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Seed Production in Brinjal: Importance and Method

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Brinjal also known as aubergine or eggplant is one of the mostly cultivated crop in India. It is used in various Indian Cuisines and is rich source of many essential nutrients, it exhibits anti- cancerous, de- cholestrolizing due to the presence of magnesium and potassium salts and anti-diabetic properties. It is also a fairly good source of vitamin-B, Vitamin-C, Calcium, Phosphorus, iron etc.

It is cultivated as an annual plant and is distributed widely in different shape, size, colour and several other horticultural aspects. It is commercially grown according to consumer preference and market demand. Different varieties and hybrids of brinjal are developed by breeders across the nation which are suitable for different regions and areas keeping farmers and consumers in mind. High yield and resistance are one of the many traits kept as objectives for developing a new hybrid.

Seed is the source of the genetic material for all the plants that are propagated through sexual reproduction. Brinjal is often cross-pollinated crop and even one ripe brinjal contains several seeds for raising seedlings and conservation of different local varieties and species available at different places. Seed production in brinjal is important as only exploiting the seeds at higher rate than its production will lead to depletion of the germplasm and also that of the planting material.

Some of the important aspects for seed production of the Brinjal Varieties are:

1. **Knowledge of the varieties to be utilized:** It is the most important step as type of the Brinjal varieties preferred by consumers varies. Brinjal is available in different shape, size and colours. Select the variety having all the necessary traits required. Selection ensures the nature of seed procured, its growth, nutritional requirement and qualitative traits i.e. variety selection will have an impact on the process of producing seeds.
2. **Selection of Superior Parents:** After selecting the variety to be utilized and planting it, selecting the superior plants for procuring progenies is an essential step as a mother plant will determine the qualities and traits that will be exhibited. A desirable parental plant selection is essential for optimal seed production. Seek for some of the traits like:

- High yield
- Biotic and abiotic resistance
- Spineless and robust stem
- Uniform fruit shape, size and colour
- Suitable for commercial cultivation

3. **Selection for site for seed production:** From the nursery to the field for transplanting every step is crucial for a healthy and quality seed. At nursery care should be taken to attain healthy seedlings for transplanting as damping off is one the most common disease seen in solanaceae family and causes heavy loss at nursery stage. An area with ample amount of sunlight, water, free from water-logging, and free of disease and insect pests

should be selected for transplanting. Brinjal is a warm season crop and is severely affected by frost. It grows at a temperature range of 21-23ºC and well drained and fertile sandy-loam soils with PH ranging from 5.5-6.6 is preferred. While planting spacing is followed as per guidelines for attaining vigorous cultivars and more fruit set. This distance lowers the chance of illness and permits sufficient air circulation.

4. **Steps for healthy plant growth and fruit set**

- Weeding: Due to its slow growing nature, it is unable to compete with fast growing weeds, which competes with it for nutrients, sunlight, space and other factors. Controlling the weed growth at the initial growth is essential as it will ensure less weed growth at later stages. 3-4 hand hoeing can be provided for effective weed control and care should be taken to avoid injury to the root as it may severe as the site of infestation for various fungal and bacterial disease.
- Nutrient requirement: A well fertilized soil will result in more yield and healthy plant growth. As brinjal is grown as annual can bear fruits for longer time and therefore can be considered as a good feeder of micro-nutrients. Better soil conditions and application of farmyard manure and organic and inorganic manures has a significant influence on production.
- Management of Pests and Diseases: Use an Integrated Pest Management (IPM) approach to get rid of pests as fruit and shoot borer is one the major pest affecting the crop. Keep an eye on disease symptoms and follow management practices according to the nature and type.
- Other Practices: such as mulching, irrigation and use of plant growth regulators can be done for increasing fruit set.

5. **Harvesting of the fruit:** Fruits are harvested at ripe stage for extraction of the seed. Fruits turn from green to yell at the time of maturity, should be harvested and not be kept in stakes and closed containers so as to avoid rotting and mixing. The ripe fruits are kept at room temperature and after 1-2 weeks seeds are extracted.
6. **Seed extraction:** Seeds are extracted from the ripe brinjal by cutting the fruit vertically without damaging the seed. The well ripened fruit are cut into 4-8 pieces and soaked into water overnight and floaters i.e. the pulp is removed and seeds that settle down are collected. The seeds are cleaned properly until no pulp residue is left.
7. **Storage:** Dry seeds are then carefully without mixing kept in air tight bags to avoid rotting. No moisture should be left to avoid fungal infestation. Brinjal seeds are viable for 2-3 years and during this period shall be stored in dry conditions.