Seeds for cucurbit vegetables — Requirements for certification
The following organizations were represented on the Technical Committee:

The University of Nairobi
Kenya Agricultural and Livestock Research Organization
Kakuzi PLC
Simlaw seed company
Seed Trade Association of Kenya
Kenya Plant Health Inspectorate Services
National Potato Council of Kenya
Horticultural Crop Development Authority
National Public Health Laboratory
Ministry of Agriculture — Crop Division
Government Chemist’s Department
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.
Seeds for cucurbit vegetables — Requirements for certification
DKS 691: 2023

Foreword

This Kenya Standard was prepared by the Propagation Materials Technical Committee under the guidance of the Standards Project committee and it is in accordance with the procedures of Kenya Bureau of Standards.

The standard specifies minimum field requirement in actual production and seed quality requirements. The standard has been revised to accommodate recent developments in the seed industry, the changes in the seed regulations and to protect the consumers and other stakeholders.

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

- Minimum seed certification standard, United States.
- International Crop Improvement Association, Publication No. 21.
- MS 3.71 Specification for vegetable seeds for planting.

Acknowledgement is hereby made for the assistance derived from these sources.
Seeds for cucurbit vegetables — Requirements for certification

1 Scope

This Kenya standard prescribes requirements for certification of seeds for cucurbit vegetable crops that are locally produced or imported.

This standard applies to seeds for cucurbit vegetables in Table 1.

Table 1 — Cucurbit vegetables

<table>
<thead>
<tr>
<th>S/no</th>
<th>Common name</th>
<th>Botanical name</th>
</tr>
</thead>
<tbody>
<tr>
<td>i)</td>
<td>Bitter gourd (karela)</td>
<td>Memordica charantia</td>
</tr>
<tr>
<td>ii)</td>
<td>Bottle gourd (dudhi)</td>
<td>Lagenaria siceraria</td>
</tr>
<tr>
<td>iii)</td>
<td>Courgette/marrow/squash/ Zucchini</td>
<td>Cucurbita pepo and C, moschata</td>
</tr>
<tr>
<td>iv)</td>
<td>Cucumber/gherkin</td>
<td>Cucumis sativus</td>
</tr>
<tr>
<td>v)</td>
<td>Sweet Melon/cantaloupe</td>
<td>Cucumis melo</td>
</tr>
<tr>
<td>vi)</td>
<td>Pumpkin</td>
<td>Cucurbit maximum</td>
</tr>
<tr>
<td>vii)</td>
<td>Ridge gourd (turia/gizoda)</td>
<td>Luffa acutangula</td>
</tr>
<tr>
<td>viii)</td>
<td>Round gourd (tinda)</td>
<td>Citrullus lunatus</td>
</tr>
<tr>
<td>ix)</td>
<td>Water-melon</td>
<td>Citrullus lunatus</td>
</tr>
<tr>
<td>x)</td>
<td>Horned melon</td>
<td>Cucumis metuliferus</td>
</tr>
</tbody>
</table>

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.

*International Seed Testing Association ISTA Rules*

*OECD, Seed Schemes; Guidelines for Control Plot Tests and Field Inspection of Seed Crops*

*OECD, Schemes for Varietal Certification or the Control of Seed Moving in the International Trade*

*Seeds and plant varieties Act- Cap 326*

*EMCA Act- Cap 387*
3 Terms and definitions

For the purposes of this standard the terms and definitions in KS 790 shall apply.

4 General requirements

4.1 General

The seed companies and the seed growers of cucurbit seed shall be registered by the Designated National Authority.

Key parameters required to implement this standard are the variety descriptors, the genetic purity of the seed sown, the field and laboratory requirements and the post-control tests.

4.2 Eligible varieties

4.2.1 Varieties eligible for seed certification shall be those that have been examined, tested and registered in the national list of varieties/variety catalogue.

4.2.2 The national seed certification authority shall keep the official descriptors of the varieties in hard and electronic copies.

4.3 Application for seed field inspection

4.3.1 Registered growers will make applications for seed field inspection to the certification authority by filling in the prescribed form;

The minimum information for an application for certification of a cucurbit seed field shall include the following:

a) name, address and contact details of the seed grower;

b) crop and variety to be sown;

c) physical location;

d) area and reference number of the field, and its cropping history for the past two cropping seasons;

e) class of seed to be produced; and

f) registration number of the seed grower

g) proof of origin of the seed planted.

4.3.2 Information and records related to the previous cropping history, origin of seed planted, and field inspections shall be kept and used for certification to ensure full traceability of quality, genetic identity
and purity of the seed harvested.

4.3.3 The inspection of seed crops shall be done in accordance with OECD Seed Schemes; Guidelines for Control Plot Tests and Field Inspection of Seed Crops.

4.3.4 The seed lot shall be sampled and tested in an official or authorized laboratory. The sampling and testing of seed lots shall be done in accordance with the relevant procedures described in the ISTA rules.

4.3.5 A seed lot that conforms to the requirements set out in Table 3 shall be given a seed test certificate and a unique reference number to confirm its status under the certification scheme. One part of the seed sample shall be retained for sowing in a post-control plot in the next season, or earlier if that can be achieved.

4.4 Seed classes

For the purpose of this standard, the following classes of seed shall apply:

- Breeders seed
- Prebasic
- Basic seed
- certified seed:-C1- 1st generation
  - C2-2nd generation
- Standard seed

5 Field requirements

5.1 The crop shall not be planted on land on which the preceding crop was of the same family.

5.2 Isolation distance between crops of the same species shall be not less than OPV (Open pollinated varieties) basic 1000, CI 500 metres for basic seed and 200 metres for certified Wild plants of the same species with the seed crop in and around the field shall be eradicated. Hybrid is 1500 meters for basic. C1 =1000

5.3 Fields designated for production of any certified class shall have no fruits removed for marketing purposes.
5.4 Rogueing of distinct off-type plants shall be at or before flowering. The maximum limits for off-type plants, before a crop intended for seed production is rejected, shall be as indicated in Table 2.

### Table 2 — Maximum limits for off-types

<table>
<thead>
<tr>
<th>Sl no</th>
<th>Seed class</th>
<th>Limits for off-types</th>
</tr>
</thead>
<tbody>
<tr>
<td>i)</td>
<td>Basic seed % max. ( Br, pbr, b)</td>
<td>0.0</td>
</tr>
<tr>
<td>ii)</td>
<td>Certified seed ( C1, C2, Standard)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>a) Water-melon, % max.</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>b) Karela, cucumber, gourds, % max.</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>c) Courgette, pumpkin, % max.</td>
<td>2</td>
</tr>
</tbody>
</table>

### 6. Pest and diseases requirements

3.1.1 Basic seed crop shall be free from seed borne diseases. Certified seed crop shall not have more than 0.2 % plants infested with Anthracnose (Colletotrichum lagenarium) and/or scab (Cladosperium cucumerium).

3.1.2 Basic seed certified seed shall be free from *Pseudomenae lachrymans*, and/or cucumber mosaic virus.

### 3.1.3

### 7. Laboratory requirements

Certified seeds for planting shall comply with the requirements in Table 3.

### Table 3 — Laboratory requirements for cucurbit vegetable seeds

<table>
<thead>
<tr>
<th>Sl no</th>
<th>Factor</th>
<th>Requirements/limits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Basic</td>
<td></td>
</tr>
<tr>
<td>i)</td>
<td>Purity</td>
<td>a) Pure seed, % min.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Inert matter, % max.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) Seed of other varieties by number, % max.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>d) Other crop seed, % max.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>e) Weed seed, % max.</td>
</tr>
<tr>
<td>ii)</td>
<td>Germinatio</td>
<td>All others % min,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>cucumber – % min</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>-----------------</td>
</tr>
<tr>
<td>iii)</td>
<td></td>
<td>Moisture content, % max (For all cucurbit vegetables)</td>
</tr>
</tbody>
</table>
8 Certificates

8.1 The seed test certificate for a seed lot shall be issued by the national seed certification authority.

8.2 This certificate shall be valid for a period of 9 months.

8.3 Carryover seed shall be re-sampled and retested for germination upon expiry of the validity period of certification. If the test result complies with the minimum requirements, a new test certificate shall be issued for the seed lot, which cancels the previously issued certificate and shall include reference to previously certified seed lot.

9 Environment

Cucurbit seed shall be produced and handled in an environment complying with the stipulations of the Environmental Management and Co-ordination Act (EMCA) of the Laws of Kenya and in addition conforming to modern production technological practices.

10 Packaging and labelling

10.1 All classes of seed that have been certified shall be packaged and labelled in accordance with prevailing national regulations.

10.2 If seeds are treated with any chemical or product harmful for human or animal consumption, the container shall carry a label stating the chemical or product used and warning of the health risks.

10.3 The labels shall be prominent, indelible, legible, uniquely serialized and fixed to the package by an authorized person in such a way that they cannot be destroyed or easily removed.

10.4 The minimum labelling requirements shall include:

i. name of the crop

ii. species (Latin name);

iii. variety name;

iv. seed lot number;

v. net weight;

vi. seed treatment declaration (if applicable);

vi. logo of the national designated authority;

vii. name and address of certifying authority;

viii. seed class;
ix) germination percentage

x) percentage purity

xi) . name and address of the registered seed company under the provisions as stipulated by the National designated authority

x. statement of re-packing and re-labelling (if applicable)

xi. statement stating “Not for human and animal consumption”.

xii) A declaration shall be made on the genetic modification status of the seeds

Note: the label may also contain other information such as the test certificate number and the date of test where applicable

10.5 All containers/bags shall be sealed in such a way that if they are opened illegally, that violation can be detected.

10.6 Repackaging and relabeling are authorized in the following cases:

a) the national seed certification authority may authorize the re-packaging and re-labelling of a particular seed lot that is produced in another country, but shall retain the original label information of the producing country; and

blending of a seed lot with other lots of the same variety and class (generation) is allowable if all seed lots of the blend have met the field and laboratory requirements for certification prior to blending. A new lot number shall be issued. Details of the blended lots and their proportions shall be kept by the certifying authority for traceability

11 Post-control tests

The Post control tests shall be carried out in accordance with OECD Schemes for Varietal Certification or the Control of Seed Moving in the International Trade

12 Sampling and testing

Sampling and tests shall be carried out in accordance with the current International Seed Testing Association (ISTA) procedures and as prescribed by the seeds and plant varieties act.

---

KEBS 2023 — All rights reserved
Annex 1

Informative annex.

Images of the cucurbit vegetables

Bitter gourd (karela)  *Memordica charantia*

Bottle gourd (dudhi)  *Lagenaria siceraria*

Courgette/marrow/squash/ Zucchini  *Cucurbita pepo and C, moschata*
Cucumber/gherkin  \textit{Cucumis sativus}

Sweet Melon/cantaloupe  \textit{Cucumis melon}

Pumpkin  \textit{Cucurbit maximum}

Ridge gourd (turia/gizoda)  \textit{Luffa acutangula}
Round gourd (tinda)  *Citrullus lunatus*

Water-melon  *Citrullus lunatus*