Orthodox tea — Specification
TECHNICAL COMMITTEE REPRESENTATION

The following organizations were represented on the Technical Committee:

Egerton University
Agriculture and Food Authority - Tea Directorate
Ministry of Health — Food Safety Unit
Government Chemist’s Department
Melvin Mash International Ltd
Unilever Tea Kenya Ltd
Kenya Plant Health inspectorate Service
James Finlay (Kenya) Limited
Kenya Agricultural and Livestock organization - Tea Research Institute
Ministry of Industry, Trade and cooperatives
Ministry of Agriculture, Livestock and Fisheries
Kenya Tea Development Agency Ltd
Institute of Packaging of Kenya
Consumer Information Network
Gold crown beverages-Kenya LTD
Karatina University
Kenya Bureau of Standards Secretariat

REVISION OF KENYA STANDARDS

In order to keep abreast of progress in industry, Kenya Standards shall be regularly reviewed. Suggestions for improvements to published standards, addressed to the Managing Director, Kenya Bureau of Standards, are welcome.

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Orthodox teas — Specification

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Foreword

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

The need to prepare this standard has arisen from the increased need to accommodate technological innovations and the desire to position the Kenyan tea as a high-quality offering in the global market. Thus, there is a general need to address both economic and nutritional concerns. In this dispensation, the standard 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:

ISO 3720; Black tea — Definitions and basic requirements
KS ISO 11287; Green tea— Definitions and basic requirements

Acknowledgement is hereby made for the assistance derived from these sources.
Orthodox teas — Specification

1 Scope
This Kenya Standard specifies requirements and methods of sampling and test of orthodox teas (non-aerated, aerated, semi aerated and purple) of the species Camellia sinensis (Linneaus) O. Kuntze. This standard does not apply to flavoured teas and decaffeinated orthodox teas.

2 Normative references
The following referenced documents are indispensable for the application of this Kenya Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

AOAC 942.17, Arsenic in foods Molybdenum blue method
AOAC 999.10, Lead, Cadmium, Copper, Iron, and Zinc in foods, Atomic Absorption Spectrophotometry after dryashing
KS EAS 39, Code of practice for food hygiene in the food and drink manufacturing industry
KS ISO 1573; Tea – Determination of loss in mass at 103 °C
KS ISO 1839, Sampling of tea
KS ISO 3103; Tea – Preparation of liquor for use in sensory tests
KS ISO 18593; Microbiology of food and animal feeding stuffs – Horizontal methods for sampling techniques from surfaces using contact plates and swabs
KS ISO 4833-1; Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of microorganisms - Colony-count technique at 30 degrees C
KS ISO 21527; 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 16649-1; Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of betaglucuronidase-positive Escherichia coli – Part 1: Colonycount technique at 44 degrees C using membranes and 5-bromo-4-chloro-3-indolyl beta-D-glucuronide
KS ISO 16649-2; Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of betaglucuronidase-positive Escherichia coli - Part 2: Colonycount technique at 44 degrees C using 5-bromo-4chloro-3-indolyl beta-D-glucuronide
KS ISO 6579; Microbiology of food and animal feeding stuffs - Horizontal method for the detection of Salmonella spp
KS EAS 38, Labelling of pre-packaged foods
KS CODEX STAN 193, Codex general standard for contaminants and toxins in foods
KS ISO 8968-1, Microbiology of food and animal feeding stuffs -- Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) -- Part 1: Technique using Baird Parker agar medium
KS ISO 15598; Tea- Determination of crude fibre
KS ISO 5498; Agricultural food products- Determination of crude fibre content- General Method

3 Definition and Terms
For purposes of this standard, the following definitions shall apply:

3.1 Orthodox tea
Tea derived from the tender leaves, buds, and shoots of varieties of the species Camellia sinensis (L.) O. Kuntze, known to be suitable for making tea for consumption as a beverage. Orthodox tea is derived from tea varieties and produced by acceptable processes including withering, enzyme inactivation, aeration, semi aeration and non-aeration.

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, flavour used or fragments of tea plant e.g. sand, stones, metallic chips and any organic matter other than extraneous matter

3.4 Contaminants
Any physical or chemical or biological agent, foreign matter, or any other substances not intentionally added to food which may compromise food safety or suitability

3.5 Adulterant
Any material intentionally added that changes the original composition and compromises the quality and safety of black tea

3.5 Filth
Any material such as, but not limited to dead insects, rodents and their derivatives

3.6 Taint
Taste and odour foreign to tea

4 Requirements

4.1 General requirements
Orthodox teas shall comply with the following:

4.1.1 The tea shall be clean and reasonably free from extraneous matter when inspected visually.

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

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

4.2 Chemical requirements

4.2.1 The tea shall comply with the requirements specified in Table 1 using the methods quoted, in which all the figures given are expressed on the basis of material oven dried to constant mass at (103 ± 2) °C by the method specified in ISO 1573.

4.2.2 If no limit is specified for the moisture content of the tea, the actual loss in mass at 103 °C of the sample may be determined and the result recorded in the test report. In such cases, the determination shall be carried out by the method described in ISO 1573.

4.2.3 Liquor for sensory assessment can be prepared by the method specified in ISO 3103. The assessment shall be described in the test report using terms defined in ISO 6078

4.2.4 Compositional quality requirements/limits
The orthodox teas shall comply with the requirements/limits specified in Table 1.

Table 1 — Chemical requirement for orthodox teas.

<table>
<thead>
<tr>
<th>SL No.</th>
<th>Characteristic</th>
<th>Requirement</th>
<th>Methods of test</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i)</td>
<td>Moisture content %, m/m, max.</td>
<td>7.0 max</td>
<td>7.0 max</td>
</tr>
</tbody>
</table>
### Table 2—Heavy metal contaminant limits in Orthodox teas

<table>
<thead>
<tr>
<th>SL No.</th>
<th>Parameter</th>
<th>Limit</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>i)</td>
<td>Arsenic (As), ppm, max.</td>
<td>0.1</td>
<td>AOAC 999.10</td>
</tr>
<tr>
<td>iv)</td>
<td>Cadmium (Cd), ppm, max.</td>
<td>0.1</td>
<td>AOAC 942.17</td>
</tr>
<tr>
<td>Parameter</td>
<td>Limit</td>
<td>Test method</td>
<td></td>
</tr>
<tr>
<td>-------------------------</td>
<td>-------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>Iron filings, ppm max</td>
<td>50</td>
<td>KS 2160</td>
<td></td>
</tr>
</tbody>
</table>

**6. HYGIENE**

6.1 It is recommended that the products covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of KS EAS 39, and other relevant Kenya standards and regulations. The products should comply with any microbiological criteria established in accordance with CAC/GL 21.

6.2 Orthodox teas shall comply with microbiological requirements in Table 4—Microbiological limits for Orthodox teas

**Table 4—Microbiological limits for Orthodox teas**

<table>
<thead>
<tr>
<th>SL No</th>
<th>Type of micro-organism</th>
<th>Limits</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i)</td>
<td>Yeasts cfu/ g, max</td>
<td>10³</td>
<td>KS ISO 21527-2</td>
</tr>
<tr>
<td></td>
<td>Moulds cfu/ g, max</td>
<td>10³</td>
<td>KS ISO 21527-1</td>
</tr>
<tr>
<td>(ii)</td>
<td>Staphylococcus aureus cfu/ g, max</td>
<td>Absent</td>
<td>KS ISO 6888-1</td>
</tr>
<tr>
<td>(iii)</td>
<td>E. Coli, cfu/ g, max</td>
<td>Absent</td>
<td>KS ISO 7251</td>
</tr>
<tr>
<td>(iv)</td>
<td>Salmonella spp, cfu/ 25 g, max</td>
<td>Absent</td>
<td>KS ISO 6579</td>
</tr>
</tbody>
</table>

**7. Environment**

Orthodox teas 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.

**8. Packaging**

8.1 The tea shall be packed in suitable, clean and dry containers, made of material, which does not change the tea quality (preserves tea quality).

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

8.3 The disposal of used package and condemned black tea 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.

**9. Labelling**

9.1 In addition to the provisions of the General Standard for the Labelling of Prepackaged Foods; KS EAS 38, the following specific provisions apply:
i) product name as “orthodox Tea”;
ii) name, address and physical location of the manufacturer/ packer/ importer/ exporter;
iii) date of manufacture;
iv) expiry date;
v) method of manufacturing;
vi) the declaration “Food for Human Consumption”;
vii) storage instructions as “Store in a Cool Dry Place, Away from Contaminants and direct sunlight”;
viii) lot/batch/code number;
ix) net weight in g or kg;
x) instructions on disposal of used package; and
xi) country of origin

9.2 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.

10 Sampling

Sampling of orthodox tea for analysis shall be carried out in compliance with KS ISO1839.

ANNEX 1

GRADES IN ORTHODOX TEAS
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FP</td>
<td>Flowery Pekoe</td>
</tr>
<tr>
<td>FTGFOP</td>
<td>Fine Tippy Golden Orange Pekoe</td>
</tr>
<tr>
<td>TGFOPI</td>
<td>Tippy Golden Orange Pekoe</td>
</tr>
<tr>
<td>GFOP</td>
<td>Golden Flowery Orange Pekoe</td>
</tr>
<tr>
<td>FOP</td>
<td>Flowery Orange Pekoe</td>
</tr>
<tr>
<td>OP</td>
<td>Orange Pekoe</td>
</tr>
<tr>
<td>BOP</td>
<td>Broken Orange Pekoe</td>
</tr>
<tr>
<td>GFBOP</td>
<td>Golden Flowery Broken Orange Pekoe</td>
</tr>
<tr>
<td>BPS</td>
<td>Broken Pekoe Souchong</td>
</tr>
<tr>
<td>GBOP</td>
<td>Golden Broken Orange Pekoe</td>
</tr>
<tr>
<td>FBOP</td>
<td>Flowery Broken Orange Pekoe</td>
</tr>
<tr>
<td>BOP</td>
<td>Broken Orange Pekoe</td>
</tr>
<tr>
<td>GOF</td>
<td>Golden Orange Fannings</td>
</tr>
<tr>
<td>FOF</td>
<td>Flowery Orange Fannings</td>
</tr>
<tr>
<td>BOPF</td>
<td>Broken Orange Pekoe Fannings</td>
</tr>
<tr>
<td>OPD</td>
<td>Orange Pekoe Dust</td>
</tr>
<tr>
<td>OCD</td>
<td>Orange Churamani Dust</td>
</tr>
<tr>
<td>BOPD</td>
<td>Broken Orange Pekoe Dust</td>
</tr>
<tr>
<td>BOPFD</td>
<td>Broken Orange Pekoe Fine Dust</td>
</tr>
<tr>
<td>FD</td>
<td>Fine Dust</td>
</tr>
<tr>
<td>D – A</td>
<td>Dust – A</td>
</tr>
<tr>
<td>Spl.Dust</td>
<td>Special Dust</td>
</tr>
<tr>
<td>G. Dust</td>
<td>Golden Dust</td>
</tr>
</tbody>
</table>

KENYABUREAUFSTANDARDS(KEBS)
KEBS CERTIFICATION MARKS

1. Product Certification Marks

KEBS Standardization Mark (S-Mark) is issued for use on products that comply with the minimum quality requirements prescribed in Kenya standards. It uses standards as a benchmark for quality compliance and aims at giving manufacturers improved market access and also giving consumers an assurance of quality for the products bearing the mark.

2. Systems Certification Marks

KEBS is mandated to provide Standardization, Metrology and Conformity Assessment Services through:

- Promotion of standardization in commerce and industry
- Provision of testing and calibration facilities
- Control of the use of standardization marks
- Undertaking educational work in standardization
- Facilitation of the implementation and practical application of standards
- Maintenance and dissemination of the International System of Units (SI) of measurements

KEBS offers the following services:

- Standards development and harmonization
- Test services
- Measurement services (Calibration)
- Enforcement of standards
- Product inspection services
- Education and Training in Standardization, Metrology and Conformity Assessment
- Product and Management Systems Certification Services

INFORMATION ON STANDARDS

Standards are documents that provide a common reference point for the assessment of the quality of goods and services. Standards facilitate transparency in the exchange of goods and enhance market access of Kenyan products into local, regional and international markets. Information on standards and related documents is available at the KEBS standards information centre.

KEBS hosts the WTO-TBT National Enquiry Point (NEP) which disseminates notification likely to affect international trade to the industry. KEBS also provides technical advice on installation and improvement of quality goods and services to the industry so as to facilitate efficient implementation of standards. Some of the advantages of standards include: enhancement of quality assurance, safety and environmental protection measures, minimization of waste, reduction of costs and unnecessary varieties and promotion of interchangeability and increased productivity in industry.

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