

NextGen: HN unit specification

Crop Production Management (SCQF level 8)

Unit code: JP6N 48

SCQF level: 8 (32 SCQF credit points)

Valid from: August 2026

This unit specification provides detailed information about the unit to ensure consistent and transparent assessment year on year. It is for lecturers and assessors, and contains all the mandatory information you need to deliver and assess the unit.

Published: October 2026 (version 1.0)

Copyright © Qualifications Scotland 2026

Contents

Unit purpose	1
Unit outcomes	2
Knowledge and skills.....	4
Meta-skills.....	5
Literacies	7
Learning for Sustainability	9
Delivery of unit	10
Additional guidance.....	11
Equality and inclusion	15
Information for learners.....	16
Administrative information.....	19

Unit purpose

This unit builds learners' knowledge of the science behind crop production. It develops their skills in the reasoned decision making required to manage crops in the agricultural industry. The unit covers:

- crop physiology
- crop quality
- plant protection
- storage
- precision technology
- environmental considerations

It is a mandatory unit in HND Agriculture, and can also be studied on a stand-alone basis.

It is aimed at learners with a specific interest in arable farming, and those who want to enhance their understanding of agricultural practice.

If learners study the unit as part of HND Agriculture, they may be able to progress to related degree-level study. Alternatively, they may want to go directly into employment in an agricultural business.

Entry requirements

Entry to the unit is at your centre's discretion. While learners do not need previous skills or experience, before they start the unit, they would benefit from some familiarity with farming processes, and a scientific interest in the sector.

It could build on pre-existing knowledge from the Principles of Crop Production unit.

We also recommend that learners have completed one or more of the following:

- HNC Agriculture
- a qualification in a relevant subject at SCQF level 6 or 7, along with appropriate work experience

Unit outcomes

Learners who complete this unit can:

1. explain the scientific principles of crop production
2. apply the scientific principles of crop production to choose appropriate methods of crop husbandry
3. compare contrasting crop production enterprises for their contribution to food security, and environmental and financial sustainability

Evidence requirements

Outcome 1

Learners must:

- explain the scientific basis of crop production
- identify relevant principles
- explain the impact of applying these principles on various aspects of crop production

Outcome 2

Learners must identify a question or problem relevant to crop production management, and then:

- identify potential solutions and/or interventions
- quantify the effect of applying the potential solutions and/or interventions
- consider the practicality of the solutions and/or interventions

Outcome 3

Learners must:

- evaluate crop production enterprises
- compare them in terms of:
 - productivity
 - environmental impact
 - food security
- describe how to minimise adverse environmental impacts while contributing to food security and ensuring the enterprise remains economically viable

Knowledge and skills

Knowledge	Skills
Outcome 1 Learners should understand: the scientific principles of crop production	Outcome 1 Learners can: use scientific principles to apply crop production practices
Outcome 2 Learners should understand: - current issues in crop production management - problem-solving approaches - types of solutions and interventions - practical implications of different approaches	Outcome 2 Learners can: - identify solutions and interventions - quantify the effect of applying solutions and interventions - consider the practicality of solutions and interventions
Outcome 3 Learners should understand: how contrasting crop production enterprises contribute to food security and environmental sustainability while remaining economically viable	Outcome 3 Learners can: - evaluate different enterprises in terms of a variety of criteria - address questions about environmental impact and food security - reflect on how different agricultural systems contribute to environmental sustainability and food security - consider the financial implications of these practices

Meta-skills

You must give learners opportunities to develop their meta-skills throughout this unit. We have suggested how to incorporate the most relevant ones into the unit content, but you may find other opportunities.

Self-management

This includes focusing, integrity, adapting and initiative. The most relevant are:

- focusing:
 - improving strategies to maintain focus to achieve the desired results and meet deadlines in different classroom situations
- adapting:
 - developing openness and adaptability by problem-solving production and/or performance issues
 - being flexible while working with others
 - learning about new ways to assess information
 - understanding how agricultural environments and decisions connect with and influence the wider world
- initiative:
 - asking testable questions and building scenarios to address them
 - justifying decisions during formative and assessed work
 - showing these skills during class and group work

Social intelligence

This includes communicating, feeling, collaborating and leading. The most relevant are:

- communicating:
 - putting forward ideas during assessments and class work
 - communicating professionally with staff and peers to arrange meetings, explain absences, ask questions, facilitate group work and manage potentially challenging interpersonal situations
- collaborating:
 - participating in group activities and facilitating strong peer-to-peer relationships
 - showing empathy for colleagues in difficult circumstances
- leading:
 - taking responsibility for the progression of projects

Innovation

This includes curiosity, creativity, sense-making and critical thinking. The most relevant are:

- curiosity:
 - exploring further research topics of interest
 - developing new interests through participation in class exercises, both practical and theoretical

- creativity:
 - developing robust approaches to answering questions
 - reflecting on scenarios and considering how they might have done things differently compared with the presented solution, and whether this would have altered the outcome
- sense-making:
 - participating in activities throughout the year involving data gathering and analysis, and using collected or provided information to apply learned concepts to real-world or hypothetical situations
- critical thinking:
 - assessing the value of information sources and their applicability to different situations
 - understanding how to use them

Literacies

This unit provides opportunities to develop the following literacies.

Numeracy

Learners develop their numeracy skills by:

- collecting data using various techniques and measurement scales
- using data supplied to carry out relevant calculations or conversions
- interpreting data presented in various forms (tables, graphs, summary statistics)
- handling data and carrying out analysis to quantify differences or associations
- interpreting the outcome of analyses to make conclusions relevant to the subject matter

Communication

Learners enhance their communication skills by:

- improving how they speak and write to peers while carrying out group work
- improving how they speak and write to lecturers and members of the wider agricultural and rural business community to obtain information for learning, such as during classes, through email enquiries, or during farm visits or work experience

Digital

Learners improve their digital skills by:

- producing assessment evidence, as well as working on with learning materials and course content
- using computers and software to handle, manipulate and analyse data

Learning for Sustainability

Throughout this unit, you should encourage learners to develop their skills, knowledge and understanding of sustainability.

This includes:

- a general understanding of social, economic and environmental sustainability
- a general understanding of the United Nations Sustainable Development Goals (SDGs)
- a deeper understanding of subject-specific sustainability
- the confidence to apply the skills, knowledge, understanding and values they develop in the next stage of their life

Delivery of unit

This is a mandatory unit in HND Agriculture. There may be opportunities to integrate delivery and assessment of this unit with the Agriculture: Professional Development unit at SCQF level 8.

The notional design length for the unit is 160 hours. The amount of time you allocate to each outcome is at your discretion. We suggest the following distribution of time, including assessment:

Outcome 1 — explain scientific principles of crop production (40 hours)

Outcome 2 — apply the scientific principles of crop production to choose appropriate methods of crop husbandry (80 hours)

Outcome 3 — compare contrasting crop production enterprises for their contribution to food security, and environmental and financial sustainability (40 hours)

Additional guidance

The guidance in this section is not mandatory.

Approaches to delivery

As you deliver the unit, you should arrange visits to a range of crop production enterprises (possibly including farms, and storage and processing facilities) as well as teaching theory.

Ideally, learners should have the opportunity to do a practical experiment for outcome 2, but if this is not possible, they can do it as a thought experiment driven by existing data.

Explain the scientific principles of crop production (outcome 1)

You cover:

- crop physiology — using grass, cereals and specialised field crops as examples
- buildings and principles of storage
- Integrated Crop Management:
 - crop protection
 - integrated pest management
 - soils and nutrient management
 - machinery and precision methods
- produce quality and farm assurance

Apply the scientific principles of crop production to choose appropriate methods of crop husbandry (outcome 2)

You look at:

- potential solutions and/or interventions

- the effect of applying the potential solutions and/or interventions
- the practicality of the solutions and/or interventions

Compare contrasting crop production enterprises for their contribution to food security, and environmental and financial sustainability (outcome 3)

Your comparisons cover:

- crop production systems
- food security
- biodiversity
- carbon efficiency

Approaches to assessment

Outcome 1

You should present learners with a series of short tests to assess their knowledge and their ability to handle different types of information in different formats. These tests can cover more than one topic, including but not limited to the following:

- crop physiology
- crop protection
- soils and nutrition
- machinery
- farm buildings
- produce quality
- environmental impacts of crop production

Outcome 2

Learners apply knowledge they gained in outcome 1 to solve or investigate problems associated with crop production. They carry out one small-scale experiment (likely in groups), which could include any topic mentioned in outcome 1. Experiments could include:

- on-farm observations
- field trials
- glasshouse trials
- data-led (for example, desk-based) studies

Individual learners should produce a report on their experiment and investigations. They should also produce a brief summary of their findings as a group or individually, which they could present in any agreed format, including a(n):

- poster
- talk
- webcast
- podcast
- infographic
- knowledge exchange
- outreach leaflet

Outcome 3

Learners could write a report where they consider a crop production business unrelated to those compared on visits or in class, and suggest how to minimise adverse environmental impacts while contributing to food security and continuing economic viability. The crop production business could be a college farm, home farm, visited farm or a theoretical business, provided learners can obtain all the necessary details. Other methods of assessment may also be applicable.

Resources

Learners need access to a range of crop production enterprises (possibly including farms, and storage and processing facilities).

Centres delivering this qualification must have suitably qualified staff for each of the subject components. Your centre should already have established processes to ensure staff are appropriately qualified to deliver in this subject area.

Assessors and internal verifiers must hold an industry and/or subject-specific qualification equivalent to the qualification. Centre staff should have relevant industry experience and be able to demonstrate industry-relevant CPD to maintain their subject-specific knowledge and skills.

Equality and inclusion

This unit is designed to be as fair and as accessible as possible with no unnecessary barriers to learning or assessment.

You must consider the needs of individual learners when planning learning experiences, selecting assessment methods or considering alternative evidence.

Guidance on assessment arrangements for disabled learners and those with additional support needs is available on the [assessment arrangements web page](#).

Information for learners

Crop Production Management (SCQF level 8)

This information explains:

- what the unit is about
- what you should know or be able to do before you start
- what you need to do during the unit
- opportunities for further learning and employment

Unit information

This unit builds your knowledge of the science behind crop production, and gives you the opportunity to develop your skills in the kind of reasoned decision making necessary for managing crops in the agricultural industry. During the unit, you carry out class and lab work, along with farm visits and observations. You explore:

- crop physiology
- crop quality
- plant protection
- the environmental considerations of crop production

It is aimed at learners with a specific interest in arable farming and those who want to enhance their understanding of agricultural practice.

This unit is a mandatory unit in HND Agriculture. You can also study it on a stand-alone basis.

Prior knowledge and skills

You do not need any previous skills or experience before you start the unit, but you would find it helpful to be familiar with farming processes and to have a scientific interest in the sector.

The unit could build upon your pre-existing knowledge if you have already completed the Principles of Crop Production unit at SCQF level 7, or a similar qualification.

We also recommend that learners have completed one or more of the following:

- HNC Agriculture
- a qualification in a relevant subject at SCQF level 6 or 7, along with appropriate work experience

Assessment

You can be assessed in various ways, including short tests and reports on experiments and investigations, some of which you can do as part of a group.

Future progression and employment

If you study the unit as part of HND Agriculture, you may be able to progress to related degree-level study. Alternatively, you may want to go directly into employment in an agricultural business.

Meta-skills

Throughout this unit, you develop meta-skills that are useful for the agriculture sector.

Meta-skills are transferable behaviours and abilities that help you adapt and succeed in life, study and work. There are three categories of meta-skills: self-management, social intelligence and innovation.

Self-management

You develop your self-management skills as you improve strategies to build your focus; nurture openness and adaptability in your approach to problem-solving and information sourcing; and take initiative in both individual and group work.

Social intelligence

You develop your social intelligence skills as you improve your communications skills to facilitate group work and manage interpersonal situations; build strong and empathic working relationships; and lead project progression.

Innovation

You develop your innovation skills as you show curiosity, exploring new topics and interests; reflect on situations and consider what could be done differently; apply theory to real-world situations; and appraise different sources of information.

Learning for Sustainability

Throughout this unit, you develop skills, knowledge and understanding of sustainability.

You learn about social, economic and environmental sustainability principles and how they relate to the agriculture sector. You also develop an understanding of the [United Nations Sustainable Development Goals](#).

Administrative information

Published: October 2026 (version 1.0)

Superclass: SD

History of changes

Version	Description of change	Date

Please check [our website](#) to ensure you are using the most up-to-date version of this unit.

The information in this unit specification may be reproduced in support of Qualifications Scotland qualifications only on a non-commercial basis. If it is reproduced, Qualifications Scotland must be clearly acknowledged as the source. If it is to be reproduced for any other purpose, written permission must be obtained from permissions@qualifications.gov.scot.

Copyright © Qualifications Scotland 2026