

UNIVERSITY OF NAIROBI
DEPARTMENT OF PLANT SCIENCE AND CROP PROTECTION
ACS 202: PRINCIPLES OF PLANT PROPAGATION
PRACTICAL 4: PROPAGATION DIVISION AND LAYERING.

Objective

To expose the students to propagation by layering and division methods and their respective pre-planting preparations.

Layering

This is a propagation method by which adventitious root are caused to form on a stem while it is still attached to the parent plant. The rooted or layered stem is then detached to become a new plant growing on its own roots. Layering can also happen naturally like in many grasses.

Crown division

This is also another cultural method of asexual propagation. The parent produces many axillary shoots at the soil surface and these shoots are then separated from the parent plant for propagation e.g. Pyrethrum

Materials

Planting material will be provided such as sweet potatovines, Pyrethrum and rubber plant tree.

Boxes with propagation media (soil, vermiculite)

Propagation knives

Polythene wrappers

Thread

Water

Rooting hormone

Procedure

Students will do the actual pre-planting preparation of the materials as instructed.

Some of these methods will include:-

Layering

Air-layering (marcoting)

Make an oblique cut upwards with a sharp knife or girdle the plant at the section you want to air layer.

Scrap the vascular cambium and apply growth regulator if available.

Wrap with moist material to maintain high humidity.

Wrap with a polythene film which allows gas exchange but not water loss. It will produce roots after two or three weeks ready to transfer to another area.

Trench layering

The whole stem is buried in the ground and new shoots emerge from the axillary buds of the stem e.g. Cassava

Serpentine layering

A section of the long stem is buried in the soil whereby that section sprouts the new shoots e.g. sweet potato

Crown division

- This is usually done in dicots and also in monocots such as sugarcane.
- The parent plant is allowed to produce offshoots which are then removed and planted.

Lecturer : Prof. Hutchinson.

Students on Horticulture practical

