

# **T Level Technical Qualification in Agriculture Land Management and Production: Crop Production Occupational Specialism (Level 3)**

## **Practical Assignment**

### **Candidate Pack (Sample)**

September 2023 Version 2.1

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Version and date	Change Detail	Section
V1.0	Draft version	n/a
v2.0 June 2023	Approved version	n/a
V2.1 Sept 2023	Reordered photo list for task 1c.	Assessor Guidance, Assessor Observation form
	Amendment in task 3a – plain cress instead of mustard cress.	Assessor Guidance, Tasks, Assessor Observation form, Marking Grids
	Amendment to task 2a phrasing.	Tasks
	Amended to questions in task 3b.	Assessor Guidance, Tasks, Assessor Observation form, Marking Grids
	<i>Container-based crop propagation record (Figure 7)</i> – additional space for recording both crops.	Annex.

# 1. Assessment

This assessment is for the Crop production Occupational Specialism of the Technical Qualification. This pack consists of a practical assignment brief that you will need to use to complete your assessment tasks.

## Performance outcomes

The weightings for each performance outcome will remain the same for every version of the practical assignment. This ensures the appropriate depth and breadth of knowledge and skills for each specialism can be reliably assessed in every version and meets the needs of industry while keeping comparability between each assessment over time.

Performance Outcome	Typical knowledge and skills	Weighting
<b>PO2</b> Establish crops in field and container-based systems for optimum yield and quality	<p>Demonstrate skills by establishing two different crops: one in field-based and one in container-based systems. Skills should be demonstrated in environments that reflect commercial crop establishment.</p> <p>Demonstrate the ability to optimise establishment of a variety of crop types in a range of soil types and conditions.</p>	30%
<b>PO3</b> Manage crops in field and container-based systems to optimise yield and quality	<p>Demonstrate skills by managing two different crops: one in field based and one in container-based systems. Skills should be demonstrated in environments that reflect commercial crop management. Skills can be assessed in relation to different growth stages.</p> <p>Optimise yield and quality by identifying issues and problems with the growing crop. Effective control measures need to be applied at the appropriate growth stages to ensure optimum yield and quality.</p>	30%
<b>PO4</b> Harvest crops for commercial markets	<p>Demonstrate harvesting skills in field-based and container-based systems. Skills should be demonstrated in environments that reflect commercial crop harvesting.</p> <p>Demonstrate an understanding of harvest preparation, timing, accuracy and efficiency. Crop quality to be maintained throughout harvest and storage.</p>	26%
<b>PO5</b> Maintain the areas surrounding the crop production environment	<p>Skills can be demonstrated in relation to areas surrounding field-based or container-based crop production environments.</p> <p>Demonstrate the skills to maintain, protect and enhance the areas surrounding the production environment. These can include hedgerows, woodland, buildings, environmental stewardship schemes and other non-production areas.</p>	14%

## 2. Candidate guidance

### General guidance

This is a formal assessment that you will be marked and graded on. You will be marked on the quality and accuracy of the work you produce. It is therefore important that you carry your work out to the highest standard you can.

### Plagiarism

Plagiarism is the failure to acknowledge sources properly and/or the submission of another person's work as if it were your own. Plagiarism is not allowed in this assignment.

This assignment is an assessment of your abilities, so the work submitted must be all your own and carried out under the conditions stated. You will be asked to sign a declaration that you have not had any help with the assignment. Your assessor is allowed to give you general advice ie clarification of the task instructions. However, general advice will not include:

- Any specific advice on how to improve work to meet the required standard.
- Feedback on anything missing from your work.
- Any intervention that improves the standard or presentation of work.

If there is a need to provide more than general advice your assessor will need to record the advice, they have given and take it into account when marking the submitted work.

Where research is allowed, your assessor must be able to identify which work you have done yourself, and what you have found from other sources. It is therefore important to make sure you acknowledge sources used and clearly reference any information taken from them (eg providing as a minimum a list of web addresses/books/articles etc. used).

### Timings and planning

You are advised to study the details of the assessment before starting.

You should check with your assessor that you have all the relevant materials, equipment and information/data sources that you need before starting the assessment.

You should take care when planning to make sure you have divided the time available between parts of the assignment tasks appropriately. Timings for tasks are provided within this pack to support with planning and time allocation.

If you have a good reason for needing more time, you will need to explain the reasons to your assessor and agree a new time for the assessment to take place. Any changes will be at the discretion of the assessor and agreed by City & Guilds.

### Word counts

Typical word counts, where indicated, are to be used as approximates for guidance to support the production of sufficient evidence. The marking will relate to the quality of the evidence produced and not whether the word count has been met.

### Health and Safety

You must always work safely, while you are carrying out practical tasks.

You must always follow any relevant Health and Safety regulations, Risk Assessments and codes of practice in line with centre requirements.

If your assessor sees you working in a way that is unsafe for yourself or others, they will highlight the issue and ask you to stop the task immediately.

### **Presentation of work**

Presentation of work must be neat, legible and appropriate to the task and evidence required for submission.

You should make sure that each piece of evidence, including any forms, are clearly labelled with your name and the task reference.

All electronic files must be given a clear file name that allows your assessor to identify it as your work.

Written work may be digital or handwritten unless stated otherwise.

All sketches and drawings should be neat, tidy and annotated.

Calculations should be set out clearly, with all working shown, as well as any assumptions made. You should use appropriate units at all times, consistent with the requirements of the assignment.

### **Instructions for this assignment**

Ensure you read all the provided assessment information issued by the assessor.

You must work independently and not share your work with any other candidates in these supervised assessment sessions.

Your work will be kept secure during any supervised breaks that are taken.

Internet access is **not** allowed, unless otherwise stated in the task.

You will not be permitted any additional notes, such as printed resources and textbooks, unless otherwise stated in the conditions for assessment.

You must complete all the tasks and present all evidence that is detailed in each task.

This assessment booklet contains the assignment briefs.

The tasks have been separated into individual documents which will be handed to you at the start of each task.

Any additional documents/templates needed for the task will be provided to you by the assessor.

### **Within each task you will find the following:**

- **Resources:** Provides a list of equipment, documents or tools that you will have access to, to complete the task/sub task.

- **Conditions of assessment:** This will tell you the duration and rules you must follow when completing a task.
- **Controlled conditions:** This will tell you the rules you must follow when completing each task eg you must not share or discuss your work with other candidates.
- **What must be produced for marking:** This describes the evidence you must submit when the task is completed. Be aware that failure to submit any evidence requested can adversely affect your overall mark for the assessment.
- **Additional evidence for this task:** This describes other forms of evidence that will be collected by the assessor to support the marking of your performance. This will often include but is not limited to photo and video evidence.



## Performance outcome assessment themes

A set number of marks are allocated against each performance outcome assessment theme, based on the performance outcome weightings recommended by stakeholders of the qualification. This mark allocation remains the same for all versions of the assessments, ensuring consistency across assessment versions and over time.

You will be assessed against these assessment themes. This assignment brief has a total of 138 marks. The table below shows the mark distribution for this assessment.

Performance outcome (PO)	PO assessment themes	Marks per assessment theme	Total marks per performance outcome
<b>PO2 Establish crops in field and container-based systems for optimum yield and quality</b>	Preparing for field-based crop establishment	6	42
	Health and safety in field-based crop establishment	6	
	Field-based crop establishment	12	
	Health and safety in container-based crop establishment	6	
	Container-based crop establishment	12	
<b>PO3 Manage crops in field and container-based systems to optimise yield and quality</b>	Field-based crop monitoring	9	42
	Field-based crop management	12	
	Container-based crop monitoring	12	
	Container-based crop management	9	
<b>PO4 Harvest crops for commercial markets</b>	Business planning	6	36
	Assessing a crop for harvest	6	
	Harvesting field-based crop	12	
	Harvesting container-based crop	6	
	Crop storage	6	
<b>PO5 Maintain the areas surrounding the crop production environment</b>	Business management	6	18
	Estate maintenance	12	
<b>Totals</b>		<b>138</b>	<b>138</b>

### 3. Assignment brief 1 (Autumn)

You are employed as the crop production manager at The Guilds Estate, a 500-hectare estate with

- field-scale arable crops and forage crops
- container-based crops in polytunnels
- a farm shop which is open to the public.

The owner has given you responsibility for management of operations throughout the year. As part of the small team on the estate, you are a 'hands-on' manager, involved in many aspects of estate work such as harvesting field-based crops and producing container-grown crops for sale in the estate farm shop.

Your next tasks have been agreed, including planning and establishing a field-based crop, and assessing another crop for harvesting. The assessor will tell you the crop and location for each task. It is expected that you comply with your centre's health and safety policy throughout the tasks.

This part of the assignment has one task and a total time of six hours.

Please read **all** information carefully before the assessment.

## 4. Tasks for Assignment brief 1 (Autumn)

### Task 1 – Field-based crop establishment and assessing a crop for harvest

#### 1a) Assess a field-based crop in preparation for harvest

You must take a representative sample of a forage maize crop and assess it for quality and suitability for harvest and complete the *Crop assessment in preparation for harvest template (Figure 1)* provided by the assessor:

- Calculate the fresh weight yield of two plants using an appropriate method based on the plant population density provided by the assessor.
- Record the crop condition (including readiness for harvest, evidence of pests, disease etc.), ground conditions, and weather conditions.
- Dispose of waste appropriately.
- Justify whether to harvest the crop.
- Take photos that can be used to support the findings.

#### Resources

- Assignment brief 1.
- Suitable equipment for assessing the sample crop.
- *Crop assessment in preparation for harvest template (Figure 1)*.
- PPE
- Computer for completing template digitally (**no** internet access).
- Camera.

#### Conditions of assessment

- The time allocated for this task is **1.5 hours**.
- You must carry out the task on your own, under **controlled conditions**.
- Internet access is **not** permitted for this task.

#### Controlled conditions

- You must only work on the task in the allocated times.
- Assessment evidence must be handed in at the end of each session for secure storage.
- You must not share or discuss your work with other candidates.
- You are not permitted to bring any additional materials into the assessment session.

#### What must be produced for marking

- Completed *Crop assessment in preparation for harvest*
- Your photos

#### Additional evidence for this task

- Assessor observation
- Photo evidence by the assessor

## 1b) Plan a field-based crop

You must plan a field-based crop:

- i) Use an appropriate method to sow 100 seeds to work out the seed viability (first stage of a germination test of the cereal seeds).
- ii) After 1 week observe the outcome of the germination test.
  - Complete a written report to establish a winter combinable cereal crop with:
    - calculation of the germination percentage
    - calculation of the seed sowing rate based on the germination percentage and 1,000-grain weight of the seed for an autumn sowing; include your working.
    - seed bed requirements
    - sowing depth
    - planting density.

### Resources

- Assignment brief 1.
- Trays and germinating media.
- Winter combinable crop seed with the 1,000-grain weight provided.
- PPE
- Computer for producing the report (**no** internet access).

### Conditions of assessment

- The time allocated for this task is **1.5 hours**:
  - i) 0.5 hours
  - ii) 1 hour.
- You must carry out the task on your own, under **controlled conditions**.
- Internet access is **not** permitted for this task.

### Controlled conditions

- You must only work on the task in the allocated times.
- Assessment evidence must be handed in at the end of each session for secure storage.
- You must not share or discuss your work with other candidates.
- You are not permitted to bring any additional materials into the assessment session.

### What must be produced for marking

- Report (typically 500 words including calculations)

### Additional evidence for this task

- Assessor observation
- Photo evidence by the assessor

### 1c) Establish a field-based crop

You must establish the winter combinable cereal crop:

- i) Set-up machinery and equipment to establish the winter combinable cereal crop:
  - Attach, carry out pre-use checks and set-up the cultivator.
  - Carry out pre-use checks, set-up and calibrate the drill based on the seed sowing rate from sub task 1b.
  - If a combination drill is to be used, you must attach, carry out pre-use checks, set-up and calibrate the combination drill based on the seed sowing rate from sub task 1b.
  - Answer questions from the assessor during the task.
  
- ii) Operate machinery and equipment accurately and efficiently to establish the winter combinable cereal crop for 3 passes and 2 turns for both cultivator and drill:
  - Complete a risk assessment for the site, equipment and following tasks using the *Risk assessment template (Figure 2)* provided by the assessor.
  - For separate cultivator and drill:
    - operate the pre-set cultivator in the area of the field as directed by the assessor; you can make adjustments as required
    - operate the pre-set drill in the area of the field as directed by the assessor, you can make adjustments as required.
  - **Or** for a combination drill:
    - operate the pre-set combination drill for 3 passes and 2 turns in the area of the field as directed by the assessor, you can make adjustments as required.
  - Safely park the machinery and equipment.
  - Undertake post-use checks to the machinery and equipment.
  - Complete the *Field record template (Figure 3)* provided by the assessor.

### Resources

- Assignment brief 1.
- Tractor, cultivator and cereal drill, or combination drill.
- Machinery data for set-up and calibration.
- Winter combinable crop seed.
- Weigh scales.
- PPE
- *Risk assessment template (Figure 2)*.
- *Field record template (Figure 3)*.
- Computer for completing templates digitally (**no** internet access).
- You will be given a copy of your report from sub task 1b (for reference only).

### Conditions of assessment

- The time allocated for this task is **3 hours**:
  - i) 1.5 hours
  - ii) 1.5 hours.
- You must carry out the task on your own, under **controlled conditions**.
- You will be given a copy of your report from sub task 1b (for reference only).
- Internet access is **not** permitted for this task.

**Controlled conditions**

- You must only work on the task in the allocated times.
- Assessment evidence must be handed in at the end of each session for secure storage.
- You must not share or discuss your work with other candidates.
- You are not permitted to bring any additional materials into the assessment session.

**What must be produced for marking**

- Completed *Risk assessment*
- Completed *Field record*

**Additional evidence for this task**

- Assessor observation
- Photo and video evidence by the assessor
- Responses to questions, including audio recording

## 5. Assignment brief 2 (Spring)

You are employed as the crop production manager at The Guilds Estate, a 500-hectare estate with

- field-scale arable crops and forage crops
- container-based crops in polytunnels
- a farm shop which is open to the public.

The owner has given you responsibility for management of operations throughout the year. As part of the small team on the estate, you are a 'hands-on' manager, involved in many aspects of estate work such as harvesting field-based crops and producing container-grown crops for sale in the estate farm shop.

Your tasks for the next few months have been agreed, including establishing and managing crops, preparing for and carrying out harvesting, and planning and undertaking estate maintenance (*Figure 5*). The assessor will tell you the crop and location for practical tasks. You'll also be looking at how the business is running and making recommendations about alternative approaches the owner could take. It is expected that you comply with your centre's health and safety policy throughout the tasks.

### The estate

The private roads on the estate are well maintained and smooth. The farm has the following owned equipment available, operated by farm staff:

- 14 tonne trailers
- 150 hp tractors
- crop establishment machinery and equipment
- crop management machinery and equipment
- harvesting machinery and equipment.

The *Existing field-based crops (Figure 4)* each cover 60-hectare blocks. Harvested field-based crops are stored next to the weighbridge. Straw is chopped after harvesting.

This part of the assignment has four tasks and a total time of 42 hours.

Please read **all** information carefully before the assessment.

## Assignment brief 2

### Existing field-based crops (Figure 4)

Current crops					Costs for this year			Benchmark data		
Location	Distance to farm store (miles)	Crop	Expected yield (t/ha)	Selling price (£/t)	Seed (£/ha)	Fertiliser (£/ha)	Spray (£/ha)	Seed (£/ha)	Fertiliser (£/ha)	Spray (£/ha)
Field 1	0.5	Winter oilseed rape	4.5	510	72	425	266	64	310	234
Field 2	0.5	Spring barley	7	247	66	221	127	69	250	151
Field 3	2	Winter barley (feed)	8	247	74	350	160	78	268	195
Field 4	2	Winter wheat	10	274	77	430	320	68	320	255
Field 5	3	Grass (silage)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Field 6	0.5	Forage maize	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

### Estate materials list (Figure 5)

Estate materials list:

- Half round rails (3.6m): £6.31/each
- Straining posts (2.1m): £30.81/each
- Intermediate post (1.65m): £4.10/post
- Stock netting: £76.67/100 metres
- Staples: £38.39/20kg
- Barbed wire: £27.43/200 metres
- Plain wire: £37.87/100 metres
- Strut (2.7m): £8.00/each

(All prices are excluding VAT)

\* Figures for assessment purposes (February 2022)



## 6. Tasks for Assignment brief 2 (Spring)

### Task 2 – Business, crop, and estate planning

#### 2a) Plan production of a container-based crop

You must create a report showing a schedule of activities for one container-based crop of *Osteospermums*, including:

- activities against week numbers for one container-based crop of *Osteospermums* from propagation to point of sale:
  - The crop will be vegetatively propagated within weeks 5–10 of the calendar year.
  - The crop must be available for sale in 10.5cm pots between weeks 19 and 25.
  - You should plan to have 5,000 10.5cm pots ready for sale.
  - Approximate timing of activities shown in a spreadsheet/Gantt chart.
- resources required, including labour, materials, equipment, and growing space (no costing is required)
- explanation of why the activities are being carried out and their timing
- explanation of the temperature and light conditions required for the crop growth to meet the schedule
- justification of how the activities consider sustainability and environmental issues.

#### Resources

- Assignment brief 2.
- Computer for producing the report (no internet access).
- Calculator or spreadsheet software.

#### Conditions of assessment

- The time allocated for this task is **3 hours**.
- You must carry out the task on your own, under **controlled conditions**.
- Internet access is **not** permitted for this task.

#### Controlled conditions

- You must only work on the task in the allocated times.
- Assessment evidence must be handed in at the end of each session for secure storage.
- You must not share or discuss your work with other candidates.
- You are not permitted to bring any additional materials into the assessment session.

#### What must be produced for marking

- Report (typically 500-1,000 words, plus the spreadsheet/Gantt chart)

#### Additional evidence for this task

- n/a

## 2b) Plan the harvest of a field-based crop

You must plan the harvesting of the 60 hectares of winter oilseed rape with uneven ripening:

- Produce a sequenced timeline of the steps to be taken from 1 month pre-harvest through to storage of the harvested crop, including:
  - prioritised steps within the crop rotation, with reasons
  - estimated total number of hours to complete each of the steps
  - equipment required for preparation and harvesting.

The timeline can be in the format of your choice.

No costings are required for this task.

### Resources

- Assignment brief 2.
- Computer for producing the timeline (**no** internet access).
- Calculator or spreadsheet software.

### Conditions of assessment

- The time allocated for this task is **1 hour**.
- You must carry out the task on your own, under **controlled conditions**.
- Internet access is **not** permitted for this task.

### Controlled conditions

- You must only work on the task in the allocated times.
- Assessment evidence must be handed in at the end of each session for secure storage.
- You must not share or discuss your work with other candidates.
- You are not permitted to bring any additional materials into the assessment session.

### What must be produced for marking

- A sequenced timeline

### Additional evidence for this task

- n/a

## 2c) Cost the harvest of a field-based crop

You must report on the cost of harvesting the 60-hectare block of winter barley, including weighing, sampling, tipping, and recording of each load:

- Calculate and report on the most cost-effective approach to the harvest, including stating:
  - the number of tractors required with justifications
  - the number of trailers required with justifications
  - the cost per hectare showing all your workings
  - the cost per tonne showing all your workings.

You do not need to consider availability of staff or machinery.

The farm owns and operates one combine harvester which has a six-metre cut and 20 tonne-per-hour average output when harvesting winter barley with an average yield of eight tonnes per hectare.

Refer to Assignment brief 2 for additional information about the *layout of the estate (Figure 4)*. *John Nix Pocketbook for Farm Management* data may be used for reference.

### Resources

- Assignment brief 2.
- Information on *Existing field-based crops (Figure 4)*.
- *John Nix Pocketbook for Farm Management*.
- Computer for producing the report (**no** internet access).
- Calculator or spreadsheet software.

### Conditions of assessment

- The time allocated for this task is **2 hours**.
- You must carry out the task on your own, under **controlled conditions**.
- *John Nix Pocketbook for Farm Management* data may be used for reference.
- Internet access is **not** permitted for this task.

### Controlled conditions

- You must only work on the task in the allocated times.
- Assessment evidence must be handed in at the end of each session for secure storage.
- You must not share or discuss your work with other candidates.
- You are not permitted to bring any additional materials into the assessment session.

### What must be produced for marking

- Report showing your calculations of costings (typically 1,000 words including calculations)

### Additional evidence for this task

- n/a

## 2d) Business review

You must calculate the gross margin and recommend changes which can be made in future to improve the gross margin:

i) Use the *Field-based crop gross margin template (Figure 6)* provided by the assessor and *Figure 4* in the brief to calculate the gross margin for each of the following crops grown in 60-hectare blocks:

- winter wheat
- spring barley
- winter barley
- winter oilseed rape.

ii) Produce a report:

- Compare your gross margin data with the benchmark data provided in *Figure 4* of the brief and explain why the gross margin differs to the benchmark data.
- Recommend and justify changes which can be made in future to improve the gross margin of the arable enterprise.

## Resources

- Assignment brief 2.
- Information on *Existing field-based crops (Figure 4)*.
- *Field-based crop gross margin template (Figure 6)*.
- Computer for producing the report and completing templates digitally (**no** internet access).
- Calculator or spreadsheet software.

## Conditions of assessment

- The time allocated for this task is **2 hours**.
- You must carry out the task on your own, under **controlled conditions**.
- Internet access is **not** permitted for this task.

## Controlled conditions

- You must only work on the task in the allocated times.
- Assessment evidence must be handed in at the end of each session for secure storage.
- You must not share or discuss your work with other candidates.
- You are not permitted to bring any additional materials into the assessment session.

## What must be produced for marking

- Completed *Field-based crop gross margin* for each crop using the template provided
- Report recommending and justifying changes (typically 1,000 words)

## Additional evidence for this task

- n/a

## 2e) Plan a permanent stock-proof boundary

You must produce a written report to plan the maintenance of a permanent stock-proof boundary to keep sheep out, which must include:

- a justified plan for and costing of the materials for a replacement 200 metre length of fence using the *Estate materials list (Figure 5)* of the brief. Labour does not need to be costed. To be installed on a level site with a 90° turn after 50 metres.
- a labelled side elevation diagram of the proposed maintenance. This can be handwritten or digital. It does not need to be to scale.
- the environmental considerations, legislation and codes of practice which are relevant to the task, including disposal of waste materials.

### Resources

- Assignment brief 2.
- *Estate materials list (Figure 5)*.
- Computer for producing the report (**no** internet access).
- Calculator or spreadsheet software.

### Conditions of assessment

- The time allocated for this task is **1.5 hours**.
- You must carry out the task on your own, under **controlled conditions**.
- Internet access is **not** permitted for this task.

### Controlled conditions

- You must only work on the task in the allocated times.
- Assessment evidence must be handed in at the end of each session for secure storage.
- You must not share or discuss your work with other candidates.
- You are not permitted to bring any additional materials into the assessment session.

### What must be produced for marking

- Report on the maintenance plan (typically 500 words, plus diagram)

### Additional evidence for this task

- n/a

## Task 3 – Produce container-based crops

### 3a) Establish indoor container-based crops

You must establish two crops: plain cress from seed and *Osteospermum* from cuttings:

- Select and prepare:
  - resources
  - the site required to ensure successful establishment.
- Undertake propagation accurately and efficiently:
  - Complete a risk assessment for the vegetative propagation process using the *Risk assessment template (Figure 2)* provided by the assessor.
  - Broadcast sow plain cress seeds by hand at the specified rate into six standard cress punnets/trays.
  - Collect, trim and insert 30 soft-stem cuttings of *Osteospermum*.
  - Place both crops into the propagation environment.
  - Undertake immediate post-propagation maintenance.
- Dispose of waste appropriately.
- Answer questions from the assessor during the task.
- Complete the *Container-based crop propagation record template (Figure 7)* provided by the assessor.

### Resources

- Assignment brief 2.
- Plain cress seeds with sowing rate.
- Source plants for cuttings.
- Growing media and trays.
- Equipment, materials and environment for propagation.
- PPE
- *Risk assessment template (Figure 2)*.
- *Container-based crop propagation record template (Figure 7)*.
- Computer for completing templates digitally (**no** internet access).

### Conditions of assessment

- The time allocated for this task is **2 hours**.
- You must carry out the task on your own, under **controlled conditions**.
- Internet access is **not** permitted for this task.

### Controlled conditions

- You must only work on the task in the allocated times.
- Assessment evidence must be handed in at the end of each session for secure storage.
- You must not share or discuss your work with other candidates.
- You are not permitted to bring any additional materials into the assessment session.

**What must be produced for marking**

- *Risk assessment* for the vegetative propagation
- Completed *Container-based crop propagation record*

**Additional evidence for this task**

- Assessor observation
- Photo evidence by the assessor
- Responses to questions, including audio recording

### 3b) Manage container-based crop performance

You must monitor and care for a container-based crop:

i) Monitor and care for an established *Osteospermum* container-based crop over a minimum of two 4-week periods to ensure that the crop is ready for sale in weeks 19–25, which must include:

- monitoring of growth and development to schedule
- transplanting (potting up)
- liquid feeding
- weed, pest, disease and disorder identification for those present within the cropping environment
- irrigation
- pinching out, if required
- dispose of waste appropriately
- answering questions from the assessor during the task.

ii) Complete a diary covering the two 4-week periods using the *Container-based crop diary template (Figure 8)* provided by the assessor, which must include:

- your monitoring activity and findings
- the crop requirements monitored
- considerations, decisions, and recommendations, including justifications, about care of the crop to ensure quality and yield
- identification of weeds, pests, diseases, disorders and, if required, the need for pesticide application and/or use of biological controls
- supporting photo evidence of the monitoring and maintenance, for review by the assessor. The photos should be of pests, diseases, growth of cuttings at regular intervals, crop condition etc. and can be submitted digitally.

#### Resources

- Assignment brief 2.
- Established container-based *Osteospermum* crop growing under protected conditions.
- Irrigation and feeding equipment.
- Growing medium and appropriate containers for transplanting.
- PPE
- *Container-based crop diary template (Figure 8)*.
- Computer for completing template digitally (**no** internet access).
- Camera.
- You will be given a copy of your diary and photos from previous visits (for reference only).

#### Conditions of assessment

- The time allocated for this task is **16 hours**:
  - **2 hours** per week over two 4-week periods.
- You must carry out the task on your own, under **controlled conditions**.
- You will be given a copy of your diary and photos from previous visits (for reference only).
- Internet access is **not** permitted for this task.



**Controlled conditions**

- You must only work on the task in the allocated times.
- Assessment evidence must be handed in at the end of each session for secure storage.
- You must not share or discuss your work with other candidates.
- You are not permitted to bring any additional materials into the assessment session.

**What must be produced for marking**

- Completed *Container-based crop diary*, with your photos

**Additional evidence for this task**

- Assessor observation
- Photo evidence by the assessor
- Responses to questions, including audio recording

### 3c) Collect and prepare a container-based crop for sale

You must collect and efficiently prepare ten 10.5cm pots of *Osteospermum* for sale in the estate farm shop as required by the *Container-based crop collection order sheet template (Figure 9)* provided by the assessor:

- Select and prepare appropriate resources for the task.
- Dispose of waste appropriately.
- Complete the *Container-based crop collection order sheet template (Figure 9)*.

#### Resources

- Assignment brief 2.
- *Container-based crop collection order sheet template (Figure 9)*; specification at Grade 1 condition provided by assessor.
- Plant materials.
- Packing materials.
- Plant labels.
- Growing media for top dressing.
- Carry trays.
- Danish trolley.
- Irrigation equipment.
- PPE
- Computer for completing the order sheet digitally (**no** internet access).

#### Conditions of assessment

- The time allocated for this task is **1 hour**.
- You must carry out the task on your own, under **controlled conditions**.
- Internet access is **not** permitted for this task.

#### Controlled conditions

- You must only work on the task in the allocated times.
- Assessment evidence must be handed in at the end of each session for secure storage.
- You must not share or discuss your work with other candidates.
- You are not permitted to bring any additional materials into the assessment session.

#### What must be produced for marking

- Completed *Container-based crop collection order sheet*

#### Additional evidence for this task

- Assessor observation
- Photo evidence by the assessor

## Task 4 – Produce field-based crops

### 4a) Manage field-based crop performance

You must monitor the growth of a field-based crop during three visits and produce a report. The location and time periods for the visits will be chosen by the assessor.

i) Carry out the visits, making observations and taking notes on the following:

- soil type, soil condition and structure, weather conditions
- assess crop emergence
- calculate the establishment percentage
- assess root establishment
- identify and quantify weeds, pests, diseases, and disorders
- methods used during observation.

Supporting photo evidence to be submitted with the report. The photos should be of weeds, pests, diseases, and disorders, growth stage at each visit, and general crop condition.

Your notes are submitted at the end of each session and returned at the start of the next session. You can refer to them when writing the report in ii).

ii) Produce a written report, including:

- your findings from the monitoring activity, including methods used
- evaluations of your findings
- a fertiliser plan for the crop which must include nitrogen with justifications. Assessor to provide details of the previous crop and expected yield for analysis as part of the fertiliser plan. Include the impact of environmental legislation and codes of practice on the plan.
- making recommendations for Integrated Pest Management (IPM) techniques and timings that may be required to ensure quality and yield.

### Resources

- Assignment brief 2.
- Assessor to provide information on the previous crop, and the sowing density and expected yield for the current crop.
- Quadrat.
- Computer for producing the report (**no** internet access).
- Camera.
- You will be given a copy of your notes and photos from previous visits (part i) and for the report writing (part ii) (for reference only).

### Conditions of assessment

- The time allocated for this task is **4.5 hours**:
  - i) 3 hours
  - ii) 1.5 hours.
- You must carry out the task on your own, under **controlled conditions**.

- You will be given a copy of your notes and photos from previous visits (part i) and for the report writing (part ii) (for reference only).
- Internet access is **not** permitted for this task.

#### **Controlled conditions**

- You must only work on the task in the allocated times.
- Assessment evidence must be handed in at the end of each session for secure storage.
- You must not share or discuss your work with other candidates.
- You are not permitted to bring any additional materials into the assessment session.

#### **What must be produced for marking**

- Report (typically 1,000 words, plus your photos)

#### **Additional evidence for this task**

- Assessor observation

#### 4b) Apply nutrients to a field-based crop

You must safely and accurately apply nutrients to a growing crop:

i) Prepare for application of nutrients to the growing crop:

- Assess the safety, suitability and cleanliness of the provided machinery and equipment.
- Answer questions from the assessor during the task.

ii) Apply nutrients in the field selected by the assessor for 3 bouts and 2 turns, and:

- safely park the machinery and equipment after the nutrient application
- complete the *Field record (inorganic/organic fertiliser applications) template (Figure 10)* to meet legislative requirements; template provided by the assessor
- answer questions from the assessor during the task.

#### Resources

- Assignment brief 2.
- Tractor and tanker/spreader/sprayer for the task (with or without GPS).
- Nutrient for application.
- *Field record (inorganic/organic fertiliser applications) template (Figure 10)*; seed sowing date and seed rate provided by the assessor.
- Computer for completing template digitally (**no** internet access).

#### Conditions of assessment

- The time allocated for this task is **2 hours**:
  - i) 1 hour
  - ii) 1 hour.
- You must carry out the task on your own, under **controlled conditions**.
- Internet access is **not** permitted for this task.

#### Controlled conditions

- You must only work on the task in the allocated times.
- Assessment evidence must be handed in at the end of each session for secure storage.
- You must not share or discuss your work with other candidates.
- You are not permitted to bring any additional materials into the assessment session.

#### What must be produced for marking

- Completed *Field record (inorganic/organic fertiliser applications)*

#### Additional evidence for this task

- Assessor observation
- Video evidence by the assessor
- Responses to questions, including audio recording

#### 4c) Harvest a field-based crop

You must harvest and store a grass silage crop in the area directed by the assessor:

- i) Prepare a tractor and trailer to harvest a grass silage crop and deliver to store:
  - Assess the safety and suitability of the tractor and trailer for the task.
  - Ensure the equipment is clean.
  - Attach and set-up the tractor and trailer according to manufacturer's recommendations.
  - Answer questions from the assessor during the task.
  
- ii) Operate the tractor and trailer to harvest and store one full load of a grass silage crop:
  - Safely and efficiently operate tractor and trailer to offload the crop from the harvester.
  - Safely and legally transport the crop to a specified location.
  - Safely offload the crop at the store.
  - Safely park the machinery and equipment.
  - Apply precise and controlled movements of equipment to show physical dexterity.
  - Monitor quality and timeliness of your work to meet objectives and deadlines.
  - Complete the *Field-based crop harvest record template (Figure 11)* provided by the assessor with estimated load weight.

#### Resources

- Assignment brief 2.
- Suitable tractor, trailer and storage facilities appropriate to the crop.
- *Field-based crop harvest record template (Figure 11)*.
- Computer for completing template digitally (**no** internet access).

#### Conditions of assessment

- The time allocated for this task is **1.5 hours**:
  - i) 0.5 hours
  - ii) 1 hour.
- You must carry out the task on your own, under **controlled conditions**.
- Internet access is **not** permitted for this task.

#### Controlled conditions

- You must only work on the task in the allocated times.
- Assessment evidence must be handed in at the end of each session for secure storage.
- You must not share or discuss your work with other candidates.
- You are not permitted to bring any additional materials into the assessment session.

#### What must be produced for marking

- Completed *Field-based crop harvest record*

#### Additional evidence for this task

- Assessor observation
- Video evidence by the assessor
- Responses to questions, including audio recording

#### 4d) Assess a stored field-based combinable crop

You must assess a stored combinable crop for quality:

- Collect and visually assess samples of a harvested combinable crop for quality.
- Determine the causes, and acceptable levels, of any damage or contamination.
- Use appropriate equipment and methods to determine the moisture content, temperature, and specific weight of representative samples throughout the store of the crop post-harvest.
- Dispose of waste appropriately.
- Analyse your findings compared with typical crop specification provided.
- Record your findings, comments, and recommendations for further actions on the *Field-based combinable crop storage monitoring template (Figure 12)* provided by the assessor.

#### Resources

- Assignment brief 2.
- Equipment for collecting and assessing the sample.
- *Field-based combinable crop storage monitoring template (Figure 12)* for recording findings; typical crop specification provided by the assessor.
- PPE
- Computer for completing template digitally (**no** internet access).

#### Conditions of assessment

- The time allocated for this task is **1 hour**.
- You must carry out the task on your own, under **controlled conditions**.
- Internet access is **not** permitted for this task.

#### Controlled conditions

- You must only work on the task in the allocated times.
- Assessment evidence must be handed in at the end of each session for secure storage.
- You must not share or discuss your work with other candidates.
- You are not permitted to bring any additional materials into the assessment session.

#### What must be produced for marking

- Completed *Field-based combinable crop storage monitoring*

#### Additional evidence for this task

- Assessor observation
- Photo evidence by the assessor

## Task 5 – Estate maintenance

### 5a) Maintain a stock-proof boundary

You must safely undertake the installation of a 6 metre section of stock-proof fence with stock netting and two strands of barbed wire above the stock netting.

You must check the tools and equipment prior to use and dispose of waste appropriately after completing the task.

Candidates can assist each other with the post driving and rolling out of the wire during the task. The candidate being observed must direct their assistant.

#### Resources

- Assignment brief 2.
- Tools, materials and equipment as appropriate to the stock-proof boundary.
- Stock netting.
- Posts.
- Barbed wire.
- Staples.
- Hand-operated post driver.
- PPE

#### Conditions of assessment

- The time allocated for this task is **1.5 hours**.
- You must carry out the task under **controlled conditions**.
- Internet access is **not** permitted for this task.

#### Controlled conditions

- You must only work on the task in the allocated times.
- You are not permitted to bring any additional materials into the assessment session.

#### What must be produced for marking

- n/a

#### Additional evidence for this task

- Assessor observation
- Photo evidence by the assessor



## **5b) Maintain a hedge**

You must safely plant a length of hedge with 20 plants which are guarded. Spacing must be appropriate to the species and local setting and planting requirements (as advised by the assessor).

You must check the tools and equipment prior to use and dispose of waste appropriately after completing the task.

Note: This may be gap-filling in an existing hedge or a simulated exercise.

### **Resources**

- Assignment brief 2.
- Tools, materials and equipment for planting a hedge.
- 20 plants per candidate.
- Guards.
- PPE

### **Conditions of assessment**

- The time allocated for this task is **2 hours**.
- You must carry out the task on your own, under **controlled conditions**.
- Internet access is **not** permitted for this task.

### **Controlled conditions**

- You must only work on the task in the allocated times.
- You must not share or discuss your work with other candidates.
- You are not permitted to bring any additional materials into the assessment session.

### **What must be produced for marking**

- n/a

### **Additional evidence for this task**

- Assessor observation
- Photo evidence by the assessor

### **5c) Maintain a ditch/drain**

You must safely maintain a ditch/drain specified by the assessor:

- Check a ditch and drain outfalls to ensure free flow of water.
- Safely carry out remedial work using appropriate tools and equipment.

You must check the tools and equipment prior to use and dispose of waste appropriately after completing the maintenance.

#### **Resources**

- Assignment brief 2.
- Tools, materials and equipment as appropriate to the task.
- PPE

#### **Conditions of assessment**

- The time allocated for this task is **1 hour**.
- You must carry out the task on your own, under **controlled conditions**.
- Internet access is **not** permitted for this task.

#### **Controlled conditions**

- You must only work on the task in the allocated times.
- You must not share or discuss your work with other candidates.
- You are not permitted to bring any additional materials into the assessment session.

#### **What must be produced for marking**

- n/a

#### **Additional evidence for this task**

- Assessor observation
- Photo evidence by the assessor

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