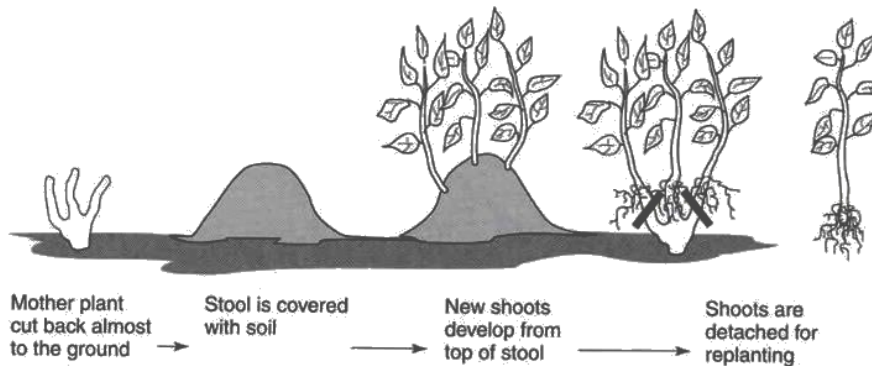


Cut the plant back to 1 inch above the soil surface in the dormant season. Dormant buds will produce new shoots in the spring. Mound soil over the new shoots as they grow.



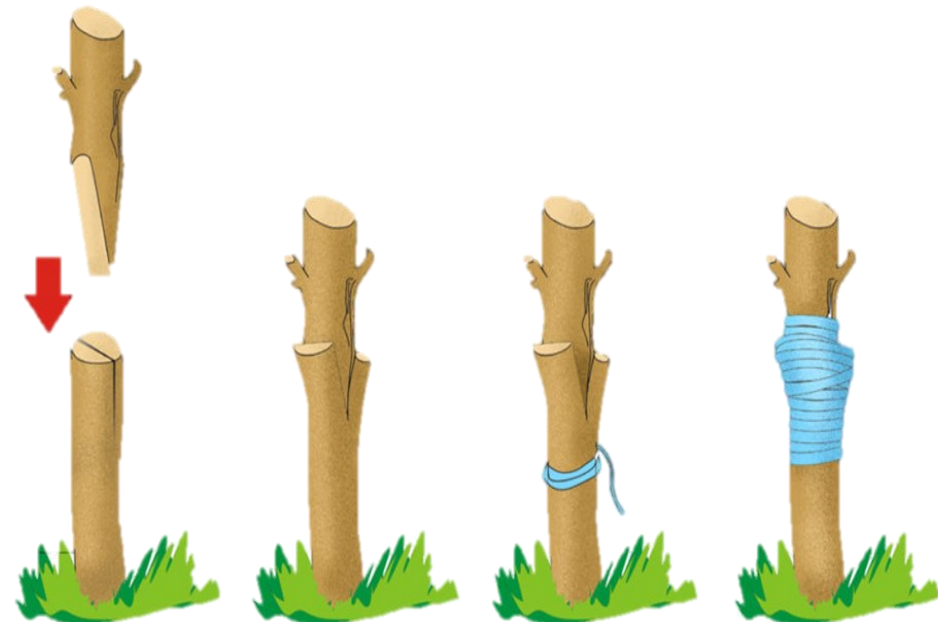
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Asexual Plant Propagation

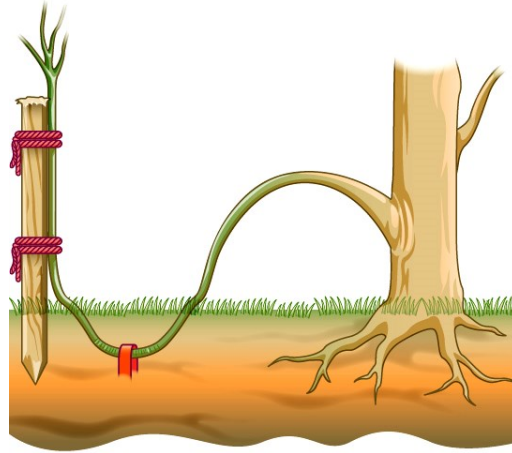
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- Chapter 15 Plant Propagation. Asexual Reproduction Cuttings Grafting Budding Layering Division Rhizomes Stolons Tillers or Suckers retrieved February 3, 2018 from <http://slideplayer.com/slide/7547324/> <http://www.oliviassolutions.com/blog/types-of-plant-propagation/>



ASEXUAL PLANT PROPAGATION

Asexual propagation or vegetative propagation refers to the multiplication of any plant from any vegetative parts of the plant.



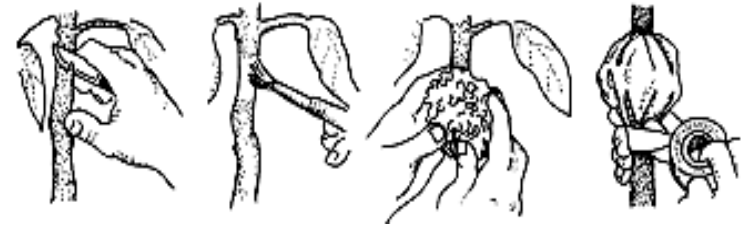
ADVANTAGES:

1. The progenies are identical to the mother plant.
2. It is the alternative way of propagating plants with no seed or germination of seed is very slow or no viable seed is formed. (e.g. Banana, Pine apple and roses, seedless grape).
3. Vegetative propagated plants are generally dwarfed in nature compared to those that are grown in seeds. This facilitates pruning, spraying and harvesting and more number of plants can be accommodated in a unit area.
4. More plants can be propagated by vegetative means because of the speedy easy of multiplication.
5. Novelty can be developed by grafting or budding on single plant using many varieties.
6. Inferior varieties can be converted to in superior like side grafting in mangos.

DISADVANTAGES:

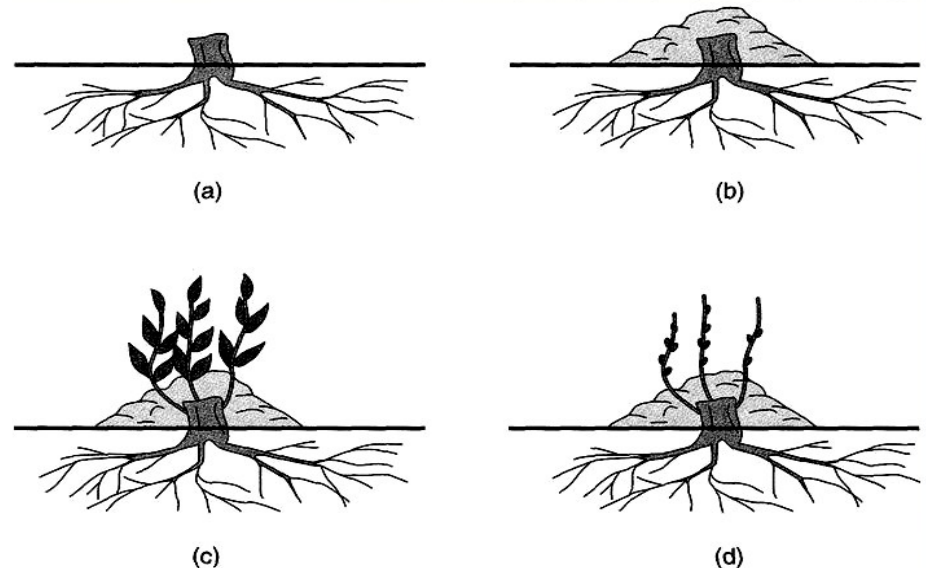
1. No new varieties are evolved or developed.
2. These methods are expensive and laborious and time consuming.

6. When strong new roots are visible through the moss, remove the plastic sleeve. Cut through the stem just below the rooted section.
7. Pot up the rooted stem in potting compost suitable for the plant in question. Do not attempt to remove the moss from the roots. Water, label and grow on until large enough to plant outside.



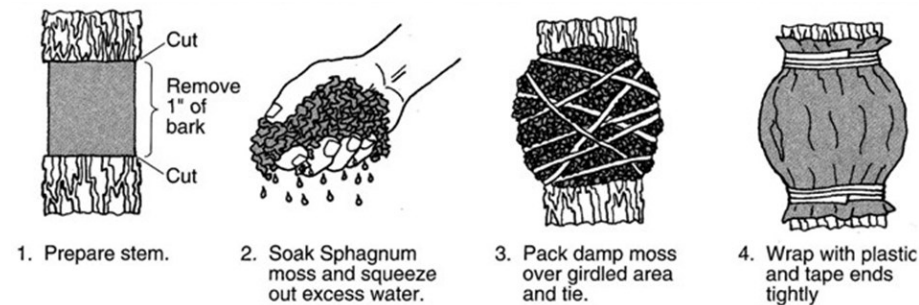
MOUND (STOOL) LAYERING

Mound (or stool) layering is suitable for heavy-stemmed trees with tight branches. In the spring, the stems of a young tree are cut about 15 cm (6 inches) above the trunk, which will result in the sprouting of plenty of new buds. The following spring, soil is mounded over the young shoots growing from the buds in order for roots to develop.



AIR LAYERING

Air layering is an effective propagation method for some plants that do not root readily from cuttings and which often lack low-growing shoots



STEPS:

1. Choose a one to two-year-old stem that is straight, healthy and vigorous. Trim off side shoots and leaves from a 30cm (1ft) section.
2. Scrape off the bark of the stem. The length of the scrape should at least be equal to the diameter of the branch/ stem.
3. Rooting hormone can be applied on the surface of the wound.
4. Wrap the wound with a moist sphagnum moss to a thickness of 7.5-10cm or soil and cover it with black plastic, sealing it with weather-proof adhesive tape.
5. Leave the wrapping in place for up to a year. Check it occasionally for signs of rooting.

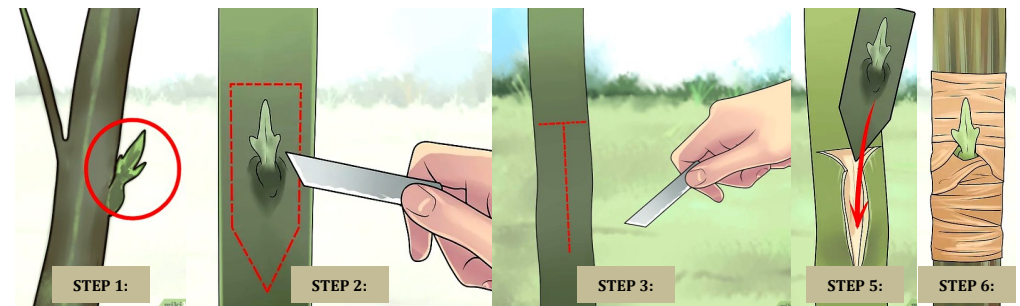
TYPES OF ASEXUAL PLANT PROPAGATION

BUDDING

This is a grafting technique in which a single bud from the desired scion is used rather than an entire scion containing many buds.

STEPS:

1. Preparing the rootstock. Potted seedlings are widely used as rootstocks. However, they should be at least 0.8cm and up to 1.5cm in diameter. Established trees can also be used.
2. Preparing the bud-scion. This consists of a prominent axillary bud, this serves as the growing point of the plant. This is also termed as a bud patch, chip, and shield piece or single-bud scions.



Bud sticks are small branches that have multiple numbers of nodes that contains the buds. These are from vigorous, disease-free mother plants having desirable characteristics.

3. Insertion of the prepared bud-scion into the rootstock. Cut the bark of the rootstock. Insert the scion bud into the bark but make sure that the scion bud is oriented upward.
4. Tying or wrapping. Tie the stem-bud union using a plastic wrap leaving the growing point exposed. The plastic wrap must be removed 15 days after or at the time that the wound has healed. There are various ready-to-use wrapping materials. A specialized wrapping strip made of rubber expands as the rootstock grows and naturally deteriorates after several weeks. But for practical usage, a thin, transparent polypropylene (PP) plastic bag can be cut into

strips about 2-3 cm wide. These plastic strips have to be elastic and do not easily break when stretched.

5. Cut back of the rootstock. With a use of a pruning shear or sharp knife cut the rootstock at the part of the stem closely above the union to prevent apical dominance.

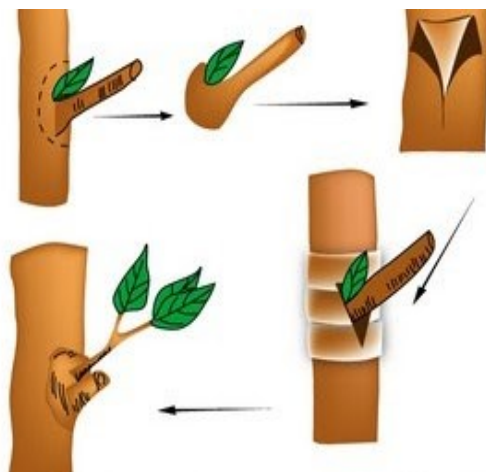


A new shoot will emerge from the growing point on the inserted scion which will then grow into a new plant.

Cut back is done when it certain that there is union between the rootstock and the scion this may take 15 days or more. The inserted scion will remain green or otherwise brownish depending on the natural color of the bud stick. If union is not successful, it will turn black and rot.

6. Care of clones. This involves activities performed to the rapid growth of budded plants. This also includes the removal of offshoots that may emerge from the stem below the union. This is done to ensure that the propagated plants will only exhibit the characteristics of the scion.

Likewise, the wrapping materials that take time to deteriorate, like PP plastic strips, must be removed at the earliest time possible to prevent strangling of the scion.



CUTTINGS

A cutting is a vegetative plant part which is detached from the parent plant in order to regenerate itself, thereby forming a whole new plant.

Stem Cuttings

Stem cuttings of some woody plants root better if taken in the fall or in the dormant season.

Tip Cuttings

Remove a 2 to 6 inch piece of stem, including the terminal bud and make to cut just below a node. Remove lower leaves that would touch or be below the medium. If necessary, dip the stem in rooting hormone. Make a hole in the rooting medium and insert the plant cutting deeply enough into the soil media to support itself.

Cedial cuttings (stem-section cuttings)

Make the first cut just above a node, and the second cut just below a node, 2 to 6 inches down the stem. Prepare and insert the cutting in the rooting medium. Make sure that the nodes are in upward position.

