National Unit specification: general information

Unit title: Deer Biology (SCQF level 6)

Unit code: FN5C 12

Superclass: SH

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Source: Scottish Qualifications Authority

Version: 01

Summary

This Unit will enable candidates to identify the six main species of deer found throughout the UK. The basic life cycle and welfare of the individual deer species will form an important part of this Unit providing candidates with the underpinning knowledge required to gain industry accredited awards. The aim of this Unit is also to enable candidates to acquire the specialist information and vocational skills needed to bring them into line with current best practice guidelines standards within the deer and game meat industry. The identification of the animal's main internal organs and lymph glands will form an integral part of this Unit. The factors affecting deer health and welfare will also be investigated and explained. The impact of diseases and parasites on these ungulates will also be identified.

This Unit is an optional Unit in the National Certificate in Gamekeeping but is also available for candidates wishing to study the Unit on its own.

This Unit is vital for managers of deer and the knowledge acquired from its successful completion will allow trainee practitioners to work within current industrial best practice guidelines.

Outcomes

1 Identify the main species of UK deer.
2 Identify the life cycles of the main UK deer species
3 Identify anatomy and physiology of UK deer species.
4 Identify factors affecting deer health.

Recommended entry

Entry is at the discretion of the centre.

General information (cont)

Unit title: Deer Biology (SCQF level 6)

Credit points and level

1 National Unit credit(s) at SCQF level 6: (6 SCQF credit points at SCQF level 6*)

**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.*

Core Skills

The Unit provides opportunities for candidates to develop aspects of the following Core Skills:

Problem Solving — Critical Thinking

These opportunities are highlighted in the Support Notes of this Unit.

National Unit specification: statement of standards

Unit title: Deer Biology (SCQF level 6)

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

Identify the main species of UK deer.

Performance Criteria

(a) Identify the six main species of UK deer.
(b) State the correct names in terms of species for both the male and female deer.

Outcome 2

Identify the life cycles of the main UK deer species.

Performance Criteria

(a) Identify factors affecting natural mortality and lifespan of deer species.
(b) Identify the feeding strategies of deer species.
(c) Identify breeding cycles of deer species.

Outcome 3

Identify anatomy and physiology of UK deer species.

Performance Criteria

(a) Identify the main internal organs found within a deer.
(b) Identify the glands associated with the lymphatic system.

Outcome 4

Identify factors affecting deer health.

Performance Criteria

(a) Identify the main internal parasites of UK deer species.
(b) Identify the main external parasites of UK deer species.
(c) State notifiable diseases affecting deer health.

National Unit specification: statement of standards (cont)

Unit title: Deer Biology (SCQF level 6)

Evidence Requirements for this Unit

Performance evidence will be collected at appropriate points throughout the Unit to demonstrate that all Outcomes and Performance Criteria have been achieved.

Outcome 1

Candidates are required to demonstrate their knowledge and understanding of the identification of the six main UK deer species.

Candidates must provide written and/or oral recorded evidence which must include:

- Identification of the following deer species:
  - red deer, roe deer, sika deer, muntjac deer, fallow deer and Chinese water deer.
- Stating of correct terms for both male and female of each species:
  - red stag, red hind, sika stag, sika hind, roe buck, roe doe, muntjac buck, muntjac doe, fallow buck, fallow doe, Chinese water deer buck, Chinese water deer doe.

Outcome 2

Candidates should provide written and/or recorded oral evidence to demonstrate their knowledge, understanding and skills in relation to the Outcome and Performance Criteria.

The evidence must include:

- Identification of factors affecting natural mortality to include:
  - tooth wear, old age, disease, injuries and weather.
- Lifespan to include:
  - roe 10 years, red 14 years, fallow 14 years, muntjac 14 years, sika 16 years, Chinese water deer 6 years.

Identification of feeding strategies of deer to include:

- Selective selection of individual plants — browsing
- Non selective consumption of plants — grazers
- Regular feeding bouts
- Ruminate

Identification of breeding cycles must include:

- Roe — Rut late July/early August — gestation period approx 294 days — young born May/June.
- Red — Rut Sept/October — gestation period 230/240 days — young born Late May — June.
- Fallow — Rut August/Sept — gestation period approx 235 days — young born June/July.
- Sika — Rut Oct/Nov — gestation period approx 230 days — young born June/July.
- Chinese water deer — Rut December — gestation period approx 180 days young born May — July.
- Muntjac — Rut within days of parturition 190 — 210 days young born at any time.

National Unit specification: statement of standards (cont)

Unit title: Deer Biology (SCQF level 6)

Outcome 3

Candidates should provide written and/or recorded oral evidence to demonstrate their knowledge, understanding and/or skills in relation to the Outcome and Performance Criteria.

The evidence must include:

- Correct identification of the organs, functions and body parts removed on gralloch and in the lardering process (oesophagus, trachea, rumen, spleen, large intestine, rectum, bladder and penis).
- Correct identification of the organs and functions retained as the pluck (heart, lungs liver and kidneys).
- Identification of the lymphatic system.

Outcome 4

Candidates should provide written and/or recorded oral evidence to demonstrate their knowledge, understanding and skills in relation to the Outcome and Performance Criteria. The evidence must include:

- Identification of the following internal parasites — tapeworm, lungworm, warble fly, nasal bot fly, and liver fluke.
- Identification of the following external parasites — sheep tick, ked fly and lice.
- Notifiable diseases to include — Anthrax, Avian TB, Bovine TB, Epizootic haemorrhagic virus disease, Foot and Mouth and Blue Tongue.

National Unit specification: support notes

Unit title: Deer Biology (SCQF level 6)

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 an optional Unit in the Gamekeeping National Certificate at SCQF level 6. This Unit can also be taken as a free-standing item. This Unit is a knowledge based Unit which relates to the whole industry and as such does not align to a specific National Occupational Standards Unit.

Outcome 1
This Outcome is designed to develop knowledge and understanding of the main UK deer species which is recognised as an essential part of the deer management sector. This is intended to allow candidates to develop identification skills relating to the six main UK deer species. Particular emphasis on body size, pelage and morphology in teaching delivery will enable candidates to develop their observational assessment of both deer in the field and a classroom environment. The correct terminology for both the male and females of the main deer species is also an essential part of this Outcome.

Outcome 2
This Outcome enables candidates to develop knowledge and understanding in the origin and distribution of deer species. Reference will be made to identifying the causes of natural death in deer populations and their general welfare. The range of factors influencing deer feeding habits will also be investigated. The influence of climatic conditions affecting the animal's localised movements is also considered in this Outcome. Candidates will investigate and recognise the deer's complex breeding cycles including delayed implantation.

Outcome 3
Essential to this Outcome will be the development of the candidate's ability to identify the basic external and internal anatomical features of healthy UK deer species. The influence of the production of the male hormone on antler growth must also be investigated. The physiology of the ungulates feeding systems and strategies will be studied. An understanding of deer species physiology and anatomy is essential to allow candidates to become accomplished deer practitioners. The identification of any abnormalities in the lymph glands is a legal requirement as it may be an indicator of one of the diseases discussed in Outcome 4.

Outcome 4
The ability of the candidate to identify the main internal and external parasites found in deer species is essential to acquiring the skills needed in assessing the condition and behaviour of the animal in the field before culling. The carcase is inspected whilst the gralloch is being undertaken and also before being transported to the larder. It is a legal requirement that all trained hunters and deer managers are aware that a notifiable disease is a disease named in section 88 of the Animal Health Act 1981 or an Order made under that Act. The possibility of a candidate discovering or identifying a potentially infected animal is real and therefore it

forms an integral part of this Outcome. The ability of the candidate to identify any abnormalities in both live and dead deer is an essential responsibility of all deer practitioners.

Guidance on learning and teaching approaches for this Unit

In this Unit candidates will gain knowledge and understanding relating to deer biology, ecology, anatomy and physiology. It is also essential that candidates are aware of the legislation and the current relevant key aspects that relate to deer welfare, game meat hygiene and animal diseases. However it is not expected that there would be any detailed teaching or investigation of complex legislation.

The underpinning knowledge required could take the form of the following teaching and learning approaches including:

- Group work
- Internet/Website
- Tutorials
- DVD/Video
- Demonstrations
- Internal visitation
- Field Trips/Investigation
- Working individually

It is expected that candidates will be given support and guidance from the instructor/lecturer or teaching assistant in all Outcomes before progressing to an assessment.

Guidance on approaches to assessment for this Unit

In relation to Outcome 1
Written and or oral evidence could be used. Assessment could take the form of series of images being correctly identified by the candidate either written or oral response. The correct terminology covering the sex of the deer species should also be stated in the candidate's response.

In relation to Outcomes 2 and 4
Written and/or oral evidence for all the required PCs. Assessment could take the form of a holistic multiple choice question paper covering all criteria within both Outcomes.

In relation to Outcome 3
Written and/or oral evidence for all the required PCs. Assessment could take the form of a series of images deer species in which the candidates will identify key parts in the form of multiple choice questions. A secondary series of slides containing ungulates internal organs forms the secondary part of these criteria and can also be a multiple choice paper. The specialised features of male deer being correctly identified by the candidate complete the third part of this Outcome. This assessment would also take the form of a multiple choice question paper with the option of oral candidate responses.

Outcome 1	Written \ Oral multiple choice (images) assessment
Outcomes 2 and 4	Written \ Oral multiple choice assessment.
Outcome 3	Written \ Oral multiple choice assessments.

Alternatively, a project based task could be used to assess this Unit holistically.

National Unit specification: support notes (cont)

Unit title: Deer Biology (SCQF level 6)

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 e-checklists. 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)*.

Opportunities for developing Core Skills

The Unit provides opportunities for candidates to develop aspects of the following Core Skills:

Problem Solving — Critical Thinking Evaluation at SCQF level 5.

The candidates will investigate online materials, veterinary books/journals, Industrial Best Practice Guides and photographic images relating to the assessment materials required of them in this Unit.

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