**Seed certification system**

The seed of certified and foundation categories produced by respective agencies is tested and certified for sowing seed quality at field and seed level. The producers are not recognized as a quality control agency of the Government of India. The responsibility for quality control is with a seed certification agency an autonomous body. In place of certification, Breeder seed production programme is monitored by a team constituted for the purpose, whereas seed is tested in the notified laboratory for sowing seed quality. No seed certification standards have been fixed at field and seed levels.

**The Phases of seed certification**

It can be completed in six broad phases.

1. Receipt and scrutiny of the application.
2. Verification of seed source, class and other requirements.
3. Filed inspection should be conducted to see that fields are up to the prescribed field standard.
4. Post harvest inspection, including processing and packing.
5. Seed sampling and testing to confirm that the seeds are up to the prescribed seed standards.
6. Grant of certificate, tagging and sealing.

The details of this steps is as follows

**1. Receipt and scrutiny of the application:** All those persons who are interested in seed certification should submit an application in Form No 1 to the concerned seed certification officer with the prescribed fees of Rs 25/-. The fee is for one season for a single variety and for an area up to 25 acres (10 ha.) If the area is more than 25 acres or if more than one variety is planted separate applications should be made for each variety. If the area is less than 25 acres under one variety but if the fields are scattered and separated by more than 50 meters separate applications should be made. On receiving the applications the seed certification agency verifies for the following conditions:

1. Eligibility of the variety: Only those varieties that are notified by the central govt. are eligible for certification.
2. Establishing the seed source: The seed producer should submit the tag, invoice, and a copy of Form No2.).
3. There should not be any difficulty in reaching the field for carrying out timely field inspection.
4. Whether the required isolation and land requirement is followed or not.
5. Whether the processing plant facility is available to the applicant.
6. Whether the applicant has paid the requisite registration fee or not. If all the six conditions are fulfilled then the seed producer has to pay the field inspection fees as given below:

Various certification Charges

1. Cost of the form No 1 :Rs 2.00
2. Registration fee (per unit) : Rs 25.00
3. Inspection fee (per ha.)
   1. Self-pollinated Crops :Rs 250.00
   2. Cross Pollinated Crops : Rs 400.00
   3. Other than Cotton hybrids/parents :Rs 750.00
   4. Cotton Hybrid: Rs 750.00
   5. Re –inspection fees: Fifty percent of normal inspection fees fee
4. Grow Out Test (per sample) : Rs 150.00

a. Hybrids : Rs 400.00

b.Other crops: Rs 250.00

1. Seed Testing fees
2. Sampling fees (per sample): Rs. 75.00
3. Seed health test(per sample): Rs. 25.00
4. Revalidation Charges for hybrids( per quintal): Rs. 30.00
5. Revalidation charges for crops other than hybrids (per quintal):Rs. 20.00
6. Seed quality testing fees (per sample): Rs. 50.00
7. Seed processing fees (per quintal)
   1. hybrid crop: Rs. 10.00
   2. other crops: Rs. 10.00
8. Tagging fees (per quintal): Rs. 10.00
9. Spot tagging fees: Rs. 10.00
10. Seed processing plant
    1. Registration fees (for one years): Rs. 1500.00
    2. Renewal fees (for one years): Rs. 1000.00
    3. Registration fees(for three years): Rs. 4500.00
    4. Renewal fees (for three years): Rs. 3000.00
11. Seed transportation fees (per quintal): Rs. 10.00 per quintal
12. **Verification of seed source, class and other requirements.** The seed should be from authentic source and from appropriate class and should be in accordance with Indian Minimum Seed Certification Standards.
13. **Inspection of Seed Fields.** The certified seed producers should grow and harvest the crop as per the guidelines issued by the seed certification agency. They must carefully and faithfully carry out the roguing and other operations as per the directive of the certification agency. The certification staff conducts field inspections at appropriate stages of crop growth to ensure that minimum standards of isolation, preceding crop requirement, roguing and other special operations are maintained at all times. The inspection of seed crop is done at different stages of crop growth such as at the time of sowing (when new crop is introduced), vegetative stage or preflowering stage, flowering stage, post flowering or preharvest stages and at the time of harvest. The contaminants to be observed during field inspections are offtypes, pollen shedders, shedding tassels, inseperable other crop plants, objectionable weed plants and diseased plants. The field inspections are designated to ensure that the crop is up to the prescribed field standards. All the seed fields, which do not meet the required field standards, are eventually rejected.

*Method of taking field counts*

The method of taking field counts involves following steps:

1. Percentage coverage of area for seed certification:About 60-80% field is covered during field inspection, No. of plants/ earheads that should be observed during field inspection as one unit is standardized on the basis of area, crop, method of sowing and spacing (Table 2,3)

|  |  |
| --- | --- |
| **Area of the field in hectares** | **Minimum number of counts to be taken** |
| Up to 2 | 5 |
| 2-4 | 6 |
| 4-6 | 7 |
| 6-8 | 8 |
| 8-10 | 9 |

1. Determine the number of field counts. For all crops a minimum of five counts are to be taken for an area up to two hectares, and an additional count is to be taken for each additional two hectares or part thereof as given below.

**Table 2 Minimum number of field counts required on the basis of field size**

**Table 3 Number of plants/earheads to be observed in one count**

|  |  |  |
| --- | --- | --- |
| **Habit** | **Crop** | **Number of Plants/ear** |
| **Wide spread non tillering** | Cotton, groundnut, maize, pigeon pea | 100 plants |
| **Narrow spaced non tillering** | Chickpea, fieldpea, moong, mustard, sesame, urid | 500 plants |
| **Mainly broadcasted** | Egyptian clover, Lucerne, soybean | 1000 plants |
| **Tillering** | wheat, rice | 1000 ear |

In any inspection, if the first set of counts show that the seed crop does not confirm to the prescribed standards for any factor, a second set of counts should be taken for that factor, if the percentage of first set of count for that factor is not more than twice the maxmimum permissible level. Two sets of counts are called as double counts. In hybrid seed production plots the number of counts must be taken separately for both the parents.

**3**. Number of plants to be observed for completing one count: The number of plants to be observed for completing a single count varies from crop to crop. The number of plants/heads to be observed for completing a single count is given below(Table 3).

**4**.Taking of Filed Counts: The procedure for taking filed counts differs for different crops.

**5**.Rejection of seed fields: All the seed fields, which do not confirm to the required standards for any of the factors should be rejected. The rejection letter should be immediately communicated to the seed grower stating the reasons for the rejection. As far as possible the seed growers should be convinced for rejecting the seed fields by showing the contaminants.

**3. Post Harvest Inspection:** The personnel from the seed certification agency should inspect the fields during harvesting or post harvesting, so that there will be no mechanical mixtures during threshing or afterwards. Then the seed is sent to seed processing plant with a threshing certificate. The personnel from the seed certification agency will be inspecting the seed processing plant to avoid mechanical mixtures and damage caused to the seed during processing.

**6.Seed Sampling and Testing:** The representative from seed certification agency draws a representative sample from the seed lot after processing and sends the sample to official seed testing laboratory for evaluation. In the seed testing laboratory the samples will be evaluated for seed quality standards such as pure seed, inert matter, other crop seed, weed seeds, germination percentage and moisture percentage etc.

**6.Grant of certificate, tagging and sealing:** After receiving a satisfactory report from the seed testing laboratory, tagging and sealing of bags will be done under the supervision of seed certification agency. Under special circumstances, advance tags will also be issued to the extent of 75 per cent of the seed lot. Tags and seals should be in accordance with general seed certification requirements. Affixing of tags and seals on the containers completes the process of certification of seeds.

**7.Grow out test:** It can be performed as pre control test for testing of gene purity of foundation and certified category of all the varieties and hybrid seed. Whereas, post control Test is adopted for testing of Breeder seed. In the event of genetic impurity, the producer used the particular seed for raising foundation category is informed to rectify the particular problem by rouging based on the informed expression of distinguishing traits.

**8.Validity period:** The seed is initially valid for a period of nine months from the date of testing the samples. If the seed is not sold within the stipulated period, it can be revalidated for a period of six months if the seed lot meets the required seed standards. The seed can be revalidated as long as it meets the prescribed seed standards and for each revalidation the validity period will be extended for six months.

**10. Revocation of certificate:** If the certification agency is satisfied that the certificate granted by it has been obtained by misrepresentation of essential facts, or the holder of the certificate has failed to comply with the conditions subject to which the certificate has been issued, can revoke the certificate. The certificate can be revoked only after giving a show cause notice to the holder of the certificate.

**11. Appeal against seed certification agency:** If any certified seed grower is not satisfied by the decision taken by the seed certification agency (in rejecting the seed plot), he can make an appeal to the appellate authority specified by the state government. The appeal should be made within 30 days from receiving the rejection letter. The appeal should be made in written along with a copy of the rejection letter and a treasury fee of Rs 100/- (Rupees one hundred only). The application should be submitted personally or it should be sent through registered post. The decision of the appellate authority will be final and it is binding on the seed certification agency and the seed grower. The appellate authority is Additional Director of Agriculture (inputs).