



National Unit specification: general information

Unit title: Plant Propagation (SCQF level 4)

Unit code: H1YK 10

Superclass: SE

Publication date: October 2012

Source: Scottish Qualifications Authority

Version: 02

Summary

This Unit introduces candidates to methods commonly used to propagate plants. Candidates will develop knowledge of the advantages and limitations of a range of propagation methods and the most appropriate propagation method to use for a selected plant in order to produce a crop of plants. Candidates will also gain practical experience of the propagation methods. This Unit is aimed at candidates with little or no experience of plant propagation, from 16+ candidates to mature learners. This is an optional Unit in the National Certificate in Horticulture at SCQF level 4. It is also suitable for use as a free-standing Unit.

Outcomes

- 1 Describe plant propagation methods and the advantages and limitations of selected methods.
- 2 Propagate and provide aftercare for a crop of plants from seed.
- 3 Propagate and provide aftercare for a crop of plants using the vegetative method.

Recommended entry

The candidate will have little or no knowledge of horticulture before starting this unit but should have an interest in how plants develop and grow.

Credit points and level

1 National Unit credit at SCQF level 4 (6 SCQF credit points at SCQF level 4*).

**SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

General information (cont)

Unit title: Plant Propagation (SCQF level 4)

Core Skills

Achievement of this Unit gives automatic certification of the following Core Skills component:

Complete Core Skill None

Core Skill component Critical Thinking at SCQF level 3

There are also opportunities to develop aspects of Core Skills which are highlighted in the Support Notes of this Unit specification.

National Unit specification: statement of standards

Unit title: Plant Propagation (SCQF level 4)

Acceptable performance in this Unit will be the satisfactory achievement of the standards set out in this part of the Unit specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

Outcome 1

Describe plant propagation methods and the advantages and limitations of selected methods.

Performance Criteria

- (a) Describe the main plant propagation methods.
- (b) Describe the advantages and limitations of the seed propagation method.
- (c) Describe the advantages and limitations of the vegetative propagation method.
- (d) Identify resources required for the propagation of plants.

Outcome 2

Propagate and provide aftercare for a crop of plants from seed.

Performance Criteria

- (a) Gather and prepare resources for seed sowing.
- (b) Sow seed according to instructions.
- (c) Prick off or thin out seedlings.
- (d) Carry out aftercare tasks for enhancing the growth of seedlings.

Outcome 3

Propagate and provide aftercare for plants using the vegetative method.

Performance Criteria

- (a) Gather and prepare resources for vegetative propagation.
- (b) Select appropriate plant material.
- (c) Propagate plants using the vegetative method.
- (d) Carry out aftercare tasks for enhancing the growth of plants.

National Unit specification: statement of standards (cont)

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Evidence Requirements for this Unit

Evidence is required to demonstrate that candidates have achieved all Outcomes and Performance Criteria.

- Outcome 1 Written, oral or recorded evidence which includes:
- ◆ a description of five methods used to propagate plants, which includes:
 - stem tip cuttings, root cuttings, leaf cuttings, hardwood cuttings and division
 - ◆ two advantages and one limitation of seed propagation
 - ◆ two advantages and one limitation of vegetative propagation
 - ◆ identification of resources required for the effective propagation of plants, including healthy stock plants, viable seed, clean tools, suitable growing medium
- Outcome 2 Performance evidence, supported by a practical skills checklist, to include:
- ◆ collection and preparation of resources required for the effective sowing of seed
 - ◆ sowing the seed according to instructions, using appropriate methods for the chosen crop
 - ◆ pricking out or thinning out the resulting seedlings including handling, spacing and watering
 - ◆ carrying out aftercare tasks to include: watering, disease control and environmental control
- Outcome 3 Performance evidence, supported by a practical skills checklist, to include:
- ◆ the collection and preparation of resources required for effective vegetative propagation
 - ◆ the selection of healthy plant material for 12 cuttings
 - ◆ propagation of the plant material, using the most suitable vegetative propagation method
 - ◆ the maintenance of the cuttings' health after propagation, to include:
 - watering, disease control and environment control

National Unit specification: support notes

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This part of the Unit specification is offered as guidance. The support notes are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 40 hours.

Guidance on the content and context for this Unit

This Unit is aligned to the following LANTRA National Occupational Standards (NOS).

Unit CU63	Assist with the vegetative propagation of plants
Element CU63.1	Assist with collecting propagation material
Element CU63.2	Assist with preparing propagation material
Element CU63.3	Assist with establishing propagation material in a growing environment

Unit CU64	Assist with the propagation of plants from seeds
Element CU64.1	Assist with preparing for propagation from seed
Element CU64.2	Assist with sowing seed

This Unit is intended to introduce candidates to plant propagation involving the development of basic horticultural skills. Candidates will be introduced to a range of commonly used plant propagation methods and will become competent in two.

Guidance on learning and teaching approaches for this Unit

This Unit is intended for inexperienced candidates and care should be taken to present learning in a manner which is appropriate for the candidate group. The plants selected for propagation will be appropriate for the candidate group, the vegetative propagation method selected and the time of year. Delivery of this Unit should be approached as a practical project. Seed sowing in Outcome 2 could be indoors in seed trays, producing bedding or houseplants or outdoors in seed drills, using a vegetable crop. Broadcast seed sowing could also be used for this activity. This Unit could for example be delivered in conjunction with an enterprise project where the resulting plants could be sold. This approach will encourage teamwork and help to develop Core Skills.

Candidates will develop knowledge and skills in the industry methods of plant propagation which should enhance their awareness of sustainability issues.

There may be opportunities to sell items which should encourage enterprise.

Employability may be enhanced because of increased knowledge and skills about the horticultural industry.

Citizenship may be encouraged by candidate awareness of the contribution plants can make to the quality of a variety of environments.

National Unit specification: support notes (cont)

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Guidance on approaches to assessment for this Unit

- Outcome 1 A portfolio covering the Evidence Requirements would suit this Outcome. The candidates will provide evidence of understanding the advantages and limitations of propagation methods including that all vegetative offspring are clones and are therefore susceptible to any abnormality or virus carried by the parent. The candidate will also provide evidence of understanding that plants produced from seed will show individuality. The portfolio will summarise the following propagation methods: Stem tip cuttings, root cuttings, leaf cuttings, hardwood cuttings and division
- Outcome 2 An observation checklist which records the practical activities carried out by each candidate and includes evidence of their ability to demonstrate competence.
Activities which are carried out to provide evidence for PCs (c) and (d) may be recorded in a separate checklist or alternatively one checklist may be used to record evidence for all the PCs in this Outcome
- Outcome 3 A practical activity, which is supported by an observation checklist to record all of the performance evidence, is recommended for this Outcome.

Opportunities for the use of e-assessment

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or social software. Centres which wish to use e-assessment must ensure that the national standard is applied to all candidate evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. Further advice is available in *SQA Guidelines on Online Assessment for Further Education (AA1641, March 2003)*, *SQA Guidelines on e-assessment for Schools (BD2625, June 2005)*.

Opportunities for developing Core Skills

In this Unit candidates will develop knowledge of the advantages and limitations of a range of propagation methods and the most appropriate propagation method to use for a selected plant in order to produce a crop of plants:

- ◆ candidates will describe propagation methods
- ◆ work with others under supervision
- ◆ consider methods of propagation for the advantages and limitations of each
- ◆ construct a portfolio which may be electronic in nature
- ◆ carry out practical activities according to instructions
- ◆ select a correct method of propagation which involves decision making and critical thinking
- ◆ provide aftercare

By doing these tasks, candidates will develop *Core Skills* in the following areas — *Communication, Problem Solving, Working with Others* and *ICT*

National Unit specification: support notes (cont)

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This Unit has the Critical Thinking component of Problem Solving embedded in it. This means that when candidates achieve the Unit, their Core Skills profile will also be updated to show they have achieved Critical Thinking at SCQF level 3.

Disabled candidates and/or those with additional support needs

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website www.sqa.org.uk/assessmentarrangements

History of changes to Unit

Version	Description of change	Date
02	Core Skills Component Critical Thinking at SCQF level 3 embedded.	08/10/2012

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