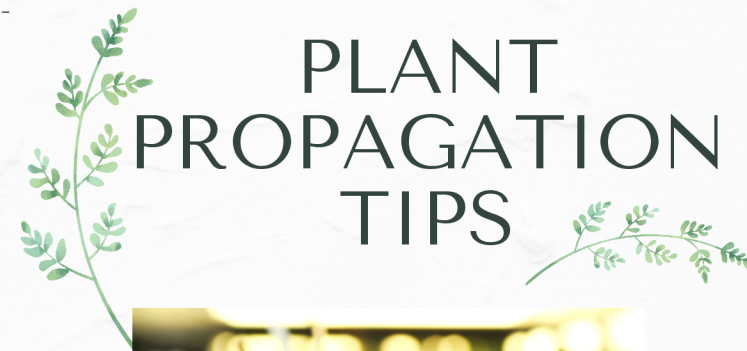


PLANT PROPAGATION TIPS



Once it is cooled, the seed can be sown. Larger seeds may require a longer period of time exposed to heat and can be boiled for 1-2 minutes. Other methods for breaking the seed dormancy can involve sowing the seed at the right time of year, using chemicals or smoked water to overcome dormancy. The one thing that is of most importance is providing moisture to the seed and maintaining this until germinated.

Propagating from Cuttings:

Propagation from cuttings involves inducing a piece of plant material to form roots in an artificial environment. This is an extreme action and requires special facilities to be successful. Some plant species are easier to strike from cuttings than others. Most commercial nursery obtained plants are produced by this method and are quite easy to grow. Native plants sourced from wild populations will have variable success no matter how well they are treated! Plants that are from a coastal environment have evolved to tolerate accumulation of sand around their stems and are generally easier to induce to form adventitious roots than species from the forest.

Selection of cutting material that is healthy and vigorous in growth will improve success. While all areas of a plant stem can produce new plants, the quickest and easiest is usually tip-cuttings. The base of the cutting is cut just below a node. The time it takes a cutting to produce roots is usually 6 weeks to 6 months. Special conditions for rooting cuttings are a need for an open, free-draining, sterile media, free of fertilisers; watering at regular intervals to maintain wet plants and media.

Shelter from direct sunlight either through shade-cloth or shading by other means. Constant observation is required to ensure dead plant material is removed before fungal diseases take over. Cuttings can be inserted at different depths but must have access to both air and water at all times. Trialling different methods is recommended to determine what works best for your own growing situation.

A rooting hormone applied to the base of the cut material makes the plant form roots more readily in most cases. Cuttings are moved into final growing containers once they have formed roots. This container has fertiliser added to the growing media, which can be normal potting mix.

Maintenance of Propagated Material:

All material needs to be maintained with adequate moisture to keep it growing in good condition. Plant nutrients need to be available according to plant needs. Plants need to be monitored regularly to ensure diseases are identified early and control can be put in place. Sterile growing media, containers and facilities are the main requirements to avoid disease. Also restricting introduction of diseases through using footbaths (1% bleach solution) and hand-dips (5mL tea-tree oil 15% solution/L water) reduces the chance of infection.

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Facilities & Materials:

The basics that you need to propagate plants successfully are access to water and a place to leave the plants that is not in direct sunlight and can be maintained securely and hygienically.

Propagation structures: a raised area under shade cloth provides the best facility for initiating germination in plants. The percentage of the shade cloth is ideally 70%, A hot house system which isolates the plants from the outside environment is ideal for cuttings, and starting fine seeds. Having these structures will greatly expand your ability to germinate seeds and strike (root) cuttings.

Areas to be used for propagation need to be kept isolated from sources of infection. They need to be maintained by sterilising surfaces with a 1% bleach solution, on a regular basis.

Watering systems:

can be a watering can, hose, or an automated system. The advantage of the first two methods is that they are very efficient in delivering the water only where required. They do take time though. The advantage of an automated watering system is that it provides less stress and demand on your time; it waters at regular intervals and requires minimal effort. The disadvantage is that it is wasteful of water falling in areas where it is not of benefit to the plants that you are trying to grow.

When seeds are initially sown they require watering once or twice a day, they can never be allowed to dry out. When growing from cuttings, watering needs to be multiple times per day, in order to keep foliage and growing media moist.

Potting mixes:

need to be free of diseases and weed seeds. Ideally they should be prepared hygienically so that there are no fungal diseases affecting the plants. Methods of obtaining a sterile potting mix include: steam sterilisation, or purchasing nursey industry association standard potting mixes from commercial enterprises. Some materials used in propagation do not require sterilisation such as perlite, vermiculite, and fertilisers.

Fertilisers:

If you are hand watering liquid fertiliser is a good alternative. If you are using an automated system, then you need pelletised slow release fertiliser

Sourcing Propagation Material:

Provenance sourced seed is preferable to using seed obtained from other areas. Reasons include that locally sourced seed material is adapted to local conditions; and and to prevent cross-gene pool contamination which can disadvantage the genetic structure of the local population.

Seed Propagation Material:

Only collect ripe seed from healthy plants. If you are collecting from anywhere other than your own property, you require a license. If you are collecting from a friend's property and only growing plants for your own use you may do so without a license but with their permission. Do not damage the plant or the environment from where you are collecting. Collect no more than 20% material from any one plant and from a population of at least 12 individuals where possible.

Cutting Propagation Material:

Sourcing cuttings for clonal propagation involves carrying out the activity at the beginning of the day ideally when dew is still on the leaves and the sun is not yet warm. Materials selected must be free of pests and diseases and in a good actively growing condition. It must be immediately put into a plastic bag with water and kept in the shade. If being stored for any length of time it should be put in the dark and chilled – an esky is ideal. The sooner the material is made into cuttings and set out where it is to grow on the more success you will achieve.

Propagating from Seed:

Seed comes in all shapes and sizes and thought needs to be put into how it is to be placed in containers to maximise germination., Larger seeds can be covered by 3x their width, smaller seeds that are dust-like in appearance should be surface sown and kept moist until germination has occurred.

Seed can be sown in flat trays as a mass lot with individuals being pricked out and put into individual containers to grow usually after a period of 6-12 weeks. Generally larger seed is sown into individual containers and can then be left to thin in 6-8 weeks. Both of these methods are inter-changeable and particular to certain species.

Container choice is determined by the seed's germination needs. Some plants produce a very long root, and this needs to remain undisturbed. They will require a deeper container. Cell trays are ideal for producing a plant that can be installed into the environment with a planting tool (potti-putki).

Seed dormancy is an adaptation that allows a species to germinate its seed at the optimum time for its success and survival. It is a major factor in the success of germinating native plant seed that the conditions of this dormancy are understood and overcome. Some of the methods employed include hot water treatment for peas and wattles – this can involve putting the seed in a cup and pouring on boiling water.