



Higher National Unit specification

General information for centres

Unit title: Plant Trials: An Introduction

Unit code: F2B4 34

Unit purpose: This Unit aims to introduce the candidate to the planning, implementation and assessment of plant growth trials. This will be carried out through an individual or group project to grow and assess a range of plants grown in the field, garden or under protection. This project will develop an understanding of how to plan and carry out simple trials. It will also develop the candidate's ability to grow and maintain plants. During the completion of the Unit candidates will:

- 1 Identify and plan a plant trial.
- 2 Implement the planned plant trial.
- 3 Monitor, record and analyse the plant trial.

Credit points and level: 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: Entry to this Unit is at the discretion of the centre, however, it would be beneficial for candidates to have had practical experience in plant propagation and growing on of plants. This could be through work experience or the completion or parallel study of Units such as F1JA 34 *Horticultural Practices* and F1JF 34 *Nursery Production*.

Core Skills: There are opportunities to develop the Core Skills of *Problem Solving* and *Numeracy* 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. The candidate will be required to plan and implement simple experiments to compare the attributes of different plants. For example, this could be by comparing the cultivars, fertiliser applications, pest and disease control, spacing in a vegetable plot, or comparing growth habit, flower quality, mulches in an amenity planting. The candidate will be required to plan the experiment, plant it out, maintain the plants, record and analyse the results.

General information for centres (cont)

Assessment: Outcome 1 of this Unit could be assessed by means of a report in the form of a plan for a plant trial.

Outcome 2 is a practical Outcome and could be assessed by observation of practical activities recorded by observation checklist. Outcome 3 could be assessed by a report based on the analysis of the plant trial.

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

Identify and plan a plant trial

Knowledge and/or Skills

- ◆ Plant trials
- ◆ Planting plans
- ◆ Schedules of work
- ◆ Resource requirements
- ◆ Health and Safety (including Risk Assessment)

Evidence Requirements

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

- ◆ identify and describe plants to be trialled
- ◆ describe hypothesis to be tested
- ◆ produce a schedule of operations including:
 - work schedule
 - resources required
 - costings as appropriate
 - potential problems

Assessment Guidelines

This Outcome could be assessed by the production of a report detailing the plan for a plant trial.

Outcome 2

Implement the planned plant trial

Knowledge and/or Skills

- ◆ soil structure/preparation
- ◆ provision of plant material for planting out
- ◆ plant propagation
- ◆ establishing plants

Higher National Unit specification: statement of standards (cont)

Unit title: Plant Trials: An Introduction

- ◆ maintaining plants
- ◆ timescales
- ◆ Health and Safety requirements

Evidence Requirements

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

- ◆ prepare the plot/growing area to establish plant trial
- ◆ establish and maintain plants
- ◆ work according to plan and timescales
- ◆ comply with all relevant Health and Safety requirements

Assessment Guidelines

Outcome 2 could be assessed by observation of practical activities recorded by an observation checklist, with supporting information relating to the plan produced in Outcome 1. The candidate should be assessed on the practical implementation of the plan. An ‘interim assessment day’ could be set to assess progress in relation to the submitted plan, and a ‘final assessment day’ at the end of the project.

Outcome 3

Monitor, record and analyse the plant trial

Knowledge and/or Skills

- ◆ Project monitoring
- ◆ Record keeping
- ◆ Results analysis
- ◆ Strengths and/or weaknesses of project
- ◆ Evaluation techniques

Evidence Requirements

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

- ◆ maintain accurate records for plant trial
- ◆ monitor and record growth, development and pest, disease and weed problems
- ◆ analyse results of trial
- ◆ discuss and draw conclusions from plant trial
- ◆ reflect on own practice

Assessment Guidelines

Outcome 3 could be assessed by the production of a report analysing the plant trial planned in Outcome 1 and implemented in Outcome 2.

Administrative Information

Unit code: F2B4 34

Unit title: Plant Trials: An Introduction

Superclass category: SD

Original date of publication: August 2007

Version: 02

History of changes:

Version	Description of change	Date
02	Minor amendment to Unit purpose on page 1.	07/09/11

Source: SQA

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Higher National Unit specification: support notes

Unit title: Plant Trials: An Introduction

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 forms an optional part of the Higher National Awards of Horticulture and Horticulture with Plantsmanship, which are primarily designed to provide candidates with technical or professional knowledge and skills related to occupations in amenity horticulture, botanical gardens, landscape management, nursery production, commercial horticulture, garden design or sports turf management.

The Unit aims at developing the candidate's ability to plan and grow plants in field or garden soil. It also introduces candidates to the methods of carrying out simple field comparison trials. Any plants could form the basis of the project but careful consideration will be required to restrict the candidate's choices to plants that can be grown and assessed in the timescale of the Unit. A vegetable plot could be grown and the candidate could use this to conduct one or more comparison trials, for example: performance of different cultivars, direct sowing or transplanting plants, use of different methods of crop protection, use of different fertilisers or fertiliser rates, effect of different spacing. An ornamental planting could also be used, for example hardy annuals or bedding plants could be used for similar comparisons as above.

Guidance on the delivery and assessment of this Unit

This Unit is likely to form part of a Group Award, which is primarily designed to provide candidates with technical or professional knowledge and skills related to occupations in amenity horticulture, botanical gardens, landscape management, nursery production, commercial horticulture, garden design or sports turf management.

Lectures or tutorials could be used to introduce candidates to the design of simple trials, measurements to be taken and how to analyse results. Basic statistical analysis would be required.

Candidates would require to be given clear guidelines as to area for project, range of plants to select from and a range of possible comparative trials that they might use. While they may be encouraged to develop their own ideas these would need to be monitored closely to ensure that they were practical and suitable for the given timescale. A budget for each candidate should be given for the materials required.

The timing of the project must ensure that the candidate has time to finalise their plan before plants have to be propagated or sourced. It is not a requirement of the Unit that candidates propagate their own plants although the candidate must work to the budget.

Once the project has been approved, the candidate will be responsible for the implementation of the project. Although the candidate will be responsible for their own time management, the soil preparation, planting and care should be observed at regular intervals and progress according to the plan and quality of work noted. If work is being carried out in an inappropriate manner, the candidate should be advised of this and corrected. Assessors should keep a note of the amount of assistance individual candidates require.

Higher National Unit specification: support notes (cont)

Unit title: Plant Trials: An Introduction

A final written report should be produced by the candidate showing the results of the trial(s) undertaken, a discussion of the meaning of the results and their conclusions. A reflective report should also be prepared by the candidates to discuss the strengths and weaknesses of their original plan, problems encountered and any changes they would make to conduct the project in the light of experience.

Opportunities for developing Core Skills

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

Open learning

Because of the minimal amount of contact hours required for this Unit, it could easily be delivered in a 'flexible' way and by distance learning as appropriate, for example, the practical work could be carried out at the student's place of employment with assessment at the centre or in the workplace by appropriately trained staff.

Because of the high level of self-motivated learning within this Unit, it would also make an ideal Unit to be undertaken during the summer between academic years, for those students wishing to gain extra Unit credits to allow them to progress onto Year 2 of the Higher National Diploma (HND).

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: Plant Trials: An Introduction

This Unit affords you the opportunity to plan, implement and assess plant growth trials. This will be carried out through an individual project to grow and assess a range of plants grown in the field or garden. This will develop an understanding of how to plan and carry out simple trials. It will also develop your ability to grow and maintain plants. During the completion of the Unit, you will: produce a plan, grow and maintain plants, monitor and record results and evaluate the project.

The aims of this Unit are to develop your practical skills in planning and implementing the growth and care of plants in the field or garden. In addition you will learn how to set up, record and evaluate simple plant growth comparisons. This could be beneficial for commercial growers who may wish to compare the performance of new plants, fertilisers or other products, professional gardeners who may wish to set up demonstration areas in a garden open to the public or landscapers/garden designers who may wish to monitor the performance of different plants in an area.

It will also develop your ability to reflect on the implementation of a plan, assess successes and weaknesses of the plan and consider how planning and implementation can be improved in light of experience.