



Research Article

NURSERY MANAGEMENT OF HORTICULTURAL CROP AND ITS ACTS

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Abstract: Current study is based on advancement in nursery management of horticultural crops. The leading of great nursery management is to arrange planting material for the best possible quality for new improvement field. Poor planting materials usually lead to low quality yield and dispensable thinning cost top rid off runs in planted field. Nursery management combines the principle of nursery, enhanced management counting different movement like potted the seedling, manuring, irrigation, plant protection measures, weed control, packing of nursery plants, sale management and authority of mother plants, staff practicing unusually is need of pesticides, plant protection and general safety issues regarding to nursery management, important tools for high-tech nursery management including nursery calendars, plant development registers, nursery inventories and records of nursery experiments. Fruits and vegetables are urgent in human diet due to their nutritional its own rewarded. It is well recognized now that the area under fruits and vegetables should be they developed. However, the big problem in this regard is non-availability of true to type and healthy nursery plants. Nursery men are still using classical methods to raise the nursery plants. The condition and manufacturing of fruits and vegetables build upon the nursery plants those are transplanted to build orchards. Accordingly, it is understanding that the nursery should be traditional by accepting advanced technology that can provide healthy and strong, disease-free and true to type plants to the growers. The leading of this division is to provide guidance to nursery men and growers to raise nursery plants by accepting modern techniques. This branch provides knowledge regarding modern nursery structures, mother stocks, characteristics of mother stocks, rootstocks and characteristics of ideal rootstocks, selection of media, types and sterilization of media. The most essential part of this phase is sexual propagation, types of vegetative propagation, integrated nutrient management, types of organic and inorganic fertilizers for naturalizing nursery plants. Fostering of vegetable nursery types of vegetable nursery, plug culture.

Keywords: Seedling, Fruits, Vegetable, Technique, Nursery, Management

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Introduction

India is enriched with a remarkably heterogeneous area characterized by a diversity of agro climatic zones, allowing farmers to cultivate a spread variety of horticultural crops like fruits, vegetables, ornamental flowers, spices, plantation crops, root and tuber crops, and medicinal and aromatic crops. Agricultural sector provides livelihood to over 65 percent of the working class. Horticultural crops play an important role with the economy. India common run 2nd in fruits and vegetables production with the world, after China. As per National Horticulture Database published by National Horticulture Board, (2018-19) India yielded 98,579.27 million MT of fruits and 185883.22 million MT of vegetables.

"Horticulture refers to the plantation of garden plants, like fruits, berries, nuts, vegetables, flowers, ornamental trees, shrubs and turf. Horticulturists work for plant propagation, crop production, vegetables production, plant breeding, biotechnology, genetic engineering, plant biochemistry, plant physiology, storage, processing and transportation. They work to build up quality and quantity of crop yield, it's nutritional content and resistance to pest, diseases, and environmental pollution.

Horticulturalists used modern technique in addition still equipment for the nurseries production of seedlings and mother plants. These plants are propagated through various methods like seeds, inarching, budding, patch budding and soft wood grafting. Horticulture exports have given the country economy of Rs.14,000 crore in 2011-12. Horticulture accounts for 30% of India's agricultural GDP from 8.5% of the cropped area. India's major exports include onion, mangoes, walnuts, grapes. India's biggest export markets are South Asian and Middle East Countries. India's share with the global market is negligible- it accounts for 1.7% of the world change vegetables and 0.5% in fruits. Twenty-two forms of fruits (e.g. banana, mango, citrus, apple, guava, grapes, pineapple, papaya, pomegranate and 20 form of vegetables (e.g. potato, Brinjal, tomato, onion, cabbage, cauliflower, okra etc.), flowers (loose and cut) plantation crops (coconut, cashew nut, areca nut, cocoa), spices (e.g. seasoning, chilli, turmeric, garlic, ginger, tamarind, coriander, cumin, pepper, fenugreek and a few medicinal and aromatic plants are being produced. Nursery may be place where young plant is raised and sold to the farmer and customer [1-3].

So as to get a prime quality manufacturing, it's essential to confirm the standard of the planting material an honest quality is feasible with only good nursery management when the planting material to be transplanted is of prime quality then it successively facilitates the hardening process of seedling. Nursery beds, paths irrigated channels are main components nursery. Nursery bed is defined as a very prepared area in an exceedingly nursery where seed is sown or into which seedlings or cuttings are planted. On this basis, varieties of plants growing in nursery beds may be classified into two beds- seedling beds & transplant beds, seedlings beds are nursery beds during which seedlings are grown either for, transplanting in other beds or for planting out. A nursery which contains only seedling beds i.e., during which seedlings are only raised for the aim of transplanting is termed seedlings nursery.

Transplant beds are categorised as nursery beds with which plants raised in seedling beds are transplanted before planting call at forest/ main farmland. A nursery that has only transplant beds i.e., with which seedlings are transplanted for forest/ main farmland making is thought as transplant nursery. In India, separate seedling and transplant nurseries are rarely made with the same nursery. Generally, whatever is grown in nursery for planting out is referred as nursery stock. So, the choice of finest planting material and strict culling in nursery are the crucial steps. The essential best parts of the quality planting material may be an initial investment is a well realized factor for people engaged in Horticulture field. So, nurseries have huge demand for the production of propagating material like plants, bulbs, rhizomes, suckers and grafts. But general good quality and warranted planting material at fair price is unavailable. So, people experienced with the propagation of plants can opt for this avenue as an agro-business for future and may become an entrepreneur with the field. Seedling production may be a major expense of Afforestation and each labor should be made to supply good quality seedlings at a inexpensive cost. To finish dominant technique of nursery operations is prime mean high tech nursery management is that the right of your time. According to Statista research department 2012-13 reported the increase in per capita availability of fruit (from 172 gram to 200 gram per day) and vegetables (from 365.645 gram to 386.65 gram per day) between 2015-16. As per FSI (2011), the full forest cover extended and reached 692027 km² (21.05% of geographic area) while the full tree cover has been estimated to be 90,844 km² (2.76% of geographic area) [6-10].

Even though the agriculture production is in an upward trend, the procreation in population, inflation and climate uncertainty seems a green signal towards the efforts put in sustainable agriculture. Government and industrial nurseries are the most suppliers of perennial tree seedlings. They produce seedlings and vegetative propagules to fulfill their own seedling demand and also supply them to public to satisfy their raw material demand. Mostly demand of vegetable and ornamental seedlings is fulfilled by the farmers themselves, with the help of market availability enhanced seed and requirement of minimum inputs to determine them. As the price of ornamental seedlings mainly relies on the buyer's interest, size of planting material, the little private nurseries mostly concentrate on the ornamental seedling/propagule production to get more profit. The commercial nurseries are well equipped with infrastructure, manpower, automation and way to raise seedling/propagules of short rotation tree species to fulfill their factory requirement for raw material demand like wooden pulp, leaves, paper, plywood, small timber for furniture, juice, jam and pickle making. Hence, different reasonable nurseries target on various end products. But nursery is that the rudiment for meeting the standard seedlings demand and nursery management is that the unrealized tool to execute the activity pleasantly.

Accreditation of Nursery management

The general requirement for Accreditation nursery management are as fallow-

1. We should always have our own block mother parent material and make the sure the varietal purity of the horticulture material.
2. Proper infrastructure for production of quality planting materials.
3. Ensure that clear labelled and tagging of the variety propagated should be done
4. Planting material should have proper material and tag for each variety.
5. Follow standard operating procedure for good nursery management practices.
6. Production of healthy seedling, free from pest diseases, and nutrient

deficiencies. Nursery should follow the technical method for plant protection.

7. We should maintain the daily separate register for production of stock and sale transportation.

8. Nursery should be nearest to the road.



Fig-1 Accreditation of fruit nursery by expert team at village- Dhauntri of Uttarkashi district

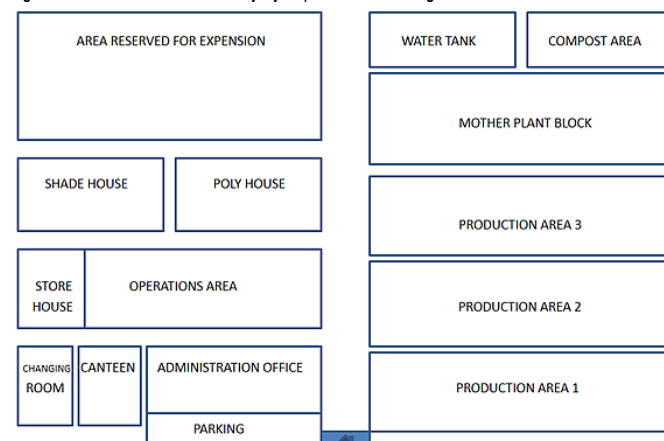


Fig-2 Layout of fruit model nursery

Nursery management and its acts

The management of seedling can be done successfully with minimum care, cost and maintenance as the nursery are small.

Preparation of nursery

1. The nursery should be near to the water resource.
2. The location should be partially shaded under the trees.
3. It should be protected from animal.
4. Proper drainage facilities should be provided.

Selection of soil

1. A medium textured loam or sand loam soil is preferred.
2. Soil should be rich in organic matter.
3. Soil depth should be preferably 15-20 cm.

Types of Nurseries

Temporary nursery

This type of nursery is developed only to fulfill seasonal requirements or a targeted project such as small in size and is set up for short period of time.

Advantages

1. Injury because of shock of uprooting and transportation of seedling is reducing due to less distance between the nursery and required planting site.
2. Temporary nursery requires less investment as compared to the permanent one.

Disadvantage

1. It is temporary in nature, basic facilities like irrigation may not be adequate.
2. Special arrangement should be made in order to keep the plants and seedling in healthy condition.
3. Its made in out of way places proper supervision is not possible

Permanent nursery

These types of nurseries that is maintained for supplying nursery stock for long period of time on permanent basis

Advantages

Greater range of planting stock such as seedlings, grafted plant, budded plant, layers, rooted cutting.

Disadvantages

1. Initial investment cost is high.
2. The transportation cost is more.
3. This type of nursery needs intensive labor managements.
4. It requires skilled human resource round the year.

Nursery registration act

There are some points of nursery registration act :-

5. The act /bill which is introduced to provide license and regulation of fruit nursery.
6. Government of India, Ministry of agriculture has passed the fruit nursery act under the certain act of license and regulation of fruit nursery.
7. In India 4049 fruit nursery including 1575 government and 2834 private nurseries are functioning, which are held for the annual target to produce quality seed and planting material of horticultural crops.

Uttar Pradesh fruit nursery regulation act

The commencement of the U.P fruit nursery regulation act came into the force in U.P on 1st July 1976.

Fruit nursery

A place where fruit plants are kept in the regular and close inspection of nursery man for the purpose of business propagation and Saled for transplantation crop The fruit nursery should have more than 0.2 hectare and are managed by private sector or entrepreneurs.

Here, fruit plant means any plant which can produce edible fruit and introduce buds, seedling, graft layer, seed, sucker, rhizome and cutting.

License of fruit nursery: An officially paper given by an authority of a state government.

Licensing authority: Means department office agency etc. which provide license to the owner.

Owner: the person who / the authority which controls the affairs of fruit nursery.

Application of license: The application for grant of license under this act shall be applied on and prescribe from no 1.

Renewal of license: The license is renewed after expiry of the valid period prescribed in granted license (from no 3).

Duplicate license: If any license is lost, Damaging, defected and so on, the license authority may issue duplicate license on being prescribed from no 4 along with charging a fee.

Duties of license

1. employ such varieties of the fruit plant, specified in the license in respect to stock nursery.
2. Maintain a complete record of the source of rootstock and varieties including common name, botanical name etc.
- 3.Keep the nursery plots as well as the progeny of many plants plot clean.
- 4.Producing vegetables and fruit plants as directed by the license authority.
- 5.Specify in a conspicuous manner and label each variety with its name in the nursery and mention the age of graft.
- 6.Sale or distribution of any plant completely free any from plant any insect pest and diseases.
- 7.License maintains account book register and a balance sheet of nursery production.
8. Maintaining the cash and stock book for the future update.
- 10.Maintaining the fruit plant propagation register.

Power of license authority

1. Issued and cancelling of nursery license under some circumstances prescribed in this act.
2. Renewal of license.
3. Prohibition and regulation of sale and export transportation of certain plants.
4. Punishment on any offence and violation of act.
5. Penalty and conduct of business as per the norms of license authority
6. Inspection of nursery record and account book.
7. Certification and testing of plant sample.
8. Hearing of appeals of license for any grievance's cancelation, renewal suspension and refusal of license through authority of state government under sub section.

Application of research: Nursery management and its act.

Research Category: Horticulture, Nursery management

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Cultivar / Variety / Breed name: Nil

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Ethical approval: This article does not contain any studies with human participants or animals performed by any of the authors.

Ethical Committee Approval Number: Nil

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