

SEED MULTIPLICATION AND RELEASE OF A VARIETY

A. Multiplication of seeds in a variety

1. Nucleus seed

The seed maintained by the particular breeder who evolved a particular variety. The nucleus seed will be 100% genetically pure confirming to the varietal character of a particular variety. The nucleus seed is utilised for raising the Breeder seed.

2. Breeder seed

The breeder seed will be multiplied from the nucleus seed in the Research Stations by plant breeders. The Breeder seed will be utilised for raising the foundation seed by the State Dept. of Agriculture. Every year the Director of Agricultural will place the indent of Breeder seed to the University. Based on the request, the university will take up breeder seed production in the Research stations. The Breeder seed plot will be monitored by the monitoring team to verify the varietal characters and genetic purity of that particular crop. The monitoring team members will be a Plant Breeder, Dy. Director of Agri. (Seed certification) and a nominee from National Seeds Corporation. The monitoring team will visit the seed production plot twice in a crop growth period *ie.* at the time of flowering and at the time of harvest.

3. Foundation seed

From Breeder seed, the foundation seed will be raised in state seed farms. This foundation seed production plot is to be certified by the seed certification dept. The foundation seed is utilised for raising certified seed production.

4. Certified seed production

Done either by the Agricultural Department or by individual farmers after paying a nominal fee. The seed production plot will be certified by the seed certification agency and after that the seed will be sold to farmers.

B. Steps involved in release of a variety

After identification of the best cultures from the segregating generation or any other source it has to undergo the following trials.

1. Row yield trial (RYT)

For every 10th row there will be a check entry and the trial will be non replicated.

2. Replicated row yield trails (RRYT)

From the row yield trial, the best cultures will be tested in RRYT along with appropriate check. The best entries from RRYT will be carried forward to preliminary yield trial.

3. Preliminary yield trial (PYT)

Replicated trial conducted with appropriate checks. PYT will be conducted normally for two seasons. While conducting, PYT, the best entries will be nominated to All India trials also. Screening for biotic and abiotic stresses will be done during PYT stage. The best entry will be carried to comparative yield trial. The entries entered into All India trial will be given project number. For eg. sorghum entry will be given SPV (Sorghum Project Variety). Rice - IET (Initial Evaluation Trial), etc.

4. Comparative Yield trial (CYT)

CYT is replicated one conducted with more than one check. The trial will be repeated for 3 seasons. The entry proved to be superior in all the 3 seasons will be proposed for multilocation trial. (MLT).

5. Multilocation trial (MLT)

The entries for MLT will be decided at Crop scientists meet held once in a year. Each station will propose its own entry. Based on discussion of merits and demerits of each culture, the entries will be nominated. The MLT will be conducted at Research Stations of TNAU spread over the State. The best entries will be proposed for Adaptive Research Trial (ART).

6. Adaptive Research Trial (ART)

ART will be conducted at farmers field by the Agricultural Department Staff. The entries for ART will be decided during Scientific Workers Conference (SWC) which will be held once in a year at TNAU. Both scientists of TNAU and Agri. Dept. Staff will participate. At SWC, the entries will be fixed and each Joint Director of Agriculture will fix number of trials for his division. The entries performing well in ART will be proposed for release as a variety. Each culture has to be tested atleast in a minimum of 50 centres spread all over the state. If a culture is non season bound, it will be tested in all the three seasons. If it is not so, one or two seasons result is enough.

7. Variety Release Proposal

The scientist incharge of the culture will propose the culture for release as a variety. There is a proforma for variety release. This proforma will contain all the information about the culture viz., Parentage, parents morphology, cultures morphology, key characters of the culture for identification, agronomic practices, pest and disease resistance, quality characters and yield trial results.

The variety release proposal will be discussed by Director of Research and Scientists. After approval the proposal will be presented before Variety Release Committee.

8. Variety release committee

It will be headed by Commissioner and Secretary, Agri. Dept. members will be Director of Agriculture Joint Directors of Agriculture and TNAU scientists. Besides these, two leading farmers of the state will also be the members. After discussion, based

on merit the VRC will approve it for release. Then the culture will be released for general cultivation.

9. Notification of the variety

For certified seed production, the variety is to be notified by the central variety release committee, Delhi. After release of the variety for notification purpose the information will be furnished in the prescribed proforma. At that time details about All India trial will also be furnished. After notification only, a variety can be multiplied under certified seed production.