
2	Fat, percent by mass, Min	1.5	ISO 11870
3	Protein (N x 625), % by mass, Min	3.0	ISO 8968-1
4	Acidity, as lactic acid, percent by mass, Min	0.8	ISO 26323
5	pH, max	1.0	ISO 26323
6	Gossypol , %, mass/mass	0.065	ISO 6866

NOTE: Aflatoxin content, urease activity and gossypol content shall be determined only if protein derived from groundnut, soya beans 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

NOTE - Sorbic acid and its salts may be used as preservatives.

6 Contaminants

6.1 Pesticide

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

6.2 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 to health. Check those of public health and list

6.3 Aflatoxin

The maximum content of aflatoxins in the plant yoghurt when determined in accordance with the method described in ISO 16050 shall not exceed 5 µg/kg (ppb) for aflatoxin B and 10 µg/kg for total aflatoxins

7 Hygiene

7.1 Plant yoghurt shall be produced, prepared and handled in accordance with CAC/RCP 57.

7.2 Plant yoghurt shall conform to the microbial limits stated in table 2:

s/n	Requirement	Limits	Test method
1	Total plate count, cfu/m	100	US ISO 4833-1
2	E.coli count, per g, Max	Absent	US ISO 11866,
3	Salmonella sp.	Absent	US ISO 6785
4	Yeasts and mould count, per g, max	100	US ISO 661

8 Packaging

Plant yoghurt shall be packed in food grade containers which will safeguard the hygienic, nutritional, and organoleptic qualities of the product

10 Weights and measures

Plant yoghurt shall be packaged in accordance with the Weights and Measures requirements of the destination country.

10 Labelling

10.1 In addition to the requirements in US EAS 38, 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 cereal used or “X based yoghurt where X refers to the plant isolate used
- II. Net contents the net contents shall be declared by weight in metric ('Système International') units.
- III. Name, location and physical address of the manufacturer shall be declared
- IV. Country of origin The country of origin shall be declared
- V. Lot identification Each container shall be permanently marked with lot identification
- VI. The statement “store in a cool dry place and away from contaminants”
- VII. Date marking The date of minimum durability shall be declared ('sell by' date).date of manufacture
- VIII. Storage conditions
- IX. Best before date
- X. Instructions for disposal of used package
- XI. List of ingredients
- XII. If spiced or flavoured, salty or unsalted, allergens

10.2 Nutrition labelling

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

10.3 Nutrition and health claims

Plant protein bases yoghurt may have claims on the importance of the micronutrients in nutrition and health. Such claims when declared shall be consistent with US EAS 804 and US EAS 805.

10 Sampling

Methods of sampling of Plant based yoghurt shall being accordance with EAS 161

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Bibliography

- [1] IS 8678-1977, specification for Plant protein based yoghurt (Plant curd)

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Certification marking

Products that conform to Uganda standards may be marked with Uganda National Bureau of Standards (UNBS) Certification Mark shown in the figure below.

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