



Higher National Unit specification

General information for centres

Unit title: Managing Plant Collections

Unit code: F1JE 35

Unit purpose: The ability to be able to practically manage a range of plant collections is a fundamental requirement in most branches of horticulture. Of equal importance is knowledge of the range and requirements of user groups of plant collections. This Unit will provide students with a wide range of knowledge and practical skills to cultivate and maintain collections of a diverse range of plant groups in a healthy and safe condition. The Unit also provides the knowledge required to appreciate the varied needs of the range of users of plant collections. This Unit is primarily for candidates who intend to work in the amenity and botanic garden sectors of the horticulture industry. It is important to stress that plant collections include both living and preserved plant collections, and could involve collections of images of plants and virtual herbaria. Students who have completed the Unit should be able to:

- 1 Conduct a survey of an existing plant collection.
- 2 Describe and evaluate the establishment and maintenance requirements of a range of specific plant collections.
- 3 Identify a range of user groups for plant collections and how they utilise them.

Credit points and level: 2 HN credits at SCQF level 8: (16 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: It would be advantageous for students to have an appreciation and knowledge of the cultivation requirements of various plant groups and have some experience of basic practical skills such as potting, seed sowing, pruning, and basic propagation methods, and pruning. Such knowledge and experience could have been gained by the completion of the level 7 Units F1JA 34 *Horticultural Practices*, DV0M 34 *Work Experience*, F21V 34 *Soil Management*, and F1JF 34 *Nursery Production*.

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

General information for centres (cont)

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: Outcome 1 could be assessed using a case study or an assignment where the candidates produce a written report based on information obtained from practical survey and literature research. Outcome 1 could alternatively be assessed by a practical test using an observation checklist to record student performance.

Outcome 2 could be assessed using a supervised, closed-book test involving restricted and structured responses or, alternatively, by a written assignment to cover the knowledge and skills for the Outcome.

Outcome 3 could be assessed by a written assignment divided into two sections: the shorter first section being an annotated list of plant collection user groups, the second a detailed account of how a specific user group uses plant collections. The total expected length of the assignment is 1,200–1,500 words.

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

Conduct a survey of an existing plant collection

Knowledge and/or Skills

- ◆ Identification of reasons for conducting the survey
- ◆ Selection of survey technique
- ◆ Data collection and collation
- ◆ Analysis of survey results
- ◆ Health and safety in relation to plant collections

Evidence Requirements

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

- ◆ describe the reasons for conducting a survey
- ◆ carry out a practical survey of a plant collection
- ◆ systematically collect and collate data using a standard technique
- ◆ analyse survey data and make recommendations in the light of the collected data
- ◆ identify plants that may constitute a danger to the public and issues relating to health and safety and the law

Assessment Guidelines

Outcome 1 could be assessed using a case study or an assignment where the candidates produce a written report based on information obtained from practical survey and literature research. Outcome 1 could alternatively be assessed by a practical test using an observation checklist to record student performance.

Outcome 2

Describe and evaluate the establishment and maintenance requirements of a range of specific plant collections

Knowledge and/or Skills

- ◆ Specific environmental conditions required by plant collections

Higher National Unit specification: statement of standards (cont)

Unit title: Managing Plant Collections

- ◆ Cultural requirements of plant groups
- ◆ Seasonal maintenance of plant collections
- ◆ Plant passports, phytosanitary certification, CITES, and quarantine regulations

Evidence Requirements

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

- ◆ describe and evaluate the optimal environmental conditions for plant collection maintenance
- ◆ describe the cultivation of the plant collection
- ◆ describe and evaluate the most important practical tasks
- ◆ describe and evaluate the maintenance of the plant collection throughout the year
- ◆ describe and evaluate the issues relating to plant passports, phytosanitary certification, CITES, and quarantine regulations

Assessment Guidelines

This Outcome could be assessed by a supervised, closed-book, restricted and structured response test. Alternatively, this Outcome could be assessed through an assignment or case study in which the candidates must produce a written report covering the knowledge and/or skills that produce the evidence required.

Outcome 3

Identify a range of user groups for plant collections and how they utilise them

Knowledge and/or Skills

- ◆ Diversity of users of plant collections
- ◆ How plant collections are used by the range of user groups

Evidence Requirements

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

- ◆ state the range of user groups of plant collections
- ◆ describe the requirements of user groups and the various ways they use plant collections

Assessment Guidelines

Outcome 3 could be assessed by a written assignment divided into two sections: the shorter first section being an annotated list of plant collection user groups, the second a detailed account of how a specific user group uses plant collections. The total expected length of the assignment is 1,700–2,000 words.

Administrative Information

Unit code: F1JE 35

Unit title: Managing Plant Collections

Superclass category: SA

Original date of publication: August 2007

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History of changes:

Version	Description of change	Date

Source: SQA

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Higher National Unit specification: support notes

Unit title: Managing Plant Collections

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 80 hours.

Guidance on the content and context for this Unit

The Unit aims to provide knowledge and skills required for the management of a wide range of plant collections including living and preserved collections. The latter could include herbarium collections, spirit collections, seed banks, image collections and virtual herbaria. The Unit covers the knowledge and skills required to establish and maintain a wide range of plant collections and appreciate the varied demands of a diversity of user groups. The Unit also provides knowledge and skills required by candidates intending to seek more advanced studies in horticulture, especially for horticulture within botanical gardens.

Outcome 1 should use a specific plant collection that offers the scope for surveying the collection in terms of condition, suitability, safety and the law; a collection of woody perennials is particularly appropriate. The function and the method of the survey should be fully described and demonstrated, followed by student practice. The survey should cover signs and symptoms of pathogen attack, growth abnormalities and weaknesses, and the implications for health and safety and litigation. Systematic recording and collation of survey data should be described and demonstrated. Analysis of collected data should be explained and how this may be used for making decisions regarding tree removal and replacement with other suitable species.

Outcome 2 should consider a range of contrasting plant collections that cover both living and preserved collections, ferns, alpine, trees, tropical plants, herbaceous and herbarium material, for example. For each collection the optimal environmental conditions and cultivation requirements should be described. Establishment techniques and the annual maintenance routine should be explained and key practical tasks should be either clearly demonstrated or practiced by students where at all possible. Importation, quarantine, CITES, and plant health issues should be fully explained. Recording plant collections on databases should also be demonstrated.

Outcome 3 should consider the range of user groups of plant collections including, for example, the general public, educationists, conservationists, plant taxonomists, horticulturists, historic and heritage gardeners, and artists. The detailed use of plant collections for at least four distinct user groups should be described and related to the requirements, activities and responsibilities of the group. This Outcome has implications for plant display and strongly links with the Unit D45N 35 *Designing Plant Collections*.

Higher National Unit specification: support notes (cont)

Unit title: Managing Plant Collections

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, botanic gardens and historic heritage gardens. Plantsmanship students will need to relate information learnt in this Unit to the requirements of the Graded Unit.

Delivery should place emphasis on the practical aspects of managing plant collections and should include formal lectures and demonstrations plus a range of practical sessions at appropriate times of the year for various plant collections. There should also be visits a range of plant collections so that comparisons may be made between collections, their maintenance and their users. If there are insufficient collections on site then increased visits will be necessary.

Opportunities for developing Core Skills

There may be opportunities to develop the Core Skills of *Communication*, *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

Elements of all Outcomes of this Unit could be delivered by distance learning depending on the range of plant collections, library and computing facilities. Instruction could be gained in many practical tasks at a candidate's place of employment with assessment at the centre or in the workplace by appropriately trained staff. It is probable that candidates would need to attend the centre to gain experience in the breadth of skills within the Unit.

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: Managing Plant Collections

This Unit is designed to provide you with knowledge and practical skills to carry out the management of a range of plant collections in the broadest sense. You will be provided with knowledge and skills relating to environmental and cultural management of plant collections as well as skills to systematically survey specific collections. You will learn to analyse and use survey data to make decisions regarding retention or removal of plants for particular situations, especially in consideration of the quality, health, and safety of the plants. You will also learn how plant collections are used by a range of different user groups and the varied requirements of users.

In order to complete this Unit successfully, you will be required to achieve a satisfactory level of performance in three pieces of assessed work, a written test, an essay, and an assignment involving a group survey and personal written report.