Purple 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.
Purple tea — Specification
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.

Tea is grown and manufactured in numerous countries of the world and is blended or consumed in many more. Purple tea may be produced from tea from more than one garden or region or may be a blend of teas from two or more origins.

The objective of this Standard is to specify the plant source from which the purple tea is to be manufactured and to set requirements for certain physical, chemical and microbiological characteristics which, if met, are an indication that the tea had been subjected to good production practice.

The desired characteristics of a purple tea and the resulting liquor depend upon many factors including: the type of water to be used for brewing, the preparation method and on individual tastes. It is a matter for the parties concerned to apply the requirements of this Standard to a consignment or lot of purple tea. The quality of purple tea is usually assessed organoleptically by skilled tea tasters, who base their judgements on their previous experience of purple tea, their knowledge of the conditions in the producing areas, and the preferences of the consuming country. Account may be taken of characteristics such as the appearance of the tea before preparation of liquor (such as shape, colour, cleanliness, and evenness), the appearance of the infused leaf and the appearance, odour, and taste of the liquor. In practice, teas are submitted for physical, chemical and microbiological analysis to ascertain conformity.

This Kenya Standard also specifies the packing and marking requirements for purple tea in containers.

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

ISO 11257: Green tea — Definitions and basic requirements.

Acknowledgement is hereby made for the assistance derived from these sources.
Purple tea - specification

1 Scope

This Kenya Standard specifies the parts of Camellia sinensis (Linneaus) O. Kuntze suitable for making purple tea for consumption as a beverage and the chemical requirements used to indicate that tea from that source has been produced in accordance with good production practice. This standard does not apply to flavoured teas and decaffeinated purple 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.

ISO 1572, Tea — Preparation of ground sample of known dry matter content
ISO 1573, Tea — Determination of loss in mass at 103 °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 5498, Agricultural food products — Determination of crude fibre content — General method
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
AOAC 2005.02; Method for the determination of anthocyanins
KS ISO 11286, Tea classification by particle size

3 Terms and definitions

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

3.1 Purple 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. Purple tea is derived from tea varieties whose leaves have purple colouration due to anthocyanin and produced by acceptable processes including 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

3.6 Filth

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

3.7 Taint

Taste and odour foreign to tea

4 Requirements

4.1 General requirements

Purple tea 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

4.2.3 Compositional quality requirements/limits

The Purple tea shall comply with the requirements/limits specified in Table 1.
### Table 1 — Chemical requirement for purple tea.

<table>
<thead>
<tr>
<th>SL No.</th>
<th>Characteristic</th>
<th>Requirement</th>
<th>Methods of testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i)</td>
<td>Moisture content %, m/m</td>
<td>7.0 max</td>
<td>KS ISO 1573</td>
</tr>
<tr>
<td>(i)</td>
<td>Water extract, % mass fraction</td>
<td>32 min.</td>
<td>ISO 9768</td>
</tr>
<tr>
<td>(i)</td>
<td>Total ash, % mass fraction</td>
<td>8 max, 4 min.</td>
<td>ISO 1575</td>
</tr>
<tr>
<td>(iii)</td>
<td>Water-soluble ash, % mass fraction of total ash</td>
<td>45 min</td>
<td>ISO 1576</td>
</tr>
<tr>
<td>(vi)</td>
<td>Alkalinity of water-soluble ash (as KOH), % mass fraction</td>
<td>1.0 min*, 3.0 max*</td>
<td>ISO 1578</td>
</tr>
<tr>
<td>(v)</td>
<td>Acid-insoluble ash, % mass fraction</td>
<td>1.0 max.</td>
<td>ISO 1577</td>
</tr>
<tr>
<td>(iv)</td>
<td>Crude fibre, % mass fraction</td>
<td>16.5 max.</td>
<td>ISO 5498 or ISO 1</td>
</tr>
<tr>
<td>(vii)</td>
<td>Total catechins, % mass fraction</td>
<td>3 min.</td>
<td>ISO 14502-2</td>
</tr>
<tr>
<td>(viii)</td>
<td>Total polyphenols, % mass fraction</td>
<td>19 min, 22 min.</td>
<td>ISO 14502-1</td>
</tr>
<tr>
<td>(ix)</td>
<td>Ratio total catechins to total polyphenols, mass fraction</td>
<td>0.2 min, 0.3 min.</td>
<td></td>
</tr>
<tr>
<td>(x)</td>
<td>Total monomeric anthocyanins, mg/L</td>
<td>14 min, 75 min</td>
<td>AOAC 2005.0</td>
</tr>
</tbody>
</table>

**NOTE**

- 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 min; 3.0 max.
- The specific method for the determination of crude fibre in tea is specified in ISO 15598; however, for the purpose of routine estimation, the 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 remains unchanged, regardless of the method used.

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### 5. CONTAMINANTS

#### 5.1 Purple tea shall comply with maximum levels of the Codex General standard for contaminants and toxins in Food and feed (CODEX STAN 193-1995)

#### 5.2 Pesticides

Purple tea shall comply with maximum residue limits for pesticides established by the Codex Alimentarius Commission in the Codex General standard for contaminants and toxins in Food and feed (CODEX STAN 193-1995).

### 5. Heavy Metals

Heavy metal contaminants, if present, shall comply with the limits specified in Table 2.

**Table 2—Heavy metal contaminant limits in purple tea**
<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></td>
<td>Lead (Pb), ppm Max</td>
<td>0.1</td>
<td>AOAC 942.17</td>
</tr>
</tbody>
</table>

Figures in table above set as minimum default subject to endorsement by CODEX Alimentarius Commission

5. Iron Fillings

Iron fillings, if present, shall comply with the limits specified in Table 3.

Table 3—Iron fillings limits in Purple tea

<table>
<thead>
<tr>
<th>SL No.</th>
<th>Parameter</th>
<th>Limit</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Iron fillings, ppm max.</td>
<td>50</td>
<td>KS 2160</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 Herbal and fruit infusions products shall comply with microbiological requirements in Table 4.

Table 3—Microbiological limits for Purple tea

<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>$10^3$</td>
<td>KS ISO 21527-2</td>
</tr>
<tr>
<td></td>
<td>Moulds cfu/g, max</td>
<td>$10^3$</td>
<td>KS ISO 21527-1</td>
</tr>
<tr>
<td>(ii)</td>
<td>Pathogenic 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

Purple tea 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 Law of Kenya, on environmental management and complying with cleaner production technological practices.
8 Packaging

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

8.1 Purple tea shall be packaged in food grade material that ensures product safety and integrity, and complying with KS 1927.

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 purple 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 “purple 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 purple tea for analysis shall be carried out in compliance with KS ISO1839.
KENYABUREAFOFSTANDARDS (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 products 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 house 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 to facilitate efficient implementation of standards. Some of the advantages of standards include: enhancement of quality assurance, safety and environmental protection measures, minimization of wastage, reduction of costs and unnecessary varieties and promotion of interchangeability and increased productivity in industry.

For further information, please contact:
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