

## **Controlled Seed Multiplication**

This is a practice whereby seed multiplication is properly monitored to prevent contamination of crop plants with undesirable pollens. Control also involves monitoring of seed quality throughout the various stages of production, processing and marketing. One attribute which cannot be controlled through laboratory tests is cultivar purity. This requires some degree of control from the growing crop right through to marketing of the harvested and processed seed. For this purpose, a certification authority is necessary with a corps of inspectors engaged in visiting farms, processing plants and retail outlets.

Details of hybrid seed production to be given later. Also, protection from foreign pollens would be stressed using isolation distance especially.

**Cultural practices:** - These range from weeding (manual/chemical) to fertilizer application (manual/machine), plant protection chemical application. Weeds are objectionable in any crop and all efforts must be reasonably made to ensure a weed – free population of crop plants. Where weeding is by use of hoe and/or cutlass, care should be taken to avoid any damage to the plants.

When spraying chemicals for weed or pest control, care should be taken to protect the nose and body of the person doing the spraying. Nose protector must be used, and hands and exposed body washed thoroughly. Soon after planting, thinning and supplying may be carried out before two weeks of planting.

**Crop maturity and time of harvest:** Two phases characterise plant development-vegetative and reproductive phases. Ample water is required for plant establishment and vegetative growth. At reproductive phase, vegetative phase becomes less luxuriant. The switch from vegetative to reproductive phase is controlled by a hormone called 'florigen', which encourages flower bud production. At flowering, a little dry weather or very limited water supply is

beneficial for pollination. After fertilization, ample water supply is again required for seed setting/development. This phase is followed by ripening of the seeds/pods, which requires no water at all.

**Time of Harvests:** Harvest only when crop seeds are matured. Seeds should never be stored on the plant in the field. The field is seldom favourable for storage. Weathering of the crop seed must be avoided as this deteriorates seed quality. For some legumes, harvesting must be done when pods are ripe or turning yellow. Further delay results in shattering of the pods, releasing their seeds to the ground, making harvesting difficult.

Deterioration of seed stocks may arise from:-

- (a) Cross-pollination – major factor
- (b) Substituting one cultivar for another through wrong labelling.
- (c) Poor viability status – some seeds deteriorate before storage. The best of storage conditions cannot improve seed quality. It only maintains it.
- (d) Genetic shift – mainly arising from producing cultivars outside their domain.

**Isolation distance in crops:-** for self – pollinating and cross - pollinating species.

Deterioration of seed stocks may arise from:-

- (a) Cross pollination
- (b) Substituting one cultivar for another due to wrong labelling
- (c) Poor viability status
- (d) Genetic shift, etc.