



Higher National Unit specification

General information for centres

Unit title: Crop Production Practices

Unit code: F1J4 35

Unit purpose: This Unit aims to develop candidate skills in the practical production of commercial horticultural crops. This Unit is intended to be taught along with level 8 production Units like *Protected Crop Production* and *Container Production of Hardy Ornamental Nursery Stock* that will cover the principles of crop production. Candidates will undertake the propagation, growing and on harvesting of a range of protected and container grown crops, depending on the other Units being taken.

On completion of the Unit the candidate should be able to:

- 1 Propagate selected crops to be grown on under protection or in containers.
- 2 Grow on selected crops of protected and/or container grown plants to the point of sale.
- 3 Harvest and grade to specification selected crops grown under protection or in containers.

Credit points and level: 1 HN credit at SCQF level 8: (8 SCQF credit points at SCQF level 8*)

**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.*

Recommended prior knowledge and skills: Prior knowledge and/or skills are essential for this Unit. Candidates would require to have had practical experience in plant propagation and potting, pruning and growing on of plants. This could be through work experience or the completion of Units like *Horticulture Practices*. Candidates should also undertake, prior to or at the same time, level 8 horticulture production Units.

Core Skills: There may be opportunities to develop the Core Skill of *Problem Solving* at SCQF level 6 in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

Context for delivery: If this Unit is delivered as part of a Group Award, it is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes.

Assessment: The assessment of this Unit should be undertaken by candidates growing at least three different crops and recording what is undertaken and the reasons for the practical undertaken. While candidates must undertake the practical growing of the crops they must show knowledge of what and why they are undertaking the husbandry practices undertaken.

General information for centres (cont)

The recording could be done in the form of a diary with additional information about the theory behind the practice being added to produce a detailed report summarising the production of each crop.

Higher National Unit specification: statement of standards

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The sections of the Unit stating the Outcomes, Knowledge and/or Skills, and Evidence Requirements are mandatory.

Where evidence for Outcomes is assessed on a sample basis, the whole of the content listed in the Knowledge and/or Skills section must be taught and available for assessment. Candidates should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

Outcome 1

Propagate selected crops to be grown on under protection or in containers

Knowledge and/or Skills

- ◆ Edible and non-edible Protected Crops
- ◆ Hardy ornamental nursery stock
- ◆ Methods of propagation of crops from seed
- ◆ Methods of propagation of crops by vegetative means
- ◆ All relevant Health and Safety requirements

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can:

- ◆ propagate three selected crops and explain the reasons for the methods used
- ◆ comply with all relevant Health and Safety requirements

Assessment Guidelines

This Outcome could be assessed as part of the practical production of selected edible and non-edible protected crops and hardy ornamental nursery stock. Students must undertake the practical work but will be assessed in the form of a detailed summary of the work undertaken on each crop and the reasons for what is carried out.

Outcome 2

Grow on selected crops of protected and/or container grown plants to the point of sale

Knowledge and/or Skills

- ◆ Preparation of growing area and growing media
- ◆ Preparation of irrigation and feeding systems
- ◆ Required stages for potting on or planting out crops
- ◆ Crop husbandry practices
- ◆ Remedial action for pests and diseases
- ◆ All relevant Health and Safety requirements

Higher National Unit specification: statement of standards (cont)

Unit title: Crop Production Practices

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can:

- ◆ prepare the growing on area
- ◆ prepare the growing media for each crop
- ◆ prepare the irrigation and feeding system for each crop
- ◆ pot on or plant out each crop at the required stages
- ◆ carry out husbandry practices as required for each crop
- ◆ monitor pest and diseases and recommend remedial action as required
- ◆ grow on to harvest or saleable stage three selected crops following their propagation
- ◆ comply with all relevant Health and Safety requirements

Assessment Guidelines

This Outcome could be assessed as part of the practical production of a range of edible and non-edible protected crops and hardy ornamental nursery stock. Students must undertake the practical work but will be assessed in the form of a detailed summary of the work undertaken on each crop and the reasons for what is carried out.

Outcome 3

Harvest and grade to specification selected crops grown under protection or in containers

Knowledge and/or Skills

- ◆ Harvesting crops
- ◆ Grading crops
- ◆ Preparation of crops for sale
- ◆ All relevant Health and Safety requirements

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can:

- ◆ grade and prepare for market a range of produce or plants grown under protection or in pots
- ◆ comply with all relevant Health and Safety requirements

Assessment Guidelines

This Outcome could be assessed as part of the practical production of a range of edible and non-edible protected crops and hardy ornamental nursery stock. Students must undertake the practical work but will be assessed in the form of a detailed summary kept of the work undertaken on each crop and the reasons for what is carried out. A photographic record, for example could be prepared by the students to show grading and preparation for market.

Administrative Information

Unit code: F1J4 35
Unit title: Crop Production Practices
Superclass category: SD
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Version	Description of change	Date

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Higher National Unit specification: support notes

Unit title: Crop Production Practices

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

The aim of this Unit is for candidates to participate in the production of protected and/or container grown plants. The crops selected for production should come from edible protected crops, non-edible protected crops and/or hardy ornamental nursery stock production. The actual crop selection should be linked to other crop production Units taken. Protected edible crops that could be grown include: tomatoes, cucumbers, peppers, lettuce, strawberries or raspberries. Protected non-edible crops could include: chrysanthemums, alstroemeria or daffodils as cut flowers, pot plants like pot chrysanthemums or poinsettia. Hardy ornamental nursery stock could be relatively short term crops like herbaceous perennials or alpines or longer term shrub or tree crops where candidates are able to be involved with crops at different stages of production. If candidates are studying both protected crop production and HONS then the selected crops should come from each group (edible, non-edible and HONS).

Crop production should be carried out in as near commercial conditions as possible although it is recognised that facilities available may not be the most up to date or specific for each crop. It is recommended that visits to growers are also undertaken to see at least some of the crops growing in a commercial scale.

Outcome 1 should involve students in the initial stage of starting the crops. This will be sowing seed for at least one of the crops into appropriate media and giving them the appropriate environment for rapid germination and strong growth. An appropriate vegetative method of propagation will be used for at least one other crop. This could be actual propagation such as cuttings, grafting or division, or using vegetative propagules of suitable quality, for example bulbs, runners or canes.

Outcome 2 should involve students in growing on each crop to its marketable stage. This would include preparing the growing on area, planting out the propagules as required into the next stage of production, applying appropriate irrigation and feed, maintaining the appropriate environments and training the crop to produce the appropriate growth. Pest, disease and other problems affecting growth should be monitored and recommendations made for their remediation.

Outcome 3 should involve students in harvesting the crop at the appropriate stage of growth, grading the crop correctly and packaging or preparing the crop for its market as appropriate.

Guidance on the delivery and assessment of this Unit

This Unit is designed to support other level 8 horticulture production Units. It is to give candidates hands on experience of growing some of the crops they will study in the production Units, experience the management of crops and the problems of implementing the theory learnt. Under supervision candidates should be encouraged to make their own decisions on what and when different husbandry should be undertaken and they should be responsible for monitoring growth and recommending solutions if growth problems occur.

Higher National Unit specification: support notes (cont)

Unit title: Crop Production Practices

The selected crops to be grown should reflect the facilities available although allowances need to be made for limitations in facilities compared to specialist producers. Limitations in facilities would be reduced by arranging for visits to commercial growers of the crops being produced, where feasible.

Although candidates are required to grow three crops, ideally more than this number should be produced to give the candidates as wide an experience in managing crop production as possible. Although the scale of actual production may be small, it should reflect as closely as possible, given the available facilities, up to date commercial practice.

Assessment should be through candidates recording what they do and the reasons for the practicals undertaken. The actual assessment could be in the form of a report or a written or oral assessment to assess their understanding of the reasons for undertaking the practical's carried out.

References that could be used include:

- ◆ Bell Redbook: '*Greenhouse Growing*', 16th Edition. Edited by Vic Ball
- ◆ '*Grower Guides: various for edible and non-edible protected crops*'
- ◆ '*Tomatoes. Crop Production Science in Horticulture 13*', Edited by E.Heuvelink
- ◆ '*Grower Manual 1: Nursery Stock Manual*', Keith Lamb, James Kelly, Peter Bowvrick
- ◆ '*The International Plant Propagators Society Combined Proceedings*
- ◆ '*Practical Woody Plant Propagation for Nursery Growers*', Bruce Macdonald
- ◆ '*Horticultural Trades Association National Plant Specification*' (August 2002)

In addition relevant web sites should be identified, for example Royal Van Zanten flower breeders who provide grower guides for cut flowers.

Opportunities for developing Core Skills

There may be opportunities to develop the Core Skill of *Problem Solving* at SCQF level 6 in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

Open learning

Elements of this Unit could be delivered by distance or flexible learning, although it would be beneficial for the candidate to attend the centre for supervised assessment, this could be done in off-centre locations with appropriate arrangement.

Candidates with disabilities and/or additional support needs

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering alternative Outcomes for Units. Further advice can be found in the SQA document *Guidance on Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs* (www.sqa.org.uk).

General information for candidates

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This Unit is designed to give you hands on experience of growing crops, experience the management of crops and the problems of implementing the theory learnt. Under supervision you will be encouraged to make your own decisions on what and when different husbandry should be undertaken and be responsible for monitoring growth and recommending solutions if growth problems occur.

On completion of this Unit you should be able to:

- 1 Propagate selected crops to be grown on under protection or in containers.
- 2 Grow on selected crops of protected and/or container grown plants to the point of sale.
- 3 Harvest and grade to specification selected crops grown under protection or in containers.

You will be assessed in this Unit by observation of your practical activities and by recorded evidence of the tasks undertaken and the reasons why you carried it out.