Institute for Apprenticeships & Technical Education

Agriculture, Environmental and Animal Care: Agriculture, land management and production

T Level outline content: draft version

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Contents

Introduction

Outline content

This outline content has been produced by T Level panels of employers, professional bodies and providers, and is based on the same standards as those used for apprenticeships. The outline content will form the basis of the specifications for T Level Technical Qualifications, which will be developed by awarding organisations for approval by the Institute for Apprenticeships and Technical Education. One awarding organisation will be appointed to develop and deliver each Technical Qualification following a procurement process.

Colleges and other education and training providers will decide how to structure the T Level courses they offer, based on the qualification specifications. This will enable them to deliver the study programme's mandatory components in the most effective way for students.

A T Level programme consists of a Technical Qualification, substantial industry placement, English and maths, and other occupation-specific requirements where essential for entry to skilled employment. This outline content relates solely to the Technical Qualification part of a T Level programme.

Further information about T Levels is available on the website of the Institute for Apprenticeships and Technical Education here: www.instituteforapprenticeships.org, and at www.education.gov.uk.

Agriculture, Environmental and Animal Care: Agriculture, land management and production pathway

Awarding organisations will need to ensure that students have an up-to-date knowledge of the legal and regulatory obligations relating to employment in the occupations relevant to the T Level and understand the practical implication of these on their work.

Maths, English and digital skills are set out in a separate annex. Awarding organisations should integrate these within the qualification so that they are applied in occupationally relevant contexts.

Core content

The core content relates to the whole route 'route core'. The core knowledge and understanding is assessed through an examination and core skills through a practical employer-set project.

The core knowledge and understanding focuses on the students' knowledge and understanding of contexts, concepts, theories and principles relevant to the T Level. This could include, where appropriate, assessment of knowledge and understanding relevant to the route and the pathway.

The employer-set project provides the opportunity to develop and apply a minimum range of core skills important for employability. The allocation of content to each type of assessment will need to be approved by the Institute for Apprenticeships and Technical Education.

Core knowledge and understanding across Agriculture, Environmental and Animal Care Route

Element	Content
Sustainability	Key requirements of environmental legislation • associated obligations for businesses, their employees and other stakeholders. Key government environmental policies and initiatives • the opportunities and risks they bring to agriculture, environmental and animal care sector • the associated environmental performance measure e.g. water and energy use. The concept of sustainable development • sustainable development goals at a macro (national and international) and micro (business) level • types of sustainable solutions to meet development goals including social, environmental, economic and human • concerns and expectations of key stakeholders. The concept of climate change and scientific views on causes and impacts • the impact of increased rainfall and higher temperatures upon environments, conservation practices, habitats, flora, fauna and water levels • policies and initiatives to manage these changes at national and local level. Waste management principles (e.g. recycle, reduce, reuse) • key requirements of associated legislation • types of materials that require specific actions (e.g. asbestos) • measures in place by the sector and organisation to meet requirements.

Biosecurity	Principles of biosecurity • factors influencing biosecurity e.g. international trade, new technologies • biosecurity risk factors in different types of agriculture, environmental and animal care situations • biosecurity measures including inspection, monitoring, regulation, passports, isolation and their importance in maintaining health production and service environments.
Working in the agriculture, environmental and animal care sector	Employment rights and responsibilities (e.g. union membership, working hours) of the employer and employee • expectations of professional conduct and behaviours in the workplace (including punctuality, cleanliness, respect for own and others work and work area, respect for the land, property and belongings of others (including animals) • typical activities that can lead to disciplinary and grievance procedures • how these expectations are met and demonstrated by employees. Principles of effective teamwork • how teams are developed, including the role of the team leader • team dynamics and how they are managed, and behaviours influenced • qualities of effective team members and team leaders and how these qualities are demonstrated • the importance of team work to team and project performance • techniques used to monitor and manage individual and team performance e.g. goal and objective setting, performance management reviews, providing constructive feedback • techniques used to manage team conflict (e.g. mediation) and when and how they should be applied.

Working in the agriculture, environmental and animal care sector (continued)	Progression opportunities which exist within the agriculture, environmental and animal care sector • the purpose of continuing professional development (CPD) and the benefits it brings to the individual and their employer • methods of personal and professional development (e.g. coaching, independent research) and the types of organisations that can provide this type of support, including professional bodies. • their suitability for achieving planned outcomes.
Ethics	Ethical principles (e.g. honesty, transparency, justice) • how these are used in codes of conduct, employment terms and conditions and workplace policies • how these are represented by ethical behaviours • how these are incorporated into business ethics • how these impact on business operations, including interaction with stakeholders and the supply chain.
Supply Chain	The supply chain • different types of organisations involved and their role • different ways in which the supply chain is sequenced and operates • implications of failing to meet supply chain demands • environmental impact of the supply chain including whole life cycle of a product • types of procurement (e.g. competitive bidding, direct purchase) and their suitability for different situations. Principles of stock management (including stock rotation, storage, conditions, monitoring stock levels, ordering stock, dealing with deliveries, maintaining records) • how they are applied in different types of business • implications to businesses of ineffective processes.

Business	The types of business organisations e.g. sole trader, partnership, limited company, not for profit • common business structures and hierarchies • the financial, legal and commercial implications of type of business • typical organisational policies and their relationship to legislation • types of business objectives and values associated with different business structures. The principles of enterprise skills e.g. risk taking, innovation, resilience • how they are applied to develop business growth and change including sales opportunities and diversification of the business • types of business risk (e.g. financial, reputational) and risk management methods that can be deployed. How businesses measure success (including Key Performance Indicators (KPIs), Service Level Agreements (SLAs), benchmarking, supply chain requirements) • the information used to determine if success measures are met • quality standards, quality control and quality assurance ○ their purpose, differences and application to organisations quality standards expected by internal and external stakeholders and associated quality assurance requirements e.g. audits. The principles of project management (including purpose and scope of the project, milestones and timescales, supply chain, people management, resources, budgeting).
Equality	Factors to consider (including equality legislation, cultural differences, religious needs) when working with people from diverse backgrounds and cultures • how to show empathy and respect to those from different backgrounds and cultures to our own • acceptable and unacceptable behaviours and language. Characteristics protected by equality legislation.

Communication	Different types of communication (including verbal, non-verbal and digital) • the formats used for the types of communication (e.g. business reports, emails, letters, websites) and associated business conventions • the types and value of images and visual aids to support written text and oral presentations • their suitability for different purposes and audiences • the importance of spoken language, body language and tone in communication and how each is used to convey different messages to different audiences for different purposes • the benefits and limitations of social media including risk of misuse, promoting the business.
Relationship Management	Principles of customer care (including first impressions, representing business and self, supporting customers, the difference between customer wants and needs, the importance of accurate knowledge, working to an expected timescale) • how these can be applied when dealing with different stakeholders, including internal customers • legal requirements (including legislation relating to consumer protection) when interacting with different types of customers and customer relationships including business to business (B2B) • typical procedures used to deal with customer disputes and complaints, including escalation to relevant individuals and departments • how to apply customer service principles and the benefits to the individual (e.g. increased motivation, positive feedback) and business (e.g. customer loyalty, customer confidence). Roles of different stakeholders including internal and external customers • their expectations • interrelationships between stakeholders.

Finance	The concept of profit • types of profit (including net and gross) and significance of each to business success • types of cost incurred by business (products, ancillary products, types of overheads, labour), their classifications (direct, indirect, fixed, variable) • measures used to reduce costs and implications of using these to profitability, reputation and quality • types of taxation (including payroll, business) • how costs and revenue are forecast • how profit is calculated.
Health and Safety	Key requirements of health and safety legislation e.g. for lone working, safe manual handling • the respective duties imposed on employees and employers • the importance of taking personal responsibility for health and safety of self and others • the techniques and methods used to comply with legislation e.g. use of Personal Protective Equipment (PPE), regular communication with lone workers. The purpose of risk assessments • typical structures and content • how they are developed and used • implications for poor development and application. Hazards and risks associated with working in the agriculture, environmental and animal care sector (e.g. working with hazardous materials, lone working) • typical control measures in place to minimise risks, including the types of PPE used, fatigue and stress management for lone workers. Procedures to follow when dealing with emergency situations e.g. spilt cleaning materials, slurry exposure, flooding.

Information and data	Key requirements of legislation relating to the security of information and data • types of information and data protected by legislation including client data, intellectual property • methods used by businesses to manage information and data including version control, access controls, indexing, cyber security.

Employer-set project

The employer-set project ensures students have the opportunity to combine core knowledge and skills to develop a substantial piece of work in response to an employer-set brief. The employer-set project forms part of the Technical Qualification and is a separate part of the T Level programme to the Industry Placement.

To ensure consistency in project scope and demand, awarding organisations will develop assessment objectives, which require students to:

- plan their approach to meeting the brief
- apply core knowledge and skills as appropriate
- select relevant techniques and resources to meet the brief
- use maths, English and digital skills as appropriate
- realise a project outcome and review how well the outcome meets the brief

The awarding organisation will work with a relevant employer or employers, to devise a set brief that:

- ensures a motivating starting point for students' projects, for example, a real-world problem to solve
- ensures students can generate evidence that covers the assessment objectives
- is manageable for providers to deliver
- is officially approved by the awarding organisation and employer

For Agriculture land management production, in achieving the assessment objectives and meeting the brief, students must demonstrate the following core skills:

- **Analysing**
    - e.g. identifying common features of data obtained on options to improve a business' environmental impact, classifying and organising data into types, discerning patterns.
- **Communicating**
    - e.g. using visual and oral methods to engage an audience with proposals for improving representation and diversity in the sector.
- **Critical thinking**
    - e.g. questioning information and data, evaluating pros and cons of the introduction of new machinery or plant into a business, taking out of the whole life cycle.

- **Decision making**
    - e.g. identifying likely impact of skills scarcity in the business and using evidence to substantiate conclusions.
- **Investigating**
    - e.g. developing search criteria/queries for secondary research and designing and carrying out tests for primary research into the environmental impact of a business.
- **Working in a team**
    - e.g. developing and implementing a communication plan for the introduction of a new lone working policy.

Occupational Specialist Content

Specialist content is structured into different occupational specialisms, which correspond to the apprenticeship standards listed on the relevant occupational map. Occupational specialisms ensure students develop the knowledge and skills necessary to achieve a level of competence needed to enter employment in the occupational specialism, and are organised around 'performance outcomes' that indicate what the student will be able to do, as a result of learning and applying the specified knowledge and skills.

There are some content areas that are included in both the Core and Occupational Specialism sections, this is intentional. Where in Core, it is because it is content that is applicable to all Agriculture, Environmental and Animal Care students, regardless of the occupational specialism. If the same content is also in the Occupational Specialism, it is because the knowledge and skills need to be developed within the context of the Performance Outcome. In the occupational specialism, it is therefore likely to require different content to reflect the Performance Outcome.

Occupational Specialist Content

Occupational Specialism: Livestock production

Performance Outcome 1: Establish conditions for animal breeding

This performance outcome should take students to the point of birth but does not include birth.

This occupational specialism relates to cattle, sheep/lamb, pig and poultry production. For this performance outcome, students are expected to acquire knowledge related to all types of animals and the skills to work with two.

Knowledge	Skills
Legislation and regulation Hazards that can lead to health and safety, hygiene issues • risks associated with establishing conditions for livestock breeding • the associated control measures that should be applied, including first aid techniques. **Animal biology** Natural and artificial methods of insemination • the benefits and limitations • suitability for different situations (e.g. breed, business targets). Physiology of the male and female reproductive systems of different farmed animals including • their purpose • the structures of those systems • how the different elements interrelate to ensure they function effectively • the estrus cycle	Visually assess animals' health. Visually assess animals' mobility. Capture an animal from within a herd / flock. Isolate an animal from a herd / flock. Take animals' temperature. Physically measure animals' weight. Operate restraint equipment e.g. cattle crush, rope halter. Apply markings to animals. Physically check the condition of the anatomy for breeding e.g. udder, eggs. Calculate calving/lambing/hatching time. Calculate nutritional requirements when in calf. Provide a vitamin bolus. Prepare semen for artificial insemination (AI). Identify number on AI straw. Thaw AI straws. Load semen into gun. Maintain semen at correct temperature.

• primary and secondary signs of heat • characteristics that suggest suitability for breeding • gestation periods. Types of different farmed animal breeds including • their key characteristics • their suitability for different environments • their suitability for different production requirements e.g. short-term achievement of meat-based products, non-meat-based products (e.g. milk, wool). **Animal health and welfare** The five welfare needs of animals (e.g. how eggs are stored, how cows should be handled) and how they are delivered in practice when animals are being prepared for breeding. Potential effect of human-animal interaction on livestock • techniques used to mitigate for negative effects. Techniques used to monitor and assess the health and wellbeing of farmed animals • baseline expectations for farmed animals in different stages of breeding. Nutrition and feed requirements of different farmed animals during different breeding stages (e.g. pre-conception, pregnancy)	Use online applications to communicate with others. Instruct others how to carry out a task. Assess a situation for adverse health and safety risks. Apply physical dexterity with delicacy. Substantiate conclusions with evidence from data analysis. Create texts e.g. risk assessment, health check report. Determine a body conditioning score for livestock. Assess suitability of livestock for breeding (e.g. signs of heat). ***Sheep*** Harness a sheep. Cleanse a teat. Take a sample from a teat. Insert a tube into a teat. ***Poultry*** Set up an incubator. Load eggs into an incubator. Assess the health of eggs (e.g. for breeding, hatching eggs). Collect eggs for breeding. ***Cattle/sheep*** Cleanse a teat. Take a sample from a teat. Insert a tube into a teat. ***Pig*** Prepare accommodation for pig breeding.

• sources of nutrients and related supplements • how different nutrients affect health and successful breeding. **Animal breeding** Factors that affect the condition and physical characteristics of different male and female farmed animals (e.g. temperament, heritage, provenance) and the implications for their use in breeding. Genetic reproduction technology (e.g. selective breeding, embryo transfer) • its contribution to animal breeding and husbandry • use in determining breeding stage of livestock e.g. birds in lay, pigs in farrow. Techniques used to handle males during semen collection to maintain good welfare and maximise semen quality. How semen should be maintained (including handling, storage and recording) to maximise semen quality. Procedures (e.g. incubation times) and techniques (e.g. incubation) involved in supporting and monitoring eggs to hatch • characteristics that determine suitability of eggs for incubation • factors that affect suitability of eggs for incubation and hatching. Diseases and ailments that can affect the fertility and pregnancy of different farmed animals	

• their physical and behavioural indicators • action required to prevent and mitigate them • how they are monitored if in existence. **Animal Husbandry Environment** Environmental requirements of accommodation (e.g. ventilation, lighting, heating) used for breeding stock (including poultry) and their impact on successful breeding. Types of technology (e.g. embryonic transfer) and equipment (e.g. incubators, AI straws) used to support effective breeding of farmed animals • their operation • their suitability for different purposes. **Business management** Organisations involved in the end to end process of animal husbandry (including assurance schemes) and their roles in the breeding stage. Performance indicators of the operation and industry (including cost, growth, mortality, waste, hygiene, safety, environmental impact) • how they are used to make breeding decisions regarding animals • how they are monitored e.g. audits • implications for failing to meet performance indicators.	

The value of breeding and newly bred livestock to a business • different types of security measures in livestock production environments • their purposes • suitability for different breeding environments • how they are operated.	

Performance Outcome 2: Rear livestock from birth to production standard

This occupational specialism relates to cattle, sheep/lamb, pig and poultry production. For this performance outcome, students are expected to acquire knowledge related to all types of animals and the skills to work with one.

Students are expected to show that they can collaborate with at least one other person to herd animals.

Knowledge	Skills
Legislation and regulation Hazards that can lead to health and safety, hygiene and welfare risks associated with rearing livestock from birth to production and the associated control measures that should be applied. **Animal biology** Anatomy of the respiratory, digestive, nervous and cardio-vascular systems of different farmed animals including their purpose and structures. Physiology of the respiratory, digestive, nervous and cardio-vascular systems • how the different elements interrelate to ensure they function effectively • how the physiology changes during different life stages. **Animal health and welfare** The five welfare needs and how they are delivered in practice when animals are being reared. Diseases, parasites and ailments that can affect the rearing of farmed animals • how they are caused • symptoms that are displayed • how they can be prevented • how they can be treated	Tag an animal. Feed animals from a bottle / tube. Sterilise a bottle used for feeding. Mix feed to be provided in a bottle. Calculate feed requirements for bottle feeding. Weigh an animal using scales / weigh bands. Spray disinfectant over animal accommodation. Measure animal enclosures. Use hand tools (e.g. brush, spade, fork) to maintain animal enclosure cleanliness and hygiene. Sterilise / disinfect equipment used for food and water. Clean food and water equipment. Cut strings (e.g. on hay bale) with a knife. Place restraints on young animals. Manually lift a young animal and move to another location. Collaborate with a team member. Herd animals. Measure with precision.

• the impact they can have on growth and development. Techniques used to monitor and assess the health and wellbeing of farmed animals • baseline expectations for farmed animals at different life stages • the types of restraints (e.g. pig board, cage) and other equipment (e.g. weighing equipment) that can be used, their suitability for different animals and situations and how they are applied. Nutrition and feed requirements of different farmed animals during different stages of development • sources of nutrients and related supplements • how different nutrients affect their health, welfare and growth • types of equipment used to provide food and water to farmed animals. Characteristics of farmed animals that indicate they are ready for production (e.g. from hatching to despatch as layers or broilers) and how they are monitored. Accommodation requirements (e.g. ventilation, stocking densities) of different farmed animals at different growth stages • the effects of poor accommodation on growth • the types of equipment required e.g. heaters, shed alarms • how accommodation requirements are maintained	Cost (individual components/compound individual components) a proposal. Configure digital tagging. Transcribe information. Apply physical dexterity with an appropriate application of force. Assess hygiene risks. Manage waste. Maintain personal hygiene. Prepare accommodation for a new arrival. Administer vaccines /vitamins. Calculate stocking densities. Update livestock records e.g. registration documentation. ***Cattle*** Apply a calf coat. ***Poultry*** Debeak a chicken. Determine environmental requirements for growth. Monitor bird growth. ***Pigs*** Provide enrichment. ***Sheep*** Assess teeth quality. Tip a sheep. Age a sheep from its teeth.

including temperature of hatchery, cleaning of sty. The factors that can affect the movement of animals • the condition of animals making them unfit for transport • the equipment and facilities (e.g. lighting, ventilation) required to support the arrival of young animals • the need to avoid stress in animals and techniques used to move and handle them • requirements when transporting animals for different purposes e.g. for transfer to new accommodation, for sale. Vaccinations required by different breeds / species through their life stages • the benefits and limitations of their use in supporting animal growth and meeting production targets • implications for incorrect administration • requirements for storage and application of medicines including record keeping. Factors (e.g. spread of hatch, accommodation) that can affect livestock achieving performance targets for different breeds / species and how to optimise them. **Business management** Organisations and roles involved in the end to end process of animal husbandry (including assurance schemes) and the roles in the growth stage.	

Performance indicators for rearing livestock (including cost, growth, mortality, environmental impact) • how they are used to make decisions regarding animals during the growth stage • how they are monitored e.g. standard operating procedures • implications for failing to meet performance indicators. Types of technology and equipment (e.g. brooders, EID tags, software) used to support effective rearing of farmed animals, their operation and suitability for different purposes. Ethical issues associated with the rearing of animals including animal-human interaction • how these are resolved, including expectations and requirements of the wider supply chain e.g. the public, supermarkets. Requirements for registering the birth of livestock • techniques used to identify livestock including tagging • the importance of traceability and how this is managed. The value of livestock to a business at different growth stages • different types of security measures in livestock production environments • their purposes • suitability for different types of livestock in different environments • how they are operated.	

Performance Outcome 3: Optimise livestock production

This occupational specialism relates to cattle, sheep/lamb, pig and poultry production. For this performance outcome, students are expected to acquire knowledge related to all types of animals and the skills to work with one.

Knowledge Specific to Performance Outcome	Skills
Legislation and regulation Hazards that can lead to health and safety, hygiene and welfare risks associated with optimising livestock production and the associated control measures that should be applied. **Animal biology** Physiology of the respiratory, digestive, nervous and cardio-vascular systems • how the different elements interrelate to ensure they function effectively • how the physiology affects production quality and yield • faeces and urine output and abnormalities and implications for production quality and yield. **Animal health and welfare** The five welfare needs and how they are delivered in practice when animals are being used for production. Health and welfare issues (including condition of coat, eyes, ears, nose / beak, mouth, feet and behavioural issues) • physical and behavioural symptoms that indicate issues • actions required to mitigate them • how they are monitored e.g. taking temperatures, measuring weight.	Hitch a trailer to a tractor. Reverse a tractor with a trailer 10 metres in a straight line. Reverse a tractor around a corner. Use equipment to move bales of hay/straw/pallets to a trailer. Operate equipment to mix feed. Use equipment to scrape a yard. Restrain an animal limb to carry out a task. Remove wrap / string from a bale. Process animal performance data. Validate animal performance data. Identify discrete steps involved in completing a complex task. Sequence and prioritise steps. Estimate time and resources. Allocate resources. Apply physical dexterity with precise and controlled movements. Apply a logical approach to solving problems. Represent animal performance data using mathematical diagrams. Remove litter from the site. Clean equipment for storage. Apply biosecurity measures.

Nutrition and feed requirements of different farmed animals during production • sources of nutrients and related supplements • how different nutrients affect their health, welfare and production. Techniques used to monitor and assess the health and wellbeing of farmed animals during production. Diseases, parasites and ailments that can affect farmed animals • how they are caused • symptoms that are displayed • how they can be prevented • how they can be treated • the impact they can have on production yield and quality. The factors that can affect the movement of animals • the condition of animals making them unfit for transport • requirements when transporting animals for different purposes e.g. for slaughter, for processing. **Machinery and equipment** Types of equipment and machinery used for monitoring animal production, their characteristics, function, operation and suitability for tasks. Equipment and machinery maintenance • techniques used e.g. servicing, cleaning • how they are applied • implications of poor maintenance.	Assess growth against targets. Apply protective equipment for transportation of livestock. Gather transportation documentation. Visually assess condition of the transport for livestock safety and wellbeing e.g. partitions, level of ventilation. Load livestock onto transport. ***Cattle/sheep*** Strip foremilk from an animal. Use equipment to milk livestock. Set up milking equipment. Clean down milking equipment. Calculate chemicals required to go through milking equipment. Measure water temperature throughout cleaning process. Handle chemicals required to go through milking equipment. Mix chemicals required to go through milking equipment. ***Sheep*** Dip sheep. Shear sheep. Crutch sheep. ***Poultry*** Assess poultry against targeted outcomes. Grade eggs. Store eggs. Prepare birds for transportation. Apply processes to bring birds into lay.

Animal production Factors that can affect performance of farmed animals (e.g. egg quality, milk yield, take off rate) and the different systems used (e.g. indoor, hill based, automated)) • farmed animals' production lifecycles • finishing processes including culling, despatch and transportation • how these factors are optimised to improve yield and quality. Different types of grasses used for livestock production • their characteristics • their suitability for different types of animals, systems and production requirements • factors affecting quality of grassland and how these are managed to support high yield and quality • how to maintain grassland to meet animal needs and high production yield and quality. **Business environment** The livestock farming industry and its trends, breeds, consumption versus production data, supply chain options, types of contracts and implications for the livestock farmer. Organisations and roles involved in the end to end process of animal husbandry (including assurance schemes) and the roles in the production stage. Performance indicators of the production operation (e.g. flock / herd performance, egg quality) and of the industry	

• how they are used to make decisions regarding animals during the production stage • how they are monitored • implications for failing to meet performance indicators. Types of technology and equipment (e.g. robotics, product testing equipment) used to support effective production of farmed animals, their operation and suitability for different purposes. Ethical issues associated with optimising livestock production including animal-human interaction • how these are resolved including expectations and requirements of the wider supply chain. The value of livestock to a business during production and finishing • different types of security measures • their purposes • suitability for different types of livestock used for different production purposes • how they are operated.	

Performance Outcome 4: Maintain areas surrounding the production environment

Knowledge Specific to Performance Outcome	Skills
Legislation and regulations Hazards that can lead to health and safety risks associated with maintaining areas surrounding the production environment (e.g. slurry spillage, working with electrical supply) and the associated control measures that should be applied. Key requirements of biosecurity legislation, regulations, codes of practice and organisational policies and how they are applied to the maintenance of non-production environments. Key requirements of environmental legislation, regulations, codes of practice and organisational policies and how they are applied to the maintenance of non-production environments. **Business** Types of records to be produced and stored in relation to maintenance of non-productive areas and related systems for management of information and data. Costs of maintenance of non-productive areas and implications for profitability and business success. Performance targets for non-productive environments and how they are developed and applied in different situations. Opportunities for use of non-productive environments for financial benefit (e.g. stewardship) and implications for use e.g. meeting assurance requirements. Features of non-productive farm environments (e.g. footpaths, hedgerows, lakes)	Assess health and safety risks. Join wood (e.g. with nails, screws) for styles and fences. Cut wood. Prune hedges. Fix ironmongery (e.g. hinges and locks). Prepare wood for coating. Apply coatings to surfaces. Stone paths. Erect wired fencing. Clear paths. Take a soil sample. Test a soil sample for nutrients. Mow grassland for different purposes (e.g. strip grazing, grass topping). Cut grass for sileage or hay. Bale grass for sileage or hay. Estimate resource requirements. Summarise information and ideas. Use questioning techniques to obtain and clarify information. Identify sources of information. Develop search criteria/questions to be answered. Gather relevant information and data. Audit compliance with assurance scheme requirements.

• standards for maintenance of non-productive areas set by different standards setting bodies e.g. red tractor • the effects of techniques used to protect and enhance non-productive areas e.g. field margin. Wildlife species (e.g. insects, flora) that occur on farmland • their ecology • characteristics of their habitats • techniques used to encourage habitats of beneficial species • benefits and limitations of maintaining species and habitats for the non-productive environment (e.g. assurance scheme requirements) • legal and regulatory requirements for maintaining species and habitats. Risks associated with utilities in non-productive areas (e.g. electricity overhead cables, septic tanks) and the associated controls and PPE requirements. Factors to consider (e.g. costs, legislation, assurance standards) when conserving grass and the techniques used to optimise its use in non-productive environments. Waste management plans • classifications of waste from productive and non-productive environments and their sources • legal and regulatory requirements including Nitrate Vulnerable Zones (NVZ)	

• sources of organic and inorganic waste. **Maintenance** Maintenance techniques used to maintain and repair boundaries (e.g. hedges, ditches, posts) building fabric (e.g. barn walls, doors), and surfaces (e.g. gravel, slabs) habitats (e.g. birdboxes, deadwoods) and how they are applied. The types of assets held in a livestock production and non-production environments and their value of livestock to a business • different types of security measures • their purposes • suitability for different environments • how they are operated. **Machinery and equipment** Characteristics, operation and suitability of different types of equipment and machinery used for maintenance of non-productive areas. Techniques used to maintain equipment and machinery for use including storage, cleaning, calibration, visual and technical checks.	