

KENYA STANDARD

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Tea — Raw material for extraction — Specification

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TECHNICAL COMMITTEE REPRESENTATION

The following organizations were represented on the Technical Committee:

Agriculture, Fisheries and Food Authority (AFFA) - Tea Directorate
Kenya Agricultural and Livestock Research Organization (KALRO) - Tea Research Institute
Kenya Tea Development Agency
Karatina University
Egerton University
Ministry of Agriculture, Livestock and Fisheries- State Department of Agriculture
Ministry of Foreign Affairs and International Trade
Ministry of Industry and Enterprise Development
Ministry of Health
Government Chemists' Department
James Finlays (K) Ltd
Unilever Tea (K) Ltd
Melvin Marsh (K) Ltd
Institute of Packaging of Kenya
Kenya Tea Packers Ltd.
Consumer Information Network
Kenya Bureau of Standards — Secretariat

REVISION OF KENYA STANDARDS

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Tea — Raw material for extraction — Specification

PUBLIC REVIEW DRAFT

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Foreword

This Kenya Standard has been prepared by the Tea Technical Committee under the guidance of the Standards Project Committee and it is in accordance with the procedures of the Kenya Bureau of Standards.

The standard on Tea- Raw material was developed to accommodate technological innovations in tea manufacturing and the desire to position Kenya as an exporter of a diversity of tea products in the world market. However, the first edition was revised to differentiate tea leaves intended for further processing and those intended for direct use. In particular total viable counts, yeasts and moulds were changed to reflect quality of a raw material intended for further processing; labeling was made more emphatic to provide guidance on its use; and a list of pesticide residue limits was annexed to ensure that specific pesticide residues are monitored. The standard is intended to ensure that the processed tea leaf used as raw material for tea extract products and final products are of good quality; promotes fair trade; safeguards the interests of the stakeholders and guarantees enhanced safety of the consumers.

During the preparation of this standard, reference was made to the following documents:

Codex pesticide residues in food online database, FAO/WHO 2013

ISO 3720:2011 Tea Definitions and basic requirements

KS 2404:2013 Tea raw material for extraction

KS 2128:2009 Tea Industry — Code of practice

Acknowledgement is hereby made for the assistance derived from these sources.

Tea — Raw material for extraction — Specification**1 Scope**

This Kenya Standard specifies the requirements and prescribes methods of sampling and test for tea of the species *Camellia sinensis* (Linnaeus) O. Kuntze intended for further processing into tea extracts.

This standard does not apply to Tea intended for blending or tea for direct consumption

2 Normative references

The following referenced documents are indispensable for the application of this standard:

KS ISO 9768 Tea -- Determination of water extract

KS ISO 1575 Tea -- Determination of total ash

KS ISO 1576 Tea -- Determination of water-soluble ash and water-insoluble ash

KS ISO 1578 Tea -- Determination of alkalinity of water-soluble ash

KS ISO 15598 Tea - Determination of crude fibre content

KS ISO 1577 Tea -- Determination of acid-insoluble ash

ISO 1573 Tea -- Determination of loss in mass at 103 degrees C

KS ISO 4833 Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of microorganisms - Colony-count technique at 30°C

KS 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

KS ISO 6579 Microbiology of food and animal feeding stuffs - Horizontal method for the detection of *Salmonella* spp.

KS ISO 4832 Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of coliforms - Colony-count technique

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

KS ISO 6888:3 Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of coagulase-positive staphylococci (*Staphylococcus aureus* and other species) - Part 3: Detection and MPN technique

KS EAS 38, Labelling of prepackaged foods

KS EAS 39:2000 Code of practice for hygiene in the food and drink manufacturing industry

KS 1927, Tea packaging — Specification

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KS 2225, Genetically modified organisms and derived products- labeling of food and feed

KS ISO 1839, Sampling of tea

3 Definitions

For purposes of this standard, the following definitions shall apply:

3.1

tea raw material for extraction

any processed tea produced by acceptable processes (notably steaming, withering, leaf maceration, aeration, non-aeration and drying) from the tender 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

extraneous matter

any material of tea origin such as twigs, bark and stems

3.3

foreign matter

any material which is not tea leaf or fragments of tea plant e.g. sand, stones, metallic chips and any organic matter other than extraneous matter

3.4

Contaminant

any substance (microbiological, physical or chemical) not intentionally added to tea leaf, which is present as a result of agronomical practices, processing, preparation, treatment, packing, packaging, transport, holding of tea leaf, or as a result of environmental contamination. The term does not include insect fragments, rodent hairs and other extraneous matter

3.5

adulterant

any added materials that changes the original composition tea raw material

3.6

filth

any objectionable matter contributed by animal contamination or product such as rodent, insect, or bird matter; or any other objectionable matter contributed by insanitary conditions.

4 Requirements

4.1 General requirements

Tea Raw material for extraction shall comply with the following:

- 4.1.1 Shall be of uniform colour.
- 4.1.2 Shall be of typical texture and appearance.
- 4.1.3 Shall have a typical flavour and taste.
- 4.1.4 Shall be free from unpleasant or repulsive odours
- 4.1.5 Shall be free from all contaminants, filth and adulterants.

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4.1.6 Shall be free from extraneous and foreign matter.

4.2 Compositional quality requirements/limits

Tea Raw material for extraction shall comply with the following:

4.2.1 The Tea Raw material for extraction shall comply with the requirements/limits specified in Table 1, in which all the figures given are calculated on the basis of the material that is oven-dried to constant mass at $103^{\circ}\text{C} \pm 2^{\circ}\text{C}$.

Table 1 — Quality requirements/limits for Tea Raw material for extraction

SL N	Parameter	Requirement/Limits	Test method (to be identified)
i.	Water extract, % (m/m) min.	20	KS ISO 9768
ii.	Total ash, per cent (m/m), on dry matter basis,	4.0 - 8.0	KS ISO 1575
iii.	Water-soluble ash, as percentage of total ash, min.	45	KS ISO 1576
iv.	Alkalinity of water-soluble ash (as KOH) per cent (m/m)	1.0-3.0	KS ISO 1578
v.	Acid-insoluble ash, % m/m) max.	1.0	KS ISO 1577
vi.	Crude fibre % max.	16.5	KS ISO 15598
vii.	Moisture content %, m/m, max.	7.0	KS ISO 1573

4.3 Pesticide residue limits

4.3.1 Pesticide residues if present shall not exceed the limits specified in Annex 1

4.3.2 For pesticides not listed in Annex 1, limits shall be based on level of detection

4.4 Heavy metal contaminant limits

Heavy metal contaminants if present shall not exceed the limits specified in Table 2.

Table 2 — Heavy metal contaminant limits in Tea Raw material for extraction

SL N	Parameter	Limit	Test method
i.	Arsenic (As), ppm, max.	0.15	AOAC
ii.	Lead (Pb), ppm, max	1.0	
iii.	Cadmium(Cd); ppm, max	0.1	

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4.5 Microbiological limits

Tea raw material for extraction shall comply with the microbiological limits as stipulated in Table 3.

Table 3 — Microbiological limits for Tea Raw material for extraction

SLN	Type of micro-organism	Limits	Test method
i.	Aerobic plate count, max	2.0×10^5	KS ISO 4833
ii.	Yeasts cfu per g	5.0×10^3	KS ISO 21527-2
iii.	Moulds cfu per g; max	10^4	
iv.	<i>Salmonella</i> spp, per 25 g, max	Shall be absent	KS ISO 6579
v.	<i>Coliforms</i> per 100 g, max	Shall be absent	KS ISO 4832
vi.	<i>E.coli</i> per g, max	Shall be absent	KS ISO 7251
vii.	<i>S. aureus</i> per g, max	Shall be absent	KS ISO 6888-3

5 Hygiene

Tea raw material for extraction shall be processed in accordance with KS EAS 39, the Public Health Act, Cap. 242 and the Food, Drugs and Chemical Substances Act, Cap. 254 of the Laws of Kenya.

6 Environment

Tea raw material for extraction shall be produced, processed and handled under conditions complying with the stipulations of the Environmental Management and Co-ordination Act (EMCA), No.8 of 1999 of the Laws of Kenya, on environmental management and complying with cleaner production technological practices.

7 Packaging

7.1 Tea raw material for extraction shall be packaged in food grade material that ensures product safety and integrity, and complying with KS 1927.

7.2 The fill of the package shall comply with the Weights and Measures Act, Cap. 513 of the Laws of Kenya.

7.3 The disposal of used package and condemned tea raw material for extraction shall be carried out in compliance with the Environmental Management and Coordination Act (EMCA), Waste Regulations, 2006 of the Laws of Kenya on disposal of solid and liquid wastes.

8 Labelling

8.1 In addition to the requirements in KS EAS 38, and KS 1927, each package of the Tea Raw material for extraction shall be legibly and indelibly marked with the following:

- i) product name as "Tea - Raw Material for Extraction "
- ii) name, address and physical location of the manufacturer/ packer/ importer/ exporter;
- iii) date of manufacture;
- iv) expiry date;

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- v) the declaration “FOR extraction purposes ONLY”;
- vi) storage instruction as “Store in a Cool Dry Place, Away from Contaminants”;
- vii) lot/batch/code number;
- viii) net weight in metric units;
- x) instructions on disposal of used package;
- xi) country of origin
- xii) declaration of genetic status in accordance with KS 2225, if genetically modified

8.2 A declaration of any inaccurate information in marking/labelling is prohibited and shall be punishable by law under the Standards Act, Cap. 496, of the Laws of Kenya.

9 Sampling

Sampling of Tea Raw material for extraction for analysis shall be carried out in compliance with KS ISO1839.

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Annex 1 (Informative) Maximum Pesticide Residue Limits for Tea –Raw Material for Extraction

- A1.1 Maximum pesticide limits in this annex are based on the Codex database for pesticide residues, 2013.
- A1.2 The pesticide residue database is regularly reviewed and updated.
- A1.3 It is therefore recommended that the list of the current pesticide residue be confirmed by accessing the codex database
- A1.4 Most current limits can be found on CODEX Online Commodity Details for Tea at <http://www.codexalimentarius.net/pestres/data/commodities/details.html?id=101>
- A2.0 List of pesticides and maximum residue limits

SLN	Pesticides	Maximum Residue Limit (mg/kg)	
		Tea, Green, Black (fermented and dried)	Green tea only
1.	Paraquat	0.2	
2.	Methodathion	0.5	
3.	Clothianidin	0.7	
4.	Fenprothrin	2	
5.	Chlorpyrifos	2	
6.	Deltamethrin	5	
7.	Propargite	5	
8.	Endosulfan	10	
9.	Etoazole	15	
10.	Hexythiazox	15	
11.	Cypermethrins (including alpha- and zeta-cypermethrin)	15	
12.	Permethrin	20	
13.	Thiamethoxam	20	
14.	Bifenthrin	30	
15.	Dicofol	40	
16.	Flubendiamide	50	
17.	<u>Buprofezin</u>		30

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