

**LECTURE NOTE
ON
DEVELOPMENT OF SEED ORCHARD FOR FOREST
TREE SPECIES**

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CONCEPT OF SEED ORCHARD

- The term orchard is mainly applied to a plantation of fruit or nut bearing trees like mango , orange, apple or cashew.
- In such conventional orchards the fruit or seed itself is the economic end product.
- Forest seed orchard is somewhat different the seed produced in it is not utilized as such but it used for raising the next generation of improved seed.

HISTORY OF SEED ORCHARD

- The idea of establishment of forest plantations for production of seed first appeared in literature in 1787 when F.A.L von burgs dorf in Germany suggested the use of vegetative propagated material for the purpose as to improve the quantity.
- Seed collection is one of mans older occupation and probably began when seed were first harvested for food.
- The first known seed orchard of *larix eurolepsis* was established in scotland , great britian in 1931.
- Bates in 1928 in the U.S.A and syrach larsen in 1934 in denmark were the first popularise seed orchard among further.

- **The first forest tree seed orchard established in Britain was planted in 1931 by serymgeonr wedderborn on his Birkhill estate in fire Scotland.**
- **The first Seed orchard of teak was established in papua new guinea in 1963 and little later in Thailand and India .**
- **Orchard development work in kerala was initiated in 1979 by the kerala forest Research institute ,then Maharashtra, Madhyapradesh , Orrisa and Andhra pradesh**

DEFINITION

- A forest seed orchard is defined as a plantation of genetically superior trees isolated to produce pollination from genetically inferior outside sources and intensively managed to produce regular and abundant crop of source and easily harvested seed.
- According to the organization for economic cooperation and development (OECD 1947) the seed orchard as a plantation of selected clones or progenies which is isolated from outside source, managed to produce frequent, abundant and easily harvested crop of seed.

OBJECTIVES

The seed orchard are developed for the following objectives-

- Seed orchard can produced genetically superior seeds , in which forest productivity will be enhanced .**
- Seed orchard produce regular seed .**
- The harvesting is easy.**
- The seed of known origin is made available.**

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- **The seed orchard can also be used as breeding orchards.**
- **The germinative capacity of the seed is better than normal seed .**

Methodology

- **Establishment of seed orchard is based on the following steps-**
- **Selection of plus tree.**
- **Site selection – location, layout, pit digging,**
- **Preparation of grafts**
- **Planting designs**
- **Collection of scion wood**
- **Fertilizers**
- **After care**

KINDS OF SEED ORCHARD

Seed orchards are of mainly two kinds

- **Clonal seed orchard**
- **Seedling seed orchard**

Clonal seed orchard

- Clonal seed orchard developed with vegetative material such as grafts, Cutting or tissue culture raised plantlets.
- Such orchard established with untested clones is known as first generation .
- In this orchard the bud material in the form of scion of plus tree will be use on the stock of two or three years old seedling of the same species.
- The best period for grafting in teak in tropics is from February to April

SEEDLING SEED ORCHARD

- **Seedling seed orchard developed by seeds obtained from the selected plus tree .**
- **Such orchard take longer time for flowering and fruit setting.**
- **This has broader genetic base.**

A stylized illustration of a globe with green continents and blue oceans, set against a background of green leaves and water droplets. The globe is the central focus, with the Americas visible. The leaves are vibrant green and have a glossy texture, with several water droplets scattered around them. The overall theme is environmental and natural.

THANK YOU

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