



Higher National Unit Specification

General information for centres

Unit title: Poultry Egg Production Systems

Unit code: F43A 34

Unit purpose: This Unit is designed to enable candidates to develop their knowledge and skills of the poultry egg production business and covers production systems and bird management. It deals with all levels of production, including issues such as performance targets, bird housing, feeding, watering and environmental aspects from replacement stock, through the laying cycle, to egg packing. The production systems are investigated in relation to world egg production and welfare issues.

On completion of the Unit the candidate should be able to:

- 1 Describe the global egg market.
- 2 Explain the management of replacement layer stock.
- 3 Evaluate management practices for poultry egg production.
- 4 Explain egg collection, grading and packing procedures.

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: Access to this Unit is at the discretion of the centre. However, it would be beneficial if candidates had some prior knowledge of egg production systems and husbandry. It is also recommended candidates have sufficient mathematical skills to understand graphical and tabulated data to SCQF level 5 or equivalent.

Core Skills: There are opportunities to develop the component Written Communication of the Core Skill *Communication* at SCQF level 6 and the component Using Number of the Core Skill *Numeracy*, at SCQF level 5 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.

Assessment: This Unit may be assessed using two instruments of assessment. The assessment of Outcomes 1 and 2 may be combined in a closed-book assessment using restricted and extended response questions. Outcomes 3 and 4 may be jointly assessed using an open-book assignment which investigates egg production systems.

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

Describe the global egg market

Knowledge and/or Skills

- ◆ Egg producing nations
- ◆ Global egg trade
- ◆ Egg industry structure

Evidence Requirements

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

- ◆ describe the importance to global egg production of four principal egg producing nations in terms of production volume, share of market
- ◆ describe three factors that impact on the global trade of eggs in shell
- ◆ describe the structure of the egg industry in one selected, non-UK country

This is a closed-book, supervised assessment consisting of restricted and extended response questions covering all knowledge and skills.

Assessment Guidelines

The assessment for this Outcome could be integrated with the assessment for Outcome 2. Please see further information under the Assessment Guidelines for Outcome 2.

Higher National Unit specification: statement of standards (cont)

Unit title: Poultry Egg Production Systems

Outcome 2

Explain the management of replacement layer stock

Knowledge and/or Skills

- ◆ Pullet rearing house environments
- ◆ Pullet management
- ◆ Layer quality assurance

Evidence Requirements

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

- ◆ explain the light and weight control programmes for rearing replacement pullet stock
- ◆ explain the management requirements to conform to one specified layer quality assurance scheme

This is a closed-book, supervised assessment consisting of restricted response questions covering all knowledge and skills.

Assessment Guidelines

This Outcome may be assessed in conjunction with Outcome 1 using restricted and extended response questions which cover all knowledge and skills.

Outcome 3

Evaluate management practices for poultry egg production

Knowledge and/or Skills

- ◆ Egg production systems
- ◆ Laying house management
- ◆ Environmental control
- ◆ Feeding and watering equipment
- ◆ Flock performance measurement
- ◆ Organic production

Higher National Unit specification: statement of standards (cont)

Unit title: Poultry Egg Production Systems

Evidence Requirements

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

- ◆ explain the laying house management requirements in terms of stocking density, feeding, watering, the environment, stock health, for two of the following production systems:
 - free range
 - barn
 - cage
- ◆ evaluate the physical performance characteristics of two production systems
- ◆ describe three implications of converting from free range to organic production

This is an open-book assessment.

Assessment Guidelines

The assessment for this Outcome could be integrated with the assessment for Outcome 4. Please see further information under the Assessment Guidelines for Outcome 4.

Outcome 4

Explain egg collection, grading and packing procedures

Knowledge and/or Skills

- ◆ Egg collection systems
- ◆ Egg quality standards
- ◆ Grading and packing

Evidence Requirements

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

- ◆ explain two advantages and disadvantages of two contrasting systems of egg collection
- ◆ explain how the pre-grading of eggs supports egg quality standards
- ◆ explain the reason for internal and external egg quality failures
- ◆ explain a grading and packing process for table eggs

This is an open-book assessment.

Assessment Guidelines

This Outcome may be jointly assessed with Outcome 3 by means of an investigative assignment in which the candidate explores egg production from point of lay pullets to table eggs leaving the packing station. The assignment could extend to approx 2,000 words or equivalent if both Outcomes are combined.

Administrative Information

Unit code: F43A 34
Unit title: Poultry Egg Production Systems
Superclass category: SH
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History of changes:

Version	Description of change	Date

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Higher National Unit specification: support notes

Unit title: Poultry Egg Production Systems

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

The UK poultry industry produces in excess of 10,000 million eggs annually and is a major producer within the European Union which dominates both the import and export trade and accounts for over two thirds of global egg trade. This Unit will provide candidates with a clear understanding of the global poultry industry, the production systems in use today and the methods of assessing the performance of egg production and bird management from the production of replacement stock through the laying cycle to the final quality assurance checks and packaging.

Outcome 1 is concerned with the size, structure and distribution of the world egg market. An awareness of the principal egg producing nations and their relative importance to global egg production should be developed. This Outcome will increase the candidate's knowledge of the factors that can impact on the world-wide trade of eggs in shell and of the various structures of production systems employed by different countries.

Outcome 2 provides candidates with information on the rearing and management of replacement layer stock. The Outcome requires consideration of the importance of light control (to bring to Point-of-Lay) and weight control programmes (for egg production). This Outcome covers the quality assurance (QA) schemes and the management requirements required to fulfil the stringent QA standards.

Outcome 3 looks at systems of egg production. It considers in detail the management requirements for cage, barn and free-range poultry egg production systems and raises awareness of the implications of converting from a free-range system to an organic method of egg production. Details of the management requirements could include:

- ◆ stocking density
- ◆ feeding
- ◆ watering
- ◆ environment
- ◆ stock health

This Outcome will also equip candidates with the knowledge on how to evaluate the physical performance of the respective production systems enabling them to highlight areas of concern and identify any necessary remedial or corrective action.

Outcome 4 addresses the techniques used to identify internal and external egg quality faults and outlines any remedial action that should be taken. It looks at the methods of egg collection and the pre-grading of eggs on farm prior to transfer to the packing station. The factors that impinge on egg quality could be investigated and importance of egg quality could be discussed along with the methods of identifying egg faults. The framework for this Outcome is maximising quality eggs from farm to the consumer.

Higher National Unit specification: support notes (cont)

Unit title: Poultry Egg Production Systems

Guidance on the delivery and assessment of this Unit

The Unit is specifically designed for use as part of a Group Award in poultry production and it is best studied in this context. The Unit is expected to be delivered partly in the classroom environment and partly working with commercial egg layers on site. Opportunities should be sought to visit other commercial poultry sites and egg packing stations. This will provide the candidates with a deeper understanding of a commercial working environment. Candidates should be encouraged to maintain production records of their own and use these to assess flock performance data.

The programme is best constructed to encompass both large scale and small scale production systems so that the difficulties of each system can be observed first hand. If this is not possible, the use of DVDs and other photographic material will be invaluable to illustrate specific production issues — particularly welfare issues. It is also advantageous to provide practical opportunities for candidates to undertake such tasks as collecting, candling, grading and packing eggs, and programming light control programmes to facilitate their familiarisation and understanding of the factors involved with such procedures.

The Unit may be assessed by two instruments of assessment. The assessment for Outcomes 1 and 2 may be combined. The assessment for Outcomes 3 and 4 may be combined in an investigative assignment. It is recommended that candidates use their learner material, practical experience and external research to produce an assignment report on the commercial egg industry from the production stage of the Point-of-Lay pullet to the packing station in a selected production system. The selected system may be tailored to the specific interest of the candidate where this is appropriate.

Opportunities for developing Core Skills

There are opportunities to develop the component Written Communication of the Core Skill *Communication* at SCQF level 6 and the component Using Number of the Core Skill *Numeracy* at SCQF level 5 in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

If the candidate chooses to produce a written submission for the investigative report for Outcomes 3 and 4, and presents information in a structured manner using industry standard terminology and conventions, there is ample opportunity to develop the Core Skill of *Communication* at SCQF level 6, however, there is no automatic certification of this Core Skill or Core Skills components. Numeracy skills will be developed through configuring stock numbers, management considerations for egg production environments and data analysis required in relation to stock and quality issues.

Open learning

This Unit could be delivered by distance learning. The assessments may be completed on-line. However, it would require planning by the centre to ensure the required assessment conditions and the sufficiency and authenticity of candidate evidence. It will, however, be advantageous to facilitate access to a range of commercial egg production premises to stimulate discussion.

Higher National Unit specification: support notes (cont)

Unit title: Poultry Egg Production Systems

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: Poultry Egg Production Systems

The UK has a large and dynamic commercial poultry egg industry with over 32,000 laying flocks made up of more than 28 million laying birds. Today's global commercial egg market demands maximum production of a high quality product and value for money for the consumers. This must be achieved without compromising welfare standards.

This Unit explores all the principal egg production systems including free range, barn as well as cage systems and all aspects of the industry from rearing replacement pullets through to the production of table eggs, as far as the packing station. Ultimately it is from here that the eggs are transported to the shops and supermarkets.

The Unit also considers the requirements for organic egg production, a growing market in the UK. You will look at performance management over a range of production systems and the factors which can influence the efficiency of a commercial egg enterprise. The Unit is designed to increase your understanding of the factors that influence production and the environment in which the industry operates and will furnish you with the information you need to make a real contribution to today's egg production industry.

There are opportunities to develop the component Written Communication of the Core Skill *Communication* at SCQF level 6 and the component Using Number of the Core Skill *Numeracy*, at SCQF level 5 in this Unit, although there is no automatic certification of Core Skills or Core Skills components.