



## Nursery Raising [Article ID: SIMM0295]

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**N**ursery is a place where plants are propagated and grown to usable size. Nursery may supply plants for horticulture, agriculture, forestry, garden and conservation biology. Nursery basically deals with plant propagation techniques. The planting materials for horticulture crops are raised from seeds or vegetative parts. Most of the perennials are propagated through vegetative means while annuals through seeds. Hence, the role of the mother block has become very important. The success of the nursery depends upon quality and truthfulness of the mother plants.

### Why Hi-Tech Nursery?

There are so many reasons like plants can be propagated through seeds but to get the authentic seed and true to the type variety in fruit plants is very difficult, the gestation period of fruit plants propagated through seed is very large, orchard established from seed propagated plants shows maximum variability, productivity of the orchard is very low, plants carry several seed borne diseases, handling of the plants is very difficult, if plants are propagated vegetatively, to maintain the genuineness and authenticity of the planting material is a difficult.

### Types of nurseries

On the basis of size there are some types like home nursery, commercial nursery (rural nursery, urban nursery) and on the basis of business there are some types like wholesale nursery, retail nursery, landscape nursery, mail order nursery, agency nursery.

### Nursery structures/components

- 1. Store-house:** A store house is necessary for storing implements, fertilizers, sprayers and nursery stocks such as seeds, bulbs, corms, cuttings etc.
- 2. Potting and Packing Shed:** Along with the store-house, potting and packing shed is constructed for the purpose of packing of nursery stocks and for potting during rainy season or hot weather. The length and the breadth of the shed will depend upon the volume of work.
- 3. Nursery Beds:** These are raised boxes made of brick and mortar, provided with drainage holes at the bottom. The dimensions of the boxes are 60 cm high, 120 cm broad and the length may be as required but preferably not exceeding 10 meters. The boxes are first filled with broken bricks and crocks for drainage and the top layers are filled with sterilized soil or compost.
- 4. Mist Chamber:** This is a novel structure in a nursery where propagation of leafy soft-wood cuttings is done with great success. Many difficult to root plants and shrubs root successfully under mist the principal is to spray the cuttings with a minimum quantity of water to maintain the desired humidity level. This is best achieved by providing the cuttings a series of short bursts of spray, termed as intermittent spraying, rather than a continuous spray. Such intermittent spraying can be done easily by means of a high-pressure pump and a time switch. In mist chamber, cuttings can be raised round the year, except during December - January and April - May in northern and eastern India



respectively. In southern India it is possible to raise cuttings throughout the year. The ideal temperature range in a mist chamber is 22-35°C.

5. **Cold Frames:** Such frames may be permanent or movable. The permanent ones are constructed by masonry walls on the sides with slanting covering of one or more glass sashes. It should be made of light material so that they may be easily handled by single person.

6. **Hotbeds:** Heated frames are used for propagating cuttings and sowing seeds in the cold season. Hotbeds, heated by steam or electricity, are easy to operate and the temperature can be regulated according to need. But the conventional type of hotbed is quite useful. This consists of a bed of stable manure mixed with equal volumes of leaf-mould, compost, or peat. The beds are 45-60 cm larger in size on all sides than the frames covering it. The manure should be well pressed to bring the final depth to 60 cm. Generally, such beds are made on the surface but good light and well-drained soil is needed for it. Sunken pits can also be prepared. Mixing of stable manures of farmyard alternatively with leaf manure, ensures a steadier and longer heat. No portion of manure is allowed to dry up. When the temperature becomes steady around 70-75°F, a layer of 10-15 cm well sifted soil is placed over the manure; the desired temperature of such beds lasts for 3-4 months.

7. **Greenhouses:** A greenhouse is quasi-permanent structure, covered with a transparent or translucent material, ranging from simple self-constructed designs to sophisticated pre-fabricated structures, wherein the environment could be modified suitable for the propagation or growing of plants. Materials used to construct a greenhouse frame may be wood, bamboo,

and steel or even aluminium while the coverings can be of glass or various rigid or flexible plastic materials. Greenhouse provides protection to plants against adverse environmental conditions and also prevents damages from insects and pests. Environmental conditions inside a greenhouse can be modified suiting to the growth of nursery plants. The extent of environmental/climatic modification will, however, depend on the design of greenhouse and is generally related with its cost. Higher the capability of greenhouse to modify its climate, higher will be the cost of its construction.