



Higher National Unit specification

General information for centres

Unit title: Woodland Nursery Production

Unit code: F408 34

Unit purpose: This Unit is designed to give the candidate knowledge of the rearing of planting stock and an appreciation of plant quality.

The Unit is relevant to candidates intending to enter the arboricultural, forestry or landscaping industries.

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

- 1 Analyse the factors influencing the siting of a nursery facility.
- 2 Evaluate methods of rearing planting stock for woodland use.
- 3 Explain handling, grading and storage practices for tree seedlings.
- 4 Explain current statutory obligations relating to planting stock.

Credit value: 1 HN credit at SCQF level 7: (8 SCQF credit points at SCQF level 7*)

**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: Access to this Unit is at the discretion of the Centre.

Core Skills: There are opportunities to develop the Critical Thinking component of *Problem Solving* and the Written Communication component of *Communication* at SCQF level 5 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 for Outcome 1 of this Unit could take the form of a project and report. Outcomes 2, 3, and 4 could be assessed by restricted response questions or by a report. It may be possible to combine the assessment for Outcomes 2, 3 and 4 or some combination of these.

Higher National Unit specification: statement of standards

Unit title: Woodland Nursery Production

Unit code: F408 34

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

Analyse the factors influencing the siting of a nursery facility

Knowledge and/or Skills

- ◆ Type of nursery facility
- ◆ Climatic conditions
- ◆ Soil types and conditions
- ◆ Labour availability
- ◆ Services
- ◆ Planting stock types
- ◆ Markets

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can analyse the factors influencing the siting of either a bare root or cell grown nursery facility.

Factors must include:

- ◆ site location.
- ◆ local climatic factors.
- ◆ soil type and conditions.
- ◆ labour, including availability on a permanent and seasonal basis and the skills of the labour force.
- ◆ services to the siting. This must include electricity and water supply and road access.
- ◆ the proposed planting stock types of the nursery facility and the market for these.

The analysis must consider the positive and negative impact of each of the factors on the siting of the facility.

Assessment Guidelines

This Outcome could be assessed by a project and report with a suggested word limit of 800 words or equivalent.

Evidence could be gathered through teamwork by small groups but the analysis and information presented in the report must be the candidate's own.

Higher National Unit specification: statement of standards (cont)

Unit title: Woodland Nursery Production

Outcome 2

Evaluate methods of rearing planting stock for woodland use

Knowledge and/or Skills

- ◆ Soil management
- ◆ Growing media
- ◆ Cultivation
- ◆ Seed factors
- ◆ Crop management

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can evaluate methods of rearing planting stock. Candidates must:

- ◆ evaluate soil management by comparing at least two of the following practices: fertilising, liming, irrigation, organic amendments and green cropping.
- ◆ compare at least two different growing media. These must include consideration of their composition, pH and air filled porosity.
- ◆ explain how different methods of cultivation may affect planting stock characteristics.
- ◆ explain how seed factors affect plant rearing. This must include the following: origin, provenance, stratification and sowing.
- ◆ evaluate crop management by comparing the following: weed control, irrigation, fertilising, control of pests and diseases.

Assessment Guidelines

This Outcome could be assessed by restricted response questions or by a report based on candidate research on methods of rearing planting stock.

Higher National Unit specification: statement of standards (cont)

Unit title: Woodland Nursery Production

Outcome 3

Explain handling, grading and storage practices for tree seedlings

Knowledge and/or Skills

- ◆ Handling methods
- ◆ Grading
- ◆ Plant storage

Evidence Requirements

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

- ◆ handling methods for tree seedlings that must include lifting practices in relation to timing and avoidance of root desiccation
- ◆ at least two factors that would be considered when grading tree seedlings and why these have an effect on the quality of the tree seedlings
- ◆ the difference between systems of plant storage including sheughs, bags, and cold storage

Assessment Guidelines

This Outcome could be assessed by restricted response questions or by a report based on candidate research on the handling, grading and storage of planting stock.

Outcome 4

Explain current statutory obligations relating to planting stock

Knowledge and/or Skills

- ◆ Legal requirements for pesticide use and applications
- ◆ Forest Reproductive Material regulations
- ◆ Plant movement regulations
- ◆ Records

Evidence Requirements

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

- ◆ identify the current legal requirements for pesticide use and applications and explain how these relate to woodland nursery production, and the type of records that need to be kept.
- ◆ explain current Forest Reproductive Material regulations in relation to planting stock and explain the type of records that need to be kept.
- ◆ identify plant movement regulations and explain the purpose of the regulations in relation to planting stock. This must include current EU Plant Passport regulations and the type of records that need to be kept.

Higher National Unit specification: statement of standards (cont)

Unit title: Woodland Nursery Production

Assessment Guidelines

This Outcome could be assessed by restricted response questions or by a report based on candidate research of the statutory obligations in relation to planting stock.

Administrative Information

Unit code: F408 34
Unit title: Woodland Nursery Production
Superclass category: SG
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Version	Description of change	Date

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Higher National Unit specification: support notes

Unit title: Woodland Nursery Production

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 of this Unit

This Unit is an optional component of the following SQA Group Awards:

- ◆ HNC Forestry
- ◆ HND Forestry
- ◆ HNC Arboriculture and Urban Forestry
- ◆ HND Arboriculture and Urban Forestry

The content of this Unit should provide the candidate with an understanding of the basic knowledge and skills required for woody plant nursery production.

It would be beneficial if candidates had the opportunity to visit a commercial nursery and if possible, the opportunity to carry out some practical nursery work to contextualise the learning process.

The following support notes cover the mandatory requirements of the Unit and recommended aspects that could be covered in teaching and learning.

Outcome 1

- ◆ local climate, seasonal climate, soil type, topography, aspect
- ◆ road access, electricity supply, water supply
- ◆ labour availability and skills; permanent and seasonal

Outcome 2

- ◆ soil management; fertilising, drainage, liming, organic amendments, green crops, soil sterilisation
- ◆ growing media, fertilisers for cell-grown stock
- ◆ soil cultivation, preparation of seedbeds and transplant lines
- ◆ seed factors; seed origin and provenance, stratification procedures, seed sowing
- ◆ crop management; weed control, fertilisation, irrigation, control of pests and diseases

Outcome 3

- ◆ grading of seedling crops to size categories
- ◆ good lifting and handling procedures, plant packaging
- ◆ plant storage including cold storage

Higher National Unit specification: support notes (cont)

Unit title: Woodland Nursery Production

Outcome 4

- ◆ Forest Reproductive Material regulations
- ◆ Plant movement regulation — EU Plant Passport regulations
- ◆ Legal regulations — Health and Safety at Work Act (HASAWA), risk assessment, Food and Environment Protection Act (FEPA), Control of Substances Hazardous to Health (COSHH), and Control of Pesticides Regulations (COPR)

Guidance on the delivery and assessment of this Unit

Outcome 1

It is suggested that this Outcome could be assessed by a project and report. This would be beneficial to candidates as preparation for the workplace.

The report could be set on a site that was suitable for the establishment of a woody plant nursery and the candidates could assess and comment on the factors influencing the siting of the nursery.

It is suggested that the site is chosen to meet the needs of the candidates and is relevant to the Group Award they are undertaking, eg Forestry or Arboriculture or Community/Urban Forestry.

It is suggested that this assessment should be made available to the candidate midway through the Unit delivery so that data collection and analysis can start in good time.

Likely scenarios for this project and report could be:

- (a) A report on a given site that could be developed as a woody plant nursery that would establish the geology, topographical features, altitude, location and aspect of the area along with its infrastructure access, labour availability and market proximity.
- (b) A report on a suitable existing nursery to consider and review the above factors and comment on the site's actual suitability for its purpose.
- (c) As (b) above, but in the case of a distance/open learning candidate, for a nursery of the candidate's choice, ie at their work or close to their home, with the caveat that the site has to be agreed as suitable beforehand by the Unit Tutor and that there is prior agreement for candidate and possible Tutor access to the site by the landowner.

Outcomes 2–4

These Outcomes could be assessed by restricted response questions or by reports. These could be combined in a single assessment for all three Outcomes or for a combination of some of the Outcomes.

Opportunities for developing Core Skills

There are opportunities to develop the Critical Thinking component of *Problem Solving* and the Written component of *Communication* at SCQF level 5 in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

Higher National Unit specification: support notes (cont)

Unit title: Woodland Nursery Production

Critical Thinking could be developed in activities in Outcomes 1 and 2 where candidates are required to analyse factors influencing the siting of a nursery facility and evaluate the planting stock rearing methods.

Written Communication may be developed if candidates undertaken reading and research for this Unit and produce written reports or responses.

Open learning

All Outcomes are appropriate for open and distance-learning approaches provided candidates are given appropriate materials and support at all stages. Centre devised supervision agreements should detail any measures to ensure authenticity of evidence.

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

Unit title: Woodland Nursery Production

This Unit is designed to provide you with knowledge of the production of bare-root and cell-grown planting stock for woodland use and to provide the skills to assess fitness of planting stock for use.

There are four Outcomes in this Unit as follows:

- ◆ Outcome 1 looks at the factors involved in the siting of a nursery facility
- ◆ Outcome 2 looks at the methods used in the rearing of planting stock for woodland use
- ◆ Outcome 3 looks at the practices involved in the grading, handling and storage of planting stock
- ◆ Outcome 4 looks at the statutory obligations relating to planting stock

Overall, the knowledge and skills acquired in this Unit will help you understand the influencing factors in relation to woody plant nursery production.

This Unit is an optional component of the following SQA Group Awards:

- ◆ HNC Forestry
- ◆ HND Forestry
- ◆ HNC Arboriculture and Urban Forestry
- ◆ HND Arboriculture and Urban Forestry

For candidates already in employment this Unit provides an opportunity to extend existing knowledge and skills and lays a sound grounding for further study.