

GENERAL SEED CERTIFICATION STANDARDS

The General Seed Certification Standards are applicable to all crops which are eligible for certification, and with field and seed standards for the individual crops, shall constitute the Minimum Seed Certification Standards. The word 'seed' or 'seeds' as used in these standards shall include all propagating materials.

I. Purpose of Seed Certification

The purpose of seed certification is to maintain and make available to the public, through certification, high quality seeds and propagating materials of notified kind and varieties so grown and distributed as to ensure genetic identity and genetic purity. Seed certification is also designed to achieve prescribed standards.

II. Certification Agency

Certification shall be conducted by the Certification Agency notified under section 8 of the Seeds Act, 1966.

III. Certified Seed Producer

Certified seed producer means a person/organisation who grows or distributes certified seed in accordance with the procedures and standards of the certification.

IV. Eligibility Requirements for Certification of Crop Varieties

Seed of only those varieties which are notified under section 5 of the Seeds Act, 1966 shall be eligible for certification.

V. Classes and Sources of Seed

A. Breeder seed

Breeder seed is seed or vegetative propagating material directly controlled by the originating or sponsoring plant breeder of the breeding programme or institution and/or seed whose production is personally super-

vised by a qualified plant breeder and which provides the source for the initial and recurring increase of Foundation seed.

Breeder seed shall be genetically so pure as to guarantee that in the subsequent generation *i.e.* certified Foundation seed class shall conform to the prescribed standards of genetic purity. The other quality factors of Breeder seed such as physical purity, inert matter, germination *etc.* shall be indicated on the label on actual basis. The Breeder seed shall be packed and supplied by the breeders in the form and manner indicated in **Appendix-I.**

B. *Certified Seed*

Certified seed shall be the seed certified by Certification Agency notified under section 8 of the Seeds Act, 1966 or seed certified by any Certification Agency established in any foreign country provided the Certification Agency has been recognised by the Central Government through notification in the Official Gazette. Certified seed shall consist of two classes, namely, Foundation and Certified seed and each class shall conform to the following description:

1. Certified Foundation seed shall be the progeny of Breeder seed, or be produced from Foundation seed which can be clearly traced to Breeder seed. Thus, Foundation seed can even be produced from Foundation seed. During the production of certified Foundation seed, the following guidelines shall be observed:

- (a) Certified Foundation seed produced directly from Breeder seed shall be designated as Foundation seed stage-I;
- (b) Certified Foundation seed produced from Foundation seed stage-I shall be designated as Foundation seed stage-II;
- (c) Certified Foundation seed stage-II will not be used for further increase of Foundation seed and shall be used only for production of Certified seed class;
- (d) Minimum Seed Certification Standards shall be the same for both Foundation seed stage-I and II unless otherwise prescribed;
- (e) Certification tag shall be of white colour for both Foundation seed stage-I and II and shall contain the information as to its stage;
- (f) Production of Foundation seed stage-II shall ordinarily be adopted in respect of such crop varieties provided, when it is expressly felt by the Certification Agency that Breeder seed is in short supply;
- (g) Production of Foundation seed stage-II may be adopted for the following group of crops:

- vegetatively propagated crops;
- apomictically reproduced crops;
- self-pollinated crops;
- often cross-pollinated and cross-pollinated crops, these being gene-pools should not lose their genetic identity and purity if measures to safeguard the same are adequately taken;
- composite and synthetics;
- parental line increase of hybrids.

2. Production of Foundation seed stage-I and II shall be supervised and approved by the Certification Agency and be so handled as to maintain specific genetic identity and genetic purity and shall be required to conform to certification standards specified for the crop/variety being certified.

3. (a) Certified seed shall be the progeny of Foundation seed and its production shall be so handled as to maintain specific genetic identity and purity according to standards prescribed for the crop being certified;

(b) Certified seed may be the progeny of Certified seed provided this reproduction does not exceed three generations beyond Foundation seed stage-I and;

— it is determined by the Certification Agency that genetic identity and genetic purity will not be significantly altered;

— and when the Certification Agency is satisfied that there is genuine shortage of Foundation seed despite all the reasonable efforts made by the seed producer.

(c) Certification tag shall be of blue colour (shade ISI No. 104 AZURE BLUE) for Certified seed class.

(d) Certified seed produced from Certified seed shall not be eligible for further seed increase under certification. Certification tags for such production which is not eligible for further seed increase under certification shall be superscribed with, "not eligible for further seed increase under certification."

VI. Phases of Seed Certification

Certification shall be completed in six broad phases listed as under:

(a) receipt and scrutiny of application;

(b) verification of seed source, class and other requirements of the seed used for raising the seed crop;

(c) field inspections to verify conformity to the prescribed field standards;

- (d) supervision at post-harvest stages including processing and packing;
- (e) seed sampling and analysis, including genetic purity test and/or seed health test, if any, in order to verify conformity to the prescribed standards; and
- (f) grant of certificate and certification tags, tagging and sealing.

VII. Establishing Source of Seed

The individual intending to produce seed under certification shall submit to the Certification Agency, one or more relevant evidence such as certification tags, seals, labels, seed containers, purchase records, sale records *etc.*, as may be demanded by the Certification Agency during submission of the application, its scrutiny and/or during first inspection of the seed crop, in order to confirm if the seed used for raising the crop has been obtained from the source approved by it and conforms to the provisions contained in para V. This requirement also applies to both parents in seed production involving two parental lines.

VIII. Field Area for Certification

There is no minimum or maximum limit for the area offered by a person for certification, provided the certified seed production meets all the prescribed requirements.

IX. Unit of Certification

For the purpose of field inspections, the entire area planted under seed production by an individual shall constitute one unit provided:

- (a) it is all under one variety;
- (b) it does not exceed ten hectares;
- (c) it is not divided into fields separated by more than fifty meters between them;
- (d) it is planted with or is meant to produce seed belonging to the same class and stage in the generation chain;
- (e) the crop over the entire area is more or less of the same stage of growth so that observations made are representative of the entire crop;
- (f) the total area planted, by and large, corresponds to the quantity of seed reported to have been used; and the Certification Agency's permission had been obtained to sow a larger area by economising on seed rate; if that be the case;

- (g) raised strictly as a single crop and never as mixed;
- (h) not so heavily and uniformly lodged that more than one third of the plant population is trailing on the ground leaving no scope for it to stand up again thus making it impossible for the Certification Agency to inspect the seed crop at the appropriate growth stage in the prescribed manner;
- (i) as far as possible, so maintained as to show adequate evidence of good crop husbandry thereby improving the reputation for certified seeds; and
- (j) not grown as inter, companion or ratoon crop unless otherwise specified in **Appendix-II**.

X. Use of Chemical Hybridising Agents (CHAs')

(a) In case of hybrid seed production, the seed producer can use proper Chemical Hybridising Agents (CHAs') on seed parent (female line) in order to induce male sterility. Consequently the Minimum Seed Certification Standards specified for production of 'A' and 'B' lines shall not be applicable for the relevant hybrid.

(b) The hybrid seed produced through the application of CHAs' shall be compulsorily subjected to grow-out test as a pre-requisite for grant of certificate.

XI. Field Inspection

(a) the field inspection work which requires technically-trained personnel, shall be performed by the persons who have been so authorised by the Certification Agency;

(b) field inspection meant to verify those factors which can cause irreversible damage to the genetic purity or seed health shall be conducted without prior notice to the seed producer;

(c) soon after the completion of the field inspection, a copy of the report shall be handed over to the seed producer or his representative.

XII. Re-inspection

Seed fields not conforming to prescribed standards for certification at any inspection, the Certification Agency shall, upon the request of seed producer and after he removes the sources of contamination in the seed field and within the prescribed isolation distance and/or the contaminated plants in the seed field (if so directed by the Certification Agency) perform one or more re-inspections provided such removal can ensure conformity of the seed crop to the prescribed standards and provided further that no irreversible damage has been caused to the quality of seed by the contaminant(s).

The Certification Agency may at its discretion, also perform one or more re-inspections over and above the minimum number of inspections prescribed, if considered necessary.

XIII. Harvesting, Threshing and Transportation

Seed crop meeting field standards for certification shall be harvested, threshed and transported to the seed processing plant in accordance with the guidelines issued by the Certification Agency. During these operations, seed producer will take all precautions to safeguard the seed from admixture and other causes of seed deterioration.

XIV. Bulking

Bulking of unprocessed seed stocks to obtain larger homogeneous seed stocks may be permitted by the Certification Agency provided the stocks to be bulked meet the following requirements:

- belong to the same certified seed producer;
- belong to the same crop, variety, class of seed and stage in the generation chain;
- were produced in the same season and under similar agro-climatic conditions;
- were subjected to certification by the same Certification Agency;
- have more or less similar physical appearance and levels of moisture;
- are adequately homogeneous in composition.

XV. Seed Processing and Packing Schedule

The Certification Agency shall prepare and communicate seed processing and packing schedule to all certified seed producers soon after the certification of seed crops at field stage. The seed producers shall adhere to the schedule specified by the Certification Agency. However, re-scheduling may be accepted by the Certification Agency on the request of seed producer on genuine grounds.

XVI. Seed Lot

A seed lot is a physically identifiable quantity of seed which is homogeneous.

XVII. Lot Size

A seed lot would represent any quantity of agricultural seeds upto a maximum of 20,000 kilogrammes for seeds of the size of rice or larger

(except maize seed, seed potato, sweet potato, yams, taro and chow-chow for which the maximum size of the lot may be 40,000 kilogrammes) and 10,000 kilogrammes for seeds smaller than rice subject to a tolerance limit of 5.0%. The quantities in excess of the above maximum limits shall be sub-divided and a separate lot identification shall be given. The maximum lot size of certain crops is indicated in **Appendix-III**.

XVIII. Construction of Seed Lot Number

Each seed lot shall be assigned a specific number in order to facilitate maintaining its identity, tracing back to its origin, handling in stores, transit *etc.*, accounting and inventory maintenance and referring/communicating about a certain quantity of seed. The procedure for assigning lot numbers is given in **Appendix-IV**.

XIX. Seed Processing

Seed processing means cleaning, drying, treating, grading and other operations which will improve the quality of seeds. Seed from fields which conformed to the standards of certification at field stage shall, as soon as possible after the harvest will be brought at processing plant for processing. The screen aperture size specified in **Appendix-V** shall be used for cleaning and grading of seeds so that typical contaminants such as weed seeds, small seeds, damaged seeds, broken and shrivelled seeds, straw, chaff, leaves, twigs, stones, soil particles *etc.* are removed. However, the Certification Agency is authorised to deviate under exigencies to use the screen of small aperture size than specified. In such cases, the Certification Agency shall record the reasons for reduction in the aperture size of the screen. Processed seed shall not have seed of the size lower than the bottom screen used beyond 5.0% (by weight).

XX. Seed Treatment

When a variety, seed of which is under certification is susceptible to a seed borne disease organism or when seed under certification is carrying a seed borne pathogen and a seed treatment is available which may control the disease or pathogen when properly applied, the Certification Agency may require such seed to undergo such treatment before Certification. In case seed is required to be treated before sowing by the user, the chemical calculated at the recommended dose shall be kept in a plastic packet and placed inside the seed container with complete direction and precautions required for treating of the seed. The information about the treatment shall also be displayed on seed containers. If the seeds have been treated, the following instructions shall also be complied with:

- (a) a statement indicating that the seed has been treated;

- (b) the commonly accepted chemical or abbreviated chemical name of the applied substance; and
- (c) if the substance of the chemical used for treatment and present with the seed is harmful to human beings or other vertebrate animals, a caution statement such as "Do not Use for Food; Feed or Oil purposes". The caution for mercurials and similarly toxic substances shall be the word "POISON" which shall be in type size, prominently displayed on the label in red.

XXI. Samples and Sampling of Seeds

Soon after completion of the seed processing or after seed treatment as the case may be, the Certification Agency shall draw a representative composite sample as per procedure specified in Seed Testing Manual. The quantity of seed samples so drawn shall be sufficient to provide three samples of the size of submitted sample. The composite sample will be divided into three equal parts, and one shall be sent for analysis to a notified Seed Testing Laboratory, the second part to the seed producer and retain the third part as a guard sample.

XXII. Seed Analysis Report

The Seed Testing Laboratory shall analyse the seed samples in accordance with the prescribed procedure and deliver the Seed Analysis Report to the Certification Agency as soon as may be, but not later than 30 days from the date of receipt of the samples unless the seed is subjected to such tests which require more than 30 days for completion of the test.

XXIII. Seed Standards of Genetic Purity

(a) All certified seed lots shall conform to the following Minimum Standards for genetic purity unless otherwise prescribed:

<i>Class</i>	<i>Standards for Minimum Genetic Purity(%)</i>
Foundation	99.00
Certified:	
(i) Varieties, composites, synthetics, multilines	98.00
(ii) Hybrids	95.00

(b) *Grow-out Test*

The Certification Agency shall conduct grow-out test to determine genetic purity of a seed lot wherever it is a pre-requisite for grant of the certificate and also on the seed lots where a doubt has arisen about the genetic purity. The grow-out test can be complemented by certain related laboratory tests. The grow-out test shall be conducted as per the procedure specified in **Appendix-VI**.

XXIV. Recleaning, Resampling and Retesting

When a seed lot does not meet the prescribed seed standards, the Certification Agency on the request of seed producer may permit recleaning, resampling and retesting. The recleaning, resampling and retesting shall be permitted only once.

XXV. Seed Standards for Insect Damage

A seed lot under certification shall not have apparent or visible evidence of damage by insects for both Foundation and Certified seed classes in excess of 1.0% for the seeds of maize and legumes and 0.50% for the seeds other than maize and legumes unless otherwise prescribed.

XXVI. Seed Moisture Content

Seed standards in respect of seed moisture shall be met at the time of packing of seed.

XXVII. Downgrading of Seed Class

If a seed field or a seed lot is not found meeting prescribed standards for the class for which it has been registered but conforms to the prescribed standards to the immediate lower class, the Certification Agency may accept such seed fields/seed lots for certification to the immediate lower class provided request has been made to this effect by seed producer. However, downgrading of the seed class shall not be applicable in case of hybrids and their parents.

XXVIII. Specification of the Certification Tag

Size, quality, colour, lay out and contents of the certification tag shall be as specified in **Appendix-VII**.

XXIX. Packing, Tagging, Sealing and Issuance of the Certificate

(a) On receipt of Seed Analysis Report and the results of the grow-

out test wherever prescribed, and if seed lot has met prescribed standards, the Certification Agency shall ensure packing, tagging and sealing and issuance of certificate expeditiously. An authorised official of the Certification Agency shall endorse the signature on the reverse of each certification tag and shall affix rubber stamp indicating the official's name and designation. Containers to be used for packing of the certified seeds shall be durable and free from defects.

(b) Advance tagging may be permitted at the discretion of the Certification Agency with proper safeguards.

XXX. Refusal for Certification

The Certification Agency shall have the authority to refuse certification of any seed production field or any seed lot that does not conform to the Minimum Standards prescribed for that particular crop, either for field or for seed or for both. Such refusal will be subject to any appeal made to the Appellate Authority constituted under section 11(1) of the Seeds Act, 1966. The model composition of the Appellate Authority is specified in **Appendix-VIII**.

XXXI. Validity Period of the Certificate

The validity period shall be nine months from the date of test at the time of initial certification. The validity period could be further extended for six months provided on retesting seed conforms to the prescribed standards in respect of physical purity, germination and insect damage for all seeds except vegetatively propagating material for which lot shall be re-examined for seed standards specified for respective crop. A seed lot will be eligible for extension of the validity period as long as it conforms to the prescribed standards. The procedure for extension of the validity period is given in **Appendix-IX**.

XXXII. Revocation of Certificate

If the Certification Agency is satisfied, either on reference made to it in this behalf or otherwise that:

- (a) the certificate granted by it under section 9(3) of the Act has been obtained by misrepresentation as to an essential fact; or
- (b) the holder of the certificate has, without reasonable cause, failed to comply with the conditions subject to which the certificate has been granted or has contravened any of the provisions of the Act or the Rules made thereunder, then, without prejudice to any other penalty to which the holder of the certificate may be liable under the Act, the Certification Agency may, after giving the

holder of the certificate an opportunity of showing cause revoke the certificate, under the provisions of section 10 of the Act.

XXXIII. Retention of Certification Records

The Certification Agency shall preserve in order all the documents including the guard samples pertaining to certification of each seed lot for two years from the date of grant/extension of the certificate and four years in respect of rejected seed crops or lots from the date of communication of rejection unless and otherwise required for longer period.