

NextGen: HN unit specification

Livestock Management Systems (SCQF level 8)

Unit code: JPFE 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.

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Unit purpose

This unit introduces learners to the management of livestock enterprises in Scotland. It covers science and husbandry, processing and product quality, enterprise performance, managing livestock waste, and environmental considerations. It focuses on solutions, which means that learners develop their ability to solve livestock problems in farm-based scenarios.

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

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

If learners study the unit as part of HND Agriculture, they may be able to progress to degree-level study in a related subject. 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. Before they start the unit, learners should have a good understanding of livestock production systems (beef, lamb, dairy, pork, egg and chicken) in Scotland and how they operate. They could demonstrate this by completing the Principles of Livestock Production unit at SCQF level 7, which is part of HNC Agriculture.

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

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

Unit outcomes

Learners who complete this unit can:

1. use scientific principles to identify appropriate livestock husbandry techniques in a production system
2. determine how the quality of livestock products and/or produce can be affected by the production system
3. appraise a livestock enterprise based on performance figures
4. determine how to handle livestock wastes and pollutants to conform to good agricultural practice and protect the environment
5. describe the contribution that farmland could make to biodiversity enhancement using regenerative agriculture techniques and habitat management

Evidence requirements

You can assess the unit in various ways. You can assess outcomes 1, 2 and 3 together, as detailed below. You could also integrate the delivery and assessment of outcomes 4 and 5 with the Crop Production Management unit.

Outcomes 1, 2 and 3

You should give learners a farm-based livestock problem, using a real or imagined scenario, for which they must:

- identify an appropriate solution
- justify the solution
- identify an acceptable level of incidence and/or prevalence of the problem

Identifying husbandry techniques (outcome 1)

Example problems could involve (but are not limited to):

- health
- nutrition
- reproduction
- performance
- welfare

The impact of different production systems on livestock quality (outcome 2)

Potential impacts could involve (but are not limited to):

- product quality
- welfare
- environmental

Appraising a livestock system (outcome 3)

Example problems could involve (but are not limited to):

- technical performance — key performance indicators (KPIs)
- financial performance (including gross margin, variable costs)

Handling livestock wastes and pollutants (outcome 4)

Learners must prepare a farm wastes and nutrient management plan, which must include:

- relevant livestock, housing and field data
- a plan for recycling the nutrients in animal manures that considers, in accordance with current regulations and best practice:
 - nutrient value
 - crop requirements
 - application timings
- a description of the manure storage and machinery requirements needed to achieve the farm wastes and nutrient management plan objectives
- a description of non-animal wastes and how they should be managed
- a description of the potential impact of pollutants on water quality and aquatic ecosystems, and strategies to mitigate negative effects

Biodiversity enhancement and habitat management (outcome 5)

Learners must investigate biodiversity on an individual farm. This must include:

- an overview of on-farm habitats, including brief descriptions
- the following specific details for one habitat:
 - a detailed description
 - the species present
 - how to manage the habitat to maintain and/or enhance it
 - value of the habitat to the farm

Knowledge and skills

Knowledge	Skills
Outcome 1 Learners should understand: the application of scientific principles in a livestock production system	Outcome 1 Learners can: use scientific principles to select and justify appropriate husbandry techniques to solve a livestock performance and/or production problem
Outcome 2 Learners should understand: how the production system and husbandry can affect livestock products and/or produce quality	Outcome 2 Learners can: use scientific principles to select and justify appropriate husbandry techniques to solve a livestock products and/or produce quality problem
Outcome 3 Learners should understand: how to appraise a livestock enterprise	Outcome 3 Learners can: use business and science principles to analyse performance figures and evaluate how well a livestock enterprise is doing
Outcome 4 Learners should understand: how to manage farm wastes and pollutants	Outcome 4 Learners can: create a farm wastes management plan
Outcome 5 Learners should understand: the positive and negative impacts of farmland and husbandry practices on biodiversity	Outcome 5 Learners can: describe the contribution farmland can make to biodiversity

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:
 - collecting the correct information for the farm wastes management plan by filtering out non-essential material
 - concentrating on finding the right information to solve production-based problems
- integrity:
 - reflecting on the ethics of farming livestock
 - considering livestock welfare and learners' personal views along with business decisions
- adapting:
 - developing openness and adaptability by solving production and/or performance problems

Social intelligence

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

- communicating:
 - building communication skills — particularly an ability to listen — to receive and give information accurately
- feeling:
 - developing empathy when considering animal welfare
 - nurturing a social conscience about livestock farming and the environment

Innovation

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

- curiosity:
 - seeking to improve information sourcing
 - asking questions to enhance understanding
- critical thinking:
 - approaching the farming system in all its complexity, giving consideration to the environment, livestock and associated mechanisation
- sense-making:
 - demonstrating and developing synthesising and logical thinking skills when analysing information to solve problems

Literacies

This unit provides opportunities to develop the following literacies.

Numeracy

Learners develop their numeracy skills by:

- interpreting livestock figures, both technical and financial

Communication

Learners enhance their communication skills by:

- gathering information for all learning outcomes
- communicating their findings in assessment

Digital

Learners improve their digital skills and computer literacy by:

- producing assessment evidence, and engaging with learning materials and course content

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.

The notional design length for the unit is 160 hours. The amount of time you allocate to each outcome is at your centre's discretion.

We suggest the following distribution of time, including assessment:

Outcome 1 — Use scientific principles to identify appropriate livestock husbandry techniques in a production system (40 hours)

Outcome 2 — Determine how the quality of livestock products and/or produce can be affected by the production system (40 hours)

Outcome 3 — Appraise a livestock enterprise based on performance figures (40 hours)

Outcome 4 — Determine how livestock wastes and pollutants can be handled to conform to good agricultural practice and protect the environment (20 hours)

Outcome 5 — Describe the contribution that farmland could make to biodiversity enhancement using regenerative agriculture techniques and habitat management (20 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 livestock farms, as well as teaching the theory. You could base the problems you ask learners to address on real or imagined scenarios, but they should always be farm-based.

Outcome 1

You should cover:

- nutrition and ration formulation
- health planning, including:
 - conventional and organic (preventative)
 - metabolic
 - nutrition
- reproductive husbandry and technology, including:
 - estimated breeding values (EBVs)
 - indices
 - breeding improvement schemes
- intensive versus extensive systems, giving consideration to:
 - welfare
 - ethics
 - the environment

- farm wastes and associated buildings and mechanisation, including:
 - slats
 - pumps
 - floor design
- advanced livestock buildings and mechanisation concepts, including:
 - thermal insulation
 - heat balance, upper and lower critical limit and/or temperatures
- digital platforms and data handling

Outcome 2

You should cover:

- livestock products and/or produce quality parameters
- factors affecting livestock products and/or produce quality
- processing livestock products and/or produce to make a safe product for human consumption

Outcome 3

You should cover:

- technical and financial performance
- benchmarking livestock enterprises
- gross margins interpretation and variable costs

Outcome 4

You should cover:

- livestock wastes, operational farm wastes and associated pollutants
- the shift of attitude away from farm wastes to how materials are applied to land in a way that benefits the agriculture and the circular economy
- guidance from environmental regulatory bodies, such as:
 - EU good agricultural and environmental conditions (GAECs)
 - UK Environment Agency general binding rules
 - DEFRA (Department for Environment, Food & Rural Affairs) guidance on cross-compliance
- A farm wastes and nutrient management plan, including:
 - livestock, housing and field data relevant to a farm wastes and nutrient management plan
 - a plan for the recycling of animal manure nutrients, with consideration to nutrient value, crop requirements, rotation and application timings, in accordance with current regulations and best practice
 - a description of the manure storage and machinery needed to achieve the farm wastes and nutrient management plan objectives
- water quality, controlled activities regulations and nitrate vulnerable zones

Outcome 5

You should cover:

- natural capital, including:
 - biodiversity level on farm
 - policy
 - indicator and priority species
 - habitats
 - benefits
 - biodiversity sampling
- habitat creation and management, and associated husbandry

Approaches to assessment

Outcomes 1, 2 and 3

To achieve these outcomes, learners must explore a farm-based livestock problem, based on real or imagined scenarios.

You could assess this by writing three scenarios for each outcome, with each student selecting one to 'solve'. We give you some options below. You are not restricted to these, and there are many other options. Ideally, you should ensure learners have the opportunity to look at different production systems and choose the one they want to solve. You could present each problem in the form of a short video accompanied by supporting documents, like photos, feedback from the processor, and gross margin information.

Potential problem scenarios

Learners could consider many possible problem scenarios. Here are some examples (with the production system given in parentheses):

Outcome 1

- avian influenza identified in the UK: what measures should the farmer take? (layers)
- high number of cases of pneumonia in calves (beef)
- lowland flock scanned at 125% (sheep)

Outcome 2

- high number of 'soft shells' in layer enterprise (layers)
- high Bactoscan and SCC (somatic cell count) in milk (dairy)
- PSE (pale, soft, exudative meat) found in pork post-slaughter (pigs)

Outcome 3

- large losses between scanning and lambing in hill flock (sheep)
- gross margin shows suckler herd losing £100 per cow (beef)
- average number of lactations is 2.5 in 150-cow herd (dairy)

Outcome 4

Students must prepare a farm wastes and nutrient management plan that includes:

- livestock, housing and field data relevant to a farm wastes and nutrient management plan
- a plan for the recycling of the nutrients in the animal manures, giving consideration to nutrient value, crop requirements and application timings, in accordance with current regulations and best practice
- description of the manure storage and machinery requirements to achieve the farm wastes and nutrient management plan objectives
- description of the non-animal wastes and how they are managed
- appreciation of the impact of pollutants on water quality and aquatic ecosystems and strategies to mitigate negative effects

Outcome 5

Learners must investigate biodiversity on an individual farm that includes:

- an overview of habitats on farm, including brief descriptions
- the following for one habitat:
 - a detailed description
 - the species present
 - management of habitat to maintain and/or enhance
 - value of the habitat to the farm

You could assess this outcome in various ways, including short-answer questions, a poster and/or presentation, short video or short essay.

Resources

Learners should have access to a range of livestock farms. 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

Livestock Management Systems (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 gives you the knowledge and skills to:

- use scientific principles to identify appropriate livestock husbandry techniques in a production system
- determine how the quality of livestock products and/or produce can be affected by the production system
- appraise a livestock enterprise based on performance figures
- determine how to handle livestock wastes and pollutants to conform to good agricultural practice and protect the environment
- describe the contribution that farmland could make to biodiversity enhancement using regenerative agriculture techniques and habitat management

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

When you study this unit, you learn the practical application of livestock husbandry techniques, along with the science behind them. You look to identify and solve various livestock problems, whether in real or imagined scenarios, and to describe what an appropriate outcome would be.

You also learn about how livestock products can be processed and marketed to produce a safe, traceable and high-quality food product. You assess livestock

enterprises in terms of their technical and financial performance, and compare these figures to industry benchmarks.

You consider how livestock farms can have both a positive and a negative effect on the environment, and look at what farmers can do to enhance the positive effects and mitigate the negative effects.

Prior knowledge and skills

Before you start the unit, you should have a good understanding of livestock production systems (beef, lamb, dairy, pork, egg and chicken) in Scotland and how they operate. You could demonstrate this by completing the Principles of Livestock Production unit at SCQF level 7, which is part of HNC Agriculture.

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

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

Assessment

You can be assessed in a variety of ways, with a focus on solving problems for a real or imagined farm-based livestock problem.

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 focus on filtering information, reflect on the ethics of farming livestock and the spectrum of views on livestock welfare, and develop an open approach to problem solving.

Social intelligence

You develop your social intelligence skills as you learn to communicate effectively — particularly to listen; and nurture an empathic approach to animal welfare and a social and ecological conscience.

Innovation

You develop your innovation skills as you look to improve your information sourcing; consider all the elements in a complex farming system; and demonstrate a capacity to analyse and synthesise information, and think logically as you solve problems.

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

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Superclass: SM

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.

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