

Vocational Education and Training **Horticultural Certificate 2**

(Core units and selected elective units)

Student Manual

AHC20410 Cert 2 in Horticulture



Working with Nursery Plants

Section Five **Nursery Plant Propagation**



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SECTION 5 - NURSERY PLANT PROPAGATION

WHAT OUTCOME CAN YOU EXPECT FROM THIS SECTION

This unit covers the process of undertaking propagation activities and defines the standard required to: collect and maintain suitable plant material; apply a range of propagation techniques; maintain and monitor propagated plants; maintain plant hygiene.

SECTION LEARNING OBJECTIVES

On completion of this section you will learn:

- ★ How to prepare for plant propagation
- ★ How to propagate plants
- ★ How to complete propagation activities

SECTION INTRODUCTION

You may need to be able to undertake propagation activities in wholesale or retail nursery work, growers or when doing revegetation or landscaping. You may be doing ranger work, working for the council or managing an estate.

You might want to propagate plants (rather than buying them) for a number of reasons, such as flora and fauna conservation, cost, local conditions, education or simply for pleasure.



PLANT PROPAGATION PREPARATION

Your supervisor is responsible for providing you with instructions on the potting up of plants. These instructions must be read carefully and clarified before you begin. Always ask questions if you need to. These instructions should be in accordance with enterprise work procedures.

Identify any associated hazards by performing an WH&S inspection prior to beginning work.

Hazards associated with the potting up of plants may include:

- ★ Chemicals
- ★ Sharp hand tools
- ★ UV radiation
- ★ Cuts and abrasions from plants
- ★ Airborne bacteria from potting mix

Hazards should be reported to your supervisor and control measures put in place to reduce the risk of injury and accident to yourself and those around you. Once these are in place and the operation has been deemed safe, you may begin work.



You must always select the right tools for the job to limit the risk of accident and injury.

This equipment should be well maintained and checked regularly. Make sure there are no faults in the equipment before you begin and use only as specified in the manufacturer's guidelines. If you notice any faults or damage, report these to your supervisor immediately and do not use the equipment.

Some equipment may include:

- ★ A range of seeds and parent plants to take cuttings from or divide up
- ★ Secateurs
- ★ Spade
- ★ Fork
- ★ Trowel
- ★ Pots/ Trays
- ★ Potting Mix
- ★ Labels
- ★ Pencil
- ★ Rubbish bin
- ★ Fertiliser
- ★ Hose

Always ensure you have the tools, equipment and materials you will need on hand before beginning the job to limit lost time and productivity.



Personal Protective Equipment should be worn at all times while potting up plants. This will be determined according to enterprise guidelines but may include:

- ★ Long trousers and/or long sleeved shirt
- ★ Hat/sunscreen/sunglasses
- ★ Dust mask
- ★ Boots
- ★ Gloves
- ★ Insect repellent

Propagation can be performed in a variety of ways and the method you use will be determined by enterprise guidelines and the species of the plant you are working with. The most common methods are by seed, or by taking cuttings. Remember to always seek permission before taking cuttings.

Seeds and cuttings should be stored correctly. For cuttings, place in water or wrap in wet newspaper and store in a cool, dry place. Seeds should be packaged according to enterprise guidelines and stored in a cool, dry place away from direct sunlight, such as an air conditioned room. When stored correctly, seeds can be kept for several years.



NURSERY PLANT PROPAGATION

Cuttings and seeds need to be treated before propagation.

Seed treatments mimic natural processes and may include:

- ★ Soaking seeds in hot or cold water over night, depending on species
- ★ Scarification - scratching with sandpaper, a file or secateurs
- ★ Smoking - exposure to smoke, smoke-water or fire
- ★ Fermentation - some fruits can be broken down in water over several weeks
- ★ Flesh removal - remove flesh by hand to release the seed
- ★ Animal Droppings - some seeds need to pass through the gut of an animal to germinate

Cuttings should have leaves from the bottom half of the cutting removed with the remaining leaves cut in half to reduce water loss.

They should be wrapped in wet newspaper or kept in water.



To plant seeds you may use germination trays:

- ★ Place potting mix in tray
- ★ Gently shake tray to settle the mix
- ★ Sprinkle the seeds over the mix, then cover with another fine layer of mix
- ★ Don't scatter the seeds too close together or the resulting plants will be weak
- ★ Moisten the mix, but don't let it become waterlogged
- ★ Keep in filtered sunlight
- ★ Remove weaker seedlings as they grow



To plant cuttings:

- ★ Soak in weak bleach solution for one minute before planting to reduce disease
- ★ Fill pot or tube with potting mix and make holes 2cm apart with a dibble stick (or ice cream stick)
- ★ Use a root hormone mix as per manufacturer's instructions
- ★ Place, do not push, the cuttings into the holes. Pushing may break the cutting and damage the roots
- ★ Gently press the mix around the cuttings and water so the mix is moist but not saturated
- ★ Transplant to individual pots once roots can be seen through the bottom of the container

Different species will require different levels of water and will have different nutrition requirements. Enterprise guidelines will specify the way in which each plant should be treated in this regard, but it is important to maintain water to the plant without over watering and causing rot.



Enterprise guidelines will dictate the correct labelling technique, but as a general rule, provide information such as the type of plant and when it was replanted.

This will assist in monitoring the plants. Always keep a log of the development of your plants, including any health risks and remedial action taken to assist in plant growth.

Potting mix can be dangerous, spreading disease through physical contact and through dust particles in the air. Always wear a dust mask when dealing with potting mix and wash your hands thoroughly after use, even if you were wearing gloves.



WORK AREA HOUSEKEEPING

There are many reasons to keep a clean and tidy work area. Dirty and messy work areas are a safety risk and can also help spread diseases. Clean and store your tool in accordance with enterprise guidelines.

Benches should be cleared and washed with a disinfectant or diluted bleach. Floors should be swept and waste, such as spilled potting mix, disposed of in an environmentally friendly way. This may include recycling the left over materials. Inorganic waste that cannot be recycled should be taken to an authorised landfill site.

Records of propagation should be kept up to date and plants labelled appropriately. This will ensure all personnel are aware of the development stage of each plant. Make sure you fill in any records as soon as you have finished planting.

SECTION SUMMARY

There are some dangers associated with propagating plants and it is important to be aware of these dangers. However, by following the correct procedures and hygiene standards you can avoid illness and danger to both yourself and the plants that you care for.

SELF ASSESSMENT

At the end of each section you, the student, are asked a series of YES and NO questions. If any question is unclear or you have answered NO, then you are encouraged to review the materials in that section again.

SECTION FIVE

NURSERY PLANT PROPAGATION

Do you remember how to store seeds and cuttings as well as some of the tools that will be necessary in plant propagation?

Can you recall what the following seed treatments involve:

- Soaking?
- Scarification?
- Smoking?
- Fermentation?
- Flesh Removal?
- Animal Droppings?

STUDENT NOTES

