



National Unit specification: general information

Unit title: Ride on Horticultural Machinery (SCQF Level 4)

Unit code: H1YE 10

Superclass: SE

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Version: 02

Summary

This Unit is intended as an introductory Unit which covers the basic operation and maintenance of ride on horticultural machinery. Candidates will develop the skills necessary to select, carry out pre-use checks and operate a range of ride on horticultural machinery safely, according to instructions.

This Unit has been developed as part of the National Certificate in Horticulture at SCQF level 4. It is also available as a free standing Unit.

Outcomes

- 1 Select ride on machinery for a specified horticultural task.
- 2 Carry out pre-use checks safely on a ride on machine used to carry out horticultural activities.
- 3 Safely operate, clean and store ride on horticultural machinery for a specified operation, while under supervision.

Recommended entry

Entry is at the discretion of the centre.

Credit points and level

1 credit at SCQF level 4: (6 SCQF credit points at SCQF level 4*).

**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.*

General information (cont)

Unit title: Ride on Horticultural Machinery (SCQF Level 4)

Core Skills

Achievement of this Unit gives automatic certification of the following Core Skills component:

Complete Core Skill None

Core Skill component Critical Thinking at SCQF level 4

There are also opportunities to develop aspects of Core Skills which are highlighted in the Support Notes of this Unit specification.

National Unit specification: statement of standards

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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

Select ride on machinery for a specified horticultural task.

Performance Criteria

- (a) Describe the main uses of ride on horticultural machinery.
- (b) Describe the main differences between petrol and diesel powered ride on horticultural machinery.
- (c) Briefly describe the advantages and disadvantages of using a ride on machine to carry out horticultural tasks.
- (d) Identify the major components of ride on horticultural machines.
- (e) Select a ride on machine for a specified horticultural operation.

Outcome 2

Carry out pre-use checks safely on a ride on machine used to carry out horticultural activities.

Performance Criteria

- (a) Describe the risks associated with checking and operating ride on horticultural machinery.
- (b) Identify Personal Protective Equipment (PPE) used when checking and operating ride on horticultural machinery.
- (c) Select Personal Protective Equipment for carrying out pre-use checks on a ride on machine used for a specified operation.
- (d) Carry out pre-use checks on a ride on machine safely, according to manufacturer's instructions, while under supervision.

Outcome 3

Safely operate, clean and store ride on horticultural machinery for a specified operation, while under supervision.

Performance Criteria

- (a) Assist in carrying out a risk-assessment for a specified operation using ride on horticultural machinery.
- (b) Wear PPE required for a specified operation.
- (c) Operate a ride on horticultural machine safely, for a specified operation.
- (d) Clean ride on machine safely after use.
- (e) Carry out post-use checks safely, in accordance with manufacturer's instructions.
- (f) Store machine in a safe manner.
- (g) Complete machine log and report any faults.

National Unit specification: statement of standards (cont)

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Evidence Requirements for this Unit

Performance, product and written and/or oral evidence are required to show that candidates have achieved all Outcomes and Performance Criteria. All practical activities must be carried out in accordance with current health and safety legislation and manufacturer's guidelines, including wearing PPE.

Outcome 1

Supervised open-book evidence must be provided which includes:

- ◆ a description of the main uses of ride on horticultural machinery to include mowing large areas of grass, moving large amounts of material and moving heavy objects
- ◆ a description of the main differences between petrol and diesel powered ride on horticultural machinery to include presence of spark plugs or injectors, noise of the engine and type of fuel to be used
- ◆ a list of three advantages and three disadvantages of using ride on machinery to carry out horticultural tasks
- ◆ identification of major components of ride on horticultural machinery to include accelerator, foot brake, hand brake, all safety features ignition/on/off switch
- ◆ correct selection of a ride on machine for a given task

Outcome 2

Supervised open-book evidence which includes:

- ◆ an accurate description of the risks associated with checking and operating ride on horticultural machinery
- ◆ the identification of PPE typically used when checking and operating ride on horticultural machinery
- ◆ the correct selection of PPE for carrying out a pre-use check and operation of ride on machinery for a specified horticultural operation
- ◆ safely carrying out a pre-use check on ride on machinery, for a specified horticultural operation, under supervision and according to health and safety requirements and manufacturer's guidelines

Outcome 3

Supervised performance evidence, supported by observation checklist, pro forma and log entry, which includes:

- ◆ assisting in conducting a risk assessment, for the pre-use check and operation of ride on horticultural machinery, for a specified operation.
This will involve the candidates: in groups of two or three under supervision using a proforma risk assessment sheet to take notes on risks that could be present while operating a ride on horticulture machine and how these risks could be minimised. This will include as a minimum: operating a machine on a slope and how to deal with members of the public when operating a ride on machine.
- ◆ wearing PPE, appropriate to the operation of the ride on machine and the specified operation
- ◆ safe operation of a ride on machine, under supervision, for a specified horticultural operation. One ride on machine will be selected from the following — tractor, compact tractor, ride on grass cutter
- ◆ effective and safe cleaning of a ride on machine, under supervision, in accordance with health and safety guidelines and manufacturer's instructions
- ◆ carrying out post-use checks safely under supervision, in accordance with health and safety guidelines and manufacturer's instructions
- ◆ safe and correct storage of ride on machine in accordance with health and safety guidelines and manufacturer's instructions
- ◆ accurate completion of log entry, which includes reporting any faults detected

National Unit specification: support notes

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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 is designed to suit candidates of all ages. It should be taught as an introduction to horticultural machinery selection, operation and maintenance.

The types of machines are those that would be used to build or maintain a garden and should include tractors, compact tractors and ride on mowers. Given the obvious dangers involved in using powered machinery, all relevant Health and Safety requirements and procedures will be emphasised and strictly adhered to throughout this Unit.

Guidance on learning and teaching approaches for this Unit

Outcome 1

In this Outcome candidates will be given a range of horticultural situations and ride on horticultural machinery that they would normally be expected to use in their work situation. An explanation should be given on the uses of a range of ride on horticultural machinery and the type of situations they would normally be used. The candidate will be expected to select the appropriate machine taking into consideration the size of the area, health and safety considerations and topography of the site. A visit to a local machinery dealer would be appropriate in order to give candidates an appreciation of the wide range of ride on horticultural machinery that is available.

Outcome 2

In this Outcome, candidates are introduced to the risks associated with handling, checking and operating ride on machinery in horticulture. They will be introduced to the PPE worn when carrying out checks and operating ride on machinery. This is essential underpinning knowledge but can be delivered in a variety of ways other than by lecture method, eg Q and A, providing illustrations depicting unsafe practices, use of real life examples where accidents have occurred, working in pairs or as a group, to discuss the dangers and risks associated with ride on machines.

It is recommended that the candidates will work in groups to carry out pre-start checks on a piece of ride on horticultural equipment according to the operator's manual. Assistance should be given until candidates become familiar with each piece of machinery. The pre-start check should include selecting the correct fuel for each machine including correct storage, transport and filling. While learning may take place in groups, the assessments must be carried out for individual candidates.

National Unit specification: support notes (cont)

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Outcome 3

Following on from Outcome 2, candidates will carry out a full risk assessment for the chosen ride on machine and will be given the opportunity to operate one from a limited range of ride on horticultural machinery. This Outcome is essentially practical. Candidates will be given demonstrations by an expert on how to operate ride on machinery safely, according to safe practice and the manufacturer's guidelines. Candidates should be able to practice, under supervision, until competent, which could include practising in an obstacle course in an open area; ensuring candidate can start and stop safely.

Candidates will be shown how to clean a ride on machine safely and will have the opportunity to practice this task under supervision. They will be shown how to store machinery safely and effectively and how to record any faults, detected during the post-use check, in a log book or similar.

Guidance on approaches to assessment for this Unit

There are opportunities to integrate assessment of this Unit across Outcomes 2 and 3.

Outcome 1 is mainly theoretical and written, oral or recorded assessment is suited to this Outcome. The candidate will be given a typical horticultural operation and will provide evidence of the correct selection of a ride on machine for the specified operation. Questions which require lengthy answers should be avoided.

Outcome 2 may be assessed by answering oral, written or recorded questions and by the completion of a risk assessment pro forma for the selected machine. The practical component of carrying out a pre-use check may be assessed by observation and the use of a practical checklist to record evidence.

Outcome 3 is mainly practical and can be assessed by observation of candidate performance and the use of an observation checklist to record evidence.

If this Unit is delivered in conjunction with other SCQF level 4 Units of a practical horticulture nature, there may be opportunities to integrate the assessment of this Unit with the assessments in the other practical Units. This will allow candidates to apply the use of the machines to real horticultural practices.

Opportunities for the use of 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 candidate evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. Further advice is available in *SQA Guidelines on Online Assessment for Further Education (AA1641, March 2003)*, *SQA Guidelines on e-assessment for Schools (BD2625, June 2005)*.

National Unit specification: support notes (cont)

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Opportunities for developing Core Skills

There is no automatic certification of Core Skills or Core Skill components in this Unit, however there may be opportunities to develop the Core Skills of Problem Solving and Working with Others both at SCQF Level 4, through the practical aspects of this Unit.

This Unit has the Critical Thinking component of Problem Solving embedded in it. This means that when candidates achieve the Unit, their Core Skills profile will also be updated to show they have achieved Critical Thinking at SCQF level 4.

Disabled candidates and/or those with additional support needs

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website www.sqa.org.uk/assessmentarrangements

History of changes to Unit

Version	Description of change	Date
02	Clarification of Evidence Requirements on page 4.	28/09/2012

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