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## **DRAFT EAST AFRICAN STANDARD**

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**Green tea — 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.

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 026, *Tea and related products*.

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.

This second edition cancels and replaces the first edition (EAS 921: 2019), which has been technically revised.



## Green tea — Specification

### 1 Scope

This Draft East African Standard specifies requirements, sampling and test methods for green tea of *Camellia sinensis* (Linnaeus) O. Kuntze.

This standard is not applicable to green tea subject to further processing such as decaffeination or further roasting.

This standard does not apply to flavoured or scented green tea.

### 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, *Labelling of pre-packaged foods — General requirements*

EAS 39, *Hygiene in the food and drink manufacturing industry — Code of practice*

ISO 1572, *Tea — Preparation of ground sample of known dry matter content*

ISO 1573, *Tea — Determination of loss in mass at 103 degrees C*

ISO 1575, *Tea — Determination of total ash*

ISO 1576, *Tea — Determination of water-soluble ash and water-insoluble ash*

ISO 1577, *Tea — Determination of acid-insoluble ash*

ISO 1578, *Tea — Determination of alkalinity of water-soluble ash*

ISO 1839, *Tea — Sampling*

ISO 3103, *Tea — Preparation of liquor for use in sensory tests*

ISO 6579-1, *Microbiology of the food chain — Horizontal method for the detection, enumeration and serotyping of Salmonella — Part 1: Detection of Salmonella spp.*

ISO 9768, *Tea — Determination of water extract*

ISO 14502-1, *Determination of substances characteristic of green and black tea — Part 1: Content of total polyphenols in tea – Colorimetric method using Folin — Ciocalteu reagent*

ISO 14502-2, *Determination of substances characteristic of green and black tea — Part 2: Content of catechins in green tea — Method using high-performance liquid chromatography*

ISO 15598, *Tea — Determination of crude fibre content*

ISO 16649-2, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of beta-glucuronidase-positive Escherichia coli — Part 2: Colony-count technique at 44 °C using 5-bromo-4-chloro-3-indolyl beta-D-glucuronide*

ISO 21527-2, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of yeasts and moulds — Part 2: Colony count technique in products with water activity less than or equal to 0,95*

### 3 Terms and definitions

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

#### 3.1

##### **green tea**

tea derived solely and exclusively, and produced by acceptable processes, notably enzyme inactivation and commonly rolling or comminution, followed by drying, from the tender leaves, buds and shoots of varieties of the species *Camellia sinensis* (Linnaeus) O. Kuntze, known to be suitable for making tea for consumption as a beverage

#### 3.2

##### **foreign matter**

organic or inorganic material other than tea leaf

#### 3.3

##### **adulterant**

any material intentionally added that changes the original composition and compromises the quality and safety of green tea

#### 3.4

##### **Decaffeination**

process of removing caffeine from tea leaves and other materials that contain caffeine

### 4 Requirements

#### 4.1 General requirements

##### 4.1.1 Green tea shall:

- a) have characteristic appearance, colour and taste of green tea;
- b) be free from taint;
- c) be free from foreign matter;
- d) be free from insects and visible moulds;
- e) be free from adulterants; and
- f) be free from added colouring matter.

##### 4.1.2 Liquor for sensory assessment shall be prepared in accordance with ISO 3103.

## 4.2 Specific requirements

Green tea shall comply with the specific requirements given in Table 1 when tested in accordance with the test methods specified therein.

**Table 1 — Specific requirements for green tea**

S/N	Characteristic	Requirement	Test method
i.	Moisture content, %, (m/m), max.	7	ISO 1573
ii.	Water extract, % (m/m), min.	32	ISO 9768
iii.	Total ash, %, (m/m)	4 – 8	ISO 1575
iv.	Water-soluble ash of total ash, %, (m/m), min.	45	ISO 1576
v.	Alkalinity of water-soluble ash (as KOH), %, (m/m)	1.0 – 3.0 <sup>a</sup>	ISO 1578
vi.	Acid-insoluble ash, %, (m/m), max.	1.0	ISO 1577
vii.	Crude fibre, %, (m/m), max.	16.5	ISO 15598
viii.	Total catechins, %, (m/m), min.	7	ISO 14502-2
ix.	Total polyphenols, %, (m/m), min.	11	ISO 14502-1

NOTE 1 The minimum ratio of total catechins to total polyphenols is 0.5.

NOTE 2 Except for water extract, the requirements shall be determined using a ground sample prepared in accordance with ISO 1572.

<sup>a</sup> When the alkalinity of water-soluble ash is expressed in terms of millimoles of KOH per 100 g of ground sample, the limits shall be 17.8 – 53.6.

## 5 Hygiene

**5.1** Green tea shall be processed and handled in a hygienic manner in accordance with EAS 39.

**5.2** Green tea shall not exceed the microbiological limits in Table 2 when tested in accordance with test methods.

**Table 2 — Microbiological limits for green tea**

S/N	Microorganism	Maximum limit	Test method
i.	Yeasts and moulds, cfu/g	10 <sup>2</sup>	ISO 21527-2
ii.	<i>Escherichia coli</i> , cfu/g	Absent	ISO 16649-2
iii.	<i>Salmonella per 25 g</i>	Absent	ISO 6579-1

## 6 Contaminants

### 6.1 Iron filings

When tested in accordance with Annex A, the amount of iron filings in green tea shall not exceed 100 mg/kg.



## 6.2 Pesticide residues

Green tea shall comply with the updated maximum pesticide residue limits established by the Codex Alimentarius Commission.

## 7 Sampling

Sampling for green tea shall be done in accordance with ISO 1839.

## 8 Packaging

Green tea shall be packaged in closed, clean and dry materials which do not compromise the quality and safety of the product.

## 9 Labelling

In addition to the requirements specified in EAS 38, each package of the green tea shall be legibly and indelibly labelled with the following:

- a) name of the product as "Green tea";
- b) name and physical address of the manufacturer/packer/importer/exporter;
- c) date of manufacture;
- d) best before;
- e) batch/lot number;
- f) net weight in grams or kilograms;
- g) country of origin; and
- h) instructions for use and storage.

## Annex A (normative)

### Determination of iron filings

#### A.1 Apparatus

A.1.1 Magnet (at least 4 000 gauss)

A.1.2 Polythene sheet

A.1.3 Petri dish

#### A.2 Procedure

A.2.1 A known amount of (25 g) tea is spread evenly on petri dish.

A.2.2 A powerful magnet wrapped in polythene sheet is run over the sample repeatedly till no more iron filings cling to the magnet.

A.2.3 Collect the iron filings in a clean, dry and previously weighed petri dish.

A.2.4 Note down and express the mass of iron filings as mg/kg.

#### A.3 Calculation

$$\text{Iron filings} = \frac{M_1 \times 1000}{M_2}$$

where

$M_1$  is the mass, in grams, of iron filings, and

$M_2$  is the mass, in grams, of sample taken for the test.

## Bibliography

ISO 11287: 2011, *Green tea — Definition and basic requirements*

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