



## Higher National Unit specification

### General information

**Unit title:** Hardy Ornamental Nursery Stock (SCQF level 8)

**Unit code:** H7B6 35

**Superclass:** SD

**Publication date:** July 2014

**Source:** Scottish Qualifications Authority

**Version:** 01

### Unit purpose

This Unit aims to introduce the learner to the production of Hardy Ornamental Nursery Stock (HONS). Learners will gain an understanding of the different markets for HONS, how they have developed and the influences that affect demand for these plants. Learners will also gain an understanding of what is involved in producing a range of species and to plan their production.

This Unit is suitable for those who wish to pursue a career within the horticulture industry.

### Outcomes

On successful completion of the Unit the learner will be able to:

- 1 Evaluate demand for Hardy Ornamental Nursery Stock.
- 2 Prepare a propagation schedule for a range of Hardy Ornamental Nursery Stock.
- 3 Prepare a production plan for growing on Hardy Ornamental Nursery Stock.

### Credit points and level

1 Higher National Unit credit at SCQF level 8: (8 SCQF credit points at SCQF level 8)

### Recommended entry to the Unit

Entry to this Unit is at the discretion of the delivering centre, there is no essential prior knowledge or skills however learners would benefit from experience in plant propagation and potting, pruning and growing on plants. This could be through work experience or completion of Higher National Units such as *Horticulture Practices* or equivalent.

## **Higher National Unit specification: General information (cont)**

**Unit title:** Hardy Ornamental Nursery Stock (SCQF level 8)

### **Core Skills**

Opportunities to develop aspects of Core Skills are highlighted in the Support Notes for this Unit specification.

There is no automatic certification of Core Skills or Core Skill components in this Unit.

### **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.

### **Equality and inclusion**

This Unit specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence.

Further advice can be found on our website [www.sqa.org.uk/assessmentarrangements](http://www.sqa.org.uk/assessmentarrangements).

## **Higher National Unit specification: Statement of standards**

**Unit title:** Hardy Ornamental Nursery Stock (SCQF level 8)

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**

Evaluate demand for Hardy Ornamental Nursery Stock.

#### **Knowledge and/or Skills**

- ◆ Major markets for HONS
- ◆ Factors that influence demand
- ◆ Quality standards and specifications
- ◆ Role of Plant Passports

### **Outcome 2**

Prepare a propagation schedule for a range of Hardy Ornamental Nursery Stock.

#### **Knowledge and/or Skills**

- ◆ Main methods of propagation used for HONS
- ◆ Scheduling of propagation of plants
- ◆ Provision of quality propagules

### **Outcome 3**

Prepare a production plan for growing on Hardy Ornamental Nursery Stock.

#### **Knowledge and/or Skills**

- ◆ Substrates used for HONS production
- ◆ Irrigation of crops
- ◆ Use of protective structures
- ◆ Major pest problems
- ◆ Formative pruning

## Higher National Unit specification: Statement of standards (cont)

**Unit title:** Hardy Ornamental Nursery Stock (SCQF level 8)

### Evidence Requirements for this Unit

Learners will need to provide evidence to demonstrate their Knowledge and/or Skills across all Outcomes by showing that they can:

For **Outcome 1**:

Evaluate the markets for a given group of HONS with reference to:

- ◆ Factors that influence demand
- ◆ Amenity and retail markets
- ◆ Quality standards and specifications
- ◆ Plant passports

For **Outcome 2**:

- ◆ Select appropriate methods of propagation.
- ◆ Schedule the propagation of a given group of HONS.
- ◆ Identify the major ways that the correct quality of propagule is achieved.

For **Outcome 3**:

- ◆ Prepare a production plan for growing on a group of HONS.

The assessment for **Outcomes 2 and 3** should be combined as the scheduling in **Outcome 2** will be affected by the production plan.

A single open book assessment, based on a case study for a specific group of HONS could be used to generate evidence for all three Outcomes.



## Higher National Unit Support Notes

**Unit title:** Hardy Ornamental Nursery Stock (SCQF level 8)

Unit Support Notes are offered as guidance and 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 aims to develop learners skills in the planning of the production of Hardy Ornamental Nursery Stock. As well as the technical aspects of planning the propagation and growing on of plants, learners will be introduced to the markets, the influences that affect demand for HONS and specific plants and the quality standards that are required by the different markets. This will emphasise the importance of 'market led' production so that plants are grown to meet a customer demand. Learners should develop an understanding of the similar production groups of plants rather than individual species, for example, herbaceous perennials, alpiners, heaths and heathers, trees, conifers, deciduous shrubs, slow growing evergreen shrubs, fast growing evergreen shrubs and ericaceous shrubs.

An integrated crop management approach to production should be encouraged, in particular crop protection, waste and pollution management, energy management, wildlife and landscape management and monitoring.

**Outcome 1** introduces the learner to the main markets for HONS; Amenity, Retail, inter-nursery trade and the plant quality and specification required by different markets. The requirements for plant passports should be identified as part of the quality standards. The influences on demand should also be introduced to the learners, for example: social structure and wealth, government policies, overseas competition, climate and fashion.

In **Outcome 2** learners will identify the major methods of propagation employed in commercial production of HONS, seed, cuttings, grafting, division, and their use in propagating different groups of HONS. The provision of quality propagation material, for example through managed stock beds should be discussed. Learners should be introduced to how to select specific propagation methods in relation to species, subsequent production plans, cost and labour requirements. The care of the propagules through good husbandry, hygiene and crop protection should be identified.

In **Outcome 3** learners will plan the growing on to point of sale of a group of HONS. Substrate selection will cover the selection of appropriate growing media taking into account the requirements for quality growth as well as the environmental impact of the materials used. Approaches to optimum crop nutrition will be covered and learners will be able to select the type of fertiliser and application rate depending on factors like; crop, production time, irrigation method and use of protection.

## Higher National Unit Support Notes (cont)

### Unit title: Hardy Ornamental Nursery Stock (SCQF level 8)

Irrigation will investigate sources of water, including consideration of environmental impact, reliability of quality and supply, volumes required depending on crop and irrigation method, methods of applying irrigation, recycling of water and use of irrigation to manage crop growth.

Learners will investigate the use of protective structures for crop growth and over-wintering. The provision of a suitable environment for growth should be discussed along with the requirement for the hardening of plants prior to sale. The maintenance of plant quality over-winter will be covered along with the principles of over-wintering plants with or without protection.

The learner should be introduced to the major pest, disease and weeds that affect HONS. An integrated approach to pest control will be introduced to learners that will form part of the overall production plan. The importance of good husbandry will be taught along with the role of pesticides, biological controls and novel techniques like active composting.

Approaches to formative pruning to achieve the plant specification required should also be discussed.

### Guidance on approaches to delivery of this Unit

It is recommended that this Unit be taught through a series of lectures, which could be supplemented by practical classes. Practical classes could include visits to nurseries to illustrate some of the principles being taught. Alternatively, those could be in the form of talks by growers and/or buyers.

### Guidance on approaches to assessment of this Unit

Evidence can be generated using different types of assessment. The following are suggestions only. There may be other methods that would be more suitable to learners.

Centres are reminded that prior verification of centre-devised assessments would help to ensure that the national standard is being met. Where learners experience a range of assessment methods, this helps them to develop different skills that should be transferable to work or further and higher education.

The assessment of this Unit can reflect the teaching approach taken at a particular centre. Outcomes 1, 2 and 3 could be assessed together, for example in a written and/or recorded oral report. This could be based upon a case study of a particular group of species of HONS. The group of species should be different for each learner. Alternatively a sequential approach to assessment could be taken, assessing the Outcomes in the order written.

## Higher National Unit Support Notes (cont)

**Unit title:** Hardy Ornamental Nursery Stock (SCQF level 8)

### Outcome 1

This Outcome could be assessed as part of a staged submission meeting the requirements of all three Outcomes. This could take the form of a report requiring learners to evaluate the demand for a given group of HONS; their importance in Amenity and Retail markets, how this changes with time and the possible factors that affect the demand. Quality standards and specifications, including the need for Plant Passports should be given with the reasons for differences depending on markets evaluated.

### Outcome 2

This Outcome could be assessed as part of a staged submission meeting the requirements of all three Outcomes based on a case study of a specific group of HONS. This Outcome will require to be submitted along with **Outcome 3** as scheduling is affected by the subsequent production plan. The assessment could take the form of a report requiring the learner to correctly select a propagation method(s) suitable for a given group of HONS, a schedule for the propagation of the plants to fit in with it subsequent growing on. The candidate should identify the major ways that the correct quality of progule is achieved.

### Outcome 3

This Outcome could be assessed as part of a staged submission meeting the requirements of all three Outcomes based on a case study of a specific group of HONS. This Outcome will require to be submitted along with **Outcome 2** as scheduling is affected by the production plan. The assessment could take the form of a report requiring the learner to identify a suitable production plan for the group of plants for one market identified in **Outcome 1**. The length of the report is less important than whether the plan contains enough information that could be practically applied to a cropping situation. In addition a brief explanation for the selection of the elements of the plan could be provided.

## Opportunities for 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 learner evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. The most up-to-date guidance on the use of e-assessment to support SQA's qualifications is available at [www.sqa.org.uk/e-assessment](http://www.sqa.org.uk/e-assessment).

## Opportunities for developing Core and other essential skills

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

## History of changes to Unit

Version	Description of change	Date

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## General information for learners

### Unit title: Hardy Ornamental Nursery Stock (SCQF level 8)

This section will help you decide whether this is the Unit for you by explaining what the Unit is about, what you should know or be able to do before you start, what you will need to do during the Unit and opportunities for further learning and employment.

This Unit aims to develop your skills in the planning of the production of *Hardy Ornamental Nursery Stock* (HONS). As well as the technical aspects of planning the propagation and growing on of plants, you will be introduced to the markets, the influences that affect demand for HONS and specific plants and the quality standards that are required by the different markets. This will emphasise the importance of 'Market Led' production so that plants are grown to meet a customer demand. You will learn about the similar production of groups of plants rather than individual species, for example, herbaceous perennials, alpines, heaths and heathers, trees, conifers, deciduous shrubs, slow growing evergreen shrubs, fast growing evergreen shrubs, ericaceous shrubs.

An Integrated Crop Management approach to production will be encouraged in particular, crop protection, waste and pollution management, energy management, wildlife and landscape management, monitoring.

**Outcome 1** introduces you to the main markets for HONS; Amenity, Retail, inter-nursery trade and the plant quality and specification required by different markets. The requirements for plant passports will be identified as part of the quality standards. The influences on demand will also be introduced to you, for example, social structure and wealth, government policies, overseas competition, climate, fashion.

In **Outcome 2** you will identify the major methods of propagation employed in the production of HONS, seed, cuttings, grafting, division, and their use in propagating different groups of HONS. The provision of quality propagation material, for example through managed stock beds will be discussed. You will learn how to select specific propagation methods in relation to species, subsequent production plan, cost and labour requirement. The care of the propagules through good husbandry, hygiene and crop protection will be identified.

In **Outcome 3** you will plan the growing on to point of sale a group on HONS.

Substrate selection will cover the selection of appropriate growing media taking into account the requirements for quality growth as well as the environmental impact of the materials used. Approaches to optimum crop nutrition will be covered and you will be able to select the type of fertiliser and application rate depending on factors like; crop, production time, irrigation method, use of protection.

Irrigation will investigate sources of water, including consideration of environmental impact, reliability of quality and supply, volumes required depending on crop and irrigation method, methods of applying irrigation, recycling of water, use of irrigation to manage crop growth.

You will investigate the use of protective structures for crop growth and over-wintering. The provision of a suitable environment for growth should be discussed along with the requirement for the hardening of plants prior to sale. The maintenance of plant quality over-winter will be covered along with the principles of over-wintering plants with or without protection.

## **General information for learners (cont)**

**Unit title:** Hardy Ornamental Nursery Stock (SCQF level 8)

Pest problems; pest, disease and weeds will look at the major problems in HONS. An integrated approach to pest control will be introduced that will form part of the overall production plan. The importance of good plant husbandry will be taught along with the role of pesticides, biological control and novel techniques like active composts.

Approaches to formative pruning to achieve the plant specification required will be discussed.