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DRAFT EAST AFRICAN STANDARD

Fresh sweet cassava roots — Specification

EAST AFRICAN COMMUNITY

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Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in the East African Community. It is envisaged that through harmonized standardization, trade barriers that are encountered when goods and services are exchanged within the Community will be removed.

The Community has established an East African Standards Committee (EASC) mandated to develop and issue East African Standards (EAS). The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the public and private sector organizations in the community.

East African Standards are developed through Technical Committees that are representative of key stakeholders including government, academia, consumer groups, private sector and other interested parties. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the Principles and procedures for development of East African Standards. XXXXXX.

East African Standards are subject to review, to keep pace with technological advances. Users of the East African Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

The committee responsible for this document is Technical Committee EASC/TC 016, *Fresh fruits, vegetables, tubers and flowers*

This second edition cancels and replaces the first edition (EAS 738:2010), which has been technically revised.

Attention is drawn to the possibility that some of the elements of this document may be subject of patent rights. EAC shall not be held responsible for identifying any or all such patent rights.

Fresh sweet cassava roots — Specification

1 Scope

This Draft East African Standard specifies requirements, sampling and test methods for varieties of fresh sweet cassava roots of *Manihot esculenta* Crantz intended for human consumption.

2 Normative references

The following documents are 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.

EAS 38: *General standard for the labelling of pre-packaged foods*

EAS 39: *Code of practice for hygiene in the food and drink manufacturing industry*

ISO 874: *Fresh fruits and vegetables - sampling*

EAS 103 *Schedule for permitted Food additives*

Codex Stan 192, *General Standard for Food Additives*

Codex Stan 193; *Codex General Standard for contaminants and toxins in food*

ISO 7563: *Fresh fruits and vegetable - vocabulary*

CAC/RCP 44-1995: *Recommended International Code of practice for packaging and transport of fresh fruit and vegetables*

Codex Stan CAC/RCP 53 - *Code of Hygienic Practice for Fresh Fruits and Vegetables.*

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

3 Terms and definitions

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

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>

3.1

fresh cassava

unpeeled roots from varieties of cassava *Manihot esculenta* (Crantz)

3.2 clean
practically free of visible soil, dust, or other visible foreign matter , except substances used to prolong its shelf life;

3.3 firm
resistant to externally applied pressure

3.4 practically free
product without defects in excess of those that can be expected to result from, and be consistent with good agronomical and handling practices employed in the production and marketing of the fresh cassava

3.5 sound wholesome
free from disease, serious deterioration (such as but not limited to decay, breakdown, freezing damage, or soft or shrivelled specimens) or adulteration/contamination, that appreciably affects their appearance, edibility, the keeping quality of the produce or market value.

3.7 whole
fresh sweet cassava which has not been subjected to any cutting or peeling of its initial harvested mass, "trimming" exempted.

3.8 fresh
appearance at the time of sale, similar visual characteristics to the fresh sweet cassava recently harvested (i.e., color, texture, firmness or shriveled).

3.10 food grade material
material which will safeguard the hygienic, safety, nutritional, technological and organoleptic qualities of the product

4 Requirements

4.1 General requirements

Fresh sweet cassava roots should be carefully harvested after reaching an appropriate degree of physiological development taking into account the characteristics of the variety and the area in which they are grown. The development and condition of the fresh sweet cassava roots shall be such as to enable it to;

- a) withstand normal transport and handling conditions, and
- b) arrive in a satisfactory condition at the place of destination.

4.2 Minimum requirements

All fresh sweet cassava roots supplied to the market shall be:

- a) firm/hard/not spongy;
- b) wholesome/sound
- c) fresh,

- d) colour, taste, texture and appropriate degree of physiological development shall be characteristic of the variety
- e) clean,
- f) of a characteristic skin colour and free from flesh discolouration(vascular streaking)
- g) practically free from pests affecting the general appearance of the produce;
- h) practically free from damage caused by pests and diseases;
- i) free from abnormal external moisture, excluding condensation following removal from cold storage;
- j) free from any foreign smell and/or taste with exception of preservation agents allowed; and
- k) practically free from mechanical damage and bruising.

The cut at the distal (narrow) end of the fresh sweet cassava roots should not exceed 2 cm in diameter.

The stalk end of the root should have a clean cut between 1 cm and 2.5 cm in length.

Defects in the minimum requirements affecting no more than 10 % of the roots may be allowed, provided the fresh sweet cassava root retains its essential characteristics as regards the quality, the keeping quality and presentation. The defects shall not, in any case, affect the quality of the pulp of the fresh sweet cassava roots.

4.3 Total cyanogen content

When tested in accordance to EAS, 744, fresh sweet cassava roots shall have no more than 50 mg/kg of hydrogen cyanide (fresh weight basis)

5 Food additives

Fresh sweet cassava roots may be preserved by use of food additives such as wax, in accordance with Codex Stan 192.

6 Classification

6.1 Types of classes

Fresh sweet cassava roots may be classified before marketing.

Where classification is done the following grades shall be used in accordance with the requirements of each class and the quality tolerances in Clause 7.

- extra class;
- class 1; and
- class 2.

6.2 Class requirements

6.2.1 Extra class

Fresh sweet cassava roots shall meet the minimum requirement in Clause 4 and are

- a) of superior quality in terms of taste, texture, skin and flesh colour.
- b) characteristic of the variety and uniform in shape, quality and size.

Fresh sweet cassava roots shall be free from defects, with the exception of superficial defects affecting not more than 2 % of the fresh sweet cassava roots.

6.2.2 Class 1

Fresh sweet cassava roots in this class shall meet the minimum requirement in Clause 4 and are

- a) of good quality; and
- b) characteristic of the variety.

The following slight defects may be allowed, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation of fresh sweet cassava roots:

- a) defects in shape not exceeding 5% of the roots;
- b) bruising, not exceeding 10 % of the surface area of the roots and
- c) scraped areas, not exceeding 20 % of the surface area of the roots
- d) scarred and healed damage, not exceeding 5% of the surface area of the roots.

6.2.3 Class 2

Fresh sweet cassava roots in this class shall not qualify for inclusion in the higher classes, but satisfy the minimum requirements specified in Clause 4.

The following defects may be allowed:

- a) defects in shape not exceeding 10 % of the roots;
- b) bruising, not exceeding 20 % of the surface area of roots and
- c) scraped areas, not exceeding 30 % of the surface area of roots.
- d) scarred and healed damage, not exceeding 10% of the surface area of the roots.

7 Tolerances

Tolerances in respect of quality and size shall be allowed in each package for produce not satisfying the requirements of the class indicated.

7.1 Quality tolerances

7.1.1 "Extra" Class

Five percent by number or weight of fresh sweet cassava roots not satisfying the requirements of the class, but meeting those of Class I or, exceptionally, coming within the tolerances of that class.

7.1.2 Class I

Ten percent by number or weight of fresh sweet cassava roots not satisfying the requirements of the class, but meeting those of Class II or, exceptionally, coming within the tolerances of that class.

7.1.3 Class II

Ten percent by number or weight of fresh sweet cassava roots satisfying neither the requirements of the class nor the minimum requirements, with the exception of produce affected by rotting or any other deterioration rendering it unfit for consumption.

7.2 Size tolerances

For all classes, 10% by number or weight of fresh sweet cassava roots corresponding to the size immediately above and/or below that indicated on the package.

8 Sizing

Fresh sweet cassava roots shall not be less than

- 300 g in weight; and
- 20 cm in length.

Fresh sweet cassava roots shall be coded in sizes in accordance with Table 1. Size shall be determined by measuring the diameter at the thickest cross-section of the root.

Size tolerances for all classes shall be a maximum of 10 % by number of the weight of fresh sweet cassava roots corresponding to the size immediately above or below the size declared or indicated on the package.

Table 1 — Size code requirements of the fresh sweet cassava roots

Size code	Diameter, cm
A	4.0 - 6.0
B	6.1 - 8.0
C	>8.0

9 Contaminants

9.1 Heavy metals

Fresh sweet cassava roots shall comply with the maximum levels of the Codex General Standard for Contaminants and Toxins in Food and Feed (CODEX STAN 193).

9.2 Pesticide residues

Fresh sweet cassava roots shall comply with the maximum residue limits for pesticides established by the Codex Alimentarius Commission for this commodity.

10 Hygiene

Fresh sweet cassava roots shall be handled in a hygienic manner in accordance with EAS 39 and Codex Stan CAC/RCP 53.

11 Packaging

Fresh sweet cassava roots shall be packaged in food grade material. Fresh sweet cassava roots shall be packaged in each container in compliance with CAC/RCP 44.

13 Labelling

13.1 In addition to the requirements of EAS 38, the following labeling requirements shall apply and shall be legibly and indelibly marked;

- a) name of the produce shall be “Fresh sweet cassava roots”;
- b) name and physical address of the producer, packer or distributor shall be declared;
- c) country of origin of the produce;
- d) class, if applicable;
- e) size (size code);
- f) net weight (in metric system);
- g) lot identification;
- h) declaration of preservatives, if used;
- i) storage conditions
- j) preparation instructions ,statement indicating that fresh sweet cassava roots should be peeled and fully cooked before being consumed; and
- k) best before date.
- l) date of harvest
- m) packing date

13.2 When labelling non-retail packages, information for non-retail packages shall either be given on the packages or in accompanying documents, except that the name of the product, lot identification and the name and address of the manufacturer or packer shall appear on the package.

14 Sampling

Sampling of the fresh sweet cassava roots shall be done in accordance with ISO 874.

Bibliography

- [1] EAS 738:2010, *Fresh sweet cassava — Specification*

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