



**FACULTY OF AGRICULTURAL SCIENCES
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SST 221, PRINCIPLES OF SEED TECHNOLOGY**

Seed Certification

Objectives:

Upon completion of this exercise the student should know about

1. The procedure for seed certification
 2. Differentiate between truthfully labelled seed and certified seed
 3. The history of seed certification
 4. Should know the procedure to conduct field inspection in important crops
- Seed certification is a legally sanctioned system for the quality control of seed during seed multiplication and production. As per Indian Seed Act seed certification is voluntary and it is not compulsory. The seed that is sold in the market is of two types certified seed or truthfully labeled seed. The seed, which is being certified by seed certification agency, is called as certified seed. The certification agency is a separate organization meant for certifying the quality of the seed and it has nothing to do with seed production. The seed certification agency maintains certain strict standards before issuing the certification tag or label. Where as truthfully labelled seed is one which is being produced and marketed by the producing company by maintaining the labeling standards. The farmer or the user of the seed does not know the pedigree of the truthfully labeled seed and he has to rely on the seed producing company. Where as the certified seed has to maintain both field and seed standards and if the seed lot meets both the field and seed standards then only the certification tag or label is issued.

History of seed certification

Exactly where and how the concept of seed certification was originated is not clear. But the credit of seed certification goes to Swedish people. In 20th century the newly developed varieties lost their identity due to genetic contamination and mechanical mixtures. To avoid this, Agronomist and breeders started visiting the fields of progressive farmers and educated them to avoid mechanical mixtures and keep the seed genetically pure. This process slowly led to field inspection. The farmers and the scientists thought that field inspection could be useful in maintaining genetic purity of crop varieties. But other problems started like to what extent the mechanical mixtures or genetic contamination should be permitted etc. To overcome these problems representatives from USA and Canada met in Chicago Illinois in 1919 and organised the International Crop Improvement Association (ICIA). The ICIA, which later in 1969 changed

its name to Association of Official Seed Certification Agency (AOSCA), laid the beginning of modern day seed certification.

Procedure for seed certification:

Seed certification is voluntary and that too for the kind and variety notified by the government of India. 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. Field 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.

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.)
 - a. Self-pollinated Crops : Rs 125.00
 - b. Cross Pollinated Crops : Rs 175.00
 - c. Other than Cotton hybrids/parents : Rs 175.00
 - d. Cotton Hybrids : Rs 800.00
 - e. Vegetable Crops : Rs 150.00
4. Grow Out Test (per sample) : Rs 150.00
5. Seed Testing
 - a. Routine tests : Rs 30.00 per sample¹⁰²
 - b. Health tests : Rs 5.00 per sample
 - c. Revalidation Charges (sample) : Rs 30.00
6. Revalidation fees per quintal and part thereof : Rs 10.00
7. Reprocessing/ Re grading fee : Rs 5.00
(per quintal of part thereof)
8. Cost of Application form for registration / : Rs 5.00 renewal of processing plant
9. Processing / Ginning Plants
 - a. Registration fee : Rs 1000.00
 - b. Renewal fee : Rs 500.00
10. Repackaging charges per quintal : Rs 10.00
11. Cost of seed certification tags per 1000 nos : Rs 60.00
12. cost of cotton seed tags (with hologram) per 1000 : Rs 80.00
13. Appeal fee per case : Rs 100.00

2. 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.

3. 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, roging 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 pre-flowering stage, flowering stage, post flowering or pre-harvest stages and at the time of harvest. The contaminants to be observed during field inspections are off types, pollen shedders, shedding tassels, inseparable other crop plants, objectionable weed plants and diseased plants. The field inspections are designed 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. 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.

In any inspection, if the first set of counts shows 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 maximum 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.

2. 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.

The required number of field inspections specified in the seed certification standards should be conducted. The purpose of these field inspections is to properly guide and advise the seed producer, but at the same time to do the necessary inspections so that the ultimate buyer can be assured that the seed crop has met all the necessary standards.

3. Taking of Filed Counts : The procedure for taking field counts differs for different crops.

4. 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.

5. Post Harvest Inspection: The personnel from the seed certification agency should inspect the fields during harvesting or post harvesting, so that there are no mechanical mixtures and the seed is not handled badly 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 at the time of processing or 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 standards such as pure seed, inert matter, other crop seed, weed seeds, germination percentage and moisture percentage etc.

7. 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.

8. Control Plot testing. The seed certification agency should arrange for a postseason grow out test for all hybrids as prescribed in the standards. Randomly samples should be drawn from certified seed lots and sent to grow-out test to check the efficiency and accuracy of the work done.

9. 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 for Andhra Pradesh is Additional Director of Agriculture (inputs).