Crossfields Institute

Qualification Specification

Level 4 Diploma in Regenerative Land Based Systems: Agroecological Principles and Practices

© Copyright Crossfields Institute 2023

All rights reserved worldwide. Reproduction by centres approved to deliver this qualification is permissible for internal use but Crossfields Institute does not accept liability for any incomplete or inaccurate copying and subsequent use of the information.

Crossfields Institute
Stroud House
Russell Street
Stroud
Gloucestershire
GL5 3AN

info@crossfieldsinstitute.com

01453 808118

Registered Company No: 06503063 Registered Charity No: 1124859

Publication date 1st February 2023

Version 1.0

Contents

Key Facts **5**

Section 1: About this Qualification **7**

1.1 Why take this qualification? 7

1.2 Who is it for? 7

1.3 What does the qualification cover? 7

1.4 What are the entry requirements? 9

1.5 What are the assessment methods? 9

1.6 What are the progression opportunities? 10

Section 2: Units/Modules **11**

2.1 Unit List 11

Unit 1: Agroecology and Regenerative Land Based Systems **13**

Unit 2: Soil and Plant Ecology in Agroecological and Regenerative Farm Systems **15**

Unit 3: Holistic Livestock Management in Agroecological and Regenerative Land Based Systems **16**

Unit 4: Agroforestry and Tree Crops in Agroecological and Regenerative Systems **18**

Unit 5: Water Management for resilience in Agroecological and Regenerative Land Based Systems **20**

Unit 6: Horticulture and arable cropping systems in Agroecological and Regenerative Farming Systems **22**

Unit 7: Permaculture Design Skills **24**

Unit 8: Permaculture Technical Design Skills **26**

Unit 9: Strategic business skills for Agroecological and Regenerative Farming business **27**

Unit 10: Operational business skills for an Agroecological and Regenerative Farming business **29**

Unit 11: Public engagement, social impact and practical conservation for Agroecological and Regenerative Farming Systems **31**

Unit 12: The political and social context for Agroecological Farming Systems **33**

Unit 13: Impact Assessment **34**

Section 3: Delivering this qualification **36**

3.1 Requirements for Centres 36

3.2 Quality Assurance 37

3.3 Assessment Planning Guidance 38

3.4 Training and Support 38

3.5 Policies and Procedures 38

Appendix 1: Resource and book list **40**

Key Facts

Qualification Title	CFI Level 4 Diploma in Regenerative Land Based Systems: Agroecological Principles and Practices
Qualification Number (QAN)	610/2090/4
Qualification Type	VRQ
Sector	3.1 Agriculture
Level	4
Rules of Combination	All units are compulsory.
Total Qualification Time	526 hours
Guided Learning Hours	304 hours
Credits	53
Minimum age of learners	18
Assessment Methods	Portfolio of evidence
Grading system	Pass/Fail
How long will it take to complete?	Up to 1 year
Developed by	The qualification has been developed by Crossfields Institute with subject specific expertise provided by The Apricot Centre.

Section 1: About this Qualification

1.1 Why take this qualification?

This objective of this Crossfields Institute Level 4 Diploma in Regenerative Land Based Systems: Agroecological Principles and Practices is to:

- Prepare you to progress to a qualification at a higher level such as: Foundation Degree in Agriculture and Rural Studies; Degrees in Agricultural Technology, Agriculture and Food or Rural Business Management
- Prepare you to progress to a qualification in another subject area
- Prepare you for employment in regenerative farming or smallholding settings
- Prepare you to work in post-harvest roles such as food processing in regenerative food products
- Prepare you to work in community supported agriculture or the circular food economy
- Support your role working in regenerative land based systems
- Provide you with opportunities for personal growth and engagement in learning

1.2 Who is it for?

This qualification is designed for people who want a practical, work-based approach to learning about regenerative land systems. The qualification progresses from the Level 3 Diploma. Upon completion of this qualification learners will be able to work in Regenerative Food Production, Farming or small-scale food production, forestry or other land-based businesses. Learners may also choose to complete further study at higher levels.

1.3 What does the qualification cover?

You must complete 13 mandatory units:

1. **Agroecology and Regenerative Land Based Systems**
   This unit considers the concepts and methodologies of agroecology and regenerative land-based systems and their impact on climate change, biodiversity loss and food security.

2. **Soil and Plant Ecology in Agroecological and Regenerative Farm Systems**
   This unit considers soil ecology and plant nutrition, how they interact and are managed in cropping and livestock systems

3. **Holistic Livestock Management in Agroecological and Regenerative Land Based Systems**
   This unit explores the scientific, nutritional and behavioural aspects of holistic livestock management in agroecological and regenerative land systems.

4. **Agroforestry and Tree Crops in Agroecological and Regenerative Systems**
   This unit develops practice and knowledge in different types of agroforestry systems, how they integrate with cropping and livestock systems and the types of tree crops in regenerative systems.

5. **Water Management for resilience in Agroecological and Regenerative Land Based Systems**

This unit provides opportunities for learners to understand how to create water-resilient farming systems in order to adapt to climate change.

6. **Horticulture and arable cropping systems in Agroecological and Regenerative Farming Systems**
   This unit considers how to grow a range of crops, arable and horticultural, in agroecological and regenerative systems.

7. **Permaculture Design Skills**
   This unit provides opportunities for learners to develop a deeper understanding of the permaculture design practice in the context of regenerative land-based systems. Outcomes from this unit may also be used towards the Permaculture Diploma

8. **Permaculture Technical Design Skills**
   This unit provides opportunities for learners to explore a range of presentation skills for permaculture designs, to enhance their professional practice in presenting their design work to clients.

9. **Strategic business skills for an Agroecological and Regenerative Farming business**
   This unit provides opportunities for learners to understand how to apply strategic business skills for a regenerative and agroecological farm business that reflects the core principles of this type of business system.

10. **Operational business skills for an Agroecological and Regenerative Farming business**
    This unit provides learners with opportunities to develop operational business skills for a regenerative and agroecological farm business that reflects the core principles of this type of business system.

11. **Public engagement, social impact and practical conservation for Agroecological and Regenerative Farming Systems**
    This unit provides learners with opportunities to explore the range of public engagement activities and social impact that can be generated from agroecological and regenerative farming systems.

12. **The political and social context for Agroecological Farming Systems**
    This unit provides opportunities for learners to develop an understanding of the social and political movement within the agroecological sector.

13. **Impact Assessment**
    This unit provides learners with opportunities to understand why impact assessments of agroecology and regenerative farming systems are important tools for both the practitioner and the agroecological and regenerative movement.

The qualification is at level 4 as defined by Ofqual. https://www.gov.uk/guidance/ofqual-handbook/section-e-design-and-development-of-qualifications#level-descriptors

The learner (knowledge)	The learner can (skills)
Has practical, theoretical or technical knowledge and understanding of a subject or field of work to address problems that are well defined but complex and non-routine. Can analyse, interpret and evaluate relevant information and ideas. Is aware of the nature of approximate scope of the area of study or work. Has an informed awareness of different perspectives or approaches within the area of study or work.	Identify, adapt and use appropriate cognitive and practical skills to inform actions and address problems that are complex and non-routine while normally fairly well-defined. Review the effectiveness and appropriateness of methods, actions and results.

1.4 What are the entry requirements?

To study on this qualification you need to demonstrate to the centre that you have:

- A commitment to work-based learning – learners will be employed in a farming setting or food production business, working a minimum of 3 days a week throughout the duration of the qualification.
- If English is not your first language, proof of spoken and written English at a level equivalent to IELTS 6 will be required.

1.5 What are the assessment methods?

You will create a portfolio of evidence throughout your time working towards this qualification. This may include:

- observation of practice by experienced tutors
- written assignments
- reflective practice, e.g. a learning journal or self–reflective journals
- peer observation or feedback as witness testimony
- artefacts

Note: Plagiarism. Plagiarism means claiming work to be your own which has been copied from someone or somewhere else. All the work you submit must be your own and not copied from anyone else unless you clearly reference the source of your information. If there is evidence that your work is copied from elsewhere, it will not be accepted and you may be subject to a disciplinary procedure.

Buying and selling assignments Offering to buy or sell assignments is not allowed. This includes using sites such as eBay. If this happens, we reserve the right not to accept future entries from you.

1.6 What are the progression opportunities?

This qualification has been designed to support you to progress within the workplace or in your own practice. Following successful completion of the qualification you could:

- seek employment in regenerative farming or small holding settings
- seek employment in community-supported agriculture or the circular food economy
- go on to further work in regenerative land based systems
- further your studies in regenerative land based systems

Successful completion of this qualification can contribute to a Permaculture Diploma recognised by the Permaculture Association, if delivered and assessed by a Permaculture Association certified tutor. Please see https://www.permaculture.org.uk/ for further details.

Section 2: Units/Modules

2.1 Unit List

Unit title	Ofqual ref	Total qualification time (TQT)	Credits
1. Agroecology and Regenerative Land Based Systems	M/650/5387	22	3
2. Soil and Plant Ecology in Agroecological and Regenerative Farm Systems	R/650/5388	42	4
3. Holistic Livestock Management in Agroecological and Regenerative Land Based Systems	T/650/5389	70	7
4. Agroforestry and Tree Crops in Agroecological and Regenerative Systems	F/650/5391	42	4
5. Water Management for resilience in Agroecological and Regenerative Land Based Systems	H/650/5392	42	4
6. Horticulture and arable cropping systems in Agroecological and Regenerative Farming Systems	J/650/5393	56	6
7. Permaculture Design Skills	K/650/5394	42	4
8. Permaculture Technical Design Skills	L/650/5395	42	4
9. Strategic business skills for an Agroecological and Regenerative Farming business	M/650/5396	42	4
10. Operational business skills for an Agroecological and Regenerative Farming business	R/650/5397	42	4
11. Public engagement, social impact and practical conservation for Agroecological and Regenerative Farming Systems	T/650/5398	28	3

12. The political and social context for Agroecological Farming Systems	Y/650/5399	28	3
13. Impact Assessment	J/650/5400	28	3
Total		526	53

Unit 1: Agroecology and Regenerative Land Based Systems

Ofqual unit code	M/650/5387	**Guided Learning Hours (GLH)**	16
Unit level	4	**Total Qualification Time (TQT)**	22

Unit aim

This unit considers the concepts and methodologies of agroecology and regenerative land based systems and their impact on climate change, biodiversity loss and food security.

Unit rationale

Agroecological and Regenerative Land Based Systems are a complex set of farming and land-based principles and practices which have evolved over time and share common principles and practices. They provide a systemic approach to addressing the issues of food sovereignty, mitigating and adapting to climate change, and offsetting biodiversity loss. They also include the social and political context of food production.

In this unit, learners will understand the breadth of these methods and how their impact can be assessed in a land based business. Learners will explore the commonalities and differences between the two methods, how they can be used in combination, and why they might not be chosen in different contexts.

Learning outcomes **The learner will:**	Assessment criteria **The learner can:**
1. Understand the context and importance of agroecological and regenerative food and farming systems	1.1 Discuss how these systems address one aspect of climate change, either through mitigation or adaptation
	1.2 Explain how these systems can address one aspect of biodiversity loss
	1.3 Discuss the term *Food sovereignty and food security* in the context of Agroecology
	2.1 Explain the term Agroecology and its role in food systems

Learning outcomes **The learner will:**	Assessment criteria **The learner can:**
2. Understand the principles of Agroecology and Regenerative Land Based Systems	2.2 Explain how regenerative food systems impact the five cycles that they aim to repair
	2.3 Explain two principles of agroecology
3. Understand the practices of Agroecology and Land Based Systems	3.1 Explain two practices of agroecology
	3.2 Explain two practices used in regenerative land based systems
4. Understand land based systems	4.1 Explain farming systems *Must include Biodynamic, Organic, Permaculture, Agroforestry*
	4.2 Compare and contrast each system

Unit 2: Soil and Plant Ecology in Agroecological and Regenerative Farm Systems

Ofqual unit code	R/650/5388	**Guided Learning Hours (GLH)**	24
Unit level	4	**Total Qualification Time (TQT)**	42

Unit aim This unit considers soil ecology and plant nutrition, how they interact and are managed in cropping and livestock systems.

Unit rationale Learners will understand that agroecological and regenerative cropping systems are based on ecology and the carbon cycle, and the reciprocal and circular model of food production. Learners will develop an understanding of soil ecology, plant ecology, plant nutrition, livestock and human nutrition and how they are related. Learners will understand how soils can be managed to produce food, mitigate and adapt to climate change and offset biodiversity loss.

Learning outcomes **The learner will:**	Assessment criteria **The learner can:**
1. Understand soil ecology in the context of food production	1.1 Explain the carbon cycle in terms of crop production and livestock systems
	1.2 Explain one role of microflora or fauna in the soil ecology and how it contributes to soil health
2. Understand plant ecology and crop nutrition in the context of food production	2.1 Discuss how practices are used in agroecological and regenerative systems to maintain nutrient cycling
	2.2 Evaluate two methods used in agroecological and regenerative systems to maintain full crop nutrition
	2.3 Describe links between soil health, plant health, livestock and human health

Unit 3: Holistic Livestock Management in Agroecological and Regenerative Land Based Systems

Ofqual unit code	T/650/5389	**Guided Learning Hours (GLH)**	40
Unit level	4	**Total Qualification Time (TQT)**	70

Unit aim

This unit explores the scientific, nutritional and behavioural aspects of holistic livestock management in agroecological and regenerative land systems.

Unit rationale

Learners will understand how a wide range of livestock can be incorporated into agroecological and regenerative systems. This includes how livestock can improve soil ecology and biodiversity. Learners will understand how livestock can be managed to reduce their carbon footprint, and to fit into complex carbon and nutrient cycles, and how to maximise livestock health and welfare in a land based system.

Learners will also explore detailed management systems such as holistic grazing, for a wide range of livestock. They will also understand apiculture and functional biodiversity of a system.

Learning outcomes **The learner will:**	Assessment criteria **The learner can:**
1. Understand how to integrate livestock into an agroecological and regenerative system	1.1 Explain how to create closed loop systems for integration of livestock to manage the carbon and nitrogen cycle
	1.2 Describe one principle of regenerative and agroecological livestock nutrition
	1.3 Explain how livestock health can be managed in an agroecological or regenerative system
	1.4 Explain the requirements of organic and biodynamic certification for livestock

Learning outcomes **The learner will:**	Assessment criteria **The learner can:**
2. Understand the practices of integrating livestock into a regenerative and agroecological system	2.1 Explain systems of holistic grazing for cattle and sheep
	2.2 Explain one pastured poultry system
	2.3 Explain one holistic system for integrating pigs into a regenerative and agroecological system
3. Understand effective recording systems for livestock	3.1 Analyse recording systems for livestock yields
	3.2 Describe how to manage and create recording systems for livestock inputs, feed and health inputs

Unit 4: Agroforestry and Tree Crops in Agroecological and Regenerative Systems

Ofqual unit code	F/650/5391	**Guided Learning Hours (GLH)**	24
Unit level	4	**Total Qualification Time (TQT)**	42

Unit aim

This unit develops practice and knowledge in different types of agroforestry systems, how they integrate with cropping and livestock systems and the types of tree crops in regenerative systems.

Unit rationale

Learners will develop detailed knowledge of how trees are incorporated into the farmed landscape as silvo arable, silvo pastoral and silvo horticulture systems, as well as food forests. They will identify suitable tree species, and tree crops and rootstocks for different soils and sites. They will understand the benefits and challenges of using trees in a farmed landscape and understand how to design an economically viable and effective agroforestry system for a farm.

Learning outcomes **The learner will:**	Assessment criteria **The learner can:**
1. Understand the principles of agroforestry	1.1 Discuss a range of agroforestry systems
	1.2 Explain how agroforestry systems are incorporated into cropping and livestock systems *To include arable and horticulture cropping systems.*
2. Understand fruit cropping systems in the context of agroforestry	2.1 Describe pollination, rootstock and ripening factors in a range of fruit crops
	2.2 Explain the use of fruit crops in effective agroforestry systems
	2.3 Describe a range of other tree crops used in agroforestry systems

Learning outcomes **The learner will:**	Assessment criteria **The learner can:**
	2.4 Explain one propagation technique used for an agroforestry tree crop
3. Understand the environmental services provided by agroforestry systems	3.1 Explain how tree crops provide environmental services
	3.2 Explain how tree orientation provides an environmental service
4. Understand effective recording systems for cropping systems	4.1 Record yield data from a cropping system
	4.2 Record input data into a cropping system
	4.3 Explain requirements for organic and biodynamic tree crop systems.

Unit 5: Water Management for resilience in Agroecological and Regenerative Land Based Systems

Ofqual unit code	H/650/5392	**Guided Learning Hours (GLH)**	24
Unit level	4	**Total Qualification Time (TQT)**	42

Unit aim This unit provides opportunities for learners to understand how to create water-resilient farming systems in order to adapt to climate change.

Unit rationale Learners will gain detailed knowledge of how effective water management on a farm can provide resilience to climate change in the UK. This will include effective rainwater harvesting and irrigation systems, as well as crop and livestock management techniques to improve water retention. An overview of the concept of the small water cycle will orientate the learner towards how these systems can effectively be used together in agroecological and regenerative systems.

Learning outcomes **The learner will:**	Assessment criteria **The learner can:**
1. Understand the large and the small water cycle, in the context of climate change adaptation on farms	1.1 Explain the small water cycle on a UK-based farm
	1.2 Explain one practice that is used in agroecological and regenerative systems that helps to restore the small water cycle
2. Understand the use of effective rainwater harvesting and irrigation systems on farms	2.1 Explain one method of implementing a rainwater harvesting system
	2.2 Explain one method of implementing an irrigation system
	2.3 Explain one method of implementing an appropriate livestock water system

Learning outcomes **The learner will:**	Assessment criteria **The learner can:**
3. Understand how livestock and or crop management can impact the water system on farms	3.1 Discuss one method of livestock management that positively impacts water retention on a farm in the UK
	3.2 Discuss one method of crop management that positively impacts water retention on a farm in the UK

Unit 6: Horticulture and arable cropping systems in Agroecological and Regenerative Farming Systems

Ofqual unit code	J/650/5393	**Guided Learning Hours (GLH)**	32
Unit level	4	**Total Qualification Time (TQT)**	56

Unit aim This unit considers how to grow a range of crops, arable and horticultural, in agroecological and regenerative systems.

Unit rationale Learners will explore the principles and practices of cropping systems for arable, grain and vegetable crops, and how to incorporate these within agroecological and regenerative systems.

Learning outcomes **The learner will:**	Assessment criteria **The learner can:**
1. Understand the principles used for cropping systems in agroecological and regenerative systems	1.1 Discuss the use of diversity in cropping systems: • Through time (rotations) • In space (polyculture) • At a genetic level (choice of seed or variety)
	1.2 Explain the importance of diversity in agroecology and regenerative systems
	1.3 Explain multifunctionality in cropping systems
	1.4 Explain differences between the management of organic and biodynamic arable and horticultural systems
2. Understand agroecological and regenerative arable cropping systems	2.1 Describe the use of a range of typical crops grown in an arable system within regenerative and agroecological systems

Learning outcomes **The learner will:**	Assessment criteria **The learner can:**
	2.2 Evaluate different tillage systems used for cereals in regenerative and agroecological systems
	2.3 Explain how arable crops are stored and processed for human and livestock use in an agroecological and regenerative context
3. Understand agroecological and regenerative vegetable cropping systems	3.1 Describe the growing requirements of typical crops and crop families grown within vegetable systems
	3.2 Evaluate different tillage systems used for vegetables
	3.3 Explain how a range of vegetable crops are stored, processed and sold within regenerative and agroecological systems
4. Understand effective recording systems for cropping systems	4.1 Describe how to create recording systems for yield data
	4.2 Describe recording inputs for cropping systems

Unit 7: Permaculture Design Skills

Ofqual unit code	K/650/5394	**Guided Learning Hours (GLH)**	24
Unit level	4	**Total Qualification Time (TQT)**	42

Unit aim This unit provides opportunities for learners to develop a deeper understanding of the permaculture design practice in the context of regenerative land based systems. Outcomes from this unit may also be used towards the Permaculture Diploma.

Unit rationale Learners will understand the requirements of the full design cycle for a regenerative and agroecological land based system. Learners will also complete one design report.

Learning outcomes **The learner will:**	Assessment criteria **The learner can:**
1. Be able to carry out a site and client survey for a large scale permaculture design	1.1 Use maps to research historical and current site usage
	1.2 Analyse the site survey for sectors and zones
	1.3 Undertake an input/output analysis
	1.4 Use permaculture observation methodologies to interpret a landscape
2. Be able to carry out a client survey process for a permaculture design	2.1 Undertake a client survey process using a range of communication and facilitation skills
	2.2 Analyse the client survey using a function and element analysis
	2.3 Carry out a SWOC analysis from the client survey

Learning outcomes	Assessment criteria
The learner will:	**The learner can:**
3. Be able to carry out a permaculture design process	3.1 Use the permaculture design process of element placement in zones and sectors
	3.2 Carry out a flow analysis using appropriate methods
	3.3 Evaluate how the completed design fulfils the permaculture ethics and at least three permaculture principles

Additional Requirements for Delivery and Assessment

This unit can be counted towards ONE of the permaculture designs needed for the Permaculture Diploma awarded by the Permaculture Association if it is delivered by a Permaculture Diploma level tutor.

Learners will have to have completed the permaculture design certificate to complete this module as a part of the permaculture diploma process.

Unit 8: Permaculture Technical Design Skills

Ofqual unit code	L/650/5395	**Guided Learning Hours (GLH)**	24
Unit level	4	**Total Qualification Time (TQT)**	42

Unit aim This unit provides opportunities for learners to explore a range of presentation skills for permaculture designs, to enhance their professional practice in presenting their design work to clients.

Unit rationale The unit will develop the learners' professional practice within farm scale designs including developing a range of presentation skills to a range of clients. Learners will develop an understanding of the Permaculture Design Process and how to further develop their Permaculture practice.

Learning outcomes **The learner will:**	Assessment criteria **The learner can:**
1. Be able to present a large scale permaculture farm plan visually	1.1 Create a land based plan in a suitable digital format
	1.2 Create a land based plan in a suitable paper format
2. Be able to present a report on a large scale permaculture design	2.1 Create a farm design report for a client
	2.2 Create a permaculture diploma design report in a suitable format
	2.3 Use visual aids and tables appropriately in the farm design report

Additional Requirements for Delivery and Assessment

This unit can contribute to the Permaculture Association Diploma if delivered by a Permaculture Diploma level tutor. If this is the case, delivery must include a tutorial on the diploma process including the criteria outlined within the Permaculture Association Diploma Curriculum.

Unit 9: Strategic business skills for an Agroecological and Regenerative Farming business

Ofqual unit code	M/650/5396	**Guided Learning Hours (GLH)**	24
Unit level	4	**Total Qualification Time (TQT)**	42

Unit aim This unit provides opportunities for learners to understand how to apply strategic business skills for a regenerative and agroecological farm business that reflects the core principles of this type of business system.

Unit rationale In this unit, learners will understand the financial and legal requirements required to set up a new farm business, or to transition an existing farm to a new agroecological and regenerative farming business system, including rural grant schemes.

Learning outcomes **The learner will:**	Assessment criteria **The learner can:**
1. Understand strategic management skills needed in an agroecological and regenerative farming system	1.1 Explain the key requirements of a business plan
	1.2 Critically evaluate two different business structures that can be chosen by agroecological and regenerative farming businesses
2. Understand the legal requirements and rural grants available to farming systems	2.1 Explain one type of land tenure system suitable for agroecological and regenerative systems
	2.2 Explain the legal and rural grant requirements for setting up a new farm business
	2.3 Explain the rural subsidy, grants and targets available to Agroecological farming systems, in the context of UK agricultural policy
3. Understand business diversification and adding value to agroecological and regenerative farming systems	3.1 Describe the benefits and challenges of one type of farm business collaboration
	3.2 Explain one legal method for formalising a farm business collaboration

Additional Requirements for Delivery and Assessment

This unit reflects the Department for Farming and Rural Affairs (DEFRA) NESS plans for training new entry farmers. Please note that this module will need to ensure that facilitators and trainers have up-to-date knowledge of these schemes.

This module could include the following:

- RPA
- CPH numbers
- Insurance
- Health and safety
- Trading standards
- Food hygiene registrations
- Trading licences

Unit 10: Operational business skills for an Agroecological and Regenerative Farming Business

Ofqual unit code	R/650/5397	**Guided Learning Hours (GLH)**	24
Unit level	4	**Total Qualification Time (TQT)**	42

Unit aim This unit provides learners with opportunities to develop operational business skills for a regenerative and agroecological farm business that reflects the core principles of this type of business system.

Unit rationale The unit allows learners to understand the operational financial, legal, human resources, and marketing requirements for a new farm business, or to transition an existing farm to a new agroecological and regenerative farming business system.

Learning outcomes **The learner will:**	Assessment criteria **The learner can:**
1. Understand the financial and operational aspects of running a regenerative and agroecological business	1.1 Explain key financial considerations for setting up a land based business
	1.2 Explain the day-to-day running of a land based business
	1.3 Create financial reports for a land based business
2. Understand the HR operational aspects of an agroecological and regenerative farming business	2.1 Explain why a job description and contract is important for farm staff
	2.2 Explain why a health and safety policy is critical to a regenerative farm business
	2.3 Explain why annual staff reviews are critical for effective management of and progression for staff

Learning outcomes **The learner will:**	Assessment criteria **The learner can:**
	2.4 Describe how to recruit and interview staff for an agroecological and regenerative farm
3. Understand marketing and sales aspects for a agroecological and regenerative farm	3.1 Analyse two suitable marketing models/routes to market for regenerative and agroecological systems
	3.2 Explain digital marketing and sales systems suitable for agroecological and regenerative systems
	3.3 Describe key details that a marketing strategy for a regenerative and agroecological farm should contain

Additional Requirements for Delivery and Assessment

This unit reflects the Department for Farming and Rural Affairs (DEFRA) NESS plans for training new entry farmers.

Unit 11: Public engagement, social impact and practical conservation for Agroecological and Regenerative Farming Systems

Ofqual unit code	T/650/5398	**Guided Learning Hours (GLH)**	16
Unit level	4	**Total Qualification Time (TQT)**	28

Unit aim This unit provides learners with opportunities to explore the range of public engagement activities and social impact that can be generated from agroecological and regenerative farming systems.

Unit rationale Learners will understand the principles and practices of natural engagement/nature connection activities, diversification within business, on agroecological and regenerative farms, and how this can be applied in many different formats, with the legal and financial implications that this entails.

Learning outcomes **The learner will:**	Assessment criteria **The learner can:**
1. Understand the principles of natural engagement/nature connection activities on farms	1.1 Describe a range of natural engagement/nature connection activities in a farm setting
	1.2 Explain what nature engagement/nature connection is and how it impacts on the provision of activities on a farm
2. Understand natural engagement activities on a farm	2.1 Explain types of applied and practical natural engagement/connection activities on the farm
	2.2 Explain the policies necessary to run one type of natural engagement/connection activity
	2.3 Discuss the benefits and challenges of community engagement on a farm

Learning outcomes **The learner will:**	Assessment criteria **The learner can:**
3. Understand the impact of nature conservation tasks within agroecological farming systems	3.1 Carry out a nature conservation task effectively on a farm
	3.2 Describe how nature conservation impacts biodiversity on a farm

Additional Requirements for Delivery and Assessment

The practical conservation task could include hedge laying, tree planting, stone walling or similar activities.

Unit 12: The political and social context for Agroecological Farming Systems

Ofqual unit code	Y/650/5399	**Guided Learning Hours (GLH)**	16
Unit level	4	**Total Qualification Time (TQT)**	28

Unit aim This unit provides opportunities for learners to develop an understanding of the social and political movement within the agroecological sector.

Unit rationale There are many challenges that affect the building of long-term economic, social and environmental sustainability in agriculture. In this unit learners will understand some of the philosophical values, social movements and political campaigns around the world that contribute to agroecology as science, movement and practice.

Learning outcomes **The learner will:**	Assessment criteria **The learner can:**
1. Understand agroecology as science, social movement and practice in international perspective, as a response to global dynamics in food systems	1.1 Explain the historical evolution of agroecology as an international social and political movement
	1.2 Explain links between agroecology as science, movement and practice in the UK and the Majority World
2. Understand the development of the UK agricultural sector from a historical perspective	2.1 Describe an example of historical land use in the UK
	2.2 Identify the relationship between agrarian issues and social justice in the UK
3. Understand how food systems intersect with wider economic, political and social organisation in the UK and internationally.	3.1 Critically assess one current policy that directly impacts agriculture in the UK
	3.2 Give an example of an international policy that directly impacts land based workers

Unit 13: Impact Assessment

Ofqual unit code	J/650/5400	**Guided Learning Hours (GLH)**	16
Unit level	4	**Total Qualification Time (TQT)**	28

Unit aim This unit provides learners with opportunities to understand why impact assessments of agroecology and regenerative farming systems are important tools for both the practitioner and the Agroecological and regenerative movement.

Unit rationale The unit will expose learners to a range of tools that can be used to measure impact across the multiple yields of agroecological and regenerative farming systems as well as practical conservation methods that can be used on a farm to increase biodiversity.

Learning outcomes **The learner will:**	Assessment criteria **The learner can:**
1. Understand how a range of impact data is gathered and reported	1.1 Explain how impact assessments are used for agroecological and regenerative systems
	1.2 Describe impact tools that can be used to measure climate change mitigation/carbon sequestration impact on a farm
	1.3 Create an impact report for a farm
2. Be able to carry out biodiversity assessments	2.1 Explain how assessment tools can be used to measure changes in biodiversity on a farm. *To include both quantitative and qualitative tools*
	2.2 Use one biodiversity assessment tool on a farm

Learning outcomes **The learner will:**	Assessment criteria **The learner can:**
	2.3 Describe one method that can be used to measure the impact of changes in soil health
3. Understand the social impact tools that can be used on a farm	3.1 Explain how quantitative and qualitative assessments can be used to assess the social impact of a farm
	3.2 Use one social impact assessment on a farm
4. Know how to measure the resilience of the farm to climate change	4.1 Explain how the impact of repairing the small water cycle can be measured
	4.2 Explain how to maintain weather records to measure changes in weather

Section 3: Delivering this qualification

3.1 Requirements for Centres

Centres must be approved by Crossfields Institute. In order to be approved to offer this qualification, centres must have:

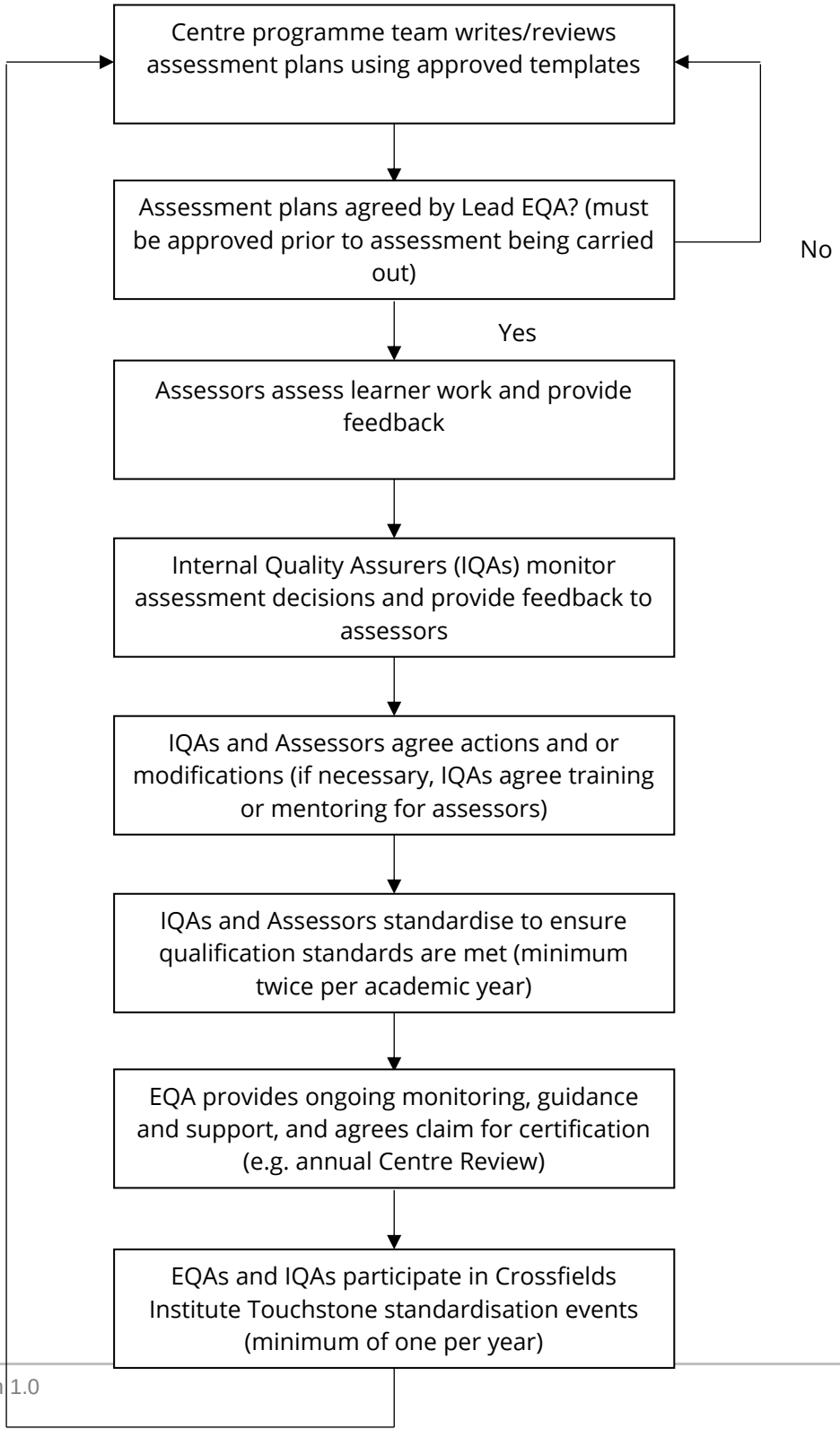
- Staff who are appropriately qualified and experienced in regenerative farming and land based systems
- A learning environment that combines both theoretical and practical experiences, including work experience and placement.

For more information about the process of becoming a centre, please contact us or refer to our Centre Handbook (www.crossfieldsinstitute.com/resources).

3.2 Quality Assurance

The primary aim of the Crossfields Institute Awarding Team is to support centres in delivering the best possible learning experience and high levels of achievement for learners. Centres will be allocated an External Quality Assurer (EQA) by the Crossfields Institute Awarding Team. The Lead EQA for this curriculum area will also be involved in reviewing assessment plans.

Schools/centres delivering this qualification are required to follow this Crossfields Institute Quality Assurance process:



3.3 Assessment Planning Guidance

This qualification uses a centre-devised approach to assessment. In planning their assessments, centres should ensure that assessment activities:

- are fit for purpose
- can be delivered efficiently
- meet the assessment criteria
- permit Reasonable Adjustments to be made, while minimising the need for them
- allow each learner to generate evidence which can be authenticated
- allow the specified level of attainment detailed in this specification to be reached by a learner who has attained the required level of knowledge, skills and understanding
- allow assessors to be able to differentiate accurately and consistently between a range of attainments by learners

They should also ensure that:

- sufficient time is allowed for assessment planning
- assessment tasks do not produce unreasonably adverse outcomes for learners who share a common attribute
- methods of assessment are in line with the assessment requirements in this specification
- reasonable timescales for assessment and feedback are given to learners
- a timely quality assurance process is conducted

3.4 Training and Support

To support centres in carrying out high-quality assessment and quality assurance practice, the following training and support measures have been put in place for this qualification:

- All centre assessors and quality assurance staff for this qualification are required to meet National Occupational Standards for assessors and IQAs. National qualifications (NVQs) are available for these roles. Crossfields Institute can also provide customised assessor and IQA education as well as review of assessor and IQA practice.
- Assessors and IQAs must keep an up-to-date CPD log and be able to demonstrate the relevance of their CPD to this qualification and their role.
- Handbooks, exemplars and templates are available from the Crossfields Institute Quality Team.
- Where required, a customised Quality Assurance Action and Development Plan will be provided by Crossfields Institute for centres.

Please note: there may be a charge for training and resources provided by Crossfields Institute.

3.5 Policies and Procedures

Each centre is required to work in partnership with Crossfields Institute to ensure that all learners have the best possible experience whilst taking this qualification and are treated

fairly. Our commitment to this is supported by our Centre Handbook, which all centres should become familiar with

Crossfields Institute has policies and procedures in place to support centres and learners. All centres must also implement their own policies, which comply with Crossfields Institute's requirements – these will be checked during centre approval and in subsequent centre monitoring activities. It is the centre's responsibility to make relevant policies available to learners.

Relevant policies include:

- Learner Complaints and Appeals Policy: which allows learners to take action if they feel they have been treated unfairly.
- Reasonable Adjustments and Special Considerations Policy: which allows centres to make any necessary adjustments to assessments in the light of learners' individual circumstances.
- Malpractice and Maladministration Policy: which gives a framework through which concerns about the delivery and assessment of the qualification can be addressed.
- Equality and Diversity Policies: which ensure centres treat learners fairly and without any bias.

Crossfields Institute Policies, and other key documents, are available on our website at www.crossfieldsinstitute.com/resources

Appendix 1: Resource and book list

Biodynamic Farming

Recommended Reading

Name	Title	Publisher/Year
F. Sattler and E. Wistinghausen	Biodynamic farming practice	Cambridge University Press,1992
P. Masson	A biodynamic manual	Floris Books, Edinburgh, 2012
R. Steiner trans. C.E. Dreeger and M. Gardner	Agriculture - Biodynamic Farming and Gardening Association	Kimberton, PA, 1993
T. Petherick	Biodynamics in practice: life on a community owned farm	Sophia Books, Forest Row, 2010
E. Pfeiffer	Biodynamic farming and gardening	Mercury Press, New York, 1938
W.D. Storl	Culture and horticulture	Biodynamic Farming and Gardening, San Francisco, 1979
M. Waldin	Biodynamic gardening	Dorling Kindersley, London, 2015
P. Mader, A. Fliessbach, D. Dubois, L. Gunst, P. Fried and U. Niggli	Soil fertility and biodiversity in organic farming	Science 296, 2002, pp. 1694–1697

Recommended Magazines

Star and Furrow magazine	Published twice per year in the UK. You can join the BDA and attend the biennial conference. There are also regional groups across the country.

Recommended Resources

Biodynamic College	Apprenticeship scheme and distance learning package. http://www.bdacollege.org.uk
Chateau Monty	A BBC series about biodynamic wine-growing available on YouTube

Tablehurst Farm	https://www.biodynamic.org.uk/farm/#becoming
Sekem Farm Egypt	www.sekem.com/en/media/videos
One cow, one man, one planet	A film about Peter Procter's work on biodynamic farming in India.
Symphony of the soil	A film about soil ecology and Elaine Ingham's work. Available to buy or rent at https://www.symphonyofthesoil.com/

Recommended Websites

Biodynamic Association UK (BDA) - offers book lists, research articles, back copies of Star and Furrow, and links to films	www.biodynamic.org.uk
Biodynamic Association US offers free webinars, scientific papers, and talks on biodynamic farming	www.biodynamics.com
International Biodynamic Association is based in Switzerland	www.ibda.ch
The Goetheanum Agricultural Section has a wide range of information on biodynamic farming, including many publications and links to farms around the world	https://www.goetheanum.org/

Organic Farming

Recommended Reading

Name	Title	Publisher/Year
Conford	The origins of the organic movement	
E. Balfour	The living soil	Faber & Faber, London, 1943.
A. Howard	An agricultural testament	Oxford University Press, London, 1940
Soil Association	Organic farming food quality and human health	2001

Organic Research Centre (ORC)	Biodiversity benefits of organic farming: new research confirms more diversity on organic farm	2010
Soil Association	Soil carbon and organic farming	2009
J.Moyer, A. Smith, Y. Rui, J. Hayden	Regenerative agriculture and the soil carbon solution	Rodale Institute, 2020

Recommended Websites

The Riverford Farm website hosts 'Wicked Leeks' an online organic farming news feed, with films, articles and links relating to organic and sustainable food	www.riverford.co.uk
A short film about Bhaskar Save - *A Gandhian way of farming*	https://www.permaculturenews.org/2014/02/26/bhaskar-save-gandhi-natural-farming

Permaculture

Recommended Reading

Name	Title	Publisher/Year
B. Mollison	Designers Manual	Tagari, Tyalgum, 1988
D. Holmgren	Permaculture: principles and pathways beyond sustainability	Permanent, East Meon, UK, 2002.
Aranya	Permaculture design: a step by step guide	Permanent, East Meon, UK, 2012.
L. Macnamara	People and permaculture	Permanent, East Meon, UK, 2012.
R. Morrow	Earth user's guide to permaculture	Permanent, East Meon, UK, 2010
R. Perkin	Regenerative agriculture	Self-published, 2015
M. Sheppard and A. Lappe	Restoration agriculture: real world permaculture for farmers	Acres US, Greeley, CO, 2014

P. Whitefield	The earth care manual	Permanent, East Meon, UK, 2004

Recommended Resources

Becky Hosking's BBC documentary *Farms of the future.* The story of the film and the link to it can be found via her website	https://www.rebeccahosking.co.uk/a-farm-for-the-future
Permaculture magazine has made a series of Living with the land short films	https://www.permaculture.co.uk/living-with-the-land
There are many permaculture films, from classics such as *In grave danger of falling food* with Bill Mollison; *Inhabit*, visits to Geoff Lawton's Greening the Desert project in Jordan and Sepp Holzer's farm in Krameterhof in Austria; and *Green gold*, John Liu's story of reclaiming the Chinese Loess Plateau.	https://filmsfortheearth.org/en/issues/permaculture
Listings of films about regenerative agriculture and permaculture in New Zealand, Australia and the US	https://happenfilms.com/permaculture

Agroforestry

Recommended Reading

Name	Title	Publisher/Year
J. Pretty	Agri-culture	Earthscan, London, 2002
Crawford	Creating a forest garden	
Woodland Trust	The role of trees in arable farming	2015
P. Whitefield	*How to make a forest garden*	Permanent, East Meon, UK, 2012
Steve Gabriel (Author), Eric Toensmeier	Silvopasture: A Guide to Managing Grazing Animals, Forage Crops, and Trees in a Temperate Farm Ecosystem	Paperback – Illustrated, 11 Jun. 2018

Recommended Resources

The Farm Woodland Forum is a charity and website disseminating information and running workshops on agroforestry in the UK and Ireland	www.agroforestry.ac.uk
Film featuring Martin Wolfe	www.wakelyns.co.uk
Short films, virtual tours and podcasts from BBC Radio 4	www.agroforestry.co.uk
Films about the wilding at Knepp Castle and woodland pasture	https://knepp.co.uk

Recommended Websites

Agricology	www.agricology.co.uk/farmers-and-growers/stephen-brigg
Organic Research Centre UK	http://www.agforward.eu
A huge amount of resources about agroforestry, mainly focused on farming in the Pacific and tropical regions.	www.agroforestry.org
The Agroforestry Research Trust website run by Martin Crawford has links to books, his courses and tours, and his tree nursery selling trees suitable for forest gardens in Northern Europe	www.agroforestry.co.uk

Agroecology

Recommended Reading

Name	**Title**	Publisher/Year
J. Wright (ed.)	Subtle agroecologies: farming with the hidden half of nature	CRC Press, Boca Raton, FL, 2021.
M. Altieri and C. Nicholls	Agroecology and the search for a truly sustainable agriculture	UNEP and PNUMA, Mexico City, 2005

R. Wall Kimmerer	Braiding sweet grass	Milkweed, Minneapolis, 2013.

Recommended Magazines

The Land is the quarterly magazine published by the Landworkers' Alliance	www.thelandmagazine.org.uk

Recommended Resources

Oxford Real Farming Conference has talks from many past conferences archived and available on its own YouTube channel, including speakers from all around the world.	https://orfc.org.uk
The biggest little farm is a film about the restoration of a farm in California.	http://www.biggestlittlefarmmovie.com/
In our hands is a film made by the Landworkers' Alliance and Black Bark Films. It costs £6.00 to download.	https://inourhands.film/.
Gather is a film about Native American food systems and agroecology	https://gather.film/
Agroecology - various approaches in Europe	https://www.youtube.com/watch?v=w7zqBnrLxiw
The Living Classroom is a film series made by the FAO about agroecology around the world.	http://www.fao.org/agroecology/

Films and podcasts about agroecology in the US.	www.foodtank.com
Agroecology case studies and examples from around the world can be found on the Coventry University, Centre for Agroecology and Water Resilience (CAWR) website.	www.agroecologynow.com
Films showing the work of the Magarini Organic Demonstration Farm in Kenya.	www.http://www.magarini-centre.org/
Agroecology voices from social movements.	https://grain.org/en/article/5283-agroecology-voices-from-social-movements
The Agricology website and YouTube channel has lots of films of farm walks in the UK.	https://www.agricology.co.uk/

Recommended Websites

Coventry University Centre for Agroecology and Water and Resilience	www.coventry.ac.uk/research/areas-of-research/agroecology-water-resilience/our-publications
Report on indigenous agroecology in New Zealand	http://www.maramatanga.ac.nz/project/indigenous-agroecology

Regenerative Agriculture

Recommended Reading

Name	Title	Publisher/Year
C. Massey	The call of the reed warbler	Chelsea Green, Hartford, VT, 2017.
R. Perkins	Regenerative Agriculture	self-published, 2019.
G. Powell	Sustainable grazing strategies meet ecological demands	Nuffield Scholarship Report, 2018.
G. Brown	Dirt to soil	Chelsea Green, Hartford, VT, 2018
D. Montgomery	Dirt	University of California Press, Berkeley, 2012
D. Montgomery	Growing a revolution	W.W. Norton, New York, 2018.
J. Stika	A soil owner's manual	self-published, 2016
V. Shiva	Soil not oil	Zed Books, London, 2016.

Recommended Resources

Allan Savory TED Talk	https://www.ted.com/talks/allan_savory_how_to_fight_desertification_and_reverse_climate_change?
How to make a Zero-dig bed	www.zerodig.earth
Kiss the ground – one of the best-known films about regenerative agriculture	https://kisstheground.com/
The seeds of Vandana Shiva	https://vandanashivamovie.com/
Film by John Kempf in the US	*How is regenerative organic farming better*

Film about the story of regenerative agriculture in Australia	*From the ground up: regenerative agriculture*
A film by Darren Doherty	*Keyline design explained on a beach* – can be found on You Tube
Oregon State University Ecampus has online training in keyline management. There is a whole series where you can see Yeomans farms and Yeomans ploughs in action	
Fantastic fungi is a film by Paul Stamets	https://fantasticfungi.com
Films about no dig systems may be found on:	www.Charlesdowding.org

Recommended Websites

Symphony of the soil is a film about the soil food web	www.symphonyofthesoil.com