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## **DRAFT EAST AFRICAN STANDARD**

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**Fresh potato tuber (ware potato tuber) — 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.

In order to achieve this objective, the Community established an East African Standards Committee mandated to develop and issue East African Standards.

The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the private sectors and consumer organizations. 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 procedures of the Community.

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.

EAS 748 was prepared by Technical Committee EAS/TC 016

## Fresh potato tuber (ware potato tuber) — Specification

### 1 Scope

This Draft East African standard specifies the requirements and methods of sampling and test for ware potato tuber of varieties (cultivars) grown from (*Solanum tuberosum* L.) of the family *Solanaceae* for human consumption. It does not cover the requirements for seed potato tuber.

### 2 Normative references

The following referenced documents are indispensable for the application 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, Labelling of prepackaged foods — Specification*

CAC/RCP 53-2003 Code of Hygienic Practice for Fresh Fruits and Vegetables

*CODEX STAN 193, General standard for contaminants and toxins in food and feed.*

ISO 7558:1988 Guide to the prepacking of fruits and vegetables

*ISO 874, Fresh fruits and vegetables – Sampling*

*ISO 6633, Fruits, vegetables and derived products -- Determination of lead content -- Flameless atomic absorption spectrometric method*

*ISO 17240, Fruit and vegetable products -- Determination of tin content -- Method using flame atomic absorption spectrometry*

*ISO 7952, Fruits, vegetables and derived products -- Determination of copper content -- Method using flame atomic absorption spectrometry*

*ISO 6636-2, Fruits, vegetables and derived products -- Determination of zinc content -- Part 2: Atomic absorption spectrometric method*

*ISO 17239, Fruits, vegetables and derived products -- Determination of arsenic content -- Method using hydride generation atomic absorption spectrometry*

### 3 Terms and definitions

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

#### 3.1

##### **black heart**

blackening of tissues in the centre of the potato tuber

- 3.2**  
**badly misshapen**  
potato tuber that is seriously deformed relative to the varietal shape
- 3.3**  
**clean**  
practically free from dirt or staining and practically no loose dirt or other foreign matter present in the container
- 3.4**  
**damaged**  
shall mean any defect or injury which is readily apparent upon examination, or which affects the edible quality of the potato tuber
- 3.6**  
**defects**  
defects which can be detected externally. However, cutting may be required to determine the extent of the injury.
- 3.7.**  
**firm**  
not soft, flabby or shrivelled
- 3.8**  
**food grade material**  
one that will not transfer non-food chemicals into the food and contains no chemicals which would be hazardous to human health
- 3.9**  
**foreign matter**  
any material other than that originating from the potato tuber
- 3.10**  
**hollow heart**  
cavities of various sizes in the centre of the tuber
- 3.11**  
**intact**  
not having any part removed or damaged such that it makes the potato tuber incomplete
- 3.16**  
**similar varietal characteristics**  
potato tuber that are of the same variety and type.
- 3.17**  
**sprout**  
new shoot emerging from the tuber
- 3.18**  
**sound**  
free from disease, serious deterioration (such as but not limited to decay, breakdown, freezing damage, or soft or shriveled specimens) or adulteration/contamination, that appreciably affects their appearance, edibility
- 3.19**  
**cured bruises**

## 4 Requirements

### 4.1. General requirements

**4.1.1** All fresh potato tubers to be supplied to the market shall meet the following minimum requirements:

- a) of normal appearance for the variety according to the producing area
- b) intact,
- c) sound;
- d) practically clean;
- e) firm;
- f) free of abnormal external moisture; i.e. shall be adequately "dried" if they have been washed;
- g) free of any foreign smell and/or taste.
- h) free of loss of colour such as browning in the flesh
- i) shall be covered with well-formed skin,
- j) shall be unsprouted;
- k) free from pest damage affecting the general appearance of the produce;
- l) practically free from free from mechanical damage
- m) bruise and roughness (only for varieties of which the skin is not normally rough)
- (n) Fresh potato tuber shall be practically free of external or internal defects detrimental to the general appearance of the produce, the quality, the keeping quality and presentation in the package, such as:
  - i) brown stains due to heat;
  - ii) cracks (including growth cracks), cuts, bites, exceeding 5 mm in depth for ware potato tuber;
  - iii) green colouration;
  - iv) serious deformities (malformation, misshape,...);
  - v) grey, blue or black sub-epidermal stains; exceeding 5 mm in depth ;;
  - vi) rust stains, hollow or black hearts ;
  - vii) deep common potato tuber scab and powdery potato tuber scab of a depth of 2 mm or more
  - viii) superficial common potato tuber scab; i. e. scab spots in all shall not extend over more than a (1/4) quarter of the surface of the tuber;
  - ix) damage due to low temperature;

**4.1.2** The potato tuber shall be carefully harvested and have reached 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 potato tuber 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 Specific requirements**

### **4.2.1 Classification**

#### **4.2.1.1 General**

Fresh potato tuber may be classified before marketing. Where classification is done the following classes shall be used in accordance with the requirements of each class and the quality tolerances in 4.2.3.

- Extra class;
- Class I and
- Class II

#### **4.2.1.2 Extra class**

Fresh potato tuber in this class shall be of superior quality. They shall be characteristic of the variety and free of defects with exception of very slight superficial bruises provided that this will not affect the general appearance of the produce, the keeping quality and the presentation in the package.

#### **4.2.1.3 Class I**

Fresh potato tubers in this class shall be of good quality and shall comply with the requirements in 4.1. They shall be characteristic of the variety and commercial type. The following slight defects however may be allowed provided that this will not affect the general appearance of the produce, the keeping quality and the presentation in the package:

- a) slight defects in shape and colour
- b) slight skin defects such as scratches, scars, scrapes and blemishes and shall not exceed 5 % of the surface area of an individual tuber
- c) defects shall not in any case affect the flesh of the produce
- d) bruising, not exceeding 10 % of the surface area of the tubers
- e) the deep common potato tuber scab and powdery tuber scab should not extend more than 3 % of the surface area and intrusion not exceeding 2 mm

#### **4.2.1.4 Class II**

This class shall comprise fresh potato tuber of marketable quality, which do not qualify for inclusion in the other classes. The following defects may occur provided the fresh potato tuber retain their essential characteristics as regards to quality, keeping quality and presentation:

- a) defects in shape not exceeding 10% of the tubers
- b) cured bruises, not exceeding 20 % of the surface area of the tubers
- d) lesions not more than 2 mm in depth and covering not more than 5% of the surface area of the tuber;
- f) sub-epidermal stains not more than 2 mm in depth;
- g) internal defects in not more than 3 % by number or mass of the tubers;
- h) common scab not extending more than 5 % of the surface area and intrusion not exceeding 2 mm

#### 4.2.2 Size designation

Fresh potato tuber may be designated by size in accordance with Table 1. The size of the tuber shall be determined by use of an appropriate square mesh.

**Table 1 — Scale for sizing tubers**

Size	Minimum, (mm )	Maximum, (mm )
Small	31 x 31	50 x 50
Medium	51 x 51	80 x 80
Large	81 x 81	more than 81 x 81

#### 4.2.3 Tolerances

##### 4.2.3.1 Class tolerances

###### 4.2.3.1.1 Extra class

Fresh potato tuber of Extra class may have a maximum of 5 % by number or mass of potato tuber not satisfying the requirements of the class, but meeting those of Class I or exceptionally coming within the tolerances of that class.

###### 4.2.3.1.2 Class 1

Fresh potato tuber of Class I may have a maximum of 10 % by number or mass of potato tuber not satisfying the quality requirements of Class II, but meeting those of Class III or exceptionally coming within the tolerances of that class. .

###### 4.2.3.1.3 Class 11

Fresh potato tubers of Class II shall satisfy the general quality requirements in Clause 4. May have a maximum of 10 % by number or mass of potato tuber not satisfying the quality requirements.

##### 4.2.3.2 Size tolerance

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

## 5 Contaminants

### 5.1 Pesticide residues

Fresh potato tubers shall comply with the maximum residue limits for pesticides established by the Codex Alimentarius Commission for this commodity.

### 5.2 Other contaminants

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

## 6 Hygiene

Fresh potato tubers shall be prepared and handled in accordance with CAC/RCP 53-2003

## 7 Packaging

7.1 Fresh potato tubers may be sold packaged or loose. Packaged fresh potato tubers shall be packaged in such a way to protect the produce from mechanical, heat and frost damage.

7.2 Fresh potato tubers shall also be packed in containers in accordance with ISO 7558.

7.3 When packed, the contents of each package shall be uniform and consist exclusively of potato tubers of the same origin, variety and/or commercial type, and quality. The visible part of the content of the package shall be representative of the entire contents.

## 8 Labelling

8.1 In addition to the requirements of *EAS 38*, the following specific requirements shall apply and shall be **legibly** and **indelibly** marked;

- i) Name, postal and physical address of the packer or dispatcher
- ii) Name of the produce as " Fresh potato tubers ",
- iii) Origin of produce
- iv) Harvest date
- v) Net weight (kg).
- vi) Size code
- vii) Class
- viii) Identification code and/or batch number
- ix) storage instructions

8.2 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.

## 12 Sampling

Representative samples of pineapples shall be sampled in accordance with ISO 874

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## Bibliography

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