



Module Descriptor

Plant Propagation

Award Type: Minor
Award Level: 3
Award Code: 3N0569
FÁS Assessment Code: 3N0569-015
Validation Date: 14th July 2011

Revision 3.0

Module Descriptor

Purpose: The purpose of this module is to equip the learner with the relevant knowledge, skill and competence to understand basic plant science and growing media principles and to apply a range of propagation techniques under supervision.

Module Duration: The learning effort required from a typical learner to successfully achieve the stated learning outcomes for the module is **50 (fifty) hours**.

Learning Outcomes: By the end of this module, the learner will be able to:

1. Identify the tools, materials and equipment used in the propagation of plants
2. Describe the life cycle of a limited range of plants
3. Explain the effect of temperature, water and nutrients on the propagation of plants
4. Identify examples of a range of cutting material suitable for propagation purposes
5. Select cuttings from softwood, hardwood, semi-hardwood, herbaceous, nodal, intermodal, heeled, mallet, leaf and root material
6. Use appropriate techniques and materials to insert cuttings in a rooting medium
7. Demonstrate correctly the techniques of layering and division
8. Use appropriate techniques and materials to sow a selection of seeds indoors or outdoors
9. Apply appropriate health, safety and personal hygiene procedures when working in a horticultural environment
10. Maintain standards of quality in a horticultural environment
11. Communicate effectively in a horticultural environment
12. Operate effectively as a member of a team within a horticultural environment

Key Learning Points

Learning Outcome 1:

Identify the tools, materials and equipment used in the propagation of plants

Key Learning Points

- Common propagation techniques
- Tools used in the propagation of plants
- Application of tools to propagation tasks
- Materials used in plant propagation
- Application of appropriate materials to propagation tasks
- Storage of materials
- Equipment used in plant propagation
- Application of equipment to propagation tasks
- Storage and maintenance of tools and equipment

Learning Outcome 2:

Describe the life cycle of a limited range of plants

Key Learning Points

- The life cycle of a plant
- Key stages in the life cycle of a plant
- The key factors influencing a plants life cycle
- Impact of life cycle of plants on production of plants

Learning Outcome 3:

Explain the effect of temperature, water and nutrients on the propagation of plants

Key Learning Points

- Effect of temperature on the propagation of plants
- Effect of water on the propagation of plants
- Effect of nutrients on the propagation of plants

Learning Outcome 4:

Identify examples of a range of cutting material suitable for propagation purposes

Key Learning Points

- Sources of cutting materials
- Factors for consideration when taking cuttings
- When to take cuttings
- Describe procedures involved in taking specific types of cuttings

Learning Outcome 5:

Select cuttings from softwood, hardwood, semi-hardwood, herbaceous, nodal, intermodal, heeled, mallet, leaf and root material

Key Learning Points

- Identifying healthy cutting material
- Taking cuttings without affecting plant quality and profile
- Selecting examples of cuttings suitable for propagation to include softwoods, hardwood, semi-hardwood, herbaceous, nodal, intermodal, heeled, mallet, leaf and root
- Interim storage of cutting material
- Following verbal and written instructions

Learning Outcome 6:

Use appropriate techniques and materials to insert cuttings in a rooting medium

Key Learning Points

- Appropriate techniques for propagation of a range of cutting material to include softwoods, hardwood, semi-hardwood, herbaceous, leaf and root
- Use of appropriate tools
- Use of appropriate materials
- Preparation of cutting for planting
- Preparation of appropriate rooting medium
- Inserting prepared cuttings in a rooting medium
- Ensuring correct labelling
- Ensuring cuttings are maintained in an appropriate environment
- Ensuring cuttings receive adequate nutrients
- Ensuring quality of work carried out

Learning Outcome 7:

Demonstrate correctly the technique of layering and division.

Key Learning Points

- Following verbal and written instructions
- Layering technique
- Division technique
- Identifying when the layering technique is appropriate
- Identifying when the division technique is appropriate
- Using the layering and division technique

Learning Outcome 8:

Use appropriate techniques and materials to sow a selection of seeds indoors and outdoors.

Key Learning Points

- Factors that affect germination to include water, temperature, air and light
- Using appropriate techniques, to include sowing in open ground (e.g. lawns) or in seed trays
- Selecting appropriate materials to include well cultivated soil for open ground sowing, clean container with correct growing medium for containers
- Sowing seeds to include annuals, biennials, perennials, vegetables and grass to the correct depth and taking into account whether seed needs to be covered by soil or left on surface to germinate
- Sowing seeds indoors and outdoors, choosing appropriate season and temperatures
- Transplanting seedlings into growing position at correct size
- Labelling work correctly
- Following verbal and written instructions

Learning Outcome 9:

Apply appropriate health, safety and personal hygiene procedures when working in an horticultural environment

Key Learning Points

- Explaining 'Personal Protective Equipment' (PPE)
- Examples of PPE used in horticulture
- Listing items of PPE used in horticulture
- Stating the functions of each PPE verbally or in writing
- Hazards associated with plant propagation
- Safety precautions to be taken before propagating plants
- Applying safety precautions when propagating plants
- Identify location for the First Aid unit
- Listing materials in a First Aid box
- Applying health and safety practices appropriate to a horticultural work environment
- Recording health and safety precautions procedures
- Identifying potential health and safety hazards in a horticulture environment
- Reporting health, safety and welfare hazards
- Health and safety considerations when using horticultural materials and equipment

Learning Outcome 10:

Maintain standards of quality in a horticultural environment.

Key Learning Points

- Applying horticultural hygiene standards and procedures
- Maintaining horticultural standards and procedures
- Listening to and following instructions
- Personal hygiene standards
- Maintaining personal hygiene standards
- Wearing correct protective clothing when working in a horticultural work environment
- Recording personal hygiene procedures
- Reflecting on own strengths and weaknesses
- Identifying areas for improvement

Learning Outcome 11:

Communicate effectively in a horticultural environment.

Key Learning Points

- Greeting people
- Speaking and listening
- Knowledge of vocational language
- Listening and responding appropriately to verbal instructions
- Reading and writing to obtain and convey information
- Explaining a range plant propagation techniques

Learning Outcome 12:

Operate effectively as a member of a team within a horticultural environment

Key Learning Points

- Listening and responding to others
- Reflecting on own strengths and weaknesses and identifying areas for improvement
- Ability to work independently if required
- Participating in a team

Assessment Specification

Award Title	Plant Propagation
Award Type	Minor
FÁS Assessment Code	3N0569-015
Credit Value	5
Award Code	3N0569

Unit Learning Outcome	Performance Criteria (Knowledge, Skill & Competence)	Assessment Techniques	Weighting	Assessment Instrument	Assessment Evidence
L01	Knowledge	Portfolio	2%	Exercise E1	Exercise Sheet
L02	Knowledge	Portfolio	1%	Exercise E2	Exercise Sheet
L03	Knowledge	Portfolio	1%	Exercise E2	Exercise Sheet
L04	Knowledge	Portfolio	2%	Exercise E3	Exercise Sheet
L05	Skill	Skills Demonstration	20%	Learners Instructions S1	Assessment Sheet
L06	Skill	Skills Demonstration	28%	Learners Instructions S1	Assessment Sheet
L07	Skill	Skills Demonstration	25%	Learners Instructions S1	Assessment Sheet
L08	Skill	Portfolio	6%	Exercise E4	Teamwork Exercise
L09	Skill	Skills Demonstration	7%	Learners Instructions S1	Assessment Sheet
L09	Skill	Portfolio	2%	Exercise E4	Teamwork Exercise
L10	Competence	Portfolio	2%	Activity A1	Reflection Sheet
L10	Competence	Portfolio	2%	Activity A2	Reflection Sheet
L11	Competence	Portfolio	1%	Exercise E4	Teamwork Exercise
L12	Competence	Portfolio	1%	Exercise E4	Teamwork Exercise

Suggested Learning Methodologies

- Practical work training
- Videos / DVDs
- Note Taking
- Discussion groups
- Activities and exercises
- Role play
- Simulated work environment

Specific Module Requirements

The following is a recommended list. The list is not definitive as some of the items listed may not be essential in order to run the course. Items other than those listed may also be acquired for the course at the discretion of the Manager

Pruning, trimming and cutting tools, cultivating, raking and planting tools, gloves, bucket, grass seed, rake, weighing scales, sharp clean penknife & secateurs, fresh and disease free plant material, compost mix, rooting hormone, clean trays, labels and warm-bench

Suggested Learning Resources

Generic Skills: Literacy and Numeracy

The learners will keep and maintain a [Learning Diary](#) throughout the course in order to record and file any useful and relevant information on any aspect of Plant Propagation.

At the end of every week the learners will complete a short [Weekly Reflective Sheet](#) in order to reflect on their learning and progress during that week.

This Weekly Reflective Sheet will assist the learners to develop their generic skills of literacy, numeracy, communications and quality awareness and will give learners an opportunity to develop their writing skills.

The Learning Diary can be used as a reference for the learner when filling out the Mid Course and End of Course reflections; Activity 1 and Activity 2.

The learners will create a [Personal Dictionary](#) of new words, key words and terms relating to Plant Propagation. This Dictionary will be updated each week and kept in the Learning Diary.

The learners, as a group, will add words and terms relating to Plant Propagation to a [Key Word and Terminology Bank](#). The learners will find words listed in text books, class notes, DVDs and internet websites etc.

The learners will complete a [Word Search](#). When the learners have gained sufficient practice and experience at word searches, each learner will make up 1 (one) Word Search/Quiz which will be completed by the group.

Learners will refer to [Using a Mathematical Glossary](#) and identify the symbols relevant to Plant Propagation.

Generic Skill: Teamwork and Communications

Learners will discuss the importance of teamwork with the instructor using the [Teamwork Guide](#).

Learners will take part in a [Teamwork Exercise](#) by designing, planning and carrying out a project which will incorporate group discussions.

The learners will complete the [Team Review Sheet](#) after completing the Teamwork exercise.

Recommended by: _____
Manager Training Policy Development and Support

Approved by: _____
Director Training Policy Development and Support