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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 002, *Coffee, Tea, cocoa and related products*.

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## Green tea — Specification

### 1 Scope

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

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

### 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 industry— Code of practice*

ISO 1572: 1980, *Tea — Preparation of ground sample of known dry matter content*

ISO 1573: 1980, *Tea — Determination of loss in mass at 103 degrees C*

ISO 1575: 1987, *Tea — Determination of total ash*

ISO 1576: 1988, *Tea — Determination of water-soluble ash and water-insoluble ash*

ISO 1577: 1987, *Tea — Determination of acid-insoluble ash*

ISO 1578: 1975, *Tea — Determination of alkalinity of water-soluble ash*

ISO 1839: 1980, *Tea — Sampling*

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

ISO 5498: 1981, *Agricultural food products — Determination of crude fibre content — General Method*

ISO 6579, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection of Salmonella spp*

ISO 6888-1, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species)*

ISO 7251, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of presumptive Escherichia coli — Most probable number technique*

ISO 9768: 1990, *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 glucuronidase-positive Escherichia coli — Part 2: Colony-count technique at 44 °C using 5-bromo-4-chloro-3-indolyl-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.

#### **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

### 4 Requirements

#### 4.1 General Requirements

##### 4.1.1 Green tea shall be:

- a) free from foreign and extraneous matter;
- b) free from taint, and shall have the characteristics, appearance, colour and taste of green tea;
- c) free from living insects, moulds, filth and adulterants; and
- d) free from added colouring matter and harmful substances;

4.1.2 Green tea shall be free from taint, and shall have the characteristics, appearance, colour and taste of green tea, when examined by sensory analysis.

4.1.3 The green tea shall be free from any additives such as colouring agents and flavourings

#### 4.2 Specific requirements

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

The requirements specified in Table 1, except for water extract, shall be determined using a ground sample prepared in accordance with ISO 1572.

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

Characteristic	Requirement	Test method
Moisture content, %, (m/m), max.	7	ISO 1573
Water extract, % (m/m), min.	32	ISO 9768
Total ash, %, (m/m)	4-8	ISO 1575
Water-soluble ash of total ash, %, (m/m); min.	45	ISO 1576
Alkalinity of water-soluble ash (as KOH), %, (m/m)	1.0 <sup>a</sup> -3.0 <sup>a</sup>	ISO 1578
Acid-insoluble ash, %, (m/m), max.	1.0	ISO 1577
Crude fibre, %, (m/m), max.	16.5	ISO 5498/15598 <sup>b</sup>
Total catechins, %, (m/m), min.	7	ISO 14502-2
Total polyphenols, %, (m/m), min.	11	ISO 14502-1
NOTE 1 Apart from moisture content, other parameters are calculated on dry basis.		
NOTE 2 The minimum ratio of Total catechins to Total polyphenols shall be 0.5.		
<sup>a</sup> When the alkalinity of water-soluble ash is expressed in terms of millimoles of KOH per 100g of ground sample, the limits shall be: - minimum 17.8 - maximum 53.6  <sup>b</sup> The specific method for the determination of crude fibre in tea is specified in ISO 15598, however for the purpose of routine estimation, the general method specified in ISO 5498 is adequate. In cases of dispute, the method of determination should always be that specified in ISO 15598. The requirement of 16.5 % mass fraction remains unchanged regardless of the method used.		

## 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 comply with microbiological requirements specified in Table 2 when tested in accordance with test method stated therein.

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

S/N	micro-organism	Maximum limits	Test method
i.	Yeasts and Moulds, CFU/g	10 <sup>4</sup>	ISO 21527-2
ii.	<i>E. Coli</i> , CFU/g	Absent	ISO 16649-2

## 6 Contaminants

When tested in accordance with Annex A, the amount of iron filings in green tea shall not exceed 50 mg/kg.

## 7 Pesticide residues

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



## 8 Sampling

Samples shall have been taken in accordance with ISO 1839.

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

## 9 Packaging

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

## 10 Labelling

In addition to the requirements specified in EAS 38, each package of the green tea shall be legibly and indelibly marked 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) identification number;
- f) net weight in g or kg;
- g) country of origin; and
- h) instruction for use and storage.

## **Annex A** (normative)

### **Annex title**

#### **A.1 Apparatus**

**A.1.1** Magnet (at least 4 000 gauss)

**A.1.2** Polythene sheet

**A.1.3** Petridish

#### **A.2 Procedure**

**A.2.1** A known amount of (25 g) tea is spread evenly on petridish

**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 petridish

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

#### **A.3 Calculation**

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

Where;

M<sub>1</sub>=Mass, in g, of iron filings, and

M<sub>2</sub>=mass, in g, of sample taken for the test.



DRAFT FOR COMMENTS