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## **EAST AFRICAN STANDARD**

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### **Millet seed — Requirements for certification**



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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.

The Community has established an East African Standards Committee (EASC) mandated to develop and issue East African Standards (EAS). The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the public and private sector organizations in the community.

East African Standards are developed through Technical Committees that are representative of key stakeholders including government, academia, consumer groups, private sector and other interested parties. 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 Principles and procedures for development of East African Standards. XXXXXX.

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.

The committee responsible for this document is Technical Committee EASC/TC 012, *Seed and propagation materials*.

Attention is drawn to the possibility that some of the elements of this document may be subject of patent rights. EAC shall not be held responsible for identifying any or all such patent rights.

# Millet seeds — Requirements for certification

## 1 Scope

This Draft East African Standard specifies the certification requirements for pre-basic, basic and certified seed of finger millet seeds (*Eleusine coracana* L.) It includes requirements for eligible varieties, field standards, field inspections, seed sampling, laboratory standards, certificates, packaging and labelling, and post-control tests.

## 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*

## 3 Terms and definitions

For the purposes of this standard, the terms and definitions given in ISTA, UPOV and OECD apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <http://www.iso.org/obp>

### 3.1

#### **previous cropping**

minimum number of growing seasons that elapse between the production of a crop of the same species in a field and the production of a crop entered in the certification scheme in the same field

### 3.2

#### **isolation**

minimum distance between a field of millet seeds and any other millet seed of the same species that is required to prevent contamination

### 3.3

#### **seed producer**

person or entity registered to produce seed

### 3.4

#### **inspector**

official belonging to a quality control department responsible for performing field control and sampling of seeds

### 3.5

#### **label**

tag or other device that is attached to seeds or that accompanies any lot of bulk seed and which describes the kind of seed and any other required information

- 3.6  
previous cropping**  
minimum number of growing seasons that elapses between the production of a crop of the same species in a field and the production of a crop entered in the certification scheme in the same field
- 3.7  
seed certification agency**  
recognized agency responsible for the certification of seed
- 3.8  
off-type**  
plant of the same species which does not exhibit the recognised and accepted habit and characteristics of the variety being grown
- 3.9  
variety registration**  
recording of a new variety in a national variety catalogue/national variety list when it has been tested and satisfied the requirements for distinctness, uniformity, stability, and has value for cultivation and use
- 3.10  
roguing**  
removal of off-types and diseased plants or any other unwanted plant from a seed crop if they may reduce the quality of the harvested seed
- 3.11  
roguing**  
removal of off-types and diseased plants or any other unwanted plant from a seed crop if they may reduce the quality of the harvested crop
- 3.12  
seed certification**  
quality assurance system whereby seed is subjected to official control and inspection
- 3.13  
seed lot**  
defined quantity/number of millet seed bearing the same reference number and for which the origin, production history and identity is known
- 3.15  
stability**  
condition of a variety distinguishing characteristics to remain unchanged after repeated growing cycles
- 3.16  
other seeds**  
seeds of any plant species other than that of the crop sample that is being tested. They consist of weed seeds and other crop seeds
- 3.17  
parental material**  
population or lines used by a breeder to maintain a variety
- 3.18  
person**  
natural person or legal entity
- 3.19  
post-control plot**  
small plot where a representative sample of a seed lot is grown to determine the identity and purity of the variety and to check if the seed certification system is operating satisfactorily

**3.20****pure seed**

species stated by an applicant, or found to predominate in a test, and includes all botanical varieties and cultivars of that species, including intact seeds and pieces of seed units larger than one-half their original size

**4 Abbreviated terms**

- DUS: Distinctness, Uniformity and Stability
- ISTA: International Seed Testing Association
- OECD: Organization for Economic Co-operation and Development
- VCU: Value for Cultivation and Use

**5 Seed classes**

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

- a) Pre-basic seed;
- b) Basic seed; and
- c) Certified seed:
  - i. 1<sup>st</sup> generation (C1); and
  - ii. 2<sup>nd</sup> generation (C2).

**6 Requirements****6.1 Eligible varieties**

**6.1.1** Varieties eligible for seed certification shall be those that have been examined, tested and registered in at list one member country of the EAC and are included in the national list of varieties/national variety catalogue. The country adopting the variety shall test it for at least one season

**6.1.2** The national seed certification authority shall keep the official descriptor of the varieties in hard and electronic copies.

**6.2 Application for certification**

**6.2.1** The minimum information for an application for certification of a seed crop 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.

**6.2.2** 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.

## 7 Field inspection

**7.1** The national seed certification authority shall prepare the inspections' schedule for the inspectors, based on all necessary information on the application form, to ensure that the timing of inspections allows the standards in Table 1 to be properly assessed.

**7.2** The inspector shall inspect the field in accordance with OECD seed schemes and shall check for isolation requirements, off types, the presence of noxious weeds and diseases.

**7.3** A minimum of two (2) inspections shall be done for each seed production field to check if the field standards specified in Table 1 are met.

**7.4** At the time of the first inspection, the inspector shall confirm with the grower the previous cropping of the field, checking on isolation, and the proof of origin/authentication of the variety planted by using the labels.

**7.5** Depending on the degree of contamination, the inspector may give instructions for off-types and diseased plants to be rogued. In case of noxious weeds found in the field, the grower shall be instructed to remove the weeds before final inspection in the field.

**7.6** The field inspection report shall indicate the field status and comments for any corrective actions required such as re-inspection to confirm the field standards. All field inspection reports shall be provided to the grower after each inspection in a timely manner. The field inspection report in Annex B shall be signed by both the inspector and the grower or the grower's representative.

## 8 Field requirements

**8.1** Pre basic and basic seed shall be produced under the responsibility of the breeder or maintainer.

**8.2** Certified seed shall be produced for up to a maximum of 2 generations.

**8.3** For hybrid seed, certified seeds shall be produced from one generation.

**8.4** The national certification authority shall inspect and certify the production of pre-basic, basic and certified seed crops.

**8.4** A field producing a seed crop of millet shall be approved for certification if it complies with the requirements in Table 1.

**Table 1 — Field requirements for millet seeds**

Species	Category	Previous cropping (number of season)	Isolation , m, min.	Off types, %, max.	Plant affected by seed born disease %, max*2
Finger millet	Pre-basic seeds	2	3 10	1	0.1
	Basic seeds	2	5	1	
	Certified	2	5	6	0.5

## 9 Laboratory requirements

9.1 The harvested seed from the field approved for certification shall be kept as an identified unit until processing. After processing, a sample shall be submitted to laboratory for testing where a conformed sample shall be given a certificate with a unique lot number for the purpose of tracking and sampling.

9.2 The maximum size of a seed lot for certification purposes is 30 000 kg; lots larger than this shall be divided and given separate lot numbers.

9.3 A seed sampler shall draw a representative sample from each lot according to the ISTA rules.

9.4 The submitted sample shall be divided into three sub-samples, one for testing in the laboratory, one to be stored for reference purposes in case re-testing is necessary, and one for the post-control tests. The samples shall be marked with the same identification as the seed lot, securely sealed and shall be stored in cool and dry conditions to prevent contamination and loss of germination.

9.5 Laboratories authorized by the national seed certification authority to conduct seed testing for certification shall follow the methodology established in the ISTA rules for millet seed.

9.6 The seed lots shall comply with the laboratory standards specified in Table 2.

9.7 A seed lot that conforms to the standards set out in Table 2 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 samples shall be retained for sowing in a post-control plot in the next season, or earlier if that can be.

**Table 2 — Laboratory requirements for millet seed**

s/n	Parameter	pre-basic seed	Basic seed	Certified seed
i.	Pure seed, %, min.	97	97	97
ii.	Inert mater %, max.	2.6	2.6	2.6
iii.	Other seeds %, max , max.	.0.4	0.4	0.4
iv.	Germination, %, min.	75	75	75
v.	Moisture, %, max.	12	12	12
vi.	Ergot ( <i>Claviceps</i> spp), 100m <sup>2</sup> , max.	0	0	0
vii.	Head blight, 100m <sup>2</sup> , max.	1	1	1
viii.	Head smut, 100m <sup>2</sup> , max.	0	0	0
ix.	Finger millet blast ( <i>Pyricularia grisea</i> ), 100m <sup>2</sup> , max.	1	1	1

## 10 Certificates

10.1 Imported millet seeds lot shall have required certificates including certificate of origin, phytosanitary certificate and test certificate.

10.2 For locally produced seed, the test certificate shall be issued upon compliance with field and laboratory requirements.

10.3 Test certificate shall be valid for a period of six months.

**10.4** After the expiring of the validity of the certificate the seeds shall be re-sampled and retested for germination. If the test result complies with the minimum standards, a new test certificate shall be issued for the seed lot, which cancels the previously issued certificate, and shall include the lot number of the cancelled certificate.

**10.5** The test certificate shall indicate at least the result of the purity and germination test and date of the test.

**10.6** Issuing of certificates shall be in accordance to ISTA rules.

## **11 Packaging and labelling**

**11.1** All classes of seed that have been certified shall be packaged in new containers which shall be marked with the company name and crop species and shall have the official label of the national seed certification authority.

**11.2** The labels for each class are identified by the following colours:

- a) Pre-basic seed: Violet band on white;
- b) Basic seed: White;
- c) Certified 1 Seed: Blue; and
- d) Certified 2nd seed: Red.

**11.3** 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.

**11.4** The labels shall be prominent and fixed to the containers by an authorized person in such a way that they cannot be destroyed or easily removed. The labelling shall be indelible, and legibly marked on the containers with the following information:

- a) front label:
  - i. name of the crop, "millet seed";
  - ii. species (scientific name);
  - iii. variety denomination;
  - iv. seed lot number;
  - v. test certificate number;
  - vi. date of test;
  - vii. net weight; and
  - viii. seed treatment declaration (if applicable).
- b) back label:
  - i. logo of the national certification authority;
  - ii. name and address of certifying authority;
  - iii. seed class;

iv. date of test and country of production; and

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

**11.5** All containers/bags shall be closed either by hand or machine stitching and shall be sealed in such a way that if they are opened illegally, that violation can be detected.

**11.6** Repackaging and relabelling 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
- b) 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.

## **12 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.

**Annex C**  
(Normative)

**Seed test certificate**

This certificate is issued for a seed lot which has satisfied all the requirements of the certification scheme

Previously issued certificate number.....				Certificate No. ....			Standard: .....		
APPLICANT INFORMATION									
Seed Lot Reference Number		Species and Variety			Class		Weight of lot		Number of containers
Name of testing laboratory:					Test number:				
ANALYSIS RESULTS									
Purity				Germination					Moisture content,%
Pure seed, %	Inert matter, %	Other crop seeds, %	Weed seeds per kg	Normal seedlings	Abnormal seedlings	Fresh seeds	Hard seeds	Dead seeds	
Kind of inert matter:						Statement of packaging and re-labelling: (if applicable)			
Kind of other crop seeds:									
Kind of weed seeds:									
Other determinations									

National Seed Certification Authority

Signature .....

Place and date .....

## Bibliography

RS 275-2: 2015, *Seeds — Requirements for certification — Part 2: Rice*



