EAST AFRICAN STANDARD

Dry soybeans — 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.

In order to achieve this objective, the Community established an East African Standards Committee mandated to develop and issue East African Standards.

The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the private sectors and consumer organizations. 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 procedures of the Community.

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.

EAS 762:2013 was prepared by Technical Committee EAS/TC 014, Cereals, Pulses and related products
Introduction

This standard has been developed to take into account:

a) the needs of the market for the product;

b) the need to facilitate fair domestic, regional and international trade and prevent technical barriers to trade by establishing a common trading language for buyers and sellers;

c) the structure of the CODEX, UNECE, USA, ISO and other internationally significant standards;

d) the needs of the producers in gaining knowledge of market standards, conformity assessment, commercial cultivars and crop production process;

e) the need to transport the product in a manner that ensures keeping of quality until it reaches the consumer;

f) the need for the plant protection authority to certify, through a simplified form, that the product is fit for cross-border and international trade without carrying plant disease vectors;

g) the need to promote good agricultural practices that will enhance wider market access, involvement of small-scale traders and hence making farming a viable means of wealth creation; and

h) the need to ensure a reliable production base of consistent and safe crops that meet customer requirements.
Dry soybeans — Specification

1 Scope

This East African Standard specifies the requirements and methods of sampling and test for dry whole soybeans of varieties (cultivars) grown from *Glycine max* (L.) Merr. intended for human consumption.

2 Normative references

The following referenced documents are indispensable for the application 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 prepackaged foods — Specification

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

EAS 79, Cereals and pulses as grain — Methods of sampling

EAS 217, Methods for the microbiological examination of foods

ISO 605, Pulses — Determination of impurities, size, foreign odours, insects, and species and variety — Test methods

ISO 711, Cereals and cereal products — Determination of moisture content (Basic reference method)

ISO 712, Cereals and cereal products — Determination of moisture content — Routine reference method

ISO 13690, Cereals, pulses and milled products — Sampling of static batches

ISO 16050, Foodstuffs — Determination of aflatoxin B₁, and the total content of aflatoxin B₁, B₂, G₁ and G₂ in cereals, nuts and derived products — High performance liquid chromatographic method

CODEX Stan 193, Codex general Standards for contaminants and toxins in food and feed

3 Terms and definitions

For the purpose of this standard, the following terms and definitions shall apply.

3.1 **soybeans**

whole mature dry seeds of varieties (*Glycine max* (L.) Merr.)

3.2 **damaged/defective**

soybeans and pieces of soybeans that are badly ground-damaged, badly weather-damaged, diseased, frost-damaged, germ-damaged, heat-damaged, insect-bored, mould-damaged, sprout-damaged, stinkbug-stung, or...
otherwise materially damaged. Stinkbug-stung kernels are considered damaged kernels at the rate of one-fourth of the actual percentage of the stung kernels.

3.3 foreign matter
any extraneous matter than dry soybeans or other food grains comprising of

a) "inorganic matter" includes metallic pieces, shale, glass, dust, sand, gravel, stones, dirt, pebbles, lumps or earth, clay, mud and animal filth etc;

b) "organic matter" consisting of detached seed coats, straws, weeds and other inedible grains etc.

3.4 immature
classified by a green exterior appearance in conjunction with green discolouration penetrating the cotyledon. Examination of the cotyledons is determined by cutting the soybeans in cross section. For grading purposes, immature damaged soybeans are considered as part of the “Total Damage” grade specification. Soybeans that are green in appearance and have no discolouration of the cotyledon or just a halo of green around the outside of the cotyledon are to be assessed against the overall colour of the sample.

3.5 poisonous, toxic and/or harmful
seed which if present in quantities above permissible limit may have damaging or dangerous effect on health, organoleptic properties or technological performance such as Jimson weed — datura (D. fastuosa Linn and D. stramonium Linn.) corn coke (Agrostemma githago L., Machl Lallium remulenum Linn.) Akra (Vicia species), Argemone mexicana, Khesari and other seeds that are commonly recognized as harmful to health

3.6 rancidity
characterized by a deep pink discolouration on the seed coat and varying degrees of discolouration of the cotyledon

3.7 splits
broken soybean seeds that are less than three-quarters of the whole seed, and cotyledons that are loosely held together by the seed coat

3.8 food grade material
packaging material, made of substances which are safe and suitable for their intended use and which will not impart any toxic substance or undesirable odour or flavour to the product

4 Quality requirements

4.1 General requirements
Soybeans shall be:

a) grain that consists of 50 % or more of whole or broken soybeans (Glycine max (L.) Merr.) that will not pass through an 8/64 round-hole sieve and not more than 10.0 % of other grains for which standards have been established;

b) hard, clean, wholesome, uniform in size, shape, colour and in sound merchantable condition;

NOTE The colour of soybeans may be yellow, green, brown or black.

c) safe and suitable for human consumption;
d) free from abnormal flavours, obnoxious smell and discolouration; and

e) free from micro-organisms and substances originating from micro-organisms or other poisonous or deleterious substances in amounts that may constitute a hazard to human health.

### 4.2 Specific requirements

Soybeans shall be categorized into three grades on the basis of the tolerable limits established in Table 1.

**Table 1 — Specific requirements**

<table>
<thead>
<tr>
<th>S/N</th>
<th>Characteristics</th>
<th>Maximum limits</th>
<th>Method of test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Grade 1</td>
<td>Grade 2</td>
</tr>
<tr>
<td>i)</td>
<td>Moisture, % m/m</td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>ii)</td>
<td>Test weight, kg/h (g/0.5L) min.</td>
<td>70(357)</td>
<td>68(347)</td>
</tr>
<tr>
<td>iii)</td>
<td>Foreign matter, % m/m</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>iv)</td>
<td>Inorganic matter, % m/m</td>
<td>0.1</td>
<td>0.3</td>
</tr>
<tr>
<td>v)</td>
<td>Broken/split grains, % m/m</td>
<td>1</td>
<td>2.5</td>
</tr>
<tr>
<td>vi)</td>
<td>Pest damaged grains, % m/m</td>
<td>0.3</td>
<td>0.8</td>
</tr>
<tr>
<td>vii)</td>
<td>Rotten and diseased grains, % m/m</td>
<td>0.2</td>
<td>0.5</td>
</tr>
<tr>
<td>viii)</td>
<td>Heat damaged grains %m/m</td>
<td>0.1</td>
<td>0.2</td>
</tr>
<tr>
<td>ix)</td>
<td>Contrasting colours, % m/m</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>x)</td>
<td>Immature/shrivelled grains, % m/m</td>
<td>0.1</td>
<td>0.2</td>
</tr>
<tr>
<td>xi)</td>
<td>Filth, % m/m</td>
<td></td>
<td>0.1</td>
</tr>
<tr>
<td>xii)</td>
<td>Total defective grains, % m/m</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>xiii)</td>
<td>Total aflatoxin (AFB₁+AFB₂+AFG₁ +AFG₂), ppb max</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>xiv)</td>
<td>Aflatoxin B₁, ppb max</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>xv)</td>
<td>Fumonisin, ppm max</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

**NOTE** The parameter, Total defective grains is not the sum total of the individual defects. It is limited to 70% of the sum total of individual defects.

### 5 Contaminants

#### 5.1 Pesticide residues

Dry soybeans shall comply with those maximum pesticide residue limits established by the Codex Alimentarius Commission for this commodity.

**NOTE** Where the use of certain pesticides is prohibited by some Partner States, it should be notified to all Partner States accordingly.

#### 5.2 Other contaminants

Dry soybeans shall comply with those maximum limits for other contaminants established in CODEX STAN 193.
6 Hygiene

6.1 Dry soybeans shall be produced, prepared and handled in accordance with the provisions of appropriate sections of EAS 39.

6.2 When tested by appropriate standards of sampling and examination listed in Clause 2, the products shall:

a) be free from microorganisms in amounts which may represent a hazard to health and shall not exceed the limits stipulated in Table 2;

b) be free from parasites which may represent a hazard to health; and

c) not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

<table>
<thead>
<tr>
<th>S/N</th>
<th>Type of micro-organism</th>
<th>Limits</th>
<th>Method of test</th>
</tr>
</thead>
<tbody>
<tr>
<td>i)</td>
<td>Yeasts and moulds, cfu per g, max.</td>
<td>$10^4$</td>
<td>EAS 217</td>
</tr>
<tr>
<td>ii)</td>
<td><em>Staphylococcus aureus</em> cfu per g, max.</td>
<td>$10^3$</td>
<td></td>
</tr>
<tr>
<td>iii)</td>
<td><em>Escherichia coli</em>, per g</td>
<td>Absent</td>
<td></td>
</tr>
<tr>
<td>iv)</td>
<td><em>Salmonella</em> per 25 g</td>
<td>Absent</td>
<td></td>
</tr>
</tbody>
</table>

7 Packaging

7.1 Dry soybeans shall be packed in suitable packages which shall be clean, sound, free from insect, fungal infestation and the packaging material shall be food grade.

7.2 Dry soybeans shall be packed in containers which will safeguard the hygienic, nutritional, technological and organoleptic qualities of the products.

7.3 Each package shall contain soybeans of the same type and of the same grade designation.

7.4 If dry soybeans are presented in bags, the bags shall also be free of pests and contaminants.

7.5 Each package shall be securely closed and sealed.

8 Labelling

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

a) product name as “Dry Soybeans”;

b) variety;

c) grade;

d) name, address and physical location of the producer/packer/importer;

e) lot/batch/code number;
f) net weight, in kilograms;

NOTE: EAC partner states are signatory to the International Labour Organizations (ILO) for maximum package weight of 50 kg where human loading and offloading is involved.

g) the declaration “Food for Human Consumption”; 

h) storage instruction as “Store in a cool dry place away from any contaminants”; 

i) crop year; 

j) packing date; 

k) instructions on disposal of used package; 

l) country of origin; and 

m) a declaration on whether the soybeans were genetically modified or not.

9 Sampling methods

Sampling shall be done in accordance with the EAS 79/ISO 13690.