

DRAFT UGANDA STANDARD

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Tapioca pearls — 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 204, Fruits, vegetables, tubers and processed products.

PUBLIC REVIEW DRAFT FOR COMMENTS

Tapioca pearls — Specification

1 Scope

This standard prescribes the requirements, sampling and test methods for tapioca pearls intended for human consumption.

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 943.02-1943, *PH of flour. Potentiometric method*

US 28 EAS 39, *Code of practice for hygiene in the food and drink manufacturing industry*

ISO 874, *Fresh fruits and vegetables - Sampling*

US 45, *General standard for food additives*

US EAS 744:2010, *Cassava and cassava products - Determination of total cyanogens - Enzymatic assay method*

US ISO 10520, *Native starch - Determination of starch content - Ewers polarimetric method*

US ISO 1666, *Starch - Determination of moisture content - Oven-drying method*

US ISO 5498, *Agricultural food products - Determination of crude fibre content - General method*

US ISO 20483, *Cereals and pulses - Determination of the nitrogen content and calculation of the crude protein content - Kjeldahl method*

US ISO 5985, *Animal feeding stuffs - Determination of ash insoluble in hydrochloric acid*

US ISO 5379, *Starches and derived products - Determination of sulphur dioxide content - Acidi-metric method and nephelometric method*

ISO 5520, *Fruits, vegetables and derived products — Determination of alkalinity of total ash and of water-soluble ash*

ISO 14864:1998, *Rice — Evaluation of gelatinization time of kernels during cooking*

US EAS 901, *Cereals and pulses — Test methods*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <http://www.iso.org/obp>

4 Grades

The product shall be of the following three grades:

- a) Special;
- b) Standard; and
- c) General.

5 Product description

Tapioca pearls shall be in the form of small, hard, clean, wholesome globules or pearls of uniform colour, shape and size made from the starch obtained from the tuberous roots of manihot plant commonly known as cassava or tapioca (*Manihot esculenta crantz syn. Utilissima*).

6 Requirements

6.1 General requirements

6.1.1 The product shall be pearl white in colour having characteristic taste and flavour.

It shall be free from

- a) fermented or musty or any other objectionable odours,
- b) added sweetening or colouring matters,
- c) adulterants, insect infestation, live and dead insects, mould/mites/fungal contamination and larvae.

NOTE — The appearance, taste and odour shall be determined by sensory analysis tests as agreed to between the manufacturer and purchaser.

6.1.3 The product, when examined by the method prescribed in clause 4 of US EAS 901, shall be free from dirt, or other suspended and extraneous matter (any foreign matter in product including filth, sand and soil, glass etc.).

6.1.4 Gelatinization

When cooked and tested by the method prescribed in ISO 14864, the quantity of starch passed into the gruel shall not exceed 30 percent by mass of the matter taken for the test, and the individual globules or pearls shall retain the globular shape.

6.2. Specific requirements

The tapioca pearls shall also comply with the requirements given in Table 1.

Table 1: Specific requirements for tapioca pearls

S/N	Characteristic	Requirements			Test method
		Special Grade	Standard Grade	General Grade	
i.	Moisture, percent by mass, Max	11.0	11.0	12.0	US ISO 1666
ii.	Acid insoluble ash (dry basis), percent by mass, Max	0.10	0.10	0.10	US ISO 5985
iii.	Starch (dry basis), percent by mass, Min	98.0	98.0	96.0	US ISO 10520
iv.	Protein (dry basis), percent by mass, Min	0.3	0.3	0.3	US ISO 20483
v.	Sulphur dioxide, ppm, Max	100	100	100	US ISO 5379
vi.	Crude fibre (on dry basis), percent by mass, Max	0.15	0.20	0.20	US ISO 5498
vii.	pH of aqueous extract	4.5 to 7.0	4.5 to 7.0	4.5 to 7.0	AOAC 943.02
viii.	Colour of gelatinized alkaline paste in the porcelain cuvette on the Lovibond Scale, not deeper than	0.2 R + 1.0 Y	0.3 R + 1.0 Y	0.4 R + 1.5 Y	
ix.	Hydrocyanic acid, mg/kg, Max	5	5	10	US EAS 744:2010

7 Food additives

Food additives when used shall contain permitted additives complying with US 45

8 Hygiene

Tapioca pearls shall be produced and handled in accordance with US 28 EAS 39.

9 Contaminants

9.1 Pesticide residues

The pesticide residues, if any, in the product shall not exceed the limits as prescribed in the Codex Alimentarius Commission.

9.2 Other contaminants

Tapioca pearls shall comply with the maximum levels of contaminants given in CODEX STAN 193.

10 Packaging

Tapioca pearls shall be packaged in food grade materials that will safeguard the hygienic, nutritional and organoleptic qualities of the product.

Each package shall be securely closed and sealed.

11 Labelling

The following specific labelling requirements shall apply and shall be legibly and indelibly marked in accordance with the requirements of US EAS 38.

- a) name and grade of the product;
- b) name, and physical address of the manufacturer;
- c) country of origin;
- d) date of manufacture
- e) best before
- f) storage conditions; and
- g) batch or lot number;
- h) net weight in metric units

12 Sampling

Sampling shall be done in accordance with ISO 874.

PUBLIC REVIEW DRAFT FOR COMMENTS

Bibliography

- [1] IS 899: 2022, TAPIOCA SAGO (SABOODANA) — SPECIFICATION, Second Edition

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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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