

# JOB ROLE – GARDENER

Sector – Agriculture

(Qualification Pack Code: AGR/Q0801)

PPT's for Class XI



PSS Central Institute of Vocational Education  
Shyamla Hills, Bhopal – 462 013, Madhya Pradesh, India

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# **UNIT 3: PLANT PROPAGATION**

## **Session 2: Plant Propagation by Layering**

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# Session Objectives

The student will be able to :

- Demonstrate propagation of plant by layering

# Introduction

Layering is an attached method of propagation. In this method, roots are allowed to develop on the covered portion of the stem while still being attached to the mother plant. After the emergence and development of the roots, this portion is separated from the mother plant and allowed to grow as a new plant on its own root stem. Such root stem is known as 'layer'.

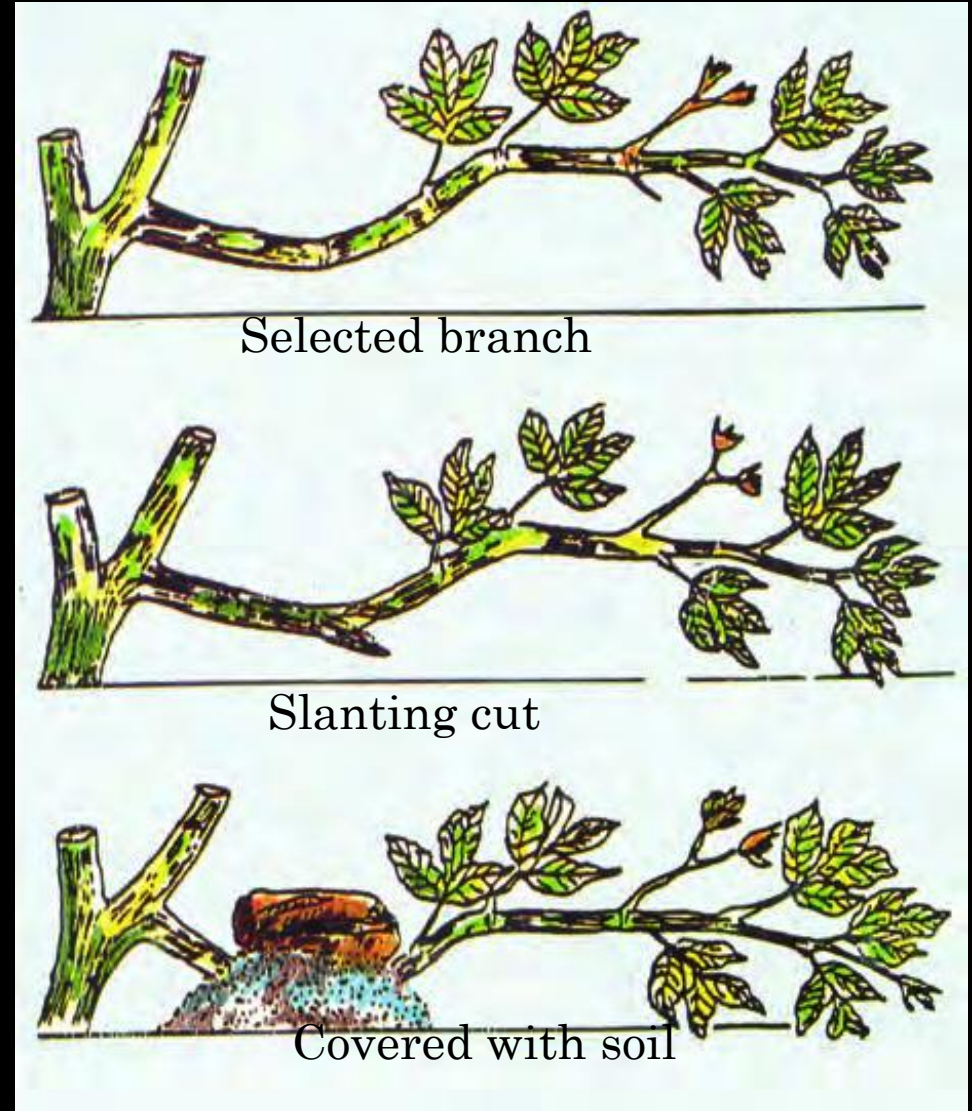
# Types of Layering

- Simple layering
- Compound or serpentine layering
- Trench layering
- Mound layering or stooling
- Air layering

# Types of Layering

## 1. Simple layering

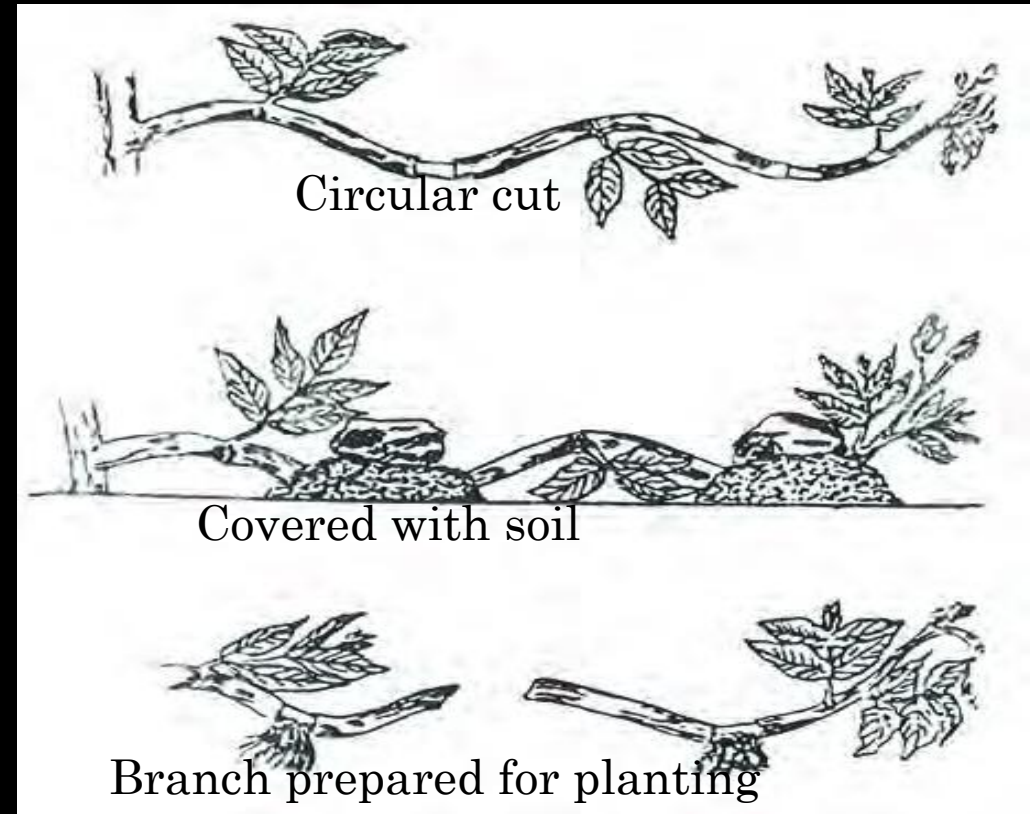
In simple layering, a partial tongue-like cut is given on a branch. The branch is then bent to the ground and the treated portion is covered with soil, keeping the top or terminal portion exposed. The layered branches produce roots in weeks and are ready for transplanting in a nursery after detaching them carefully. Examples are jasmine, *ixora*, *clerodendron*, *pyrostegia*, etc.



# Types of Layering

## 2. Compound or serpentine layering

Compound layering is similar to simple layering, except the branches are alternately covered and exposed along their length. The branches must be longer so that they can be layered at several places. This method is followed in plants like bougainvillea, jasmine, clematis, muscadine grape and wisteria.

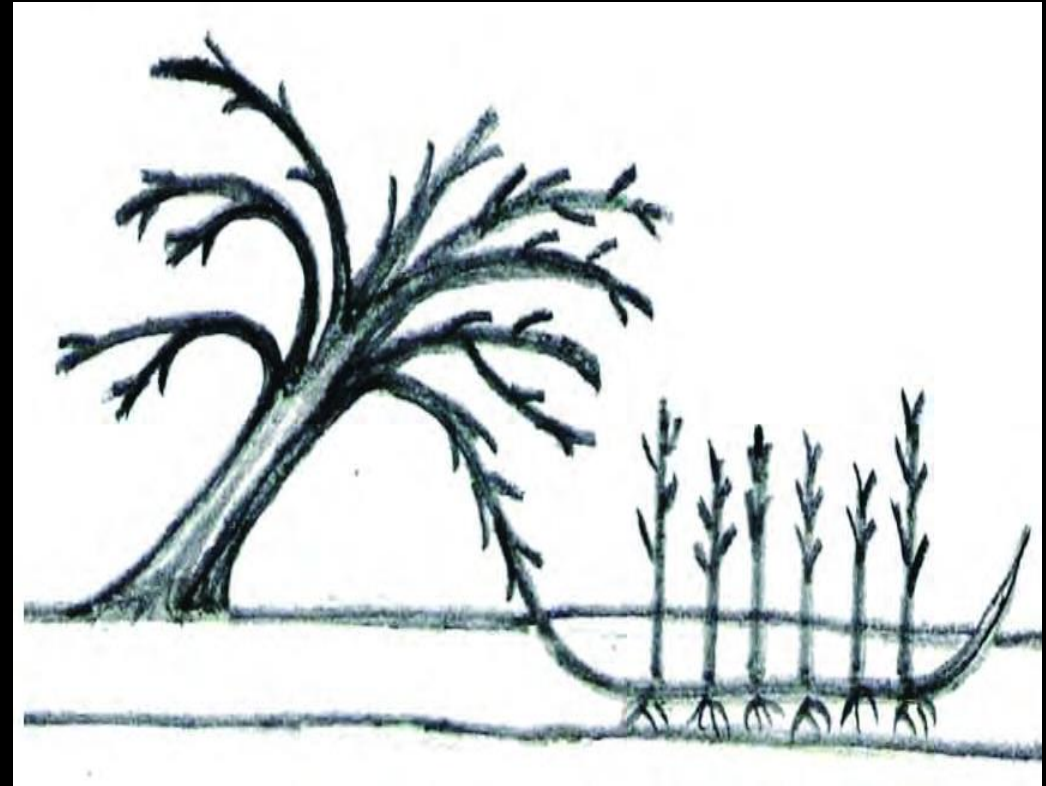




# Types of Layering

## 3. Trench layering

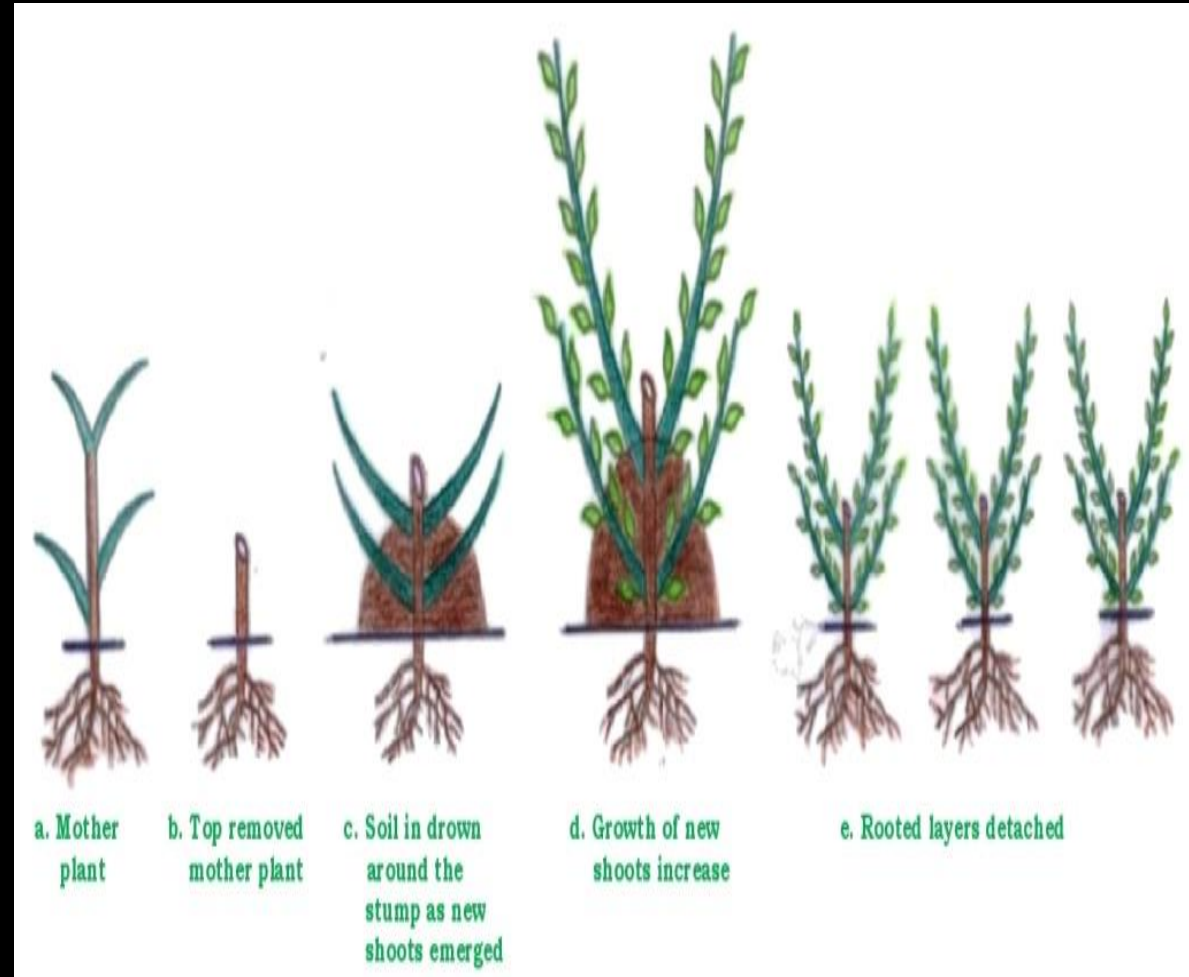
Trench layering is primarily used in fruit plants. Covering the shoots with soil results in etiolation, so it is also known as 'etiolation layering'. New shoots arise from the length of the buried branches. After rooting, individual shoots are separated from the mother plant. This method is followed in apple, cherry, pear, jasmine and rhododendron.



# Types of Layering

## 4. Mound layering or stooling

This method is followed in plants whose branches are firm and difficult to bend. The selected plant must be at dormant stage at the time of layering. Examples are apple, guava, currant, gooseberry, pear, etc.



# Types of Layering

## 5. Air layering

It is a method of propagating new trees and shrubs from stems still attached to the parent plant. The stem is wrapped with damp moss to encourage rooting. It is also known as 'gootee'. Examples are *Ficus elastica*, *Callistemon*, *croton*, *monstera*, *citrus fruits*, *lychee*, *philodendron*, *pomegranate*, *etc.*





# Types of Layering

## Procedure

- Select past growing season healthy, vigorously growing aerial branch having pencil-size thickness.
- Girdle the selected branch up to 2-3.5 cm wide just below the node 15–30 cm back from the tip of the shoot. A strip of the bark from the girdled portion is removed. Cover the girdled portion with moist sphagnum moss.
- A piece of polyethylene film is carefully wrapped around the branch so that the sphagnum moss is completely covered.
- The layer is removed from the parent plant when roots are observed through the transparent polyethylene film. It takes 2-3 months for rooting.
- Rainy season is the best for air layering.

# Summary

In this session you have learnt about the plant propagation by layering and its types.

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