

# Crossfields Institute

Qualification Specification

Level 3 Diploma in Biodynamic Farming and Growing



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Qualification reference number: **XXX** 610/1590/8

Crossfields Institute Level 3 Diploma in Biodynamic Farming and Growing

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This Qualification is to replace the Crossfields Institute Level 3 Diploma in Biodynamic Farming and Gardening – Qualification number: 601/8675/6

## Introduction

This Crossfields Institute Level 3 Diploma in Biodynamic Farming and Growing is an Ofqual regulated qualification.

## About Crossfields Institute

Crossfields Institute is an awarding organisation and educational charity specialising in holistic and integrative education and research. The Institute develops specialist qualifications which aim to support the development of autonomous learners with the intellectual rigour, practical skills, social responsibility and ability to think creatively and act decisively. The Institute is also a higher education institute (HEI) and works in partnerships with universities in the UK and overseas.

## Guide to the Specification

We aim to support centres in providing a high-quality educational experience. We also believe that for learners to get the most out of this qualification they should be encouraged to be autonomous and responsible in their approach to their studies. A clear, accessible qualification specification is key to this. This specification gives details about the qualification, explains how it is assessed and outlines important policies which support its delivery. It is an essential document for learners, centres and assessors, and has been written with all these audiences in mind.

The specification should be used as a reference source both before and during delivery of the qualification, and also signposts where further advice and support may be found.

## Key Facts

<b>Qualification Title</b>	Crossfields Institute Level 3 Diploma in Biodynamic Farming and Growing
<b>Qualification Number</b>	610/1590/8
<b>Rules of Combination</b>	<p>All learners are required to complete the 14 mandatory units totalling 360 TQT.</p> <p>In addition, learners must select a minimum of one or a maximum of two units from each optional suite must be taken totalling between 240 and 480 TQT.</p>
<b>Total Qualification Time</b>	600 - 840 TQT.
<b>Guided Learning Hours</b>	Min: 275      Max: 345
<b>Minimum age of learners</b>	Learners must be at least 18 years of age, however due to the level of commitment required from this work-based learning qualification, a minimum age of 21 may be considered preferable by centres.
<b>Assessment Methods</b>	Portfolio of evidence
<b>Grading system</b>	Pass / Fail
<b>How long will it take to complete?</b>	<p>This is a work-based learning qualification. Learners are required to be employed in a growing or farming setting, working a minimum of 3 days a week throughout the duration of the qualification.</p> <p>Suggested timeframe for completion of this qualification is three years.</p>
<b>Developed by</b>	The qualification has been developed by Crossfields Institute with subject specific expertise provided by the Biodynamic Agricultural College (BDAC).

<b>Introduction</b>	<b>3</b>
About Crossfields Institute	3
Guide to the Specification	3
<b>Key Facts</b>	<b>4</b>
<b>Section 1: About these Qualifications</b>	<b>9</b>
1.1 Qualification objective and rationale	9
1.2 Overview of the qualifications	9
1.2.1 Overview of knowledge, understanding and skills	9
1.2.2 Rules of Combination	9
1.2.3 Requirements for real work environments	10
1.2.4 Progression opportunities	10
1.2.5 Delivery requirements	10
1.2.6 Assessment overview	10
1.2.7 Levels of Attainment	10
1.3 Expectations of learners	11
1.4 Requirements for centres	11
1.5 Role of the centre and Crossfields Institute	12
<b>Section 2: Units</b>	<b>13</b>
2.1 Unit list	13
2.2 Guide to the units	14
<b>BDFG-L3-unit1 Change and Challenge in Farming</b>	<b>16</b>
<b>BDFG-L3-unit2 The Farm Organism</b>	<b>18</b>

<b>BDFG-L3-unit3 Soil Science and Phenomenology</b>	<b>20</b>
<b>BDFG-L3-unit4 Farm Fertility and Compost</b>	<b>22</b>
<b>BDFG-L3-unit5 Biodynamic Preparations</b>	<b>25</b>
<b>BDFG-L3-unit6 Soil Cultivation and Care</b>	<b>27</b>
<b>BDFG-L3-unit7 Land-based Machinery</b>	<b>29</b>
<b>BDFG-L3-unit8 Plant Life and Phenomenology</b>	<b>32</b>
<b>BDFG-L3-unit9 Seed Production</b>	<b>34</b>
<b>BDFG-L3-unit10 Animal Life and Phenomenology</b>	<b>36</b>
<b>BDFG-L3-unit11 Environmental Rhythms and Agricultural Astronomy</b>	<b>38</b>
<b>BDFG-L3-unit12 Enterprise Planning</b>	<b>40</b>
<b>BDFG-L3-unit13 Reflective Practice</b>	<b>42</b>
<b>BDFG-L3-unit14 Farm Improvement Project</b>	<b>44</b>
<b>BDFG-L3-unit15 Water Resource</b>	<b>46</b>
<b>BDFG-L3-unit16 Energy and Carbon</b>	<b>48</b>
<b>BDFG-L3-unit17 Farm Ecosystem</b>	<b>50</b>
<b>BDFG-L3-unit18 Sustainable Resources</b>	<b>52</b>
<b>BDFG-L3-unit19 Climate and Weather</b>	<b>54</b>
<b>BDFG-L3-unit20 Culture and Agriculture</b>	<b>56</b>
<b>BDFG-L3-unit21 Biodynamics and Anthroposophy</b>	<b>58</b>
<b>BDFG-L3-unit22 Nutrition and Food</b>	<b>60</b>
<b>BDFG-L3-unit23 Land-based Therapeutic Care</b>	<b>62</b>
<b>BDFG-L3-unit24 Local community project</b>	<b>64</b>
<b>BDFG-L3-unit25 Vegetable Growing</b>	<b>66</b>
<b>BDFG-L3-unit26 Fruit Growing</b>	<b>69</b>
<b>BDFG-L3-unit27 Flower Growing</b>	<b>72</b>
<b>BDFG-L3-unit28 Herb Growing</b>	<b>75</b>
<b>BDFG-L3-unit29 Seed Growing</b>	<b>78</b>

<b>BDFG-L3-unit30 Protected Growing</b>	<b>81</b>
<b>BDFG-L3-unit31 Grassland and Fodder</b>	<b>84</b>
<b>BDFG-L3-unit32 Arable Production</b>	<b>87</b>
<b>BDFG-L3-unit33 Cattle Husbandry</b>	<b>90</b>
<b>BDFG-L3-unit34 Sheep Husbandry</b>	<b>94</b>
<b>BDFG-L3-unit35 Goat Husbandry</b>	<b>98</b>
<b>BDFG-L3-unit36 Pig Husbandry</b>	<b>102</b>
<b>BDFG-L3-unit37 Poultry Husbandry</b>	<b>106</b>
<b>BDFG-L3-unit38 Dairy Husbandry</b>	<b>110</b>
<b>BDFG-L3-unit39 Bee Husbandry</b>	<b>114</b>
<b>BDFG-L3-unit40 Working with Draught Animals</b>	<b>117</b>
<b>BDFG-L3-unit41 On-Farm Processing</b>	<b>120</b>
<b>Section 3: Delivery Requirements</b>	<b>123</b>
<b>Section 4: Assessment &amp; Quality Assurance</b>	<b>124</b>
4.1 Our Approach	124
4.2 Assessment Requirements	124
4.3 Quality Assurance Process	124
4.4 Assessment Planning Guidance	126
4.5 Training and Support	126
<b>Section 5: Policies and Procedures</b>	<b>127</b>
Relevant policies include:	127
<b>Appendix 1: Verb Explanation and Evidence Requirements</b>	<b>128</b>
<b>Appendix 2 Reading List</b>	<b>130</b>





## Section 1: About this Qualification

### 1.1 Qualification objective and rationale

The objectives of the Crossfields Institute Level 3 Diploma in Biodynamic Farming and Growing are to:

- prepare learners to progress to further studies in farming, growing or biodynamic related activities
- Prepare learners to find employment
- Support learners in their existing role in the workplace

This qualification aims to provide learners with a practical, work-based approach to learning about biodynamic farming and growing. Upon completion learners will be able to work in organic, biodynamic and other holistic farming and growing settings. This qualification has been designed for those with an interest in a holistic approach to food growing and production. This includes those with an interest in sustainable development for agriculture, environment and community. This qualification may also appeal to individuals wishing to set up their own enterprise or those with an interest in enriching and consolidating a holistic lifestyle, or in working on the land or within an environmental sustainability project.

### 1.2 Overview of the qualification

#### 1.2.1 Overview of knowledge, understanding and skills

The qualification places a holistic way of understanding the natural world as its premise and applies that understanding through a work-based approach to learning. Biodynamic approaches to farming and growing promote vitality, resilience and ethical stewardship of land, plants, animals and human beings. This qualification therefore aims to teach learners about sustainable and alternative solutions to current and future environmental challenges through developing practical knowledge and understanding of biodynamic farming and growing within the wider context of holistic approaches.

#### 1.2.2 Rules of Combination

All units are at level 3. Learners must complete 14 mandatory units totalling 360 Total Qualification Time (TQT). In addition, learners must select additional units from the optional list. Learners may choose any units from the optional list.

In addition, learners must select a minimum of one or a maximum of two units from each optional suite must be taken totalling between 240 and 480 TQT.

The TQT is 600 - 840 hours, some of which is guided learning hours (GLH) i.e. face to face delivery time. The amount of GLH allocated to each unit is specified in the unit descriptors. Nevertheless, learners should bear in mind that these hours are given for guidance only and the amount of time required by individual learners will vary.

### 1.2.3 Requirements for real work environments

This is a work-based learning qualification and therefore requires significant commitment from learners in the development of practical skills and experiences. In addition to completing the units, learners are required to work in a land-based setting whilst undertaking this qualification. Ideally this would be on a full-time basis, or, as a minimum, for three days per week. This practical experience is essential in underpinning the development of learners' knowledge, understanding and skills. The real work requirement is in addition to the Total Qualification Time for this qualification, although some practical land-based work is also included in the TQT.

### 1.2.4 Progression opportunities

This qualification prepares learners to:

- Work in a biodynamic farming or growing setting: as a head grower; arable, herds or fruit manager; in farm management roles.
- Work in post-harvest roles such as organic or biodynamic food processing; organic or biodynamic certification; food advocacy.
- Progress into higher education courses such as a Foundation Degree in Agriculture and Rural Studies; Degrees in Agricultural Technology, Agriculture and Food or Rural Business Management.

### 1.2.5 Delivery requirements

This qualification has a practical and holistic emphasis. Centres should therefore ensure that delivery methods take this into account. A full explanation of the delivery requirements for this qualification is included in section three. This explains the delivery requirements for all units, but where a unit has specific delivery instructions, these are included in the unit.

### 1.2.6 Assessment overview

Learners are required to submit a portfolio of evidence for this qualification. This portfolio is internally assessed against each unit's assessment criterion on a pass or refer basis by tutor assessors. Full information about the assessment process is included in section four.

#### **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. Your tutor will explain how to provide a reference list that shows where you found your information. If your Centre discovers evidence that your work is copied from elsewhere, it will not be accepted and you may be subject to your Centre's or our disciplinary procedure. If this happens you will have to submit an additional piece of work for assessment. We will be notified of any cases of plagiarism.

#### **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.

Full information about the assessment process is included in section four.

### 1.2.7 Levels of Attainment

This qualification is published on the OFQUAL register as a level 3 qualification.

Level Descriptor from the Regulated Qualifications Framework.

<https://www.gov.uk/guidance/ofqual-handbook/section-e-design-and-development-of-qualifications>

Knowledge Descriptor (the holder ...)	Skills Descriptor (the holder can...)
<p>Has practical, theoretical or technological knowledge and understanding of a subject or field of work to find ways forward in broadly defined, complex contexts. Can analyse, interpret and evaluate relevant information, concepts and ideas. Is aware of the nature and scope of the area of study or work. Understands different perspectives, approaches or schools of thought and the reasoning behind them.</p>	<p>Determine, adapt and use appropriate methods, cognitive and practical skills to address broadly defined, complex problems. Use relevant research or development to inform actions. Evaluate actions, methods and results.</p>

Unit learning outcomes and assessment criteria are designed to fit this level. Tutors assess work for the qualification against this level descriptor throughout the qualification.

## 1.3 Expectations of learners

Entry requirements:

- Be at least 18 years of age
- Demonstration of an active interest in sustainability, agriculture, the environment and community
- Be committed to the practical, work-based requirements of this qualification
- Applicants for whom English is not the first language must be able to demonstrate that they are able to meet the requirements of this qualification. Applicants may be asked to have a verbal interview and complete a written assignment as part of a process to ascertain whether the applicant's English level will enable them to access the demands of this qualification.

Centres must follow their access and recruitment policy, in accordance with Crossfields Institute's requirements, to ensure equality and diversity in recruitment for this qualification.

## 1.4 Requirements for centres

To offer this qualification, centres must be approved by Crossfields Institute. Existing Crossfields Institute centres can apply for approval to deliver this qualification alongside their existing qualifications. For more information about these processes, please contact us via email [info@crossfieldsinstitute.com](mailto:info@crossfieldsinstitute.com) or call the Awarding Team on 01453 808118

In order to be approved to offer this qualification, centres must have:

- Access to work experience opportunities for learners on organic or biodynamic farms and gardens.

- Adequate resources to meet the delivery and assessment requirements for this qualification. (Contact Crossfields Institute for further information regarding this.)
- Tutors and assessors who have current and relevant understanding of the subject matter. Work placement tutors should be able to evidence a substantial biodynamic or organic farming and growing background. Assessors will need to be both occupationally knowledgeable and qualified to make assessment decisions.
- Internal Quality Assurers who are both occupationally knowledgeable and qualified to make quality assurance decisions.

## 1.5 Role of the centre and Crossfields Institute

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. The handbook also includes a range of mandatory policies which are explained in section five.

If you have any queries or concerns about this qualification, or if you would like to suggest improvements to this specification or the qualification itself, please contact us by email on [info@crossfieldsinstitute.com](mailto:info@crossfieldsinstitute.com) or call the Awarding Team on 01453 808118.

## Section 2: Units

### 2.1 Unit list

<b>Mandatory Units</b>		
<b>Unit name</b>	<b>Ofqual reference number</b>	<b>TQT</b>
Change and Challenge in Farming		20
The Farm Organism		20
Soil Science and Phenomenology		20
Farm Fertility and Compost		30
Biodynamic Preparations		30
Soil Cultivation and Care		30
Land-Based Machinery		30
Plant Life and Phenomenology		30
Seed Production		20
Animal Life and Phenomenology		30
Environmental Rhythms and Agricultural Astronomy		30
Enterprise Planning		20
Reflective Practice		10
Farm Improvement Project		40
<b>Optional Units</b>		
<b>Environment Care</b>		
Water Resource		20
Energy and Carbon		20
Farm Ecosystem		20
Sustainable Resources		20
Climate and Weather		20
<b>Human Development</b>		
Culture and Agriculture		20
Biodynamics and Anthroposophy		20
Nutrition and Food		20
Land-based Therapeutic Care		20
Local Community Project		20

<b>Experience</b>		
Vegetable Growing		200
Fruit Growing		200
Flower Growing		200
Herb Growing		200
Seed Growing		200
Protected Growing		200
Grassland and Fodder		200
Arable Production		200
Cattle Husbandry		200
Sheep Husbandry		200
Goat Husbandry		200
Pig Husbandry		200
Poultry Husbandry		200
Dairy Husbandry		200
Bee Husbandry		200
Working with Draught Animals		200
On-Farm Processing		200

## 2.2 Guide to the units

The qualification is split into units, which specify what knowledge and skills learners must demonstrate in their assessment tasks. Each unit covers one area of the qualification and includes:

<b>Unit Code</b>	A unique code assigned by the regulator
<b>Unit Level</b>	Gives the level of demand placed upon learners in line with level descriptors published by the regulator
<b>Unit Aim</b>	Explains the overall aim of the unit, giving some indication of what is covered and how the unit fits into the qualification as a whole
<b>Content Overview</b>	Additional information about what should be delivered within the unit. (Only provided where appropriate.)
<b>Total Qualification Time (TQT)</b>	Total hours required to complete the unit – including independent study and assessment

**Guided Learning Hours (GLH)** Total hours of face-to-face time, which includes classroom, lectures, seminars, supervised work placement, mentoring, and tutor facilitated online learning

**Learning Outcomes** Tell learners what they will know, understand and be able to do upon completion of the unit

**Assessment Criteria** Indicate how learners will have met the learning outcome

Where there are *italics*, this is to provide further detail of what is covered in the assessment criteria.

*Italicised sections beginning with “**Must include**” means that all italicised guidance should be met for the assessment criteria to be achieved. Italicised sections beginning with “**May include**” is provided for guidance only.*

There may also be specific instructions about requirements for delivery. This is only where guidance is needed in addition to the more general guidance provided in the delivery section.

In learning outcomes and assessment criteria it is important to take note of the language used. In particular, the verbs give a clear idea of what is expected of learners. For example, being asked to ‘explain’ a concept is very different from being asked to ‘evaluate’ an approach. An explanation of the verbs used and their evidence requirements is provided in **Appendix 1**.

Where reference is made to “own holding” in learning outcomes or assessment criteria, this means that learners should refer to their land-based work placement.

# BDFG-L3-unit1

## Change and Challenge in Farming

<b>Unit code</b>	M/650/4413	<b>Guided Learning Hours (GLH)</b>	10
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<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	20
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**Unit aim** The unit aims to provide learners with an introduction to how farming has changed over time in order to provide a context for modern biodynamic agriculture.

This unit explores the relationship between culture and agriculture, how they have developed and influenced one another historically and how they are experienced today. The aim is that this will provide a context for understanding the development of biodynamic agriculture as well as its contemporary role and aims.

### Content overview

#### **Learning outcome: 1: Key elements of the development of agriculture**

Learners should be introduced to changing agricultural practices throughout the last few centuries, exploring development of machinery, land ownership, change of landscape and habitat, local, national and global trade, 'green revolution' and contemporary agriculture. This can provide a context for Steiner's Agriculture Course (Steiner, R, 2001) and the development of biodynamic agriculture, with the wider view of the biodynamic movement as a whole. The development of other temporary agro-ecological movements should be explored, e.g. organic, permaculture, regenerative, pasture-fed, agroforestry, re-wilding, Landworkers Alliance/via campesino.

#### **Learning outcome 2: Challenges of contemporary agriculture**

Learners should be encouraged to critically examine key issues in contemporary approaches to agriculture, this may include climate change; food supply demand and distribution; approaches to seed breeding; industrial farming; pollution; energy consumption; bio-fuel; carbon emissions; biodiversity loss; freshwater consumption; erosion; economy & dept; hydroponics; factory farming. They should explore the differences in the way conventional, organic and biodynamic agriculture present solutions to these challenges. This consideration may also include other agro-ecology movements.

#### **Learning outcome 3: potential solutions to current agricultural challenges**

Learners should be introduced to potential solutions to meet agricultural challenges, for example different forms of land ownership, possibly including land trusts, community-supported agriculture, urban agriculture and cooperatives, as well as modern farm-related enterprise models e.g. box schemes, processing, social farming (education, recreation, and therapeutic). Environmental, economic and organisational aspects should be explored.



Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Know key elements of the development of agriculture	1.1 Describe key aspects in history that influenced agriculture of today  1.1 Describe the origins of agroecology movements.  <i>This must include the biodynamic and at least one other movement.</i>
2. Understand challenges of contemporary agriculture	2.1 Discuss key challenges facing contemporary agriculture
3. Know potential solutions to current agricultural challenges	3.1 Discuss potential solutions to current agricultural challenges  3.2 Describe benefits of community engagement with agriculture

### Additional Requirements for Delivery

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

## BDFG-L3-unit2

### The Farm Organism

<b>Unit code</b>	R/650/4414	<b>Guided Learning Hours (GLH)</b>	10
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	20

<b>Unit aim</b>	The principle of the 'farm organism' is central to the biodynamic approach to farming and growing. This unit introduces this principle and explores its implications for biodynamic understanding and practice. This unit aims to demonstrate how the principles of the farm as an organism help to guide farming practice to benefit health and adaptability across all parts of the farm.
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### Content overview

#### **Learning outcome 1: The principle of the farm organism in Biodynamic Farming**

Learners will be introduced to the principle of the farm as an organism by first considering 'what is an organism?' Drawing on this understanding, learners should be able to articulate what elements should be taken into account when considering the balance of a biodynamic farm organism.

Learners will consider the following as key ways of understanding the principle of the farm organism: the integration of the four domains of soil, plant, animal and human as well as the role of the social element in the biodynamic farm. They will consider the distinction between Steiner's principles of physical, etheric, astral and ego and their interaction in the context of the biodynamic farm (Steiner, R, 2011). The farm's individuality and genius loci, the biodiversity, wildlife as well as the farm ecology are also key elements that will be explored in understanding the principle of the farm organism. Learners will also explore discussions from lectures 2 and 7 in the Agriculture Course (Steiner, R, 2001) regarding the polarity of 'cosmic' and 'earthly' influences in a biodynamic context.

#### **Learning outcome 2: The organism of own holding**

Learners should create a profile of an agricultural holding and assess where the farm organism is thriving or could be improved.

#### **Learning outcome 3: How Demeter Production Standards apply the principle of the farm**

The principle of the farm organism is a structuring principle for the Demeter Standards. Learners should develop their understanding of these basic principles as expressed in the Demeter Standards.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
<p>1. Understand the principle of the farm organism in Biodynamic farming</p>	<p>1.1 Compare the elements of an organism to the Biodynamic principle of the farm as an organism</p> <p><i>This must include the following: physical and sensory aspects; internal and external processes and relationships; individual identity.</i></p> <p>1.2 Discuss the benefits of working with the principle of a farm as an organism</p>
<p>2. Understand the organism of own holding</p>	<p>2.1 Describe the farm organism of one's own holding including the various 'organs' (missing and present)</p> <p>2.2 Assess potential improvements for own holding using the principle of the farm organism</p>
<p>3. Know how Demeter Production Standards apply the principle of the farm</p>	<p>3.1 Explain how Demeter Production Standards apply the principle of the farm organism</p>

#### Additional Requirements for Delivery

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

## BDFG-L3-unit3

# Soil Science and Phenomenology

<b>Unit code</b>	T/650/4415	<b>Guided Learning Hours (GLH)</b>	10
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	20
<b>Unit aim</b>	<p>The unit aims to provide learners with an understanding of soil in its many aspects.</p> <p>Biodynamic farming and growing places special emphasis on supporting long-term vitality in the soil. Therefore it is vital that biodynamic practitioners have a thorough understanding of the origins (soil formation), structures (classification), characteristics and activities in the soil. It is also important to understand how soil can be worked with at structural, biological and chemical levels in striving for fertility and balance. In addition, non-physical aspects relating to soil science are also key to this unit.</p> <p>This unit is closely related to the following units: 'Biodynamic Farm Fertility' and 'Soil Management'.</p>		

### Content overview

#### **Learning outcome 1: How different soils are formed**

Learners should become familiar with the way underlying geology may affect topsoil and how soil and specifically topsoil is formed. This should include consideration of rocks/subsoil/topsoil, different types of soils, weathering, characteristics of soils (clay, silt, sand) and humus formation. The processes by which soil is formed and the process by which humus is formed should be explored. Learners should become familiar with the fundamental principles of soil chemistry, including major and trace elements. Learners should become familiar with soil biology, bacteria, fungi, soil micro and macro animals. Learners should also examine the damaging effects of compaction, water logging, erosion and inappropriate fertilisation and by contrast, the conditions that lead to healthy, fertile soils and the role of soil life in these conditions.

#### **Learning outcome 2: Principles of healthy soil**

The role of soil in the farm organism should be introduced by considering the mediating role of the soil; how silica/lime/clay (as dynamics rather than substances) are at work in different soils, the role of soil in plant nutrition; how cosmic and earthly influences are working in the soil; and the role of the inner and outer planets in influencing the soil. Once these aspects are considered the role of healthy soil in the farm organism should be considered in its relationship with the other aspects of the farm.

#### **Learning outcome 3: Assessing soil quality**

Learners should become familiar with key aspects of assessing soils, focusing on phenomenological principles. They will perform simple field tests and laboratory

test interpretations as well as cation exchange capacity (CEC), water holding capacity, organic matter content to assess: texture, colour, structure, sedimentation, vegetation (root penetration), water content, pH, and biology (soil life, organisms). Learners should also be able to use landscape, climate and plants as indicators of soil quality.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Know how different soils are formed	1.1 Describe factors that influence the variety of soil formations  1.2 Explain the history of soil in a location of your choice.  <i>This must include: the underlying rock, subsoil and topsoil.</i>
2. Understand the principles of healthy soil	2.1 Describe the indicators of healthy soil in context of the farm organism  2.2 Describe the different qualities of silica, clay and lime in the soil.
3. Be able to assess soil quality	3.1 Assess soil using observational practices

### Additional Requirements for Delivery

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

## BDFG-L3-unit4

# Farm Fertility and Compost

<b>Unit code</b>	Y/650/4416	<b>Guided Learning Hours (GLH)</b>	20
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	30
<b>Unit aim</b>	<p>This unit aims to provide learners with an understanding of farm fertility: how it is understood within a biodynamic approach, how fertility is supported with biodynamic practices and the overall significance of fertility on the farm organism.</p> <p>The aim of fertility and balance has broad implications in the biodynamic farm organism. It is one of the aspects of the farm that farmers and growers are always striving to improve. Therefore this unit puts a specific emphasis on the practical aspects of developing fertility within a farm as an organism. This unit is therefore closely related to the 'Farm Organism' unit, as well as supporting the 'Soil Science and Phenomenology', 'Soil Management' and 'Plant Health' units.</p>		

### Content overview

#### **Learning outcome 1: The biodynamic approach to farm fertility**

Learners should be encouraged to consider the meaning of fertility in an agricultural sense, examining the different approaches of conventional, organic and biodynamic farming and growing.

Specific attention should be paid to ways in which biodynamic farming and growing works to support, build and maintain farm fertility. This should include: crop rotations, green manures, compost, manures, mineral budgets (and their limitations), nutrient cycles, pastureland, biodynamic preparations, and animal numbers in relation to farm organism. Learners should be introduced to the biodynamic approach to and understanding of compost: what processes occur on a physical level, which organisms are involved and the potential for compost to increase fertility on a physical level as well as on other levels. They will also consider the role of composted organic materials in the farm organism as well as different composts for different purposes. Learners should become familiar with the biodynamic preparations in terms of their substances (the difference between animal and plant substances in the context of etheric, astral and ego), dynamics and influence on fertility.

#### **Learning outcome 2: Biodynamic soil fertility management**

Learners should consider different aspects of biodynamic farm fertility and consider how it is in practice on their own holding. By looking specifically at the fertility plans of their own holding and working with their supervisor or tutor, learners will have the opportunity see the practical implications of biodynamic farm fertility planning and will be able to suggest ways in which this planning may be improved.

**Learning outcome 3: Compost processes to support soil fertility**

Learners should be introduced to different types and structures of compost (which may include liquid manure, slurry, wormery, deep litter, muck heap and vegetable compost) and the possible components of compost, including plant and animal substances. Learners should become familiar with the processes of building and caring for compost heaps including consideration of nitrogen/carbon ratio, moisture, temperature, aeration, structure, leaching, cover and skin, timing, as well as the use and application of biodynamic preparations.

Learners should be introduced to the different stages of compost, which organisms are involved, the effect of turning compost, and how to assess and monitor the quality of the composting process and readiness.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Understand the biodynamic approach to farm fertility	1.1 Explain different approaches to farm fertility.  <i>This must include the conventional and biodynamic approach.</i>
	1.2 Explain how different practices support farm fertility  <i>This must include at least four practices, like crop rotation, compost, animals, green manures, BD preparation, overcrops</i>
	1.3 Describe the biodynamic approach to composting organic matter.
2. Understand biodynamic soil fertility planning	2.1 Describe the fertility management system on your holding
	2.2 Describe the benefit of biodynamic compost

Learning outcomes	Assessment criteria
The learner will:	The learner can:
	2.3 Reflect on ways how biodynamic practices for supporting farm fertility may be improved on your holding
3. Be able to support compost processes to support soil fertility	3.1 Demonstrate appropriate practices to make good compost
	3.2 Assess composting material for its quality.

#### **Additional Requirements for Delivery**

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.



## BDFG-L3-unit5

# Biodynamic Preparations

<b>Unit code</b>	A/650/4417	<b>Guided Learning Hours (GLH)</b>	20
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	30
<b>Unit aim</b>	<p>This unit aims to introduce learners to the principles and practice of making and using the biodynamic preparations.</p> <p>The biodynamic preparations are at the heart of biodynamic farming and growing as they articulate both the principled approach and the practical implications of working with the land. This unit therefore gives learners the opportunity to become familiar with the principles and practices in the application of the preparations. For this unit the term biodynamic preparations will include the compost and spray preparations (500 to 508), peppers, cow pat pit and tree paste.</p>		

### Content overview

#### **Learning outcome 1: Biodynamic preparations**

Learners should become familiar with how the preparations should be made and stored, how they should be prepared for use (including different stirring methods) and how they should be used (different application methods). Attention should be paid to current regulations and Demeter production standards.

Where possible discussion about alternative preparations and current research in this area (for example Nastati, Podolinski, Erbe and Klocek) should be encouraged.

#### **Learning outcome 2: The principles of biodynamic preparations**

Learners should be introduced to the principles behind the preparations, the dynamic aspects of different components and how they may work together in supporting fertility and plant health. This should include discussion of both animal and plant components in their qualitative nature (for example the difference between horns and antlers, different organs, the qualitative nature of different plants) as well as the timing and dynamics of making and using different preparations. Where appropriate relevant research should be included.

#### **Learning outcome 3: Applying biodynamic preparations**

Learners should become practiced in preparing biodynamic preparations for application to compost, land and plants. Application should take into account timing (season, weather, time of day and plant stage), quantities and the Demeter production standards.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Know the biodynamic preparations	1.1 Identify the ingredients for preparations 500 to 508 1.2 Describe how to make biodynamic preparations 500 to 508
2. Understand the principles of biodynamic preparations	2.1 Describe the principles of biodynamic preparations 500 to 508.  <i>This must include: potential uses of preparations; possible impacts of the preparations</i>
3. Be able to apply the biodynamic preparations 500 to 507	3.1 Demonstrate how to apply biodynamic preparations 500 to 507

#### Additional Requirements for Delivery

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

## BDFG-L3-unit6

### Soil Cultivation and Care

<b>Unit code</b>	D/650/4418	<b>Guided Learning Hours (GLH)</b>	20
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<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	30
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**Unit aim** The unit aims to provide learners with an understanding of why farmers cultivate the soil and what machines or tools they use under specific conditions. Learners will also become practiced in the work of soil cultivation.

In biodynamic systems healthy soil is the primary source of fertility on the farm. Therefore, care of the soil is vital to working in biodynamic agriculture. Cultivation can have both positive and negative influences on the soil, so this unit aims to help learners understand both the theoretical and practical implications of soil cultivation.

### Content overview

#### **Learning outcome 1: Soil cultivation and care**

Learners should be introduced to the effects of tillage and the methods, tools and machinery used (this should include consideration of plough or no-plough, minimum tillage, comparable hand cultivation techniques as well as human and animal mechanic power).

Learners should explore how different cultivation methods, tools and machinery affect different soil types and under different conditions. They should consider the timing of cultivations and the variables which should be taken into account when managing soil, for example: drainage, timing, compaction, moisture levels, aeration, erosion, leaching and weed control.

#### **Learning outcome 2: Cultivating healthy soil**

Learners should gain experience in independently using their judgement and knowledge to practically cultivate a healthy soil. This should include independent selection, adjustment and use of a variety of tools and machinery, judging appropriate conditions for cultivation, performing primary and secondary cultivations and reflecting on the impact those cultivations have made. This should be done in the context of aiming to improve soil condition and fertility. It includes approaches to cultivation without tools (e.g. permaculture).

Learning outcomes	Assessment criteria
The learner will:	The learner can:
<p>1. Understand soil cultivation</p>	<p>1.1 Describe the purpose of a range of implements used for soil cultivation and care</p> <p><i>This should include at least four implements</i></p>
	<p>1.2 Discuss the potential damage to soil quality through soil cultivation.</p>
	<p>1.3 Describe soil cultivation practices on own holding</p>
	<p>1.4 Reflect on the quality of soil cultivation practices on own holding</p>
<p>2. Be able to apply soil cultivation and care</p>	<p>2.1 Demonstrate safe usage of cultivation tools and machinery with care for soil quality</p>

#### Additional Requirements for Delivery

It is important for learners to understand the practical context of the knowledge and understanding learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

## BDFG-L3-unit7

### Land-based Machinery

<b>Unit code</b>	F/650/4419	<b>Guided Learning Hours (GLH)</b>	20
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	30
<b>Unit aim</b>	<p>The unit aims to provide learners with the knowledge and skills to operate land-based machinery efficiently and safely. This includes basic maintenance, health and safety procedures as well as developing skills through practice.</p> <p>The use of land-based machinery and associated implements is vital to both farming and gardening enterprises, so this unit aims to give learners the opportunity to gain knowledge and skills in this area.</p> <p>Learners should be given the opportunity to become familiar with how land-based machinery and associated implements work, and which checks and inspections are necessary. Learners should become practiced in selecting appropriate machines and implements as well as performing daily and routine maintenance and adjustments.</p> <p>Learners will develop skills in operating land-based machinery in an independent, safe and proficient manner and in attaching and detaching various implements and using them correctly.</p> <p>This unit is related to and informed by the 'Soil Management' unit.</p>		

### Content overview

#### **Learning outcome 1: Land-based machinery**

Learners should be introduced to the purpose and use of machines. They should gain insights into how different machines work (this may include: 2 stroke and 4 stroke engines, diesel, petrol, cooling, lubrication, hydraulics, electrical etc.) and how a variety of implements associated with those machines work. Learners should also become familiar with which machines and which implements are best-suited to different tasks.

#### **Learning outcome 2: Health and safety issues in the context of land-based machinery**

Learners should become familiar with all aspects of health and safety associated with land-based machinery, including responsibilities, regulations, personal protective equipment and how to carry out a risk assessment.

#### **Learning outcome 3: Using land-based machinery safely**

Learners should be able to prepare the machine (including pre-start checks) and any associated implements for use. They should then be able to operate the land-based

machinery and any associated implements independently, safely and proficiently (this should include the use of personal protection equipment when appropriate).

Learners should also be aware of the importance of machinery manuals as a means of supporting their learning and to be used as a reference.

Depending on the individual holding, learners may have opportunities to develop skills in the operation of two-wheel tractors, compact tractors or larger tractors and associated implements (i.e. attaching, detaching and adjusting implements – three point and PTO, using a trailer and using a front loader). They will also need to learn tractor and implement controls - dependent on the situation this may include: lawn mowers, brush cutters, forklift, quad bike etc.

**Learning outcome 4: Maintaining land-based machinery**

Learners should become familiar with the required maintenance tasks, as well as the timing of those tasks. This should include daily checks (oil, fuel and coolant), as well as periodical servicing (greasing, oil change, etc.), and minor repairs. Learners should also be able to recognise when it is helpful to call on expert advice.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Know land-based machinery	1.1 Identify and explain key parts of a land-based engine.  <i>This may include any of the following: engine, ignition system, cooling system, electrical system, fuel system, exhaust system, lubrication system, hydraulic system.</i>
	1.2 Explain the purpose of key parts of a range of land-based machines.  <i>This must include a minimum of three implements.</i>
2. Understand how to meet land-based machinery health and safety requirements	2.1 Explain health and safety requirements for operating land-based machinery
3. Be able to use land-based machinery safely	3.1 Demonstrate how to prepare and use a land-based machine safely

Learning outcomes	Assessment criteria
<b>The learner will:</b>	<b>The learner can:</b>
4. Be able to maintain land-based machinery	4.1 Demonstrate how to carry out maintenance for land-based machinery.  <i>This must include safety- and wear-and-tear checks, as well as servicing.</i>

#### **Additional Requirements for Delivery**

It is important for learners to understand the practical context of the knowledge and understanding learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

# BDFG-L3-unit8

## Plant Life and Phenomenology

<b>Unit code</b>	K/650/4420	<b>Guided Learning Hours (GLH)</b>	20
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	30
<b>Unit aim</b>	<p>This unit aims to provide learners with an understanding of the principles of healthy agricultural plants as well as the biodynamic concept of the plant as an organism that develops within the influences of both earth and cosmos.</p> <p>A phenomenological approach to science underpins biodynamic agriculture. This unit therefore aims to provide learners with the opportunity to engage in a phenomenological process with plants and develop their ability to gain insight into plant life using a range of approaches.</p>		

### Content overview

#### **Learning outcome 1: Principles of healthy agricultural plants**

Learners should be introduced to the major structures and functions of agricultural plants. External structures include: seeds, roots, shoots, stem, leaves, buds, flowers, and fruits. Major plant processes should also be considered, including: photosynthesis, cell division, growth, respiration, water and nutrient uptake and transportation and reproduction. Factors which influence these processes should be explored, including how human beings can work with or manipulate these processes. In all different life cycles there should be exploration of how the following vary: metamorphosis and development, germination, growth, reproduction and decay, sexual and asexual reproduction, vegetative and reproductive growth, primary and secondary growth of roots and shoots.

Learners should also explore internal structures and specialist cells in seeds.

Factors that influence the health of an agricultural plant should be considered, including quality of nutrients, stress factors from the environment and seed quality. Preventative and remedial measures in biodynamic pest and disease control should be introduced.

#### **Learning outcome 2: Biodynamic principles of earthly and cosmic influences on plants**

Learners should be introduced to the idea of the living plant as existing between and being influenced by the earth and cosmos. Both earthly and cosmic influences should be characterised and their influence on plants should be explored in the context of their form and life cycles. This exploration should be framed in the approach of understanding the evolution of plants, taking into consideration the dynamics of contraction and expansion, the dynamics of the four elements, the activities of elemental beings and the principles of the ethers, as articulated by Steiner and others (Steiner, R, 2001).



**Learning outcome 3: Sensing the quality of plants**

Learners should be introduced to the concept, principles and objectives of phenomenology including Goethe’s methods (Goethe, J, Miller, G, 2009). Goethe’s idea of the archetypal plant and specifically leaf metamorphosis should be introduced. Learners should also be given the opportunity to practice phenomenological observation skills and reflect on the observations made.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Understand the principles of healthy agricultural plants	1.1 Explain functions within healthy agricultural plants  <i>This must include: Growth, breathing, reproduction, influence of external factors</i>
	1.2 Explain how to support plants health and resilience
2. Know biodynamic principles of earthly and cosmic influences on plants	2.1 Explain biodynamic principles of earthly and cosmic influences on plant appearance
3. Be able to sense the quality of plants	3.1 Use own senses to assess the quality of a plant.
	3.2 Reflect on the value of sense observations as a means of understanding living plants

**Additional Requirements for Delivery**

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

## BDFG-L3-unit9

### Seed Production

<b>Unit code</b>	L/650/4421	<b>Guided Learning Hours (GLH)</b>	10
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	20
<b>Unit aim</b>	<p>This unit aims to explore the importance of seeds and the source of seeds for a biodynamic farm.</p> <p>The source of seeds has become an extremely important issue for biodynamic farming and growing. As such, learners will be encouraged to explore the issue of seed ownership and growing methods. They will also examine the practicalities of seeds on their own holding, including how to source seeds and the possibilities of using own seeds.</p> <p>This unit is closely related to the 'Plant Life and Phenomenology' unit. The two units would benefit from being taught in an integrated way.</p>		

### Content overview

#### **Learning outcome 1: The principles of seed production**

Learners should be introduced to the principles of seed development in plants, with specific emphasis on plant breeding. This should include the Mendelian approach to genetics, different kinds of pollination, perfect and simple flowers, in-breeders and out-breeders and the difference between dioecious and monocious plants.

#### **Learning outcome 2: Biodynamic principles of seed growing**

Learners should be encouraged to explore different kinds of seed production including open-pollinated, hybrid and genetically modified. Issues of somatic and cytoplasmic fusion should be discussed, as should genetic modification within species and cross-species.

Learners should become aware of the Demeter production standards, the recommendations for biodynamic seed production and the certification issues around seeds.

#### **Learning outcome 3: How to produce biodynamic seeds**

Learners should be introduced to the steps in biodynamic seed production, including selection criteria for choosing plants to produce seeds (size, flavour, health, disease and pest resistance etc.), harvesting seeds and then the processes of drying, cleaning, storage. This may include discussion of how different areas of the farm can produce seeds, possibly including vegetable production, cereals, flowers, grasslands and forage crops. The idea of the farm organism is also a structuring principle for the Demeter Standards

Learning outcomes	Assessment criteria
The learner will:	The learner can:
<p>1. Understand the principles of seed production</p>	<p>1.1 Describe seed production in the natural world</p> <p><i>This must include at least three types of pollination</i></p>
	<p>1.2 Discuss artificial approaches to seed production</p> <p><i>This must include at least two types of artificial seed production.</i></p>
<p>2. Understand biodynamic principles of seed production</p>	<p>2.1 Summarise the Demeter Standards for seeds</p>
	<p>2.2 Explain biodynamic principles of supporting seed production</p> <p><i>This must include: biodynamic methods for enhancing the quality of seeds; reasons for using biodynamic methods of seed production.</i></p>
<p>3. Understand how to produce seeds</p>	<p>3.1 Describe the process of producing seeds</p> <p><i>This must include three different types of vegetables or grains.</i></p>

### Additional Requirements for Delivery

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

# BDFG-L3-unit10

## Animal Life and Phenomenology

<b>Unit code</b>	M/650/4422	<b>Guided Learning Hours (GLH)</b>	20
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	30
<b>Unit aim</b>	This unit aims to provide learners with an introduction to animal physiology as well as a broader, more holistic understanding of animals.  A holistic approach to science is an approach that underpins biodynamic agriculture. As such this unit introduces that approach to science in the realm of animals. This unit provides an opportunity for learners to improve their own observation skills of animals and to encourage a more holistic understanding of the animal's relationship to the farm organism, including both physical and non-physical aspects.		

### Content overview

#### **Learning outcome 1: Domesticated animals in relation to the farm as an organism**

Learners should be introduced to the relationship between domesticated animals and the farm organism as described by Steiner in chapters 2 and 8 of the Agriculture Course, (Steiner, R 1997). Learners should include consideration of the being of the animal and how the farm supports this, but also how the 'gesture and being' of the animal contributes to the farm organism. Specific attention to the quality of manure should be taken into account. The concept of metamorphosis between species should be explored through drawing, comparing skeletons, skulls and metabolic systems. Learners should reflect on their phenomenological observations. The concept of the three groups of mammals, rodents, carnivores and hooved animals should also be explored. The idea of the 'gesture' and 'being' of an animal as described by Goethe and Schad (among others) (Sha, W, 1978) should be considered including ways of understanding this concept and perceiving the 'gesture' and 'being' of an animal. Learners should be introduced to the idea that the 'gesture' and 'being' of an animal may be reflected in their physiology.

#### **Learning outcome 2: Basic principles of supporting healthy domesticated animals**

Learners should be introduced to the fundamental principles of animal anatomy including the three major systems (nerve-sense, rhythmic and metabolic). They should explore how many animals reveal a different emphasis in their physiology and anatomy. Specific consideration should be given to the anatomy of digestive system as a part of the metabolic system and the difference between ruminant and monogastric digestive systems.

Learners should be given the opportunity to explore a particular system across different species of animal, specifically focusing on how this system is reflected in animal skeletons.

**Learning outcome 3: Sensing the well being of farm animals**

The 'being' of an animal as described by Goethe and Schad among others affects and is affected by its environment. Learners should be introduced to the use of phenomenological observation skills as described by Goethe and others (Goethe J and Miller, J, 2009) for observing the animal kingdom. Learners should be given the opportunity to observe this interaction, which may lead to discussions of the animal in its environment, how it is related to its landscape and how domestication may influence an animal. Learners should then explore how the physical, the sensory, emotional and social animal being is behaving in its environment.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Understand domesticated animals in relation to the farm as an organism	1.1 Describe different qualities of domesticated animal
	1.2 Explain potential benefits of domesticated animals for a farm organism
2. Understand basic principles of supporting healthy domesticated animals	2.1 Explain how to support domesticated animal health and resilience  <i>This must include feeding, keeping, physical, sensory and emotional needs</i>
3. Be able to sense the well-being of farm animals	3.1 Demonstrate how to use your senses to assess the well-being of farm animals
4. Be able to reflect on potential improvements for the animal situation on your holding	4.1 Reflect on potential improvements for the animal situation on your holding

**Additional Requirements for Delivery**

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

# BDFG-L3-unit11

## Environmental Rhythms and Agricultural Astronomy

<b>Unit code</b>	R/650/4423	<b>Guided Learning Hours (GLH)</b>	20
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	30
<b>Unit aim</b>	This unit aims to explore environmental rhythms in agriculture and its connection with astronomical rhythms.  Learners should become familiar with basic astronomical ideas and terminology so that they can make use of this knowledge in biodynamic practice.  Learners should become familiar how environmental and cosmic rhythms can be integrated in biodynamic farming and growing practice.		

### Content overview

#### **Astronomical concepts relevant to biodynamic practice**

Learners should be introduced to natural rhythms including both daily and seasonal rhythms. Learners should explore how these rhythms reflect the cycles of the earth from a qualitative and agricultural perspective. They should then be encouraged to discuss the practical agricultural implications of these rhythms in the work of the agricultural day (for example sowing, transplanting or milking) and agricultural year (breeding, harvesting, making or using preparations etc.)

#### **Astronomical concepts relevant to planting calendars**

Learners should be introduced to basic astronomical concepts that play an important role in biodynamic agriculture. This should include the difference between the geocentric and heliocentric views of the solar system; different rhythms and cycles of the moon (waxing/waning, ascending/descending, apogee/perigee, moon nodes); different rhythms of the planets in the solar system (including their orbits, but also their changing relationships in conjunctions, oppositions, trines and squares); and ways of understanding the twelve signs of the zodiac (sidereal/tropical and the ecliptic). Learners should be introduced to how basic astronomical concepts contribute to biodynamic practice. This should include how the inner (Venus, Mercury and Moon) and outer (Saturn, Jupiter and Mars) planetary rhythms may affect the different aspects of the farm organism. Learners should become familiar with how the classical elements (Earth, Water, Air and Fire) are at work in different parts of the plant, and the relationship of this to the moon and constellations in the zodiac.

Learners should also explore the relationship of the other rhythms of the moon (apogee and perigee for example) and their influence on the farm organism.

**Use an astronomical planting calendar to support biodynamic practice**

Learners should become familiar with ways in which to access information about astronomical rhythms. Learners should understand how to use a planting calendar in forward planning (for example in a sowing plan or other working plan), taking into account understanding of basic astronomical concepts and how they contribute to biodynamic practice.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Understand how environmental rhythms inform agriculture	1.1 Describe the effect of environmental rhythms on the living world
2. Understand astronomical concepts relevant to planting calendars	2.1 Describe different moon rhythms
	2.2 Explain planetary movements from a geocentric perspective
3. Be able to use an astronomical planting calendar to support biodynamic practice	3.1 Explain why specific astronomical constellation at specific dates may support agricultural practices.  <i>This must include three dates and related practices.</i>

**Additional Requirements for Delivery**

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

# BDFG-L3-unit12

## Enterprise Planning

<b>Unit code</b>	T/650/4424	<b>Guided Learning Hours (GLH)</b>	10
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	20

<b>Unit aim</b>	<p>The unit aims to provide learners with the knowledge and skills needed to plan the finances of an enterprise over the course of one year. This is with the aim that learners will be able to make a business plan for an enterprise. In the context of this unit, an enterprise is defined as an area of activity within a farm or horticultural operation.</p> <p>The aim of this qualification is to prepare learners to manage an enterprise within a growing or farming operation. As such this unit is key in that it address the necessary financial and business planning skills (alongside practical, technical and social skills) to carry out this aim.</p> <p>This unit should be taught in relation to units which address social and economic structures in agriculture such as 'People and Agriculture'. This can help inform the practical implications of more theoretical planning and decision making.</p>
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### Content overview

**Learning outcome 1: The role of efficiency management for a small enterprise and Learning outcome 2: The role of financial management for a small enterprise**

Learners should be introduced to efficiency management tools, including labour, infrastructure and equipment. Learners should be introduced to the different financial tools for managing an enterprise which include: gross margins, profit and loss, cash flow, budgeting, balance sheet, record- keeping, fixed/variable costs, income and expenditure, revenue and capital, VAT, depreciation and management (ledger) accounts. Learners should be introduced to how annual management patterns (timing, cash flow, labour projection, supplies and markets etc.) have an influence on the finances of an enterprise. Learners should be introduced to hidden economic values of seeming unproductive parts of an enterprise, e.g. marketing value.

**Learning outcome 3: Approaches to business planning**

Learners should be introduced to business plans, what should be included and should learn how to assess templates.



Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Understand the role of efficiency management for a small enterprise	1.1 Explain potential improvements for work efficiency for your enterprise  <i>This must include at least three areas</i>
2. Understand the role of financial management for a small enterprise	2.1 Produce a financial management plan for a small enterprise.  <i>This must include twelve monthly-profit and loss, cashflow forecast and balance sheet.</i>
3. Understand approaches to business planning	3.1 Assess two examples of a business plan

#### **Additional Requirements for Delivery**

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

## BDFG-L3-unit13

### Reflective Practice

<b>Unit code</b>	A/650/4426	<b>Guided Learning Hours (GLH)</b>	5
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	10
<b>Unit aim</b>	This unit aims to help learners become conscious of their personal and professional development journey over the course of the qualification and to evaluate Biodynamic agriculture in the context of other farming practices.		

### Content overview

#### **Learning outcome 1: Reflecting on own learning and development journey**

Learners should be encouraged to articulate their own personal and professional expectations in the initial stages of the qualification. Reviews at specified times throughout the qualification should enable and encourage learners to document how these expectations change. In the final stages of the qualification learners should be encouraged to reflect on their personal development as a whole. Learners should be introduced to personal development tools and exercises which can support this process.

#### **Learning outcome 2: Assessing biodynamic agriculture in the context of other approaches**

Learners should consider the biodynamic approach to farming and growing compared to other alternative approaches such as organics, permaculture, urban agriculture and holistic management. Learners should explore areas such as approaches to soil fertility, plant health, animals well-being and human development.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
<p>1. Be able to reflect on own learning and development journey</p>	<p>1.1 Reflect on your personal and professional journey</p> <p><i>This must include reflections over the duration of the qualification: reflections of initial personal and professional development aspirations; reflections on how aspirations change or are met during the qualification; reflections of achievements towards the end of the qualification; reflections on further areas of learning and development.</i></p>
<p>2. Be able to assess Biodynamic agriculture in the context of other approaches to agriculture</p>	<p>2.1 Assess Biodynamic agriculture in the context of other approaches to agriculture</p> <p><i>This must include at least two other approaches to agriculture, which may be taken from the following: organics, permaculture, urban or regenerative agriculture</i></p>

#### Additional Requirements for Delivery

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

# BDFG-L3-unit14

## Farm Improvement Project

<b>Unit code</b>	F/650/4428	<b>Guided Learning Hours (GLH)</b>	10
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	40
<b>Unit aim</b>	This unit aims to improve a farm by implementing a project that is inspired by the knowledge, understanding and skills covered in the qualification.		

### Content overview

#### **Learning outcome 1: Planning a farm improvement project**

#### **Learning outcome 2: Carry out a farm improvement project**

#### **Learning outcome 3: Evaluating a farm improvement project**

Learners will plan, carry out and evaluate their own farm improvement project.

The following explanation of what constitutes an activity is provided for guidance: This might be a project or individual activity identified by the learner in conjunction with tutors or a work-based supervisor or mentor. Learners should identify somebody to mentor them throughout the activity, who has expertise in the identified field (e.g. soil, plant, animal explorations, water conservation, biodynamic preparations, building, process improvements, marketing etc.)

The project should be carried out in a way that draws together the learning that has been undertaken throughout the other units studied over the course of the qualification and must be manageable for learners to undertake within the timeframe of the course of study.

### Learning outcomes

#### **The learner will:**

1. Be able to plan a farm improvement project

### Assessment criteria

#### **The learner can:**

- 1.1 Create a farm improvement plan for own holding.

*This must include: rationale, activities, timeline and planned outcome.*

Learning outcomes	Assessment criteria
<b>The learner will:</b>	<b>The learner can:</b>
2. Be able to carry out a farm improvement project	2.1 Carry out a farm improvement project on own holding
3. Be able to evaluate a farm improvement project	3.1 Evaluate the farm development project.  <i>This may include: if the project could be implemented as planned, personal or professional challenges, successes and lessons learned</i>

### **Additional Requirements for Delivery**

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

# BDFG-L3-unit15

## Water Resource

**Unit code** Y/650/4425 **Guided Learning Hours (GLH)** 10

**Unit level** 3 **Total Qualification Time (TQT)** 20

**Unit aim** This unit aims to provide learners with an understanding of the principles of water husbandry in differing climates. It introduces students to supply and use considerations. It raises the issue of water qualities, both crude and subtle.

### Content overview

#### **Learning outcome 1: Water management**

Learners should consider supply - natural and built - and use - drainage, irrigation, and evaporation, transpiration, run-off and explore how this varies with seasons, climates and climate-change. Learners will be able to explore contour maps and discuss their implications for water use. Learners will discuss different soils (sandy and clayey) and soil fractions (humus, subsoils) and their interaction with water.

#### **Learning outcome 2: Planning water resource improvements**

Learners should explore the possibilities for drainage and drought-proofing for a piece of land, this may include reducing irrigation, plant adaptability, role of BD preparations. Learners should consider rainfall, contours, ponds and streams, soil and planting schemes. Learners will make use of the maps used in Learning outcome 1. The farm Ecosystem unit is also relevant for this unit.

### Learning outcomes

#### **The learner will:**

1. Understand water management on your holding

### Assessment criteria

#### **The learner can:**

- 1.1 Describe the water situation on your holding.  
*This must include sources and needs.*
- 1.2 Assess your water challenges

Learning outcomes	Assessment criteria
<b>The learner will:</b>	<b>The learner can:</b>
2. Be able to plan water resource improvements	2.1 Explain how your water resource management can be improved

**Additional Requirements for Delivery**

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

# BDFG-L3-unit16

## Energy and Carbon

**Unit code** D/650/4427 **Guided Learning Hours (GLH)** 10

**Unit level** 3 **Total Qualification Time (TQT)** 20

**Unit aim** The unit aims to provide the learner with knowledge and understanding about current climate change issues of energy and carbon related to agriculture. The learner should become able to calculate the farms carbon footprint and suggest how to reduce the carbon footprint at a farm setting.

### Content overview

**Learning outcome 1: The energy and carbon challenge for agriculture**

Learners should be introduced to some issues, numbers and graphs related to global warming, carbon emissions and energy consumption, global as well as agricultural issues related to energy and carbon. Agricultural imports like fertilisers, fodder, energy and materials should be related. Also the issue of emissions, like CO<sub>2</sub>, methane CH<sub>4</sub> and Nitrous oxide N<sub>2</sub>O, soil emissions and sequestration.

**Learning outcome 2: Calculating your carbon footprint**

Farm carbon calculation tools should be introduced and their application explored.

**Learning outcome 3: Reducing energy and carbon footprint**

A range of potential solutions to save energy and imports should be explored, as well as carbon emission free or saving solutions. This may include renewable energy sources, animal feed and management, as well as soil and crop systems and management.

### Learning outcomes

**The learner will:**

1. Understand the energy and carbon challenge for agriculture

### Assessment criteria

**The learner can:**

- 1.1 Explain a number of key energy and carbon challenges for agriculture

*This must include at least five challenges*



Learning outcomes	Assessment criteria
<b>The learner will:</b>  2. Be able to calculate your carbon footprint	<b>The learner can:</b>  2.1 Demonstrate how to calculate the Carbon footprint of your holding
3. Understand how to reduce your energy and carbon footprint	3.1 Suggest actions to reduce the energy and carbon footprint on your holding

**Additional Requirements for Delivery**

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

# BDFG-L3-unit17

## Farm Ecosystem

**Unit code** H/650/4429

**Guided Learning Hours (GLH)** 10

**Unit level** 3

**Total Qualification Time (TQT)** 20

**Unit aim**

The unit aims to provide learners with the knowledge, understanding and skills to identify, create and maintain habitats which support ecological diversity within the wider landscape of the farm.

Understanding the presence and relationships of habitats on the farm is vital in understanding the biodynamic farm organism as a whole. These elements may include wild places and wild life on the farm such as trees, shrubs, ponds, watercourses, hedges, grasslands, birds, insects and mammals.

### Content overview

**Learning outcome 1: The relationship between agriculture and landscape ecology**

**Learning outcome 2: Enhancing habitat diversity**

Learners should be introduced to agriculture and its relationship to landscape over the course of history. This may include some of the following developments: primeval, medieval, pre-enclosure, enclosure, industrial revolution, post 1940s and modern-day agriculture. Having established the historical relationship between agriculture and the landscape, some consideration should be paid to the effect of modern agriculture on the landscape and how past and current legislation regards the conservation of wildlife habitats and protected species. This should include protected species legislation and possible available grants, for example the Environmental Stewardship Scheme. Learners should be introduced to lecture seven of the agriculture course given by R. Steiner in 1924, its content and meaning; and how the biodynamic farm organism is influenced through this approach.

Learners should be introduced to the approach of biodynamic agriculture in diversifying the landscape ecology of the farm organism. This should include an awareness of the Demeter production standards.

Learners should be introduced to ways in which to understand habitat diversity and the relationship between these habitats (for example in wildlife corridors). Learners should also become familiar with a variety of assessments in this area for example whole farm assessment, hedge row survey, farmland bird survey, arable plant survey, grass land species, eco-logical features and the LEAF survey.

Learners should assess one specific area of habitat diversity and explore how that habitat is related to others. By using these tools learners can reflect on the habitat diversity of their own holding and suggest improvements.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Understand the relationship between agriculture and landscape ecology.	1.1 Describe how agriculture has shaped your local landscape.
	1.2 Explain the biodynamic approach of farm habitat.
2. Be able to enhance the habitat diversity on own holding.	2.1 Describe the habitat diversity of own holding.
	2.2 Suggest activities to improve the diversity of habitat on own holding.

**Additional Requirements for Delivery**

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

# BDFG-L3-unit18

## Sustainable Resources

<b>Unit code</b>	L/650/4430	<b>Guided Learning Hours (GLH)</b>	10
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	20
<b>Unit aim</b>	This unit aims to explore issues of sustainability in resource management in the context of a biodynamic farm. Learners will be given the opportunity to assess their own holding and make recommendations.  Biodynamic farms strive to be self-sustaining in many ways. This unit focuses on applying the principle of the farm organism in resource management (i.e. energy, materials, water and waste).		

### Content overview

#### **Learning outcome 1: The importance of sustainable resource management in the context of the farm organism**

Learners should build on the idea of the farm as an organism, exploring how feasible it is to extend that idea to the resource management of the farm. Consideration should include: water, energy, materials, biological resources and waste, as well as the negative impact on farm external / world resources. The learner should become aware of the related impact of external resource consumption local and global on environment, social justice and future development.

In the context of the biodynamic farm striving to be self-sustaining, learners should explore where it may be possible to reduce consumption of farm external resources, creatively make the most of resources that already exist on the farm, reuse and recycle whenever possible. Special attention should be given to waste, dirty water and air quality.

#### **Learning outcome 2: Reviewing the sustainability of resource management**

Learners should select one or more areas in which to review the sustainability of their own holding's resource management. Subject of review may include:

- Energy sources (electricity, gas/oil, diesel, renewables etc.) and consumption (usage from bills and meters); materials (building materials, packaging, fencing, tools, machinery and more).
- Biological resources: water, seeds, fertility (compost, manure, potting compost), feed, live-stock, plants, water.
- Waste streams (farm runoff, solid waste, grey water, black water/sewage, recycling etc.).

Learners should reflect on the results of the survey with a view to how the results could be improved.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
<p>1. Understand sustainable resource management in the context of the farm organism</p> <p>2. Be able to review the sustainability of resource management on own holding</p>	<p>1.1 Describe the issue of sustainable resource management in the context of the farm organism</p> <p>2.1 Assess the sustainability of resource management on own holding</p> <p><i>This may include quantitative findings relating of imported and 'exported' water, energy, materials, organic resources or waste streams</i></p> <p>2.2 Reflect on the results of sustainability research carried out on own holding</p>

#### Additional Requirements for Delivery

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

# BDFG-L3-unit19

## Climate and Weather

<b>Unit code</b> M/650/4431		<b>Guided Learning Hours (GLH)</b>	10
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	20

<b>Unit aim</b>	<p>The unit aims to provide learners with the observational techniques for understanding the weather in the landscape.</p> <p>Weather and climate have a strong influence on agriculture. Through phenomenological and observational techniques, learners can develop a familiarity with the weather patterns in their area. Learners can also develop insights into how this understanding of weather can be integrated with their experience of nature and their practice of agriculture.</p> <p>The 'Soil', 'Plant' and 'Animal' Phenomenology units provide a context for the observational approach that is used in this unit.</p>
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### Content overview

#### **Learning outcome 1: Weather and climate conditions**

Learners should be introduced to phenomenological observation skills specifically applied to weather, for example: the effect on insects, animals, noise and soil; cloud types and characteristics of weather fronts.

Learners should become familiar with the most common weather patterns that affect their own holding through regular weather records. They should also be introduced to methods for relating weather charts to conditions on the ground both in current and developing conditions. Learners should become familiar with the basic concepts in modern meteorology and weather forecasting including: temperature, barometric pressure, precipitation, prevailing winds, cloud types, fronts and cloud sequences associated with fronts.

Learners should be introduced to how human beings have experienced weather over the course of history and how this experience has changed over time. This may include: indigenous, early European, medieval and contemporary (linking the development of the science of weather to the evolution of consciousness).

Learners should be introduced to the historical overview which can provide a context for the contemporary science of meteorology, which should include some aspects of a qualitative approach to weather phenomena. This may include the use of planting calendars, weather prediction and the phases of the moon, or for instance a basic introduction to astro-climatology, as articulated by Klocek (Klocek, D, 1991).

**Learning outcome 2: Climate adaptability in agriculture**

In the context of global climate change and increasing weather extremes and change of weather patterns, learners should become familiar with the relevance of resilience and adaptability in agriculture. Learners should become familiar of breed adaptability (local, new and old breeds, seed mixes); soil adaptability (soil life, organic matter, deep roots, watering patterns, fertility application, seed sowing, soil cultivation, soil cover, ‘fertility’ lays); hedges, woodlands and open water; Agroforestry; water catchment; regenerative farming methods.

Learners should become practiced in connecting their observations concerning the weather to the experience and planning in land work (e.g. the effect of weather on crop yield, health in livestock and crops, and how this may influence future planning).

Learners should also become familiar with how weather conditions affect the spraying of biodynamic preparations and other applied biodynamic practices.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Know local weather and climate conditions through observations	1.1 Describe your local climate and weather  <i>This must include climate zone, annual and seasonal rainfall, wind patterns, annual temperature patterns and extremes</i>
	1.2 Record your local weather for a period of two months  <i>This must include clouds, wind direction, rainfall, temperature and any potential weather phenomena, like snow, hail, thunderstorm and potential effects on nature</i>
2. Know about climate adaptability in agriculture	2.1 Explain actions that could increase climate adaptability of your holding

**Additional Requirements for Delivery**

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

# BDFG-L3-unit20

## Culture and Agriculture

**Unit code** R/650/4432 **Guided Learning Hours (GLH)** 10

**Unit level** 3 **Total Qualification Time (TQT)** 20

**Unit aim** Agriculture used to be an integrated part in cultural life. This unit aims to explore this relationship and encourages learners to enliven cultural activities in farming.

### Content overview

**Learning outcome 1: The relationship between culture and agriculture**

Learners should be introduced to different cultural festivals and their relationship to natural rhythms. Learners should also be encouraged to explore the task and purpose of agriculture in connection to the culture of individuals, community and nature. Aspects of art, sound, colour, smell, form, material and creativity can be explored.

**Learning outcome 2: Activities that can enliven culture in farming**

Learners should be introduced to potential cultural activities and areas that can enhance farming life. Out of their own observations of culture and agriculture on the holding, learners should be encouraged to develop a sense for how to develop the cultural aspect at their holding.

### Learning outcomes

### Assessment criteria

**The learner will:**

**The learner can:**

1. Understand the relationship between culture and agriculture

1.1 Describe cultural traditions related to agriculture

*This must be connected to a specific location, could be based on own experience and include a list of cultural activities with one described in more detail.*

2. Understand activities that can enliven culture in farming

2.1 Explain how farming can benefit from culture



Learning outcomes	Assessment criteria
<b>The learner will:</b>	<b>The learner can:</b>
	2.2 Explain how to enliven culture on your holding

### **Additional Requirements for Delivery**

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

# BDFG-L3-unit21

## Biodynamics and Anthroposophy

<b>Unit code</b>	Y/650/4434	<b>Guided Learning Hours (GLH)</b>	10
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	20

**Unit aim** The unit aims to provide learners with an introduction to the philosophy that stands behind and informs biodynamic agriculture.

Anthroposophy as articulated by Rudolf Steiner (see reading list) is the philosophical approach which forms the basis for biodynamic farming and gardening. Understanding concepts from this philosophical approach and its language is therefore vital to learners' developing understanding of biodynamic farming and gardening.

### Content overview

#### **Learning outcome 1: How anthroposophy informs biodynamics**

Learners should be introduced to fundamental ideas and specific terminology in anthroposophy. This may include: the explanation of the word anthroposophy, some biographical aspects of Rudolf Steiner, the four classical elements of Earth, Water, Air and Fire; how these four elements find expression in nature and in the human being; the four kingdoms in relation to the four-fold nature of the human being (physical, etheric, astral, ego); the development of human beings in these terms; the view of body, soul and spirit as one way of understanding the human experience; the three-fold nature of soul activity (thinking, feeling and willing).

#### **Learning outcome 2: How anthroposophy informs biodynamics**

Learners should be guided through the connection between the philosophy outlined in LO1 and the practice and theory of Biodynamic Agriculture.

#### **Learning outcome 3: The link between self-knowledge and external knowledge**

Learners should be encouraged to be clear on what is unusual about biodynamics and see where it conflicts with the current mainstream understanding - which may need to be clarified as well. Explore how objectivity relates to both modern science and Anthroposophy.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Know the basic terminology of Anthroposophy	1.1 Explain the threefold perspective in Anthroposophy  <i>This may relate to the BD Preparations, the plant, the human, the social world or other</i>
2. Understand how Anthroposophy informs biodynamics	2.1 Discuss the relationship between the four 'bodies' of the human being and the kingdoms of nature
3. Understand the link between self-knowledge and external knowledge	3.1 Compare the anthroposophical approach to that of mainstream science  <i>This should relate to the living world</i>

#### **Additional Requirements for Delivery**

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

# BDFG-L3-unit22

## Nutrition and Food

<b>Unit code</b> D/650/4436		<b>Guided Learning Hours (GLH)</b>	10
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	20

**Unit aim** This unit aims to introduce learners to the biodynamic approach to nutrition.

One of the ways in which biodynamic agriculture may have a contribution to make to the health, wellbeing and development of humankind is through nutrition. As producers of biodynamic food, practitioners should become aware of how biodynamic practices may impact the quality of food. Learners will be encouraged to consider what possible difference this may make to human nutrition for development, wellbeing and health.

### Content overview

#### **Learning outcome 1: How human nutrition can support health and development**

Learners should be introduced to the anthroposophical approach to nutrition. This should include an introduction to cosmic and earthly nutrition, an introduction to how nutrition has changed over time, an overview of the dynamics of different food substances (proteins, fats, carbohydrates and minerals), the role of nutrition in supporting human senses and the role of the senses in nutrition.

Learners should also consider the relationship of the plant to the human being, with specific attention paid to the different parts of the plant and how they nourish the human being differently.

In the context of the anthroposophical approach to biodynamic food and nutrition, learners should discuss the relationship between food and well-being, contemporary issues in nutrition and the role of biodynamic food in human health and development. Learners should explore how food has the potential to influence human development. Issues like wellbeing, health and growth, as well as quality, quantity and diversity of food should be discussed. Current issues such as 'feeding the world', fast food, cheap food and health related challenges should be explored.

#### **Learning outcome 2: How biodynamic principles aim to support human nutrition**

Learners should be introduced to the relationship of biodynamic practices and food quality. This should include the subject of farm organism, biodynamic preparations, vitality (etheric) and sensitivity (astral) qualities.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
<p>1. Understand how human nutrition can support health and development</p>	<p>1.1 Explain anthroposophical principles of human nutrition</p> <p><i>Must include: role of nutrition in supporting senses; biodynamic principles of cosmic and earthly nutrition</i></p> <p>1.2 Discuss how biodynamic food may contribute to a healthy lifestyle</p> <p><i>This may include any of the following impacts: holistic health benefits; non-physical impacts such as cognitive, emotional or spiritual well-being; stamina</i></p>
<p>2. Understand how biodynamic principles aim to support human nutrition</p>	<p>2.1 Explain how biodynamic practices may enhance food quality.</p>

#### Additional Requirements for Delivery

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

# BDFG-L3-unit23

## Land-based Therapeutic Care

**Unit code** H/650/4438 **Guided Learning Hours (GLH)** 10

**Unit level** 3 **Total Qualification Time (TQT)** 20

**Unit aim** The farm as an organism can provide the environment to support the development and transformation of those working on it. This unit therefore explores the potential for land-based work to engage individuals in transformative processes.

In order to complete this unit, learners will need experience of working with and supporting vulnerable people in a farm setting.

### Content overview

#### **Learning outcome 1: The potential for human transformation when working within a farm organism**

Learners should be introduced to the potential therapeutic impact that working with the land can have. They should be introduced to theories and approaches which explore the potential therapeutic and transformative benefits of working within a farm organism. Amongst other principles, learners should be introduced to concepts of inner and outer experiences and within this context, consider the idea of the heart as centre of the individuality. Learners should also be introduced to theories regarding the three planes of space (see Johannes W. Rohan "Functional Morphology"). They should also consider the significance of a holistic approach to supporting cognitive, practical and emotional development and transformation. Learners should be introduced to Steiner's principles of the seven life processes, human development in seven year stages, as well as the relationship between individuality and the living world.

Learners should be introduced to concepts of therapy through land as well as exploring land based methods for supporting and enabling vulnerable adults. This might include working with and supporting adults in a social enterprise setting, such as Care Farms, Camphill Communities and Ruskin Mill Trust. Learners should have the opportunity to engage in exercises on the land which will help them to reflect on their own experiences.

#### **Learning outcome 2: Facilitating farm based activities to support and enable vulnerable individuals**

Learners should identify a range of tasks which may be engaged to meet the needs of individuals and which have the potential to facilitate transformative experiences. Learners should know how the development, behaviour and well-being of vulnerable individuals can be improved through farm activities.

Learners should reflect on their experiences of working with and supporting adults in a social enterprise setting, such as a Care Farms, Camphill Communities or Ruskin Mill

Trust. Learners should reflect on their observations and identify ways in which the farm organism has supported an integrative approach to emotional, cognitive and practical development in vulnerable individuals.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Understand the potential for human transformation when working within a farm organism	1.1 Discuss the potential for human transformation in others working within a farm organism
	1.2 Explain how working within a farm organism can support an integrative approach to emotional, cognitive and practical development in vulnerable individuals
2. Be able to facilitate farm based activities that support and enable vulnerable individuals	2.1 Explain how farm based activities, provided by you, support and enable vulnerable individuals  <i>This must include three activities.</i>
	2.2 Reflect on own transformative experiences of working within a farm organism

#### Additional Requirements for Delivery

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

# BDFG-L3-unit24

## Local Community Project

<b>Unit code</b> M/650/4440		<b>Guided Learning Hours (GLH)</b>	10
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	20
<b>Unit aim</b>	This unit aims to connect farms with local communities, to support the local food network and support local sustainability.		

### Content overview

#### **Learning outcome 1: Local food networks**

Learners should become familiar with a range of local food networks in cities and countryside. This should include Community Supported Agriculture systems.

#### **Learning outcome 2: Benefits of community connection to local farming**

Learners should explore a range of subjects such as, economy, environment, food, well-being, education and health, which can benefit from community connection to local farming and food production.

#### **Learning outcome 3: Planning local community projects connected to farming**

Learners should explore examples of local community project connected to farming and growing. Learners should become familiar with ways of planning a local community project. This should include aims, resources, timeline of activities and benefits for local community sustainability.

### Learning outcomes

#### **The learner will:**

1. Know local food networks

### Assessment criteria

#### **The learner can:**

- 1.1 Describe examples of local food networks

*This must include Community Supported Agriculture systems.*



Learning outcomes	Assessment criteria
The learner will:	The learner can:
<p>2. Understand the benefits of community connection to local farming</p>	<p>2.1 Explain how communities can benefit from connection to local farms</p> <p><i>This must include food, environment and sustainability</i></p>
<p>3. Be able to plan local community projects connected to farming</p>	<p>3.1 Plan a local community project connected to farming that will support local sustainability</p> <p><i>This must include aims, resources, timeline of activities and benefits for local community sustainability</i></p>

#### **Additional Requirements for Delivery**

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

## BDFG-L3-unit25

### Vegetable Growing

<b>Unit code</b>	T/650/4433	<b>Guided Learning Hours (GLH)</b>	50
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	200

<b>Unit aim</b>	<p>This unit aims to provide learners with the philosophical, theoretical and practical knowledge, understanding and skills necessary to manage a vegetable growing enterprise as part of a biodynamic farm organism.</p> <p>A biodynamic grower can develop the management, planning and practical skills to manage a vegetable growing enterprise by developing a more comprehensive understanding of plants, their processes and their role in the farm organism, as articulated in the Plant Life and Phenomenology unit in the same programme.</p> <p>This unit is closely related to the following units and may benefit from being delivered in an integrated way: 'Farm Fertility and Compost', 'soil Cultivation' and 'Enterprise Planning'.</p>
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### Content overview

#### **Learning outcome 1: Planning a vegetable growing enterprise**

Learners should develop knowledge and understanding related to planning a vegetable growing enterprise. This should include the following considerations: physical requirements (site, irrigation, tools, equipment, machinery, storage, processing etc.), history of the site, fertility building, crop rotation, plant health, cultivations, weed control, protected growing, timing, labour requirements, potential markets, and use of the biodynamic preparations.

Learners should examine carefully the relationships of the vegetable growing enterprise with the wider farm organism.

#### **Learning outcome 2: Biodynamic practices of vegetable growing**

Learners will consider how the diversity of the farm organism is supported by vegetable production. They should also explore the interdependence of vegetables to other elements of the farm organism for example fertility exchange.

Learners should be introduced to biodynamic principles of fertiliser, soil fertility, soil management, approaches to weeds, pest and disease control.

#### **Learning outcome 3: Managing a biodynamic vegetable growing enterprise**

Learners should acquire all necessary skills required for managing a vegetable growing enterprise. Learners will be encouraged to accurately reflect on the vegetable growing enterprise over the course of a year, with specific consideration of their own role and

capacities in that management. As part of this reflection learners should be encouraged to suggest improvements to the vegetable growing enterprise.

**Learning outcome 4: Reflecting on own experiences in vegetable growing**

Learners should reflect on experienced challenge throughout the work experience in vegetable growing and suggest potential improvements to manage those challenges.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Be able to plan a vegetable growing enterprise	1.1 Design a vegetable growing plan
	1.2 Create a seed and plant order, based on the production plan
2. Know biodynamic practices of vegetable growing	2.1 Describe biodynamic practices of supporting fertility in vegetable growing
	2.2 Describe biodynamic practices of soil management for vegetable growing
	2.3 Describe biodynamic practices of weeds, pest and disease management for vegetable growing
	2.4 Describe the practices of produce distribution
3. Be able to manage a biodynamic vegetable growing enterprise	3.1 Demonstrate how to establish a production plan for vegetable growing
	3.2 Demonstrate how to implement vegetable crop maintenance
	3.3 Demonstrate how prepare produce for distribution

Learning outcomes	Assessment criteria
<b>The learner will:</b>	<b>The learner can:</b>
	3.4 Demonstrate how to manage time and labour on a vegetable growing enterprise
4. Be able to reflect on own experiences in vegetable growing	4.1 Reflect on experiences in vegetable growing, including suggestions for improvements

**Additional Requirements for Delivery**

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

## BDFG-L3-unit26

### Fruit Growing

<b>Unit code</b>	A/650/4435	<b>Guided Learning Hours (GLH)</b>	50
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	200
<b>Unit aim</b>	<p>This unit aims to provide learners with the philosophical, theoretical and practical knowledge, understanding and skills necessary to manage a fruit growing enterprise as part of a biodynamic farm organism.</p> <p>A biodynamic grower needs to develop the management, planning and practical skills to manage a fruit growing enterprise. This process is supported by understanding plants, their processes and their role in the farm organism, as articulated in the Plant Science and Phenomenology unit.</p> <p>This unit may benefit from being delivered in parallel with related units such as the 'Farm Fertility and Compost', 'Farm Ecosystem', Bee Husbandry' and 'Enterprise Planning'.</p>		

### Content overview

#### **Learning outcome 1: Planning a fruit growing enterprise**

Learners should develop knowledge and understanding related to planning of a fruit growing enterprise. This should include the following considerations: physical requirements (site, irrigation, training/support systems, tools, equipment, machinery, storage, processing etc.), history of the site, fertility building, crop rotation, plant health, cultivations, weed control, protected growing, timing, labour requirements, potential markets, and use of the biodynamic preparations.

Learners should examine carefully the relationships of the fruit growing enterprise with the wider farm organism.

#### **Learning outcome 2: Biodynamic practices of fruit growing**

Learners will consider how the diversity of the farm organism is supported by fruit production. They should also explore the interdependence of fruit to other elements of the farm organism for example fertility exchange.

Learners should be introduced to biodynamic principles of fertiliser, soil fertility, soil management, approaches to weeds, pest and disease control.

#### **Learning outcome 3: Managing a biodynamic fruit growing enterprise**

Learners will need to develop all necessary skills required for managing a fruit growing enterprise. Learners will be encouraged to accurately reflect on the fruit growing enterprise

over the course of a year, with specific consideration of their own role and capacities in that management. As part of this reflection learners should be encouraged to suggest improvements to the fruit growing enterprise.

**Learning outcome 4: Reflecting on own experiences in fruit growing**

Learners should consider their areas of skill, knowledge and experience, identifying where additional development is required in relation to fruit growing.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Be able to plan a fruit growing enterprise	1.1 Design a fruit growing plan
	1.2 Create a seed and plant order, based on the production plan
2. Know biodynamic practices of fruit growing	2.1 Describe biodynamic practices of supporting fertility in fruit growing
	2.2 Describe biodynamic practices of soil management for fruit growing
	2.3 Describe biodynamic practices of weeds, pest and disease management for fruit growing
	2.4 Describe the practices of produce distribution
3. Be able to manage a biodynamic fruit growing enterprise	3.1 Demonstrate how to establish a production plan for fruit growing
	3.2 Demonstrate how to implement fruit crop maintenance
	3.3 Demonstrate how to prepare produce for distribution

Learning outcomes	Assessment criteria
<b>The learner will:</b>	<b>The learner can:</b>
	3.4 Demonstrate how to manage time and labour on a fruit growing enterprise
4. Be able to reflect on own experiences in fruit growing	4.1 Reflect on experiences in fruit growing, including suggestion for improvements

**Additional Requirements for Delivery**

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

## BDFG-L3-unit27

### Flower Growing

<b>Unit code</b>	F/650/4437	<b>Guided Learning Hours (GLH)</b>	50
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	200
<b>Unit aim</b>	<p>This unit aims to provide learners with the philosophical, theoretical and practical knowledge, understanding and skills necessary to manage a flower growing enterprise as part of a biodynamic farm organism.</p> <p>A biodynamic grower needs to develop the management, planning and practical skills to manage a flower growing enterprise. This process is supported by understanding plants, their processes and their role in the farm organism, as articulated in the Plant Science and Phenomenology unit.</p> <p>This unit may benefit from being delivered in parallel with related units such as the 'Farm Fertility and Compost', 'soil Cultivation' and 'Enterprise Planning'.</p>		

### Content overview

#### **Learning outcome 1: Planning for a flower growing enterprise**

Learners should develop knowledge and understanding related to planning a flower growing enterprise. This should include the following considerations: physical requirements (site, irrigation, tools, equipment, machinery, storage, processing etc.), history of the site, fertility building, crop rotation, plant health, cultivations, weed control, protected growing, timing, labour requirements, potential markets, and use of the biodynamic preparations.

Learners should examine carefully the relationships of the flower growing enterprise with the wider farm organism.

#### **Learning outcome 2: Biodynamic practices of flower growing**

Learners will consider how the diversity of the farm organism is supported by flower production. They should also explore the interdependence of flowers to other elements of the farm organism for example fertility exchange.

Learners should be introduced to biodynamic principles of fertiliser, soil fertility, soil management, approaches to weeds, pest and disease control.

#### **Learning outcome 3: Managing a biodynamic flower growing enterprise**

Learners should acquire all necessary skills required for managing a flower growing enterprise. Learners will be encouraged to accurately reflect on the flower growing enterprise over the course of a year, with specific consideration of their own role and



capacities in that management. As part of this reflection learners should be encouraged to suggest improvements to the flower growing enterprise.

**Learning outcome 4: Reflecting on own experiences in flower growing**

Learners should consider their areas of skill, knowledge and experience, identifying where additional development is required in relation to flower growing.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Be able to plan a flower growing enterprise	1.1 Design a flower growing plan
	1.2 Create a seed and plant order, based on the production plan
2. Know biodynamic practices of flower growing	2.1 Describe biodynamic practices of supporting fertility in flower growing
	2.2 Describe biodynamic practices of soil management for flower growing
	2.3 Describe biodynamic practices of weeds, pest and disease management for flower growing
	2.4 Describe the practices of produce distribution
3. Be able to manage a biodynamic flower growing enterprise	3.1 Demonstrate how to establish a production plan for flower growing
	3.2 Demonstrate how to implement flower crop maintenance
	3.3 Demonstrate how to prepare produce for distribution

Learning outcomes	Assessment criteria
<b>The learner will:</b>	<b>The learner can:</b>
	3.4 Demonstrate how to manage time and labour on a flower growing enterprise
4. Be able to reflect on own experiences in flower growing	4.1 Reflect on experiences in flower growing, including suggestions for improvements

**Additional Requirements for Delivery**

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

## BDFG-L3-unit28

### Herb Growing

<b>Unit code</b>	J/650/4439	<b>Guided Learning Hours (GLH)</b>	50
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	200
<b>Unit aim</b>	<p>This unit aims to provide learners with the philosophical, theoretical and practical knowledge, understanding and skills necessary to manage a herb growing enterprise as part of a biodynamic farm organism.</p> <p>A biodynamic grower needs to develop the management, planning and practical skills to manage a fruit growing enterprise. This process is supported by understanding plants, their processes and their role in the farm organism, as articulated in the Plant Science and Phenomenology unit.</p> <p>This unit may benefit from being delivered in parallel with related units such as 'Farm Fertility and Compost', 'Soil Cultivation' and 'Enterprise Planning'.</p>		

### Content overview

#### **Learning outcome 1: Planning a herb growing enterprise**

Learners should develop knowledge and understanding related to planning a herb growing enterprise. This should include the following considerations: physical requirements (site, irrigation, tools, equipment, machinery, storage, processing etc.), history of the site, fertility building, crop rotation, plant health, cultivations, weed control, protected growing, timing, labour requirements, potential markets, and use of the biodynamic preparations. Learners should examine carefully the relationships of the herb growing enterprise with the wider farm organism.

#### **Learning outcome 2: Biodynamic practices of herb growing**

Learners will consider how the diversity of the farm organism is supported by herb production. They should also explore the interdependence of herb to other elements of the farm organism for example fertility exchange. Learners should be introduced to biodynamic principles of fertiliser, soil fertility, soil management, approaches to weeds, pest and disease control.

#### **Learning outcome 3: Managing a biodynamic herb growing enterprise**

Learners should acquire all necessary skills required for managing a herb growing enterprise. Learners should be encouraged to accurately reflect on the herb growing enterprise over the course of a year, with specific consideration of their own role and capacities in that management. As part of this reflection learners should be encouraged to suggest improvements to the herb growing enterprise.

**Learning outcome 4: Reflecting on own experiences in herb growing**

Learners should consider their areas of skill, knowledge and experience, identifying where additional development is required in relation to herb growing.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Be able to plan a herb growing enterprise	1.1 Design a herb growing plan
	1.2 Create a herb and plant order, based on the production plan
2. Know biodynamic practices of herb growing	2.1 Describe biodynamic practices of supporting fertility in herb growing
	2.2 Describe biodynamic practices of soil management for herb growing
	2.3 Describe biodynamic practices of weeds, pest and disease management for herb growing
	2.4 Describe the practices of produce distribution
3. Be able to manage a biodynamic herb growing enterprise	3.1 Demonstrate how to establish a production plan for herb growing
	3.2 Demonstrate how to implement herb crop maintenance
	3.3 Demonstrate how to prepare produce for distribution

Learning outcomes	Assessment criteria
The learner will:	The learner can:
	3.4 Demonstrate how to manage time and labour on a herb growing enterprise
4. Be able to reflect on own experiences in herb growing	4.1 Reflect on experiences in herb growing, including suggestions for improvements

**Additional Requirements for Delivery**

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

## BDFG-L3-unit29

### Seed Growing

<b>Unit code</b>	R/650/4441	<b>Guided Learning Hours (GLH)</b>	50
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	200
<b>Unit aim</b>	<p>This unit aims to provide learners with the philosophical, theoretical and practical knowledge, understanding and skills necessary to manage a seed growing enterprise as part of a biodynamic farm organism.</p> <p>A biodynamic grower needs to develop the management, planning and practical skills to manage a fruit growing enterprise. This process is supported by understanding plants, their processes and their role in the farm organism, as articulated in the Plant Science and Phenomenology unit.</p> <p>This unit may benefit from being delivered in parallel with related units such as 'Farm Fertility and Compost', 'Soil Cultivation' and 'Enterprise Planning'.</p>		

### Content overview

#### **Learning outcome 1: Planning a seed growing enterprise**

Learners should develop knowledge and understanding related to planning a seed growing enterprise. This should include the following considerations: physical requirements (site, irrigation, tools, equipment, machinery, storage, processing etc.), history of the site, fertility building, crop rotation, plant health, cultivations, weed control, protected growing, timing, labour requirements, potential markets, and use of the biodynamic preparations. Learners should examine carefully the relationships of the seed growing enterprise with the wider farm organism.

#### **Learning outcome 2: Biodynamic practices of seed growing**

Learners will consider how the diversity of the farm organism is supported by seed production. They should also explore the interdependence of seeds to other elements of the farm organism for example fertility exchange. Learners should be introduced to biodynamic principles of fertiliser, soil fertility, soil management, approaches to weeds, pest and disease control.

#### **Learning outcome 3: Managing a biodynamic seed growing enterprise**

Learners should acquire all necessary skills required for managing a seed growing enterprise. Learners should be encouraged to accurately reflect on the seed growing enterprise over the course of a year, with specific consideration of their own role and capacities in that management. As part of this reflection learners should be encouraged to suggest improvements to the seed growing enterprise.

**Learning outcome 4: Reflecting on own experiences in seed growing**

Learners should consider their areas of skill, knowledge and experience, identifying where additional development is required in relation to seed growing.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Be able to plan a seed growing enterprise	1.1 Design a seed growing plan
	1.2 Create a seed and plant order, based on the production plan
	2.1 Describe biodynamic practices of supporting fertility in seed growing
	2.2 Describe biodynamic practices of soil management for seed growing
2. Know biodynamic practices of seed growing	2.3 Describe biodynamic practices of weeds, pest and disease management for seed growing
	2.4 Describe the practices of produce distribution
	3.1 Demonstrate how to establish a production plan for seed growing
	3.2 Demonstrate how to implement seed crop maintenance
	3.3 Demonstrate how to prepare produce for distribution

Learning outcomes	Assessment criteria
<b>The learner will:</b>	<b>The learner can:</b>
4. Be able to reflect on own experiences in seed growing	3.4 Demonstrate how to manage time and labour on a seed growing enterprise  4.1 Reflect on experiences in seed growing, including suggestions for improvements

#### **Additional Requirements for Delivery**

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.



## BDFG-L3-unit30 Protected Growing

<b>Unit code</b>	T/650/4442	<b>Guided Learning Hours (GLH)</b>	50
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	200

<b>Unit aim</b>	<p>This unit aims to provide learners with the philosophical, theoretical and practical knowledge, understanding and skills necessary to manage a protected growing enterprise as part of a biodynamic farm organism.</p> <p>A biodynamic grower needs to develop the management, planning and practical skills to manage a protected growing enterprise. This process is supported by understanding plants, their processes and their role in the farm organism, as articulated in the Plant Science and Phenomenology unit.</p> <p>This unit may benefit from being delivered in parallel with related units such as the 'Farm Fertility and Compost', 'soil Cultivation' and 'Enterprise Planning'.</p>
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### Content overview

#### **Learning outcome 1: Planning a protected growing enterprise**

Learners should develop knowledge and understanding of a range of protected growing systems, e.g. glass houses, poly-tunnels, cold frames, fleeces and nets. This includes advantages and disadvantages of these systems compared to non-protected growing, e.g. cost, labour, energy, resources and crop qualities. Learners should examine carefully the relationships of the protected growing enterprise with the wider farm organism.

#### **Learning outcome 2: Biodynamic practices of protected growing**

Learners should develop knowledge and understanding related to planning a protected growing enterprise. This includes protected systems and challenges of protected growing. Learners should consider the following: physical requirements (site, irrigation, tools, equipment, machinery, storage, processing etc.), history of the site, fertility building, crop rotation, plant health, cultivations, weed control, protected growing, timing, labour requirements, potential markets, and use of the biodynamic preparations. Learners should carefully examine the relationships of the protected growing enterprise with the wider farm organism.

Learners will consider how the diversity of the farm organism is supported by protected production. They should also explore the interdependence of protected growing to other elements of the farm organism for example fertility exchange.

Learners should be introduced to biodynamic principles of fertiliser, soil fertility, soil management, approaches to weeds, pest and disease control.

**Learning outcome 3: Managing a biodynamic protected growing enterprise**

Learners should acquire all necessary skills required for managing a protected growing enterprise. Learners will be encouraged to accurately reflect on the protected growing enterprise over the course of a year, with specific consideration of their own role and capacities in that management. As part of this reflection learners should be encouraged to suggest improvements to the protected growing enterprise.

**Learning outcome 4: Reflecting on own experiences in protected growing**

Learners should consider their areas of skill, knowledge and experience, identifying where additional development is required in relation to protected growing.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Be able to plan a protected growing enterprise	1.1 Design a protected growing plan
	1.2 Create a protected and plant order, based on the production plan
2. Know biodynamic practices of protected growing	2.1 Describe biodynamic practices of supporting fertility in protected growing
	2.2 Describe biodynamic practices of soil management for protected growing
	2.3 Describe biodynamic practices of weeds, pest and disease management for protected growing
	2.4 Describe the practices of produce distribution
3. Be able to manage a biodynamic protected growing enterprise	3.1 Demonstrate how to establish a production plan for protected growing

Learning outcomes	Assessment criteria
The learner will:	The learner can:
	3.2 Demonstrate how to implement protected crop maintenance
	3.3 Demonstrate how to prepare produce for distribution
	3.4 Demonstrate how to manage time and labour on a protected growing enterprise
4. Be able to reflect on own experiences in protected growing	4.1 Reflect on experiences in protected growing, including suggestions for improvements

**Additional Requirements for Delivery**

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

## BDFG-L3-unit31 Grassland and Fodder

<b>Unit code</b>	A/650/4444	<b>Guided Learning Hours (GLH)</b>	50
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	200
<b>Unit aim</b>	<p>This unit aims to provide learners with the philosophical, theoretical and practical knowledge, understanding and skills necessary to manage a grassland and fodder growing enterprise as part of a biodynamic farm organism.</p> <p>A biodynamic grower needs to develop the management, planning and practical skills to manage a grassland and fodder growing enterprise. This process is supported by understanding plants, their processes and their role in the farm organism, as articulated in the Plant Science and Phenomenology unit.</p> <p>This unit may benefit from being delivered in parallel with related units such as 'Farm Fertility and Compost', 'Soil Cultivation' and 'Enterprise Planning'.</p>		

### Content overview

#### **Learning outcome 1: Planning a grassland and fodder growing enterprise**

Learners should develop knowledge and understanding related to planning a grassland and fodder growing enterprise. This should include the following considerations: physical requirements (site, irrigation, drainage, tools, equipment, machinery, storage, processing etc.), history of the site, fertility building, drainage, crop rotation, plant health, cultivations, weed control, timing, labour requirements, potential markets, and use of the biodynamic preparations. Learners should carefully examine the relationships of the grassland and fodder growing enterprise with the wider farm organism.

#### **Learning outcome 2: Biodynamic practices of grassland and fodder growing**

Learners will consider how the diversity of the farm organism is supported by grassland and fodder production. They should also explore the interdependence of grassland and fodder to other elements of the farm organism for example fertility exchange. Learners should be introduced to biodynamic principles of fertiliser, soil fertility, soil management, approaches to weeds, pest and disease control.

#### **Learning outcome 3: Managing a biodynamic grassland and fodder growing enterprise**

Learners should acquire all necessary skills required for managing a grassland and fodder growing enterprise. Learners will be encouraged to accurately reflect on the grassland and fodder growing enterprise over the course of a year, with specific consideration of their own role and capacities in that management.

As part of this reflection learners should be encouraged to suggest improvements to the grassland and fodder growing enterprise.

**Learning outcome 4: Reflecting on own experiences in grassland and fodder growing**

Learners should consider their areas of skill, knowledge and experience, identifying where additional development is required in relation to grassland and fodder growing.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Be able to plan a grassland and fodder growing enterprise	1.1 Design a grassland and fodder growing plan
	1.2 Create a seed and plant order, based on the production plan
2. Know biodynamic practices of grassland and fodder growing	2.1 Describe biodynamic practices of supporting fertility in grassland and fodder growing
	2.2 Describe biodynamic practices of soil management for grassland and fodder growing
	2.3 Describe biodynamic practices of weeds, pest and disease management for grassland and fodder growing
	2.4 Describe the practices of produce distribution
3. Be able to manage a biodynamic grassland and fodder growing enterprise	3.1 Demonstrate how to establish a production plan for grassland and fodder growing
	3.2 Demonstrate how to implement grassland and fodder crop maintenance

Learning outcomes	Assessment criteria
The learner will:	The learner can:
	3.3 Demonstrate how to preserve summer crops for winter seasons, this may include hay or silage making
	3.4 Demonstrate how to manage time and labour on a grassland and fodder growing enterprise
4. Be able to reflect on own experiences in grassland and fodder growing	4.1 Reflect on experiences in grassland and fodder growing, including suggestions for improvements

**Additional Requirements for Delivery**

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

## BDFG-L3-unit32

### Arable Production

<b>Unit code</b>	D/650/4445	<b>Guided Learning Hours (GLH)</b>	50
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	200
<b>Unit aim</b>	<p>This unit aims to provide learners with the philosophical, theoretical and practical knowledge, understanding and skills necessary to manage an arable production enterprise as part of a biodynamic farm organism.</p> <p>A biodynamic grower needs to develop the management, planning and practical skills to manage a fruit growing enterprise. This process is supported by understanding plants, their processes and their role in the farm organism, as articulated in the Plant Science and Phenomenology unit.</p> <p>This unit may benefit from being delivered in parallel with related units such as 'Farm Fertility and Compost', 'Soil Cultivation', 'Land Based Machinery' and 'Enterprise Planning'.</p>		

## Content overview

### **Learning outcome 1: Planning an arable growing enterprise**

Learners should develop knowledge and understanding related to planning an arable growing enterprise. This should include the following considerations: physical requirements (site, irrigation, drainage, tools, equipment, machinery, storage, processing etc.), history of the site, fertility building, drainage, crop rotation, plant health, cultivations, weed control, timing, labour requirements, potential markets, and use of the biodynamic preparations. Learners should carefully examine the relationships of the arable growing enterprise with the wider farm organism.

### **Learning outcome 2: Biodynamic practices of arable growing**

Learners will consider how the diversity of the farm organism is supported by arable production. They should also explore the interdependence of arable to other elements of the farm organism for example fertility exchange. Learners should be introduced to biodynamic principles of fertiliser, soil fertility, soil management, approaches to weeds, pest and disease control.

### **Learning outcome 3: Managing a biodynamic arable growing enterprise**

Learners should acquire all necessary skills required for managing an arable growing enterprise. Learners will be encouraged to accurately reflect on the arable growing enterprise over the course of a year, with specific consideration of their own role and capacities in that management.

As part of this reflection learners should be encouraged to suggest improvements to the arable growing enterprise.

**Learning outcome 4: Reflecting on own experiences in arable growing**

Learners should consider their areas of skill, knowledge and experience, identifying where additional development is required in relation to arable production.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Be able to plan an arable growing enterprise	1.1 Design an arable growing plan
	1.2 Create a seed and plant order, based on the production plan
2. Know biodynamic practices of arable growing	2.1 Describe biodynamic practices of supporting fertility in arable growing
	2.2 Describe biodynamic practices of soil management for arable growing
	2.3 Describe biodynamic practices of weeds, pest and disease management for arable growing
	2.4 Describe the practices of produce distribution
3. Be able to manage a biodynamic arable growing enterprise	3.1 Demonstrate how to establish a production plan for arable growing
	3.2 Demonstrate how to implement arable crop maintenance
	3.3 Demonstrate how to prepare produce for distribution



Learning outcomes	Assessment criteria
The learner will:	The learner can:
	3.4 Demonstrate how to manage time and labour on an arable growing enterprise
4. Be able to reflect on own experiences in arable growing	4.1 Reflect on experiences in arable growing, including suggestions for improvements

**Additional Requirements for Delivery**

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

## BDFG-L3-unit33

### Cattle Husbandry

<b>Unit code</b>	K/650/4449	<b>Guided Learning Hours (GLH)</b>	50
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	200

**Unit aim** This unit aims to provide learners with the philosophical, theoretical and practical knowledge, understanding and skills necessary to manage a herd of cattle.

Understanding the significant contribution of cows to the farm organism is fundamental to a biodynamic farmer's approach to managing a herd of cattle. From this holistic understanding develops the planning process of management, health and care for cattle. The learner will be given the opportunity to apply this understanding and associated practical skills in caring for cattle within this unit.

Delivery of this unit would benefit from learners' broader understanding of animals that is included in the 'Animal Science and Phenomenology' unit. Other units which also relate to this unit are 'Farm Fertility and Compost', 'Grassland and Fodder' and 'Enterprise Planning'.

## Content overview

### **Learning outcome 1: The role of the cow in the biodynamic farm organism**

Learners should be encouraged to draw on their explorations in the Animal Science and Phenomenology unit to look specifically at the 'being' of the cow (Steiner, R 1997) and how this is reflected in a cow's physiology (specifically in the digestive organs), manure and relationship with its environment. From this wider view, learners should consider the many ways in which the cow is related to the farm organism.

Discussions may also include aspects of the history of cows and their domestication to create a wider understanding of the subject.

### **Learning outcome 2: Biodynamic practices of cattle husbandry**

Out of the understanding of cows, learners should be introduced to the practicalities of caring for and managing a herd of cattle. This may include: housing /outside enclosures (especially seasonal variation), stocking rates, manure management, nutrition and a feeding plan, reproductive cycle and breeding plan, diseases and health plan, all of which should be integrated in an annual management plan for the herd. All the external requirements for the keeping of biodynamic beef cattle should be included: Demeter standards, legislation and codes of practice, required record-keeping (births, deaths, weights, movements, use of medicines).

**Learning outcome 3: Managing a biodynamic cattle enterprise**

Learners will be given the opportunity to develop independence and proficiency in the skills necessary to be responsible for a herd of beef cattle on a day-to-day basis throughout the year, implementing the management plan. This should include the following skills (when applicable): handling, feeding, identifying and treating diseases, ear tagging, foot care, castrating, using a cattle race, weighing, body condition scoring, vaccinations (when applicable), homeopathic remedies, recognising signs of heat and imminent birth, assist with birth, maintaining housing and fencing/ outside enclosures.

In all areas learners should develop the knowledge of what professional assistance is available and when it is appropriate to request external support.

**Learning outcome 4: Reflecting on own experiences in cattle husbandry**

Learners should consider their areas of skill, knowledge and experience, identifying where additional development is required in relation to cattle husbandry.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Understand the role of the cow in the biodynamic farm organism	1.1 Explain the role of the cow in the biodynamic farm organism
	1.2 Discuss factors that influence the number of cattle on a holding
	1.3 Describe Demeter standards relating to cattle
2. Know biodynamic practices of cattle husbandry	2.1 Describe an annual feeding plan for biodynamic cattle on a holding
	2.2 Describe a breeding plan for biodynamic cattle on a holding
	2.3 Describe enclosure requirements for keeping biodynamic cattle on a holding. This must include: housing and outdoor areas

Learning outcomes	Assessment criteria
The learner will:	The learner can:
	<p>2.4 Discuss the health challenges of cattle on a holding</p> <p>2.5 Describe regulatory requirements for keeping cattle. <i>This must include: registration and record keeping.</i></p>
<p>3. Be able to manage a biodynamic cattle enterprise</p>	<p>3.1 Demonstrate how to feed biodynamic cattle according to a feeding plan</p> <p>3.2 Demonstrate how to manage a breeding cycle of biodynamic cattle</p> <p>3.3 Demonstrate how to maintain cattle enclosures. <i>This must include: housing and outdoor areas</i></p> <p>3.4 Carry out a health care assessment of cattle</p> <p>3.5 Carry out regulatory requirements for cattle. <i>This must include requirements such as ear tagging, record keeping.</i></p>
<p>4. Be able to reflect on own experiences in cattle husbandry</p>	<p>4.1 Reflect on experiences in cattle husbandry, including suggestions for improvements</p>

#### Additional Requirements for Delivery

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be

encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

## BDFG-L3-unit34

### Sheep Husbandry

<b>Unit code</b>	T/650/4451	<b>Guided Learning Hours (GLH)</b>	50
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	200
<b>Unit aim</b>	<p>This unit aims to provide learners with the philosophical, theoretical and practical knowledge, understanding and skills necessary to manage a herd of sheep.</p> <p>Understanding the contribution of sheep to the farm organism is fundamental to a biodynamic farmer's approach to managing a herd of sheep. From this holistic understanding develops the planning process of management, health and care for sheep. The learner will be given the opportunity to apply this understanding and associated practical skills in caring for sheep within this unit.</p> <p>Delivery of this unit would benefit from learners' broader understanding of animals that is included in the 'Animal Science and Phenomenology' unit. Other units which also relate to this unit are 'Farm Fertility and Compost', 'Grassland and Fodder' and 'Enterprise Planning'.</p>		

## Content overview

### **Learning outcome 1: The role of the sheep in the biodynamic farm organism**

Learners should be encouraged to draw on their explorations in the Animal Science and Phenomenology unit to look specifically at the 'being' of the sheep (Steiner, R 1997) and how this is reflected in a sheep's physiology (specifically in the digestive organs), manure and relationship with its environment. From this wider view, learners should consider the many ways in which the sheep is related to the farm organism.

Discussions may also include aspects of the history of sheep and their domestication to create a wider understanding of the subject.

### **Learning outcome 2: Biodynamic practices of sheep husbandry**

Out of the understanding of sheep, learners should be introduced to the practicalities of caring for and managing a flock of sheep. This may include: housing /outside enclosures (especially seasonal variation), stocking rates, manure management, nutrition and a feeding plan, re-productive cycle and breeding plan, diseases and health plan, all of which should be integrated in an annual management plan for the herd.

All the external requirements for the keeping of biodynamic sheep should be included: Demeter standards, legislation and codes of practice, required record keeping (births, deaths, weights, movements and use of medicines).

**Learning outcome 3: Managing a biodynamic sheep enterprise**

Learners will be given the opportunity to develop independence and proficiency in the skills necessary to be responsible for a flock of sheep on a day-to-day basis throughout the year, implementing the management plan.

This should include the following skills (when applicable): handling, feeding, identifying and treating diseases, ear tagging, foot care, castrating, using a sheep race, weighing, body condition scoring, vaccinations, homeopathic remedies, recognising signs of heat and imminent birth, assist with birth, maintaining housing and fencing/ outside enclosures. In all areas learners should develop the knowledge of what professional assistance is available and when it is appropriate to request external support.

**Learning outcome 4: Reflecting on own experiences in sheep husbandry**

Learners should consider their areas of skill, knowledge and experience, identifying where additional development is required in relation to sheep husbandry.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Understand the role of the sheep in the biodynamic farm organism	1.1 Explain the role of the sheep in the biodynamic farm organism
	1.2 Discuss factors that influence the number of sheep on a holding
	1.3 Describe Demeter standards relating to sheep
2. Know biodynamic practices of sheep husbandry	2.1 Describe an annual feeding plan for biodynamic sheep on a holding
	2.2 Describe a breeding plan for biodynamic sheep on a holding
	2.3 Describe enclosure requirements for keeping biodynamic sheep on a holding.  <i>This must include: housing and outdoor areas</i>

Learning outcomes	Assessment criteria
The learner will:	The learner can:
	<p>2.4 Discuss the health challenges of sheep on a holding</p> <hr/> <p>2.5 Describe regulatory requirements for keeping sheep.</p> <p><i>This must include: registration and record keeping.</i></p>
<p>3. Be able to manage a biodynamic sheep enterprise</p>	<p>3.1 Demonstrate how to feed biodynamic sheep according to a feeding plan</p> <hr/> <p>3.2 Demonstrate how to manage a breeding cycle of biodynamic sheep</p> <hr/> <p>3.3 Demonstrate how to maintain sheep enclosures.</p> <p><i>This must include: housing and outdoor areas</i></p> <hr/> <p>3.4 Carry out a health care assessment of sheep</p> <hr/> <p>3.5 Carry out regulatory requirements for sheep.</p> <p><i>This must include requirements such as ear tagging, record keeping.</i></p>
<p>4. Be able to reflect on own experiences in sheep husbandry</p>	<p>4.1 Reflect on experiences in sheep husbandry, including suggestions for improvements</p>

#### Additional Requirements for Delivery

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be



encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

# BDFG-L3-unit35

## Goat Husbandry

<b>Unit code</b> Y/650/4443		<b>Guided Learning Hours (GLH)</b>	50
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	200

**Unit aim** This unit aims to provide learners with the philosophical, theoretical and practical knowledge, understanding and skills necessary to manage a herd of goats.

Understanding the contribution of goats to the farm organism is fundamental to a biodynamic farmer's approach to managing a herd of goats. From this holistic understanding develops the planning process of management, health and care for goats. The learner will be given the opportunity to apply this understanding and associated practical skills in caring for goats within this unit.

Delivery of this unit would benefit from learners' broader understanding of animals that is included in the 'Animal Science and Phenomenology' unit. Other units which also relate to this unit are 'Farm Fertility and Compost', 'Grassland and Fodder' and 'Enterprise Planning'.

### Content overview

#### **Learning outcome 1: The role of the goat in the biodynamic farm organism**

Learners should be encouraged to draw on their explorations in the Animal Science and Phenomenology unit to look specifically at the 'being' of the goat (Steiner, R 1997) and how this is reflected in a goat's physiology (specifically in the digestive organs), manure and relationship with its environment. From this wider view, learners should consider the many ways in which the goat is related to the farm organism.

Discussions may also include aspects of the history of goats and their domestication to create a wider understanding of the subject.

#### **Learning outcome 2: Biodynamic practices of goat husbandry**

Out of the understanding of goats, learners should be introduced to the practicalities of caring for and managing a herd of goats. This may include: housing/ outside enclosures (especially seasonal variation), stocking rates, manure management, nutrition and a feeding plan, re-productive cycle and breeding plan, diseases and health plan, all of which should be integrated in an annual management plan for the herd.

All the external requirements for the keeping of biodynamic goats should be included: Demeter standards, legislation and codes of practice, required record keeping (births, deaths, weights, movements and use of medicines).

**Learning outcome 3: Managing a biodynamic goat enterprise**

Learners will be given the opportunity to develop independence and proficiency in the skills necessary to be responsible for a herd of goats on a day-to-day basis throughout the year, implementing the management plan.

This should include the following skills (when applicable): handling, feeding, identifying and treating diseases, ear tagging, foot care, castrating, using a sheep race, weighing, body condition scoring, vaccinations, homeopathic remedies, recognising signs of heat and imminent birth, assist with birth, maintaining housing and fencing/ outside enclosures.

In all areas learners should develop the knowledge of what professional assistance is available and when it is appropriate to request external support.

**Learning outcome 4: Reflecting on own experiences in goat husbandry**

Learners should consider their areas of skill, knowledge and experience, identifying where additional development is required in relation to goat husbandry.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Understand the role of the goat in the biodynamic farm organism	1.1 Explain the role of the goat in the biodynamic farm organism
	1.2 Discuss factors that influence the number of goats on a holding
	1.3 Describe Demeter standards relating to goats
2. Know biodynamic practices of goat husbandry	2.1 Describe an annual feeding plan for biodynamic goats on a holding
	2.2 Describe a breeding plan for biodynamic goats on a holding
	2.3 Describe enclosure requirements for keeping biodynamic goats on a holding.  <i>This must include: housing and outdoor areas</i>

Learning outcomes	Assessment criteria
The learner will:	The learner can:
	<p>2.4 Discuss the health challenges of goats on a holding</p> <hr/> <p>2.5 Describe regulatory requirements for keeping goats.</p> <p><i>This must include: registration and record keeping.</i></p>
<p>3. Be able to manage a biodynamic goat enterprise</p>	<p>3.1 Demonstrate how to feed biodynamic goats according to a feeding plan</p> <hr/> <p>3.2 Demonstrate how to manage a breeding cycle of biodynamic goats</p> <hr/> <p>3.3 Demonstrate how to maintain goat enclosures.</p> <p><i>This must include: housing and outdoor areas</i></p> <hr/> <p>3.4 Carry out a health care assessment of goats</p> <hr/> <p>3.5 Carry out regulatory requirements for goats.</p> <p><i>This must include requirements such as ear tagging, record keeping.</i></p>
<p>4. Be able to reflect on own experiences in goat husbandry</p>	<p>4.1 Reflect on experiences in goat husbandry, including suggestions for improvements</p>

#### Additional Requirements for Delivery

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be

encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

## BDFG-L3-unit36

### Pig Husbandry

<b>Unit code</b> F/650/4446		<b>Guided Learning Hours (GLH)</b>	50
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	200

**Unit aim** This unit aims to provide learners with the philosophical, theoretical and practical knowledge, understanding and skills necessary to manage a herd of pigs.

Understanding the contribution of pigs to the farm organism is fundamental to a biodynamic farmer's approach to managing a herd of pigs. From this holistic understanding develops the planning process of management, health and care for pigs. The learner will be given the opportunity to apply this understanding and associated practical skills in caring for pigs within this unit.

Delivery of this unit would benefit from learners' broader understanding of animals that is included in the 'Animal Science and Phenomenology' unit. Other units which also relate to this unit are 'Farm Fertility and Compost', 'Grassland and Fodder' and 'Enterprise Planning'.

## Content overview

### **Learning outcome 1: The role of the pig in the biodynamic farm organism**

Learners should be encouraged to draw on their explorations in the Animal Science and Phenomenology unit to look specifically at the 'being' of the pig (Steiner, R 1997) and how this is reflected in a pig's physiology (specifically in the digestive organs), manure and relationship with its environment. From this wider view, learners should consider the many ways in which the pig is related to the farm organism.

Discussions may also include aspects of the history of pigs and their domestication to create a wider understanding of the subject.

### **Learning outcome 2: Biodynamic practices of pig husbandry**

Out of the understanding of pigs, learners should be introduced to the practicalities of caring for and managing a herd of pigs. This may include: housing /outside enclosures (especially seasonal variation), stocking rates, manure management, nutrition and a feeding plan, re-productive cycle and breeding plan, diseases and health plan, all of which should be integrated in an annual management plan for the herd.

All the external requirements for the keeping of biodynamic pigs should be included: Demeter standards, legislation and codes of practice, required record keeping (births, deaths, weights, movements and use of medicines).

**Learning outcome 3: Managing a biodynamic pig enterprise**

Learners will be given the opportunity to develop independence and proficiency in the skills necessary to be responsible for a herd of pigs on a day-to-day basis throughout the year, implementing the management plan.

This should include the following skills (when applicable): handling, feeding, identifying and treating diseases, ear tagging, foot care, castrating, using a sheep race, weighing, body condition scoring, vaccinations, homeopathic remedies, recognising signs of heat and imminent birth, assist with birth, maintaining housing and fencing/ outside enclosures.

In all areas learners should develop the knowledge of what professional assistance is available and when it is appropriate to request external support.

**Learning outcome 4: Reflecting on own experiences in pig husbandry**

Learners should consider their areas of skill, knowledge and experience, identifying where additional development is required in relation to pig husbandry.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Understand the role of the pig in the biodynamic farm organism	1.1 Explain the role of the pig in the biodynamic farm organism
	1.2 Discuss factors that influence the number of pigs on a holding
	1.3 Describe Demeter standards relating to pigs
2. Know biodynamic practices of pig husbandry	2.1 Describe an annual feeding plan for biodynamic pigs on a holding
	2.2 Describe a breeding plan for biodynamic pigs on a holding

Learning outcomes	Assessment criteria
The learner will:	The learner can:
	<p>2.3 Describe enclosure requirements for keeping biodynamic pigs on a holding.</p> <p><i>This must include: housing and outdoor areas</i></p>
	<p>2.4 Discuss the health challenges of pigs on a holding</p>
	<p>2.5 Describe regulatory requirements for keeping pigs.</p> <p><i>This must include: registration and record keeping.</i></p>
<p>3. Be able to manage a biodynamic pig enterprise</p>	<p>3.1 Demonstrate how to feed biodynamic pigs according to a feeding plan</p> <p>3.2 Demonstrate how to manage a breeding cycle of biodynamic pigs</p> <p>3.3 Demonstrate how to maintain pig enclosures.</p> <p><i>This must include: housing and outdoor areas</i></p> <p>3.4 Carry out a health care assessment of pigs</p> <p>3.5 Carry out regulatory requirements for pigs.</p> <p><i>This must include requirements such as ear tagging, record keeping.</i></p>
<p>4. Be able to reflect on own experiences in pig husbandry</p>	<p>4.1 Reflect on experiences in pig husbandry, including suggestions for improvements</p>



### **Additional Requirements for Delivery**

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

## BDFG-L3-unit37

### Poultry Husbandry

<b>Unit code</b> H/650/4447		<b>Guided Learning Hours (GLH)</b>	50
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	200
<b>Unit aim</b>	<p>This unit aims to provide learners with the philosophical, theoretical and practical knowledge, understanding and skills necessary to manage poultry.</p> <p>Understanding the contribution of poultry to the farm organism is fundamental to a biodynamic farmer's approach to managing poultry. From this holistic understanding develops the planning process of management, health and care for poultry. The learner will be given the opportunity to apply this understanding and associated practical skills in caring for poultry within this unit.</p> <p>Delivery of this unit would benefit from learners' broader understanding of animals that is included in the 'Animal Science and Phenomenology' unit. Other units which also relate to this unit are 'Farm Fertility and Compost', 'Grassland and Fodder' and 'Enterprise Planning'</p>		

## Content overview

### **Learning outcome 1: The role of poultry in the biodynamic farm organism**

Learners should be encouraged to draw on their explorations in the Animal Science and Phenomenology unit to look specifically at the 'being' of poultry (Steiner, R 1997) and how this is reflected in poultry's physiology (specifically in the digestive organs), manure and relationship with its environment. From this wider view, learners should consider the many ways in which poultry is related to the farm organism.

Discussions may also include aspects of the history of poultry and their domestication to create a wider understanding of the subject.

### **Learning outcome 2: Biodynamic practices of poultry husbandry**

Out of the understanding of poultry, learners should be introduced to the practicalities of caring for and managing poultry. This may include: housing /outside enclosures (especially seasonal variation), stocking rates, manure management, nutrition and a feeding plan, reproductive cycle and breeding plan, diseases and health plan, all of which should be integrated in an annual management plan for the flock.

All the external requirements for the keeping of biodynamic poultry should be included: Demeter standards, legislation and codes of practice, required record keeping (births, deaths, weights, movements and use of medicines).

**Learning outcome 3: Managing a biodynamic poultry enterprise**

Learners will be given the opportunity to develop independence and proficiency in the skills necessary to be responsible for poultry on a day-to-day basis throughout the year, implementing the management plan.

This should include the following skills (when applicable): handling, feeding, identifying and treating diseases, ear tagging, foot care, castrating, using a sheep race, weighing, body condition scoring, vaccinations, homeopathic remedies, recognising signs of heat and imminent birth, assist with birth, maintaining housing and fencing/ outside enclosures.

In all areas learners should develop the knowledge of what professional assistance is available and when it is appropriate to request external support.

**Learning outcome 4: Reflecting on own experiences in poultry husbandry**

Learners should consider their areas of skill, knowledge and experience, identifying where additional development is required in relation to poultry husbandry.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Understand the role of poultry in the biodynamic farm organism	1.1 Explain the role of poultry in the biodynamic farm organism
	1.2 Discuss factors that influence the number of poultry on a holding
	1.3 Describe Demeter standards relating to poultry
2. Know biodynamic practices of poultry husbandry	2.1 Describe an annual feeding plan for biodynamic poultry on a holding
	2.2 Describe enclosure requirements for keeping biodynamic poultry on a holding.  <i>This must include: housing and outdoor areas</i>

Learning outcomes The learner will:	Assessment criteria The learner can:
	<p>2.3 Discuss the health challenges of poultry on a holding</p> <hr/> <p>2.5 Describe regulatory requirements for keeping poultry. <i>This must include: registration and record keeping.</i></p>
<p>3. Be able to manage a biodynamic poultry enterprise</p>	<p>3.1 Demonstrate how to feed biodynamic poultry according to a feeding plan</p> <hr/> <p>3.2 Demonstrate how to manage a breeding cycle of biodynamic poultry</p> <hr/> <p>3.3 Demonstrate how to maintain poultry enclosures. <i>This must include: housing and outdoor areas</i></p> <hr/> <p>3.4 Carry out a health care assessment of poultry</p> <hr/> <p>3.5 Carry out regulatory requirements for poultry <i>This must include requirements such as ear tagging, record keeping.</i></p>
<p>4. Be able to reflect on own experiences in poultry husbandry</p>	<p>4.1 Reflect on experiences in poultry husbandry, including suggestions for improvements</p>

#### Additional Requirements for Delivery

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be

encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

# BDFG-L3-unit38

## Dairy Husbandry

<b>Unit code</b> J/650/4448		<b>Guided Learning Hours (GLH)</b>	50
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	200

<b>Unit aim</b>	<p>This unit aims to provide learners with the philosophical, theoretical and practical knowledge, understanding and skills necessary to manage a herd of dairy animals.</p> <p>Understanding the significant contribution of dairy animals to the farm organism is fundamental to a biodynamic farmer's approach to managing a herd of dairy animals. From this holistic understanding develops the planning process of management, health and care for dairy animals. The learner will be given the opportunity to apply this understanding and associated practical skills in caring for dairy animals within this unit.</p> <p>Delivery of this unit would benefit from learners' broader understanding of animals that is included in the 'Animal Science and Phenomenology' unit. Other units which also relate to this unit are 'Farm Fertility and Compost', 'Grassland and Fodder' and 'Enterprise Planning'.</p>
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### Content overview

#### **Learning outcome 1: The role of dairy animals in the biodynamic farm organism**

Learners should be encouraged to draw on their explorations in the Animal Science and Phenomenology unit to look specifically at the 'being' of the dairy animal (Steiner, R 1997) and how this is reflected in the dairy animal's physiology (specifically in the digestive organs), manure and relationship with its environment. From this wider view, learners should consider the many ways in which the dairy animal is related to the farm organism.

Discussions may also include aspects of the history of dairy animals and their domestication to create a wider understanding of the subject.

#### **Learning outcome 2: Biodynamic practices of dairy husbandry**

Out of the understanding of dairy animals, learners should be introduced to the practicalities of caring for and managing dairy animals. This may include: housing /outside enclosures (especially seasonal variation), stocking rates, manure management, nutrition and a feeding plan, re-productive cycle and breeding plan, diseases and health plan, all of which should be integrated in an annual management plan for the herd.

All the external requirements for the keeping of biodynamic dairy animals should be included: Demeter standards, legislation and codes of practice, required record keeping (births, deaths, weights, movements and use of medicines).

**Learning outcome 3: Milk production of dairy animals**

Learners should be introduced to a range of milking methods and related techniques, physiological aspects related to milk production, health and safety and hygiene regulations specific to dairy (including milk sampling), symptoms, conditions and treatments of diseases that are most likely in dairy animals (mastitis and milk fever) and milk quality.

**Learning outcome 4: Managing a biodynamic dairy enterprise**

Learners will be given the opportunity to develop independence and proficiency in the skills necessary to be responsible for dairy animals on a day-to-day basis throughout the year, implementing the management plan.

This should include the following skills (when applicable): handling, feeding, identifying and treating diseases, ear tagging, foot care, castrating, using a sheep race, weighing, body condition scoring, vaccinations, homeopathic remedies, recognising signs of heat and imminent birth, assist with birth, maintaining housing and fencing/ outside enclosures.

In all areas learners should develop the knowledge of what professional assistance is available and when it is appropriate to request external support.

**Learning outcome 5: Reflecting on own experiences in dairy husbandry**

Learners should consider their areas of skill, knowledge and experience, identifying where additional development is required in relation to dairy husbandry.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Understand the role of dairy animals in the biodynamic farm organism	1.1 Explain the role of dairy animals in the biodynamic farm organism
	1.2 Discuss factors that influence the number of dairy animals on a holding
	1.3 Describe Demeter standards relating to dairy animals
2. Understand biodynamic approaches to dairy husbandry on a holding	2.1 Describe an annual feeding plan for biodynamic dairy animals on a holding
	2.2 Describe a breeding plan for biodynamic dairy animals on a holding

Learning outcomes	Assessment criteria
The learner will:	The learner can:
	<p>2.3 Describe enclosure requirements for keeping biodynamic dairy animals on a holding.</p> <p><i>This must include: housing and outdoor areas</i></p> <p>2.4 Discuss the health challenges of dairy animals on a holding</p> <p>2.5 Describe regulatory requirements for keeping dairy animals.</p> <p><i>This must include: registration and record keeping.</i></p>
<p>3. Understand milk production of dairy animals</p>	<p>3.1 Explain milk production of dairy animals.</p> <p><i>This may be any dairy animal and must include: udder physiology, milk quality, milking techniques, milk handling and hygiene.</i></p>
<p>4. Be able to manage a biodynamic dairy enterprise</p>	<p>4.1 Demonstrate how to feed biodynamic dairy animals according to a feeding plan</p> <p>4.2 Demonstrate how to manage a breeding cycle of biodynamic dairy animals</p> <p>4.3 Demonstrate how to maintain dairy enclosures.</p> <p><i>This must include: housing and outdoor areas</i></p> <p>4.4 Demonstrate milking dairy animals with independent proficiency</p>



Learning outcomes	Assessment criteria
<b>The learner will:</b>	<b>The learner can:</b>
5. Be able to reflect on own experiences in dairy husbandry	5.1 Reflect on experiences in dairy husbandry, including suggestions for improvements

**Additional Requirements for Delivery**

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

# BDFG-L3-unit39

## Bee Husbandry

<b>Unit code</b> R/650/4450		<b>Guided Learning Hours (GLH)</b>	50
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	200

<b>Unit aim</b>	<p>This unit aims to provide learners with the philosophical, theoretical and practical knowledge, understanding and skills necessary for working with bees in the context of a biodynamic farm organism.</p> <p>Bees have a unique role in the farm organism and make a valuable contribution to the overall well-being of a biodynamic farm. From this holistic understanding develops the planning process of management, health and care for bees. The learner will be given the opportunity to apply this understanding and associated practical skills in caring for bees within this unit.</p> <p>Delivery of this unit would benefit from learners' broader understanding of animals that is included in the 'Animal Science and Phenomenology' unit. Other units which also relate to this unit are 'Farm Ecosystem' and 'Enterprise Planning'.</p>
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### Content overview

#### **Learning outcome 1: The role of bees in the biodynamic farm organism**

Learners should be encouraged to consider the 'being' of the bee in the context of the organization of the hive and the bees' relationship with their environment. Learners should explore the many ways in which bees play a vital role in the farm organism and beyond.

This should include a discussion of the current issues around bees including the livelihood threat of pesticides, loss of food sources, pest and diseases, and colony collapse disorder.

#### **Learning outcome 2: Biodynamic approaches to caring for bees**

Learners should be introduced to the practicalities of working with bees, including: identification of different bees (queen, worker and drone) and their functions in the hive; annual rhythm of bee activity including the hive and forage; safety issues; what to do with a swarm; how to support health in bees, diseases (varroa mite for example); housing (awareness of different types of hives and location), feeding (sugar, forage availability); breeding and good practice in keeping bees.

Learners should be aware of international Demeter standards regarding bees, as a guide to good biodynamic practice. All of this should be integrated into an annual management plan for the beehive.

**Learning outcome 3: Caring for bees using biodynamic principles**

Learners should be given the opportunity to develop independence and proficiency in the skills necessary to be responsible for a hive of bees on a day-to-day basis over the course of a year, implementing the management plan. This should include: awareness of health and safety, personal protective equipment, handling, feeding (when necessary), identifying and treating diseases, hive care, swarming (when possible), identifying queens, Demeter standards and good practice. In all areas learners should develop the knowledge of what professional assistance is available and when it is appropriate to request external support.

**Learning outcome 4: Reflecting on own experiences in bee husbandry**

Learners should consider their areas of skill, knowledge and experience, identifying where additional development is required in relation to bee husbandry.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Understand the role of bees in the biodynamic farm organism	1.1 Explain how bees contribute to the biodynamic farm organism  1.2 Describe Demeter standards relating to bee husbandry
2. Understand biodynamic approaches to caring for bees	2.1 Describe the different roles of bees in the hive  2.2 Describe an annual management plan for bee husbandry  <i>This must include: Good health and safety practice; seasonal care; biodynamic approaches to fodder provision; biodynamic approaches to pest and disease control; harvesting honey.</i>
3. Be able to care for bees using biodynamic principles	3.1 Demonstrate how to care for bees using biodynamic principles.  <i>This may include: Good health and safety practice; seasonal care; biodynamic approaches to fodder provision; biodynamic approaches to pest and disease control; harvesting honey.</i>

Learning outcomes	Assessment criteria
<b>The learner will:</b>	<b>The learner can:</b>
4. Be able to reflect on own experiences in bee husbandry	4.1 Reflect on experiences in bee husbandry, including suggestions for improvements

**Additional Requirements for Delivery**

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

## BDFG-L3-unit40

### Working with Draught Animals

<b>Unit code</b> Y/650/4452		<b>Guided Learning Hours (GLH)</b>	50
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	200

**Unit aim** This unit aims to provide learners with the philosophical, theoretical and practical knowledge, understanding and skills necessary to manage and work with draught animals.

Understanding the significant contribution of draught animals to the farm organism is fundamental to a biodynamic farmer's approach to managing draught animals. From this holistic understanding develops the planning process of management, health and care for draught animals. The learner will be given the opportunity to apply this understanding and associated practical skills in caring for draught animals within this unit.

Delivery of this unit would benefit from learners' broader understanding of animals that is included in the 'Animal Science and Phenomenology' unit. Other units which also relate to this unit are 'Farm Fertility and Compost', 'Soil Cultivation', 'Land Based Machinery 'Grassland and Fodder' and 'Enterprise Planning'

### Content overview

**Learning outcome 1: How draught animals can contribute to the biodynamic farm organism**

Learners should explore the qualitative differences between using draught animals and mechanised traction, with specific attention to their contribution to the farm organism.

**Learning outcome 2: Principles of working with draught animals on a biodynamic farm**

Learners should be introduced to the specific requirements of draught animals. This should include consideration of the following: breed, feeding, hoof care, housing, work/life balance, rhythms, training, working and Health and Safety (particular with use of machinery).

**Learning outcome 3: Working with draught animals**

Learners should be given the opportunity to practice skills in working with draught animals, using a variety of implements, assessing appropriate work and choosing suitable conditions in which to perform the work. Learners should have developed their skills sufficiently to perform all of the above independently without supervision or assistance.

**Learning outcome 4: Reflecting on own experiences in working with draught animals**

Learners should consider their areas of skill, knowledge and experience, identifying where additional development is required in relation to working with draught animals.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
<p>1. Understand how draught animals can contribute to the biodynamic farm organism</p>	<p>1.1 Explain how draught animals can contribute to the biodynamic farm organism</p> <p><i>This must include: impacts to soil quality; therapeutic potential for those working with the animals; implications for sustainability.</i></p>
	<p>1.2 Explain how to choose the type of draught animal for specific purposes</p>
<p>2. Understand principles of working with draught animals on a biodynamic farm</p>	<p>2.1 Explain principles of working with draught animals on a biodynamic farm</p> <p><i>This must include: appropriate feeding; handling skills; health and safety considerations; awareness of rhythms and working conditions of draught animals.</i></p>
	<p>2.2 Describe an annual feeding plan for draught animals on a holding</p>
	<p>2.3 Describe enclosure requirements for keeping draught animals on a holding.</p> <p><i>This must include: housing and outdoor areas.</i></p>
<p>3. Be able to work with draught animals</p>	<p>3.1 Demonstrate how to feed draught animals</p>

Learning outcomes	Assessment criteria
The learner will:	The learner can:
	3.2 Demonstrate how to maintain draught animal enclosures.  <i>This must include: housing and outdoor areas</i>
	3.3 Carry out a health care assessment of draught animals
	3.4 Demonstrate how to work with draught animals  <i>This must include: preparing for work; using cultivation tools; driving skills.</i>
4. Be able to reflect on own experiences working with draught animals	4.1 Reflect on experiences of working with draught animals, including suggestions for improvements

**Additional Requirements for Delivery**

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

# BDFG-L3-unit41

## On-Farm Processing

<b>Unit code</b> A/650/4453		<b>Guided Learning Hours (GLH)</b>	50
<b>Unit level</b>	3	<b>Total Qualification Time (TQT)</b>	200

**Unit aim** This unit aims to provide learners with the philosophical, theoretical and practical knowledge, understanding and skills necessary to manage on-farm processing.

It can be of great benefit for the biodynamic practitioner to produce value added products on the farm. This may include a wide variety of products from green woodwork and charcoal to on-farm food processes. For the farm, this increases the potential income from the produce of the farm but it can also offer activities that can bring the public on to the farm. For each value-added product there will need to be attention paid to the necessary processes, requirements, markets and any applicable regulations and certification. Delivery of this unit would benefit from learners' understanding of 'Enterprise Planning'.

### Content overview

#### **Learning outcome 1: Principles of on-farm value-added processes on own holding**

Learners should explore the possibilities for on-farm processing on their own holding. The consequences and benefits of adding another activity to the farm may be considerable, so careful assessment should be done around the activity.

Selecting a suitable activity may involve consideration of any or all of the following: Demeter Processing Standards, certification, health and hygiene requirements and training, HACCP, building/workspace/physical requirements, record keeping, appropriate processes (such as sterilisation, pasteurisation, fermentation, quality control, etc.), labour requirements, required equipment or machinery, packaging and labelling requirements (including sell-by dates), and storage.

The possible benefits may include consideration of: the development and maintenance of quality, meeting demand from customers, ecological benefits and social aspects. Financial implications of all of the above should be considered.

Learners should be encouraged to reflect on how the value-added enterprise integrates with the rest of the farm organism in terms of financial, practical and social relationships.



**Learning outcome 2: Contributing to a value-added farm process**

Learners will be given the opportunity to contribute to all aspects of the on-farm processing. The tutor and learner should define together which areas are applicable. This may include awareness and application of the following: Demeter Processing Standards, certification, health and hygiene requirements, training, HACCP, record keeping, appropriate processes (such as sterilisation, pasteurisation, fermentation, quality control, etc.), labour requirements, use of required equipment or machinery, packaging and labelling requirements (including sell by dates), and storage.

**Learning outcome 3: Reflecting on own experiences with on-farm processing**

Learners should consider their areas of skill, knowledge and experience, identifying where additional development is required in relation to on-farm processing.

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Understand principles of on farm value-added processes on own holding	1.1 Describe the considerations for on-farm processing on own holding
	1.2 Describe the on-farm processing on own holding
	1.3 Describe the requirements for on-farm processing enterprise on own holding  <i>This must include: Demeter Processing Standards, certification, health and hygiene requirements, training, HACCP, building/workspace requirements, record keeping, labour requirements, required equipment or machinery, packaging and labelling requirements, storage.</i>
	1.4 Calculate the financial benefit for the on-farm processing

Learning outcomes	Assessment criteria
The learner will:	The learner can:
<p>2. Be able to contribute to a value-added farm process</p>	<p>2.1 Demonstrate farm processing with independent proficiency</p> <p><i>This must include at least three of the following: sterilisation; pasteurisation; fermentation; quality control; meeting hygiene guidelines; use of equipment or machinery; packaging and labelling; record keeping; storage</i></p> <p>2.2 Demonstrate maintenance of equipment</p> <p><i>This must include cleaning, maintaining of health and safety standards and check for 'wear-and-tear'</i></p> <p>2.3 Demonstrate appropriate health and safety application during farm processing activities</p>
<p>3. Be able to reflect on own experiences with on-farm processing</p>	<p>3.1 Reflect on experiences working with on-farm processing, including suggestion for improvements</p>

#### **Additional Requirements for Delivery**

It is important for learners to understand the practical context of the *knowledge* and *understanding* learning outcomes contained within this unit. Learners should therefore be encouraged to relate their learning within this unit to their work-based farm and/or garden experiences.

## Section 3: Delivery Requirements

*The following guidance is for delivery of all units. Where units have additional specific delivery guidance, this is included in the unit descriptor.*

This qualification is vocational in nature, so it is vital that the learning experience allows for self-direction and is an experiential and active process. Learners should be given plenty of opportunity to reflect on knowledge and skills as well as developing practical skills with the support and supervision of teachers and workplace supervisors.

The units have been designed to support learner centred work-based approaches, which encourage learner investigation, enquiry and reflection, alongside more traditional teacher centred techniques. The delivery process should be based around the development of knowledge and understanding within a practical land-based context.

It is important that the approach to delivery acknowledges multiple learning styles and accommodates the practical nature of the subject matter. Different learning styles should be supported through a range of delivery materials and class activities, with an emphasis on the necessary skills development inherent in this qualification.

Independent learning should be supported by home study. Learners will also be required to engage in unsupervised work-based learning in a land-based setting.

## Section 4: Assessment & Quality Assurance

### 4.1 Our Approach

The Crossfields Institute approach to quality assurance is underpinned by educational values which address the development and transformation of the whole human being. In this qualification teaching, learning and assessment should be interconnected in order to support each individual to reach his or her full potential.

The following guidance is provided to support centres and learners in understanding this qualification's requirements for assessment and how the assessment processes will be monitored.

### 4.2 Assessment Requirements

This qualification is assessed through a portfolio of evidence. Learners must meet all assessment criteria in the unit before they can be awarded that unit.

We encourage a holistic approach to assessment where appropriate; this means using assessment tasks which cover elements of more than one unit.

Types of assessment method for this qualification may include:

- written assignments
- reports
- presentations
- tutor observation
- products
- reflective journaling
- professional discussion
- witness testimony

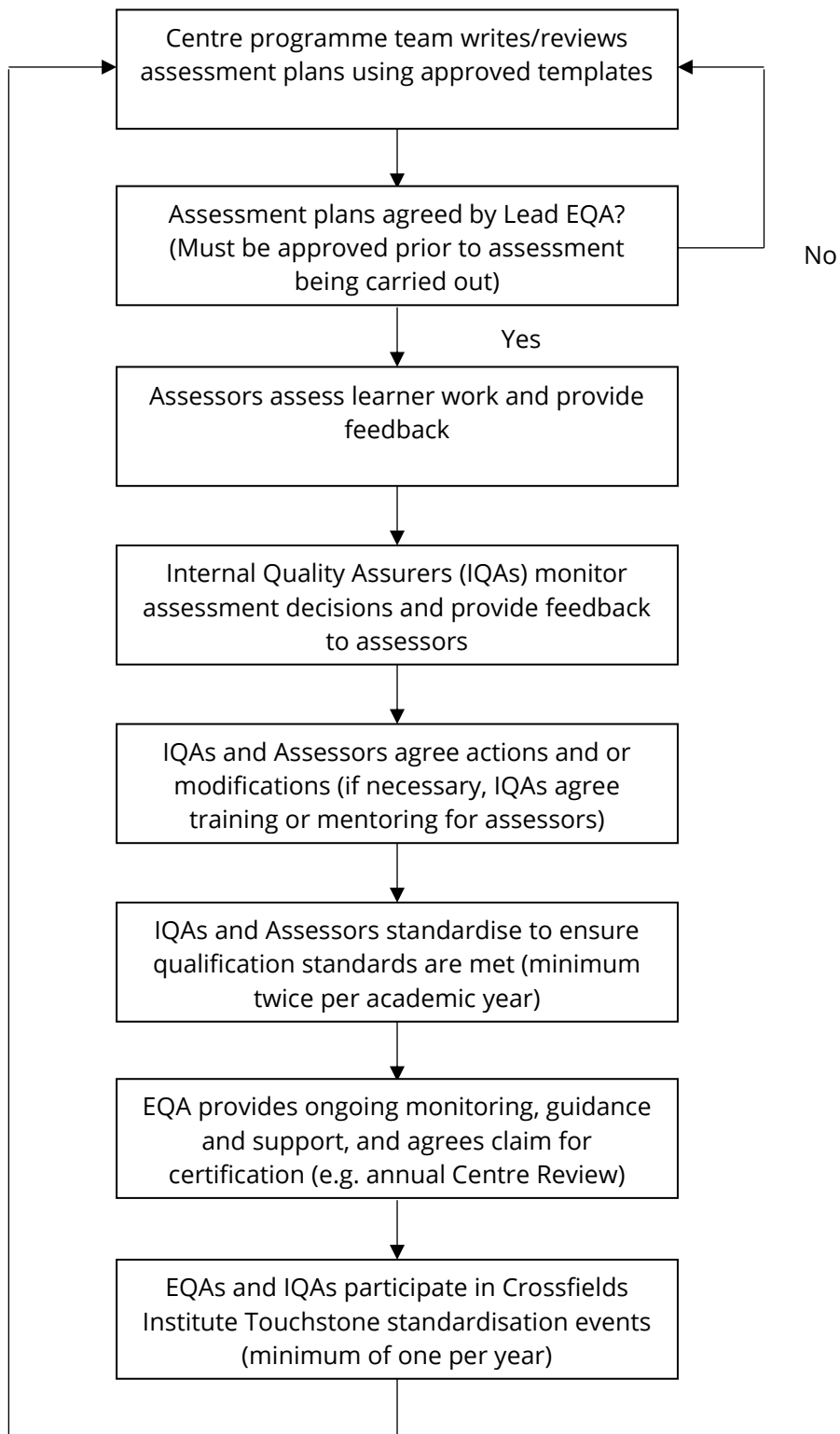
More detailed guidance relating to the use and meaning of assessment criteria verbs and evidence requirements is provided in **Appendix 1**.

### 4.3 Quality Assurance Process

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.

Centres delivering this qualification are required to follow this Crossfields Institute Quality Assurance process:



## 4.4 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

## 4.5 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 for this qualification and their role.
- Handbooks, exemplars and templates are available from the Crossfields Institute Awarding 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.

## Section 5: Policies and Procedures

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 ensures 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](http://www.crossfieldsinstitute.com/resources). Learners should ensure they also refer to the policies and procedures of the centre with which they are registered.

## Appendix 1: Verb Explanation and Evidence Requirements

The following is provided for guidance only. A holistic approach to evidencing multiple assessment criteria is encouraged. Word counts are provided for guidance and can be combined and/or merged when evidencing multiple assessment criteria (learners should seek guidance from tutors in how to approach this).

**Assess** – *Make an estimated or evaluative judgement:* Written explanation with conclusion 200 – 400 words; individual verbal account evidenced by witness statement or tutor observation.

**Carry out** *Complete a task or activity:* Tutor observation; witness statement; video; completed records; photos can be used as supportive evidence. (These methods are also relevant for the verb “maintain”)

**Compare** – *Examine and explain similarities and differences between two or more ideas/ objects etc.:* Written explanation 200 – 400 words; individual verbal account evidenced by witness statement or tutor observation; photos with annotations; drawings with labels.

**Consider** – *Ponder, contemplate, demonstrate a thought process in relation to something:* Written explanation 200 – 400 words; individual verbal account evidenced by witness statement or tutor observation; group discussion evidenced by witness statement or tutor observation.

**Create** – *Make, devise, bring into being:* An artefact; artistic creation (e.g. drawing, painting etc.); tutor observation; witness statement; video; photos.

**Describe** - Written explanation 200 – 400 words: individual verbal account.

**Define** - *State definition clearly:* Written description of 150 – 300 words; individual verbal account evidenced by witness statement or tutor observation; group discussion evidenced by witness statement or tutor observation.

**Demonstrate** – *Give practical explanation or demonstration of applied skill:* Tutor observation; witness statement; video; photos can be used as supportive evidence.

**Design** – *Prepare plans for, sketch out, illustrate the planned look and function of something:* Written account of a design process; drawing with labels; artistic representation with labels; video; photos with annotations.

**Discuss** – *Give a detailed account including differing opinions/ viewpoints:* Written discursive account (more than 200 words – specific word counts to be provided by tutors); individual verbal account evidenced by witness statement or tutor observation; group discussion evidenced by witness statement or tutor observation.

**Explain** – *Make an idea or situation clear using detailed explanation and possibly illustrative examples:* Written explanation 200 – 400 words; individual verbal account evidenced by witness statement or tutor observation.

**Evaluate** - *Review evidence from different perspectives and come to a valid conclusion or reasoned judgement:* Written account 200 – 500 words; individual verbal account evidenced by witness statement or tutor observation.

**Identify** – *Establish who or what something is:* Written description 50 – 300 words; photos with annotations; drawings with labels; individual verbal account evidenced by witness



statement or tutor observation; group discussion evidenced by witness statement or tutor observation.

**Illustrate** – *Give clear information or description with examples:* Written description 50 – 300 words; photos with annotations; drawings/ diagrams with labels; individual verbal account evidenced by witness statement or tutor observation.

**Provide** – *Produce, make, present, create, bring or find through learning or creative ability:* Reflective documentation of a process; artefact; tutor observation; witness statement; video; photos.

**Reflect** – *Reflective account of actions, experiences or learning with indications for the future:* Written account (word count dependent on tutor guidance); Artistic reflective representations with explanations; individual verbal account evidenced by witness statement or tutor observation.

**Research** - *A study of a subject to discover new information or reach a new understanding of it.* Written account including brief data analysis (200-400 words); Artistic representations with explanations; individual verbal account evidenced by witness statement or tutor observation.

**Summarise** - *Give the main ideas or facts in a concise way.* Written description 50 – 300 words; photos with annotations; drawings with labels; individual verbal account evidenced by witness statement or tutor observation

## Appendix 2 Reading List

### Essential Reading

Steiner, R	1997	Agriculture	Biodynamic Farming and Growing Association
Smith, R T	2011	Cosmos Earth and Nutrition	Sophia press
Thun, M	annual	Biodynamic Planting and Sowing Calendar	Floris Books
Sattler, F & Wistinghausen, E	1994	Biodynamic Farming Practice	BDAA
Waldin. M	2015	Biodynamic Growing	Doris Kindersley
Masson, P	2011	Biodynamic Manual	Floris Books
BDA	2013	Demeter Certification Production Standards	BDA

### Recommended Reading for Specific Subject Areas

Capon, B	2010	Botany for Gardeners	Timber Press
Colquhoun, M & Ewald, A		New Eyes for Plants: Workbook for Plant Observation and Drawing	Hawthorn Press
Davies, G & Lennartsson, M		Organic Vegetable Production: A Complete Guide	The Crowood Press
Davies, G & Turner, B	2008	Weed Management for Organic Farmers, Growers and Smallholders: a Complete Guide	The Crowood Press
Erbe, H	2003	Hugo Erbe's New Bio-dynamic Preparations	Mark Moodie
Goethe, J & Miller, G	2009	Metamorphosis of Plants	MIT Press
Grohmann, G		The Plant, Vols. I and II (tutor selections)	Bio-dynamic Farming and Growing Association
Hall, J & Tolhurst, I	2009	Growing Green	Vegan Organic Network
Hauschka, R	2008	Nutrition: A Holistic Approach	Rudolf Steiner Press

Howard, A	2011	The Soil and Health: A Study of Organic Agriculture	Benediction Classics
Klaus, J A	2015	Dairy Farming	CreateSpace
Klett, M & Edmunds, F	2009	Tomorrow's Agriculture	Biodynamic Farming and Growing Association
Koenig, K	2009	Earth and Man	Biodynamic Farming and Growing Association
Koepf, H	1980	Compost	Biodynamic Farming and Growing Association
Lampkin, N	2002	Organic Farming	Old Pond Publishing
Lampkin, N Measures, M Padel, S	2012	Organic Farm Management Handbook	Elm Farm Research Centre
Mackenzie, D	1957	Goat Husbandry	Faber and Faber
Pfeiffer, E	2008	Soil Fertility	Lantern Press
Pfeiffer, F	2002	Using the Biodynamic Compost Preparations and Sprays in Garden, Orchard and Farm	Biodynamic Farming and Growing Association
Pfeiffer, E	2008	Weeds and What They Tell	Biodynamic Farming and Growing Association
Pollock, M	2012	Fruit and Vegetable Growing	Dorling Kindersley
Schad, W		Man and Mammals (tutor selection)	Waldorf Press
Schultz, J	2008	Movement and Rhythm of the Stars (tutor selections)	Floris Books
Steiner, R	2001	Harmony of the Creative Word lecture 7	Steiner Books
Steiner, R	2011	Theosophy	Pacific Publishing Studio
Thun, M	2003	Results from the Biodynamic Plant and Sowing Calendar	Floris Books

von Wistinghausen, W & Scheibe, W	2000	The Biodynamic Spray and Compost Preparations Production Methods, Booklet 1	Biodynamic Agricultural Association
von Wistinghausen, W & Scheibe, W	2003	The Biodynamic Spray and Compost Preparations Directions for Use, Booklet 2	Biodynamic Agricultural Association
Wilkinson, R	2001	Rudolf Steiner, an introduction to his world view, anthroposophy	Temple Lodge

### Suggested Further Reading

Adams, C, Bamford, K, Early, M, Brook, J	2012	Principles of Horticulture	Routledge
Agate, E	2001	Fencing: A practical handbook	BTCV
Ashwort, S	2002	Seed to Seed	Seed saver publications
Auty, I	2008	The BHS Complete Manual of Stable Management (tutor selections)	Kenilworth Press
Bacchus, P	2015	Biodynamic Pasture Management: Balancing Fertility, Life & Energy (tutor selections)	Acres USA
Batey, T	1988	Soil Husbandry	Aberdeen University Press
Bazeley, K, Hayton, A	2007	Practical Cattle Farming	Crowood Press Ltd
Belanger, J	2011	Storey's Guide to Raising Dairy Goats	Storey
Bell, B	2005	Farm Machinery	Old Pond Publishing
Bell, B & Cousins, S	1997	Machinery for Horticulture	Old Pond Publishing
Bevan, H Coupland Smith, H, Dransfield, R Goymer, J Richards, C	2010	Business Book 1 Level 3	Pearson Education Ltd.
Blowey, R. W.	1985	The Veterinary Book for Dairy Farmers (tutor selections)	Old Pond Publishing
Boyle, G	2012	Renewable Energy	Oxford University Press
Brady, N.C & Weil, R.R	2013	The Nature and Properties of Soil	Prentice Hall

Braungart, N.C & McDonough,	2009	Cradle to Cradle	Random House
Briggs, S	2008	Organic Cereal and Pulse Production	The Crowood Press
Buczacki, S Harris, K	2005	Pests, diseases and disorders of garden plants	Harper Collins
Cardell, K	2012	Practical Sheep Keeping	Crowood Press Ltd
Chamberlain, A & Wilkinson, J	1996	Feeding the Dairy Cow	Chalcombe Publications
Chambers, N Simmons, C Wackernagel, M	2000	Sharing Nature's Interests	Earthscan
Coleby	2001	Natural Goat Care	Acres USA
Coleby, P		Natural Sheep Care	Acres USA
Coleman, E	1995	The New Organic Grower: Master's Manual of Tools and Techniques for the Home and Market Gardener	Chelsea Green
Common Ground Editorial Committee	2000	Common Ground Book of Orchards: Community, Conservation, and Culture	Common Ground
Conroy, D	2008	Oxen: A Teamster's Guide	Storey
Cook, W	2006	The Biodynamic Food and Cookbook: Real Nutrition that doesn't cost the Earth	Clairview Books
Crawford, M	2001	Directory of apple cultivars	Agro forestry research trust
Cubinson, S	2009	Organic Fruit Production and Viticulture	The Crowood Press
Damerow, G & Rice, A	2008	Draft Horses and Mules: Harnessing Equine Power for Farm and Show	Story Publishing
Davidson, N	1993	Sky Phenomena: A Guide to Naked Eye Observation of the Stars	Lindisfarne Books
De Baracli Levy, J	1952	Herbal Handbook for Farm & Stable	Faber and Faber
Deppe, C	1990	Breed your own vegetable varieties	Little, Brown
Diamond, J	1998	Guns, Germs and Steel: a short history of everybody for the last 13,000 years	Vintage
Dunlop, S	2008	Phillip's Guide to Weather Forecasting	Phillip's

Fairlie, S	2010	Meat	Permanent Publications
Grant, N	2008	Sewage solutions, Answering the call of nature	Centre for Alternative Technologies
Grotzke, H	2009	Biodynamic Greenhouse Management	Biodynamic Farming and Growing Association
Hall, K	2008	Green Building Bible	Green Building Press
Harwood, D	2006	Goat Health & Welfare: A Veterinary Guide	Crowood
Hawker, M Keenlyside, J	1985	Horticultural Machinery	Longman Higher Education
Howard, L	2010	Essay on the Modifications of Clouds	Kessinger Publishing
Hubbard, C	1992	Grasses: A Guide to Their Structure, Identification, Uses and Distribution.	Penguin
Huese, A	2012	Cut Flower Grower's Handbook	Lulu
Keats, B	2009	Betwixt Heaven and Earth	BFGA
Klocek, D	1991	Weather and Cosmos	Rudolf Steiner College
Langhans, R	1990	Greenhouse Management: a guide to Structures, Environmental Control, Materials Handling, Crop Programming and Business Analysis	Halcyon Press
Macleod, G		Goats: Homeopathic Remedies	Daniel
Mazoyer, M Roudart, L	2006	A History of World Agriculture: From the Neolithic Age to the Current Crisis	Routledge
Meadows, D Meadows, H Randes	2004	Limits to Growth: The 30-Year Update	Chelsea Green Publishing Company
Mowlem, A	1988	Goat Farming	Farming Press
Nastati, E		4 Aspects of the Agricultural Organism	Considera
Navazio, J	2013	The Organic Seed Grower: A Farmer's Guide to Vegetable Seed Production	Chelsea Green Publishing
Nelson, P	2011	Greenhouse Operation and Management	Prentice Hall

Turner, N	2009	Fertility Pastures	Acres USA
Peters & Ball	2002	Reproduction in Cattle (tutor selections)	Wiley-Blackwell
Pfeiffer, E	2009	Chromatography Applied to Quality Testing	Biodynamic Farming and Growing Association
Prinzing, D	2012	50 Mile Bouquet: Seasonal, Local and Sustainable Flowers	St. Lynn's Press
Radford, A	2002	A Guide to Stock Fencing (tutor selections)	Crowood Press
Raphael, E	2012	Raphael's Astronomical Ephemeris	W Foulsham & Co Ltd
Reece, W O	2010	Functional Anatomy and Physiology of Domestic Animals	Wiley-Blackwell
Roberts, M	2005	Farm and Smallholder Fencing (tutor selections)	Gold Cockerel Books
Schmidt, D	2013	Life Forces - Formative Forces: Methodology for Investigating the Living Realm	Hawthorn Press
Schwenk, T	1996	Sensitive Chaos	Rudolf Steiner Press
Seles, P	2010	The Agriculture Course, Koberwitz, Whitsun 1924: Rudolf Steiner and the Beginnings of Biodynamics	Temple Lodge Publishing
Smith, D J	2008	Discovering Horse-Drawn Farm Machinery	Shire Publications
Soil Association Technical Guide	2000	Organic Grassland Management and Forage Conservation	Soil Association
Steiner, R	2013	An Outline of Esoteric Science chapter 2 and 4	Anthroposophic Press
Steiner, R	1999	Bees	Steiner Books
Steiner, R	1995	Intuitive thinking as a spiritual path; a philosophy of freedom	Anthroposophic Press
Steiner, R	1998	The Cycle of the Year	Steiner Books Inc
Steiner, R	1998	The Festivals and Their Meaning	Rudolf Steiner Press
Sturdivant, L	1992	Growing Flowers for Sale	San Juan naturals
Tautz, J	2009	Buzz about Bees, Biology of a Super Organism	Springer Press

Thickett, B Mitchel, D Hallows, B	2002	Calf Rearing (tutor selections)	Farming Press
Thoday, M	2012	Two Blades of Grass: The Story of Cultivation of Plants	Thoday Associates
Van Houten, C	1999	Awakening the Will: Principles and Processes in Adult Learning	Temple Lodge Publishing
Watts, M	1999	Working Oxen	Shire Publications
Weiler, M	2006	Bees & Honey from Flower to Jar	Floris Books
Whitten, G	1999	Herbal Harvest	Blooming Books
Zeuner, D	2011	The Working Horse Manual	Old Pond Publishing



