SUGARCANE BUD CHIPS FOR SEED MULTIPLICATION

Production of sugarcane seed with high quality utilizing low cost technologies is the need of the hour. Transplanting of settlings raised in polybags offers great advantages in sugarcane seed production.

Nursery raised from sugarcane bud chips and planting them in main field was found to be more economical than traditional methods for seed increase.

At Sugarcane Breeding Institute, an improved manually operated Bud Chipping Machine was fabricated. A high tension steel blade is used to scoop the bud as chips from a horizontally fed cane.

Techniques for making bud chips, their storability, transport, raising the seedlings in polythene bag as well as their survival and establishment on a suitable medium were standardized.

Bud chips could be taken using Bud Chipping Machine, treated with pesticide solution and transported to the destination for seed production.

Advantages of using bud chips for seed multiplication

- Bulk of the cane material could be reduced, eliminating about 80 to 90% cane, facilitating transport and handling of seed material easy.
- Selection of healthy buds, eliminating diseased and infected seeds
- Sett transmitted diseases and pests could be kept at minimum.
- This is relatively less expensive and is a labour saving technique.
For multiplication of Breeder seed as well as promising seed stock it is a reliable method.

Bulk of seed cane is reduced to manageable bud chips.

The cane after taking bud chips can be well utilized for preparing juice or sugar or jaggery.

Methodology for preparing bud chips for seed multiplication

Select a healthy cane, free from attack by insects and diseases.

Cane of 6-8 months age is preferable. In case of aged cane, avoid taking bud chips from bottom 1 metre portion.

Take bud chips manually using Bud Chipping Machine.

Dry the bud chips in shade or under fan for 2-4 hrs.

Prepare a solution consisting of Malathion 50 EC 0.1% (2 ml / 1 litre of water) and Carbendazim 0.1% (1 ml / 1 litre of water).

Dip the bud chips in pesticide solution for 10 min. Remove and dry them in shade or under fan for 2 hrs.

If meant for transport, bud chips could be kept in perforated polybags before packing in corrugated paper boxes.

Methodology for raising a bud chip nursery

Prepare a homogenous mixture with equal quantity of soil, sand and compost / well rotten pressmud and fill in polythene bags (15 x 10 cm).

Dip the bud chips in 0.1% Carbendazim solution for 10 min.

Plant the bud chips in upright position in polythene bag. Cover it with soil mixture lightly. Puncture a
small hole at the bottom of the bag to facilitate drainage.

- Ensure regular watering with a rose can.
- Spray 1% urea solution on 15th and 25th day after planting.
- Take control measures against incidence of insects, diseases and deficiency symptoms.
- Light turning up of soil around the bud chip ensures better germination and growth.
- After 6 - 8 weeks, transfer the seedlings together with the mass of soil to the field and transplant in small pits with required spacing (90 x 45 cm).
- At SBI, field establishment of transplanted seedlings was 100%.