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Fresh cassava leaves — Specification



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National foreword

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- (a) a member of International Organisation for Standardisation (ISO),
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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.

This Draft Uganda Standard, DUS DARS 837: 2024, *Fresh cassava leaves — Specification*, is identical with and has been reproduced from an African Standard, DARS 837: 2024, *Fresh cassava leaves — Specification*, and adopted as a Uganda Standard.

The committee responsible for this document is Technical Committee UNBS/TC 204, *Fruits, vegetables, tubers and processed products*.

This standard will cancel and replace US EAS 780: 2023, *Fresh cassava leaves — Specification*.

Wherever the words, "African Standard" appear, they should be replaced by "Uganda Standard".

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Foreword

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Introduction

Nutritionally, the cassava leaf is rich in protein (14-40%), potassium, iron, calcium, sodium, vitamin A, vitamin B₁, B₂, B₆, C and carotenes. It has been reported that apart from lower methionine, lysine, and perhaps isoleucine content, the amino acid profile of cassava leaf proteins compares favorably with those of milk, cheese, soybean, fish, egg.

The advantage of using young cassava leaves in the diet are:

- (i) Cassava is able to produce high yields in infertile soils, so it is available for farmers in remote and marginal areas;
- (ii) It has a high content of protein, iron, potassium, calcium, sodium, vitamin A, vitamin B₁, B₂, B₆, C and carotenes compared to other vegetables;
- (iii) It can be grown in small areas for daily supply; and
- (iv) It can also be grown commercially for income generation.

Fresh cassava leaves — Specification

1 Scope

This Draft African Standard specifies requirements, sampling and test methods for fresh cassava leaves of *Manihot esculenta* Crantz, 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.

ARS 53, *General principles of food hygiene — Code of practice*

ARS 56, *Prepackaged foods — Labelling*

CXG 21, *Principles for the establishment and application of microbiological criteria for foods*

CXC 44, *Recommended international code of practice for the packaging and transport of tropical fresh fruits and vegetables*

CXC 53, *Code of hygienic practice for fresh fruits and vegetables*

CXS 193, *Codex general standard for contaminants and toxins in food and feed*

ISO 874, *Fresh fruits and vegetables — Sampling*

ISO 7563, *Fresh fruits and vegetable — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions in ISO 7563, and the following apply.

3.1

fresh cassava leaves

leaves obtained from a plant of the species *Manihot esculenta* Crantz having visual characteristics of colour, texture and firmness typical of just harvested cassava leaves at the time of sale.

3.2

sound/wholesome

free from disease and physiological deterioration (such as but not limited to decay, breakdown, freezing damage) or adulteration/contamination, that appreciably affects their appearance, edibility, the keeping quality of the produce or market value

3.3

clean

practically free from dirt or staining and practically no loose dirt or other foreign matter present on the product and in the packaging material

3.4

practically free

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

3.5

food grade material

material which safeguards the hygienic, nutritional, technological and organoleptic qualities of the products

3.6

extraneous matter

organic matter of plant origin other than fresh cassava leaves

3.7

foreign matter

organic and inorganic materials (such as sand, soil, glass) other than extraneous matter in the cassava leaves

4 Requirements

4.1 General requirements

4.1.1 Fresh cassava leaves supplied to the market shall be:

- a) intact; tender, fresh in appearance and turgescient;
- b) sound/wholesome; produce affected by rotting or deterioration such as to make it unfit for consumption is excluded;
- c) clean, practically free of any visible foreign matter; however, unwashed leafs (if indicated) may have traces of earth or other growing material;
- d) free of damage caused by unsuitable washing or soaking;
- e) practically free from pests;
- f) practically free from damage caused by pests;
- g) free of abnormal external moisture;
- h) practically free of any visible foreign and extraneous matter; and
- i) free of any foreign smell, odour and/or taste.

4.1.2 The development and condition of the cassava leaves vegetables must be such as to enable them:

- a) to withstand transportation and handling; and
- b) to arrive in satisfactory condition at the place of destination.

5 Provision on tolerances

A total tolerance of 10 %, by weight, of cassava leaves not satisfying the minimum requirements is allowed. Within this tolerance not more than 2 % in total may consist of produce affected by decay.

6 Presentation

6.1 Uniformity

The contents of each package must be uniform and contain only cassava leaves of the same origin, variety or commercial type and quality.

The visible part of the contents of the package must be representative of the entire contents.

6.2 Packaging

6.2.1 Fresh cassava leaves may be sold packaged or loose. Packaged cassava leaves shall be packed in food grade package.

6.2.2 In order to maintain produce quality during transportation and marketing, fresh cassava leaves shall be packaged and transported in accordance with the appropriate sections CXC 44.

6.2.3 The net weight of each package of fresh cassava leaves may be required to meet the regulations of the destination country.

6.3 Presentation

Fresh cassava leaves may be presented in one of the following forms:

- a) bundles firmly bound where stalks on the outside of each bundle correspond in appearance. Bundles shall be arranged evenly in the package, each bundle may be protected by paper. In any one package, bundles shall be of the same length;
- b) arranged, but not bundled in the package;
- c) prepackaged units placed in another package; and
- d) macerated and packed.

7 Marking and labelling

7.1 In addition to the requirements of ARS 56, fresh cassava leaves shall be legibly and indelibly marked with the following information:

- a) name of the produce to be shown on the label shall be "Fresh cassava leaves";
- b) name and location address of the vendor and/or packer shall be declared;
- c) country of origin of the produce, and optionally, place of origin such as district, or region;
- d) net weight (in metric system);
- e) lot identification (batch number);
- f) declaration of preservatives, if used;
- g) date of harvest;
- h) packing date;
- i) storage conditions; and
- j) name of variety.

7.2 Non-retail containers

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Each package must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked, and visible from the outside, or in the documents accompanying the shipment.

7.2.1 Identification

Name and address of exporter, packer and/or dispatcher. Identification code (optional).

7.2.2 Nature of produce

Name of the produce if the contents are not visible from the outside. Name of the variety and/or commercial type (optional).

7.2.3 Origin of produce

Country of origin and, optionally, district where grown or national, regional or local place name.

7.2.4 Commercial Identification

— Net weight

— Preparation instructions in accordance with 7.3.

7.3 Preparation of cassava leaves before consumption

A statement on preparation instructions indicating the following is required:

- a) Fresh cassava leaves shall not be eaten raw; and
- b) Cooking or rinsing water shall not be consumed or used for other food preparation purposes.

8 Contaminants

8.1 Pesticide residues

Fresh cassava leaves shall conform to those maximum residue limits for pesticide residues established by Codex Alimentarius Commission for this commodity.

8.2 Heavy metals

Fresh cassava leaves shall comply with those maximum levels for heavy metal contaminants established by the Codex Alimentarius Commission for this commodity.

8.3 Other contaminants

8.3.1 Fresh cassava leaves shall conform to those maximum levels given in CXS 193.

9 Hygiene

9.1 The produce covered by the provisions of this standard shall be prepared and handled in accordance with the appropriate sections of ARS 53 and CXC 53.

9.2 The produce shall comply with any microbiological criteria established in accordance with the CXG 21.

10 Sampling

Sampling shall be done in accordance with ISO 874.

Bibliography

UNECE FFV 58-2010, *Leafy vegetables*

EAS 780:2012, *Fresh cassava leaves — Specification*

