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## EAST AFRICAN STANDARD

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Cotton seed — Requirements for certification

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PUBLIC REVIEW 2020



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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.

# Cotton seeds — Requirements for certification

## 1 Scope

This Draft East Africa Standard specifies the certification requirements for pre-basic, basic and certified seed of cultivated cotton (*Gossypium spp.*) seed. It includes requirements for eligible varieties, field requirements, field inspections, seed sampling, laboratory requirements, 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 for seed testing*

*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*

## 3 Terms and definitions

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

#### **cotton ginning**

process of separating the cotton fibres from the cotton seeds.

### 3.2

#### **fuzzy seed**

the cotton seed remain covered with linters after ginning (sometimes called whole cotton seed)

### 3.3

#### **delinted seed**

seed of cotton where all the fuzzy is removed (the cotton seed will not be covered with linters)

## 4 Abbreviated terms

— DUS: Distinctness, Uniformity and Stability

— CMS hybrids-Cytoplasmic male sterility

- OECD: Organization for Economic Co-operation and Development
- UPOV: International Union for the Protection of New Varieties of Plants

## **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:

## **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;
- f) registration number of the seed grower; and
- g) proof of origin of the seed planted.

**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 seed shall be produced under the responsibility of the breeder or maintainer

**8.2** Certified seed shall be produced in two generations except in hybrids.

**8.3** 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 cotton shall be approved for certification if it complies with the requirements in Table 1.

**Table 1— Field requirements for seed crops of cotton seed**

S/N	Variable	Pre-basic seed	Basic seed	Certified seed
i	Previous cropping season	2	2	2
ii	Isolation, m, min.			
	a) Cotton- CMS hybrids	800	800	800
	b) <i>Gossypium barbadense</i> - Non hybrid and non CMS hybrids	200	200	150
	c) <i>Gossypium hirsutum</i> - Non hybrid and non CMS hybrids	100	100	30
	d) <i>Gossypium barbadense</i> x <i>Gossypium hirsutum</i>	200	200	150
iii	Objectionable weeds, max, per KG (maximum)	0	0	1
iv	Prohibited weeds (maximum)	0	0	0
v	Prohibited disease (Fusarium wilt)	0	0	0
vi	Other spp including other varieties (maximum)	0	0	0



viii	Other varieties	0	1:35,000	0
ix	Off-types, per 100 plants <sup>(OPV)</sup>	1	1	2
x	Off-type (hybrid)	2 (1 female and 1 male)	2 (1 female and 1 male)	4 (2 female and 2 male)
xi	African ball worm			

**Table 2 — Field requirements for pests and disease for seeds cotton**

S/N	Variable	Breeders, Pre-basic seed and basic	Certified seed C1 and C2
i	Bacterial blight, %, max.	0	0
ii	Fusarium wilt, %, max.	0	0
iii	Leaf curl, %, max.	0	1
iv	Cotton strainers, %, max.	2	5
v	Cotton aphids, %, max.	2	5
vi	Cotton jussid, %, max.	2	5
i	African bollworm, %, max.	2	5

**8.5** Fields may be rejected for certification because of unsatisfactory condition caused by noxious weeds, poor growth, poor stands, excessive disease presence, insect damage, and any other condition that prevents accurate inspection or creates doubt as to the identity of the variety.

## 9 Field inspection

**9.1** 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 requirements in Table 1 and Table 2.

**9.2** 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 pests and diseases.

**9.3** A minimum of three inspections shall be done for each seed production field to check if the field requirements specified in Table 1.

**9.4** 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.

**9.5** Depending on the degree of contamination, the inspector may give instructions for off-types and diseased plants to be rogued so as to maintain the genetic purity. In case of noxious weeds found in the field, the grower shall be instructed to remove the weeds before harvesting.

**9.6** The field inspection report shall indicate the field status and comments for any corrective actions required such as re-inspection to confirm the field requirements. All field inspection reports shall be provided to the grower and the seed enterprise 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.

## 19 Seed sampling and laboratory requirements

19.1 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.

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

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

19.4 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.

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

19.6 The seed lots shall comply with the laboratory requirements specified in Table 2.

**Table 3 — Laboratory requirements for seed crops of cotton**

S/N	Variable	Pre-basic seed	Basic seed	Certified seed
i	Pure seed (minimum)	99	99	99
ii	Inert matter (maximum)	1.0	1.0	1.0
iii	Objectionable weeds (maximum) 1	0	0	non
vii	Germination (maximum)	80	80	80
vi	Prohibited weeds (maximum)	0	0	0
v	Other kinds including other varieties (maximum)	0	0	0
v	Moisture content, % max.	10	10	10
i	Bacterial blight,% max	0	0	0
ii	Fusarium wilt,% max	0	0	0
iii	Leaf curl,% max	0	0	1
vi	Weed seeds, per kg, max.	5	5	10

19.7 The laboratory test report shall be issued in accordance with Annex B.

## 11 Certificates

11.1 The seed test certificate for a seed lot shall be signed and issued by the national seed certification authority and shall include all information presented in Annex C. This certificate shall be valid for a period of six (6) months.

11.2 Carryover seed shall be re-sampled and retested for germination. 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

11.3 Issuing of certificates shall be in accordance to ISTA rules.

## 12 Packaging and labelling

12.1 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.

12.2 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.

12.3 The labels shall be prominent, indelible, legible and fixed to the containers by an authorized person in such a way that they cannot be destroyed or easily removed. The following information shall be included on the official labels:

12.4 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, "Cotton 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 statement of re-packing and re-labelling (if applicable).

12.5 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;
- d) Certified 2nd Seed: Red; and

- e) Quality declared seed; green.

**12.6** 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.

**12.7** 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.

### **13 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.

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## Annex A (normative)

### Field inspection report

Reference number.....  
Date of the report.....

#### Seed grower information

Name ..... Address .....  
Telephone: ..... E-mail.....  
Registration number..... Number of inspection.....

#### Field location

Province/Region..... District ..... Sector .....  
Latitude..... Longitude ..... Field number .....  
Field size (Ha/acre) ..... Cropping season..... Crop species .....  
Seed class ..... Variety ..... Previous cropping .....

Variable	Observations/results	Comments/remarks
Isolation, m		
Off types		
Noxious weeds		
Deliberative disease		
Other crops		
General conditions of the crop (for example, drought, crop husbandry, etc.)		

#### Decision

Decision on the approval	Justification
The seed crop is approved for certification	
The seed crop is not approved for certification	

Seed grower .....Inspector .....National seed certification authority

Date &signature .....Date & signature .....Date & signature

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**Annex B**  
(informative)

**Seed laboratory test report**

Name of seed grower										
Species, variety, class, weight of lot										
Testing and issuing laboratory										
Sampled by										
Test number										
Country of origin										
Label serial number										
Seed lot reference number:										
Number of containers		Date of sampling		Date sample received		Date test(s) concluded		Test number		
ANALYSIS RESULTS										
Purity				Germination						Moisture content, %
Pure seed, %	Inert matter, %	Other crop seeds, %	Weed seeds, per kg	Number of days	Normal seedlings, %	Hard seeds, %	Fresh seeds, %	Abnormal seedlings, %	Dead seeds, %	
Kind of inert matter:										
Other crop seeds:										
Weed seed:										
Other determinations										
Place				Date				Signature		

**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

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