



Undertake propagation activities

AHCNSY203

By the end of this topic, you should be able to:

- Prepare for plant propagation
- Propagate plants
- Complete propagation activities

Propagation methods

- There are a range of propagation methods, including:

Method	Definition
Aerial layering	Removal of bark to cambium layer, pack and seal with spag moss
Cuttings	Suitable propagation process for semi-hardwood and deciduous hardwood
Division	Involves dividing the parent plant into smaller clumps and propagating each of the clumps to make new plants. Dig around the plant's edge, get under the roots and lift it out.
Seed method	Involves sowing seeds
T Budding	T-shaped cut in the stock plant where you want to place the graft

- Ensure that you select the most appropriate method for the plant species.

- To prepare for plant propagation, you should familiarise yourself with the following:
 - Task requirements
 - Apply active listening when receiving instructions
 - Clarify any unclear instructions with your supervisor
 - Workplace information
 - This may be site-specific information, such as site safety plan
 - This may be applicable laws to your workplace, such as:
 - Acts [e.g. *Work Health and Safety Act 2011 (Qld)*]
 - Regulations [e.g. *Work Health and Safety Regulation 2011 (Qld)*]
 - Codes of Practice [e.g. *How to Manage Work Health and Safety Risks Code of Practice 2011 (Qld)*]

Preparing for plant propagation

- To prepare for plant propagation, you should familiarise yourself with the following:
 - **Work area**
 - Identify any WHS hazards (e.g. injuries to your person, spread of pests/disease, environment contamination, heat stroke)
 - Rectify and/or report hazards to your supervisor within a timely fashion – especially emergency situations
 - **Available PPE, tools and equipment**
 - PPE may include: Gloves, wide brimmed hat, work boots
 - Tools and equipment for propagation from cuttings or seeds may include: Dibber/Dibbler, Secateurs, Sterilised containers, Permanent markers
 - Tools and equipment for propagation by division may include: Fertiliser, Knife, Spade, Watering can
 - Ensure they are appropriately selected, prepared and used for the task, following manufacturer recommendations

- If a seed has a natural inhibitor to germination, pre-treatment must be carried out before successful germination will occur.
- Pre-treatments may include:
 - Abrasion between sheets of sandpaper
 - Boiling water (i.e. for seeds in the pea family)
 - Chilling (i.e. for seeds of alpine or semi-alpine habitats)
 - Fire (i.e. for seeds outside the pea and acacia families)
 - Smoke (i.e. for seeds in areas subject to bushfires)

- When sowing seeds, you should ensure that suitable potting mix is used.
- Potting mix should demonstrate the following features:
 - Drains freely
 - Retains water
 - Sterilised, pasteurised or treated with fungicide
 - Well aerated

Propagating from cuttings

- When propagating from cuttings, you should undertake the following steps:
 - Ensure the bench and tools are clean before commencing work
 - Ensure your secateurs are sharp and cleaned using bleach
 - Take suitable stem material and cut cleanly below the node
 - The section should have at least three or four nodes present
 - Some propagators avoid plant materials that have buds/flowers as some buds/flowers use the energy that the cutting needs to form roots
 - Remove the leaves from the bottom third of the cutting with secateurs or pulling them off upwards
 - Dip the bottom of the cutting into hormone treatment
 - Make holes in the potting mix, to ensure the hormone treatment is not wiped off when putting the cuttings into the potting mix
 - Firm the cutting into place with your fingers
 - Label the first container and water the cuttings

- Irrespective of the propagation method, you should ensure that propagation material is maintained and stored to maximise viability.
 - You should maintain environmental parameters and temperature controls.
- For example:
 - Place cut stems in a bucket of water
 - Wrap plant material in damp newspaper
 - Store seeds appropriately in one of the following ways:
 - In an open, aerated packet
 - In a dry, open jar
 - In a cool, dark area

- Up until a new plant has become fully established, you should maintain and monitor its health, and undertake any required remedial action, such as:
 - Applying water and nutrients to suit the media conditions, plant requirements and propagation technique(s) employed
 - Monitoring the amount of light and moisture the plant receives
 - Pruning the plant according to the desired shape
 - Removing dropped leaves as soon as they are noticed
 - This will keep fungus from spreading to healthy plants
 - Pot on

- Propagated plans should be labelled with the following information:
 - Date the cutting was taken
 - Name of the plant
- Records must also be kept for propagated plant material, including:
 - Number of cuttings
 - Type of medium used
 - Type of hormone(s) used

Record your findings on appropriate paperwork, as provided by your organisation.
Record your findings clearly, being mindful of people's varying backgrounds and abilities.

- As part of completing propagation activities, you are required to complete the following practices:
 - Maintain, clean and store tools and equipment according to manufacturer's specifications
 - Report faults that are discovered
 - Dispose of materials that cannot be reused or recycled
 - Ensure that you follow the organisation's requirements for handling and disposing of nursery waste