T Level Technical Qualification in Agriculture, Land Management and Production

Livestock Production Occupational Specialism

Guide Standard Exemplification Material Distinction – Sample May 2024

Version and date	Change detail	Section
May 2024 v1		

Contents

Introduction

The sample evidence within this document refer to the Livestock Production Occupational Specialism assignment. The aim of these materials is to provide centres with examples of knowledge, skills and understanding that attest to a distinction grade.

The evidence presented here has been developed to reflect a distinction grade within each task but is not necessarily intended to reflect the work of a single candidate. It is important to note that in live assessments a candidate's performance is very likely to exhibit a spikey profile and the standard of performance will vary across tasks. The Guide Standard Exemplification Material (GSEM) illustrates linear performance across all pieces of evidence at the grade. A distinction grade will be based on a synoptic mark across all tasks.

The evidence in this GSEM is separated into the sections as described below. Evidence is presented against tasks from the assignment. Assessors using the GSEM may find it helpful to review this document along with the sample assessment materials.

Task
This section details the evidence to be submitted for marking and any additional evidence required including any photo/video/audio evidence. Also referenced in this section are the performance outcomes and assessment themes the evidence will be marked against when completing the tasks within it. In addition, evidence that has been included or not been included in this GSEM has been identified within this section.

In this GSEM there is evidence from:

- Task 1
- Task 2
- Task 3
- Task 4
- Task 5
- Task 6
- Task 7
- Task 8
- Task 9
- Task 10
- Task 11

Evidence
This section includes exemplars of evidence, photos/video or audio recordings of the evidence in production (or completed) and assessor observation records of the assessment completed by centre assessors. This will be exemplar evidence that was captured as part of the assessment and then internally marked by the centre assessor.

The items of evidence included in the GSEMs are designed to illustrate the grade at evidence level. They are not intended to reflect the performance of a single candidate across

the assignment. Not all items of evidence are included in the GSEM, however a representative sample of evidence from across the assignment has been included to sufficiently illustrate the standard of performance expected for each type of evidence.

Commentary

This section includes detailed comments to demonstrate how the evidence attests to the standard of distinction.

It is important to note that the commentary section is not part of the evidence or assessment but are evaluative statements on how and why that piece of evidence meets a particular standard.

Grade descriptors

To achieve a distinction, a candidate will be able to:

Demonstrate an excellent performance that fully meets the requirement of the tasks, demonstrating strong technical skills and techniques for carrying out routine husbandry tasks associated with breeding, rearing and production of livestock to consistently high standards and is able to enter the industry to begin to work in the occupational area.

Demonstrate an excellent understanding of human-animal interaction, consistently applying safe and welfare orientated techniques when handling livestock.

Thoroughly interpret technical information, applying excellent technical skills to plan, assess risk and follow safe working methods to practical tasks and procedures to a high standard in response to the requirements of the brief and tasks.

Clearly identify and work within all relevant environmental and health and safety legislation and regulations, taking the initiative to identify and mitigate potential risks prior to commencing tasks.

Undertake excellent preparation of machinery and equipment to safely undertake tasks, applying detailed control measures during tasks.

Undertake excellent preparation of working area, mitigating potential risks prior to commencing tasks and consistently apply comprehensive control measures during tasks that allow safe and efficient working.

Consistently use technical terminology accurately in plans, reports and documentation.

Task 1a – Husbandry Tasks

Evidence contributes to the following:

Performance outcomes	Assessment themes
PO2 Establish conditions for animal breeding	Health and welfare
PO3 Rear livestock from birth to production standard	Health and welfare Handling

Evidence	Assessment themes	Candidate producing	Assessor producing	Included in this GSEM
assessor observations	PO2: Health and welfare PO3: Handling PO3: Health and welfare		√	√
video(s)	PO3: Health and welfare		√	√ (placeholder)
photo(s)	PO3: Handling		√	√ (placeholder)
risk assessment	PO2: Health and welfare	√		√
medicine treatment record	PO3: Health and welfare	√		√

Candidate evidence - Risk Assessment

Candidate's name	Sample Candidate	**Enrolment number**	CG12345
Assessor	Sample Assessor	Date	23/03/23
Task / Activity	Cattle Health Checks	Location including Postcode	Borderway, Rosehill, Carlisle CA1 2RS
*OS Grid Ref/What3Words	NY 42862 55780 Reveal/Snail/Fence	Mobile Phone Signal	Good across site
Nearest Accident & Emergency	Cumberland Infirmary 01238 42**44	Meeting point for Emergency Services	Car Park

Item no.	What are the hazards?	Who might be harmed and how?	What precautions are already in place?	Risk rating (High / Medium / Low)	What further action is necessary?	Action by who and when?	Final risk rating (High / Medium / Low / Trivial)
1	Zoonotic diseases	Staff, visitors, vets	Correct PPE – overalls, waterproof leggings, safety boots.	Medium	Ensuring PPE is changed when working with sick animals. Foot dip procedure in place for staff. Infected animals isolated.	All Staff	Low
2	Physical injury from uncontrolled livestock	Staff, visitors, vets	Effective cattle handling system keeps animals and staff separate in designated places wherever possible.	Medium	Ensure training is provided in safe manual handling. Equipment checks to ensure good safe working order.	Stock person – ensure adherence to system.	Low

3	Working with gates and livestock.	Staff, visitors, vets	Remain vigilant to cattle movement to prevent injury of hands by horn or by trapping in gates.	Medium	Equipment checks to ensure good safe working order. Training on gate use provided. Provide first aid kit.	All staff - awareness	Low
4	Cluttered/mucky yard	Staff, visitors, vets	Yard cleaned prior to starting work, potential hazards removed. Suitable footwear in use.	Medium	Continue to clean down and tidy yard as work continues to avoid build-up of manure creating slippery/uneven surface. Correct work boots being used for those in direct contact with livestock.	All staff	Low
5	Handling crush	Staff	All hydraulic controls correctly marked and in good working order.	Medium	Full training given to staff on the operation of the controls before assessment commences.	All staff	Low

Date: 23/03/23	Risk assessment carried out by: Sample Candidate

Commentary

The candidate completed an excellent risk assessment with a range of hazards and precautions detailed and all risks have been given a risk rating. Additional safety controls have been identified for this **health and welfare** task, for example training for safe manual handling. The candidate has detailed the main hazards from the activity, setting out effective actions to mitigate risks demonstrating a focus on safe working culture. The risk assessment details how continued action will be required to support safe working practices.

Assessor Observation - Task 1a

Task	Qualification number
Work with two others to safely move animals (6-10) from a yard/ pen/ field into a handling area	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO3: Handling

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• collaboration and communication with others to effectively move livestock into the handling area • use of appropriate techniques to handle and move livestock	The candidate: • told the two helpers to walk round the animals and told them where they were to stand - behind the animals' point of balance - in order to guide the livestock from the enclosure pen into the handling area. The helpers were instructed to move the livestock at walking pace into the handling area • told the helpers to be calm and considerate of the cattle movements and to encourage the animals to move into the handling area using the gates to lengthen their reach as necessary • opened up the entry gates to the handling system and then went to the enclosure to open the gate • told the helpers at the back to close the enclosure gate • took clear note of the animal flight zones ensuring there were no additional persons obstructing cattle movement. • allowed the cattle to enter the handling area leaving a safe zone before closing the handling area gate behind the animals. The candidate and helpers were on the other side of the gates to the cattle. .

Assessor signature	Date
Sample Assessor	23/03/23

Video evidence:

- work with two others to safely move animals (6-10) from a yard/ pen/ field into a handling area

The video shows: The candidate opening up the entry gates to the handling system and going into the enclosure to open the gate, telling the two helpers to walk round the back of the animals. The candidate telling them where they were to stand - behind the animals' point of balance. The candidate and the two helpers moving the livestock at walking pace into the handling area. The candidate telling the helper at the back to close the enclosure gate and handling pen gates. The candidate setting the access gates to the handling race. The candidate using an encouraging manner to usher the animals through to the handling race. The candidate closing the rear gate behind the animals.

Commentary

The candidate demonstrated an excellent performance that fully meets the requirement of the task by effective communication with colleagues, giving clear direction, for movement of the animals to the holding area by using the correct point of balance. They demonstrated an excellent understanding of animal health and welfare by preparing the helpers in advance of the task to ensure they clearly understood what they had to do.

The candidate showed awareness of animal flight zones and showed excellent communication with the helpers displaying a strong example of techniques and working with others to safely move animals during **handling** by close the gates at the appropriate times to prevent any animals escaping from the area and back into the pen

Assessor Observation - Task 1a

Task	Qualification number
Take the lead when working with one other to safely restrain one animal using appropriate equipment	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO3: Handling

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• clear and appropriate instructions given to the other person • use appropriate techniques to handle and restrain cattle safely • apply physical dexterity with appropriate application of force and pressure when interacting with cattle • use of equipment to restrain cattle could include: ○ halter, race, crush, yoke, calf by hand, handling pens	The candidate: • asked the helper to stay outside of the handling area (which avoided the risk of being injured). • asked the helper to bring the livestock through the race and into the crush using their body position (which ensured the animal continued to move forward). • positioned themselves to move the animal forward calmly into the crush, (showing an awareness of the correct pace to use and an awareness of animal flight zones) in order to encourage it further into the crush. • successfully operated the head yoke by timing their actions with the pace of animal to secure it in the yoke by the animal's neck.

Assessor signature	Date
Sample Assessor	23/03/23

Video evidence:

- take the lead when working with one other to safely restrain one animal using appropriate equipment

The video shows: the candidate asking the helper to stay outside of the pen then asking the helper to bring the livestock towards the race using their body position. The candidate positioning themselves to move one animal forward and encourage it into the crush and yoke. The candidate operating the head yoke and timing their actions with the pace of animal and securing the animal in the yoke.

Commentary

The candidate's **handling** performance demonstrated a clear and logical order, considering the animal's welfare when moving the animal into the crush as the candidate timed the application of the yoke with the animal's movements. The candidate showed the ability to work with others by giving clear and concise instructions before starting the task. This ensured the safety of the assistant and the animal. The candidate displayed technically correct use of the **handling** equipment (yoke) to restrain the animal in a smooth and calm way by timing their actions with that of the animal. This was an excellent performance that fully meets the requirement of the task.

Assessor Observation - Task 1a

Task	Qualification number
A full health assessment on one animal	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO2: Health and welfare

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
	Assessor - provided a heifer of 15 months of age, ready for breeding. **Information not given to the candidate - 367kg BCS 3**
• use of techniques to identify and monitor the health and wellbeing of livestock • appropriate handling techniques	The candidate: • observed the animal breathing and audibly counted for 15 secs (candidate set their watch). • opened the side access gate on the crush. • ensured the heifer was still comfortable/calm by placing a hand on the heifer. • felt the spine for the sharpness of the spinous, transverse processes and tail head • carried out a conformation check and included the eyes, mouth, teeth, nose and ears. • checked the heifer's coat/skin. • checked teats and udder • checked the legs and hooves. • checked rear/anus and took temp. The candidate worked through the health check safely and logically; appropriately handling the heifer carefully to carry out the conformation check.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*

Assessor signature	**Date**
Sample Assessor	23/03/23

Commentary

The candidate demonstrated an excellent performance that meets the requirements of the task which was carried out in a clear and logical order – working from the head to the tail. The candidate considered the animal's **welfare** when completing the health check as evidenced by the order and the manner it was undertaken (keeping the animal calm), taking into consideration correct protocols for **health** and hygiene by working from head to tail. Techniques to complete health assessment are **consistently** appropriate as evidenced by the order and extent of the health check including feeling the spine for the sharpness of the spinous, transverse processes etc.

Assessor Observation - Task 1a

Task	Qualification number
Check equipment and weigh an animal	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO3 Handling

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• check equipment for accuracy and weigh cattle using scales • use appropriate techniques to handle and weigh cattle safely	The candidate: • checked equipment by altering the head yoke for the size of the heifer and calibrated the weigh crush by zeroing the crush scale and then placing a known weight sack of 25kg into the weigh crush and checked that the reading was 25kg. • worked logically while weighing the heifer, correctly waited for the indication that the weight had been recorded and correctly noted the weight at 367kg. • handled the heifer taking into account her size and temperament and did not interact or put themselves in the animal's flight path.

Assessor signature	**Date**
Sample Assessor	23/03/23

Photo evidence:

- the scales showing a zero reading
- the equipment being checked for accuracy
- the animal being weighed (with scales showing reading)

The picture(s) will be of the scales showing a zero reading with a clean weigh crush.

The picture(s) will be of the equipment being checked for accuracy with the calibration (25kg) weight on a clean weigh crush.

The picture(s) will be of the animal on a clean weigh crush showing the correct weight in the scale.

Commentary

The candidate demonstrated an excellent **handling** performance that fully meets the requirement of the task, by ensuring that the yoke was set correctly for the size of heifer and ensured that the weigh scales were calibrated to record accurate weight.

The candidate demonstrated an excellent understanding of health and welfare of animals by not engaging in physical contact with the heifer during the weigh process. By ensuring that the yoke fitted correctly the candidate took the initiative to identify and mitigate potential risks of the heifer coming free during the weigh process.

Assessor Observation - Task 1a

Task	Qualification number
Identify one animal using a digital tag reader and apply markings	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO3 Handling

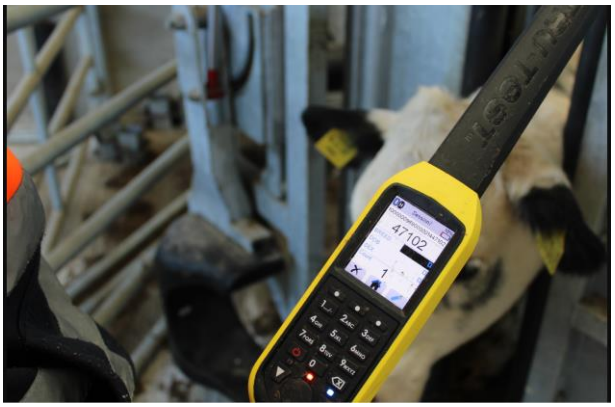
Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• accurate identification of animal (ear tag, freeze brand, collar) • techniques and application of a temporary marking to an animal (tape, wax/ spray marker)	The candidate read the tag identification equipment display panel successfully and noted the ID of the heifer. The candidate placed a mark the size of a 50 pence piece on the animal's rump using spray; the mark could be clearly seen at a distance of 3 metres.

Assessor signature	**Date**
Sample Assessor	23/03/23

Photo evidence:

- use of the digital tag reader



- the applied markings

Commentary

The candidate demonstrated that they were able to position and read a digital tag reader correctly.

The application of the spray marker was of a suitable size – easily seen without wasting product. This was a strong **handling** technique used by the candidate.

This evidence in isolation provides minimal differentiation between grades as the tag must be correctly read in order to support the follow-on tasks.

Assessor Observation - Task 1a

Task	Qualification number
Administer oral treatment to an animal	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO3: Health and welfare

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
safe application of oral treatment to cattle • setting up of treatment equipment • measure treatment with precision • administer an oral treatment	The candidate: • set up equipment correctly by removing the cap from the wormer bottle and attaching the delivery pipe securely and then pumped the applicator to draw the wormer from the bottle down the tube and into the applicator ensuring that the outlet of the applicator was higher than the inlet to expel all the air. • set the applicator correctly for a single dose using the weight of the heifer (367kg) and the product label. • made sure the heifer's mouth was held up at the correct angle using firm but gentle grip of the animal's head and angled the equipment into the animal's mouth correctly. • checked that the animal was securely held before administering the treatment into the heifer's mouth. The heifer was seen to swallow the treatment without any spillage. • released the hold on the heifer's head and let the heifer move on to the resting pen.

Assessor signature	Date
Sample Assessor	23/03/23

Video evidence:

- administer oral treatment – to include setting up of treatment equipment and administering of treatment.

The video shows: The candidate setting up the equipment by removing the cap from the wormer bottle and attaching the delivery pipe securely and then pumping the applicator to draw the wormer from the bottle down the tube and into the applicator. The candidate removes the cap from the wormer bottle and attaches the delivery pipe securely and then pumped the applicator to draw the wormer from the bottle down the tube and into the applicator expelling the air. The candidate setting the applicator for a single dose using the weight of the heifer and the product label. The dose being checked for correctness. The candidate administering the oral treatment to the animal by gripping the heifer's head securely. The candidate administers the dose successfully with no spillage.

Commentary

The candidate demonstrated an excellent performance that fully meets the requirement of the task, using strong technical skills and techniques for preparing, calibrating and priming the dosing equipment to ensure the animal received the correct dose. The candidate demonstrated an excellent understanding of human-animal interaction by applying safe techniques to correctly hold and administer the dose taking into account the **health** and **welfare** of the animal.

Candidate evidence - Medicine treatment record

Candidate's name	**Sample Candidate**	**Enrolment number**	**CG12345**
Task / Activity	**Medicine Treatment Record**	Location	Sample Centre
Assessor's name	Sample Assessment	Date	23/03/23

Name of Veterinary Medicine & Batch No	Date Treatment Started	Date Treatment Finished	Identity of Animal / Group Treated:	Person(s) Administering Medicine	Reason For Treatment & Comments	Total Quantity Used	Withdrawal Period (State Hours / Days)		Date Withdrawal Period Ends
							Meat	Milk	
Albex 10% w/v oral wormer batch no – FGD 12321	06/02/23	06/02/23	UK 0 123456 54301	Sample Candidate	Worm prevention	28ml	14 days	N/A	20/02/23

Commentary

The candidate has comprehensively completed the medicine treatment record with accurate detail to capture the correct information for the medicine used including name of medicine, reason for treatment, quantity used and withdrawal period. The dose has been correctly calculated using the weight of the heifer and rounded up to nearest ml resulting in a correct treatment therefore helping to maintain the animal's **health** and **welfare**.

Task 1b – Husbandry Tasks

Evidence contributes to the following:

Performance outcomes	**Assessment themes**
PO2 Establish conditions for animal breeding	Health and welfare Breeding
PO3 Rear livestock from birth to production standard	Rearing

Evidence	**Assessment themes**	**Candidate producing**	**Assessor producing**	**Included in this GSEM**
health check report	PO2: Health and welfare	√		√
written report	PO2: Health and welfare PO2: Breeding PO3: Rearing	√		√

Candidate evidence - Health Check Report

Candidate's name	Sample Candidate	**Enrolment number**	CG12345
Task / Activity	Health Check report	Location	Sample Centre
Assessor's name	Sample Assessor	Date	23/03/23

Animal ID: UK 0 123456 54301		
Health Check:	**Check Completed (Tick):**	**Comments:**
General condition, head and eyes, ears.	✔	Head upright, interested, eyes bright and clear, ears alert, no sign of illness.
Mouth including teeth	✔	No notable chips in teeth, no gaps in teeth, no sign of illness.
Condition of coat/skin	✔	Coat & skin was smooth and shiny evidence of self-grooming – deemed to be healthy. No signs of abnormal hair loss. No dander, scurf, – sign of parasites. No visible lumps and bumps
Udder and teats	✔	4 main teats seen, no supernumerary teats, no lumps and bumps felt in the udder
Nose, respiration	✔	Nose clear with expected dampness, normal steady and

		even breathing in line with restraint.
Body Condition Score & Weight	✔	BCS around 3, weight 367 kg
Conformation	✔	No abnormalities
Limbs/feet/hooves	✔	Sound on legs, no sign of lameness, hooves show no signs of infection and no overgrowth.
Faeces/Anus	✔	Fairly clean, no sign of digestive upset. No scour seen. Faeces consistent with diet. No sign of effect on production.
Temperature	✔	38.3 C
Respiration	✔	28 resp/min

Commentary

The candidate demonstrated an excellent understanding of the characteristics of livestock that indicate they are ready for stages of breeding production. The candidate displayed a comprehensive understanding resulting in a health check that is detailed and covered relevant checks including mouth, teeth, udder, teats and faeces e.g. by commenting on the condition of the faeces. There are other checks such as behaviour that could have been included in this health check report. Checks are relevant and accurate in condition checking of animal **health and welfare.** Accurate BCS (3) and detail given to demonstrate understanding of a range of issues to look for.

Candidate evidence - Written Report

Breeding suitability report - cattle (word count: 416)

This short report will detail the condition of the heifer and her suitability for breeding. She was checked on 23/03/23 and carries the EID number: UK 0 123456 54301.

EID/passport records show the animal is a Holstein dairy heifer 15 months of age. A typical heifer's birthweight is 40kg. The heifer weighs 367 kg so we can tell that it has gained 327 kg in 15 months (450 days). 327 kg/450 days = 0.72 kg per day of daily live weight gain. This is a normal growth rate for a dairy heifer at this stage in her production cycle. The size was typical of a Holstein dairy heifer at that age.

All aspects of the animal's health have been considered from the health report; no irregularities were found. The heifer was seen to groom herself and a healthy look to the coat; glossy and shine - no rough patches or visible indicators of disease.

Udders and teats were checked for irregularities/conditions. Where irregularities are seen this could impact on productivity and might be an indication of mastitis and could have an effect when lactating.

The heifer was in good condition with no signs of lameness and hooves and legs were in good condition and mobility was good. The importance of observing the hooves and mobility is because lameness could affect the ability for the heifer to get up and eat which would impact on condition and her ability to be fertile and therefore affect the breeding suitability. If she was lame the heifer may not be able to stand for the bull.

The heifer was quiet when moved around and did not show any signs of being aggressive or dangerous to work with, this would show that she had a calm temperament and would therefore be compliant for the bulling and subsequent milking process.

The heifer had a body condition score of 3 placing her in good condition for breeding purposes. Weights ranged from 350 – 401 kg she weighed 367kg, showing good weight. If a heifer is too heavy, then fertility or dystocia may become an issue. A poor body condition would mean she should be given more time before breeding and possibly a supplementary feed to encourage normal ovulation.

The medicine record shows all vaccinations and anthelmintics are up to date. The heifers' vaccination plans will be determined by the herd health plan which includes leptospirosis, Bovine Viral Diarrhoea, Infectious Bovine Rhinotracheitis and TB.

The heifer is ready for breeding based on the information above.

Commentary

The candidate demonstrated an excellent understanding of the characteristics of livestock that indicate they are ready for stages of **rearing** and **breeding** production. The candidate displayed a thorough understanding of the signs of good and poor **health** and **welfare** to assess suitability for livestock rearing and breeding, with observations which included udders and teats, feet/hooves, age, weight, BCS and behaviour. The candidate correctly noted the healthy signs (health, weight, temperament) which a **breeding** animal should display including having a BCS 3 which would be ideal for bulling.

The candidate gave thorough information in the report with detailed justifications for the statements made such as comments around the behaviour displayed by the animal and what this meant to the **breeding** suitability of the animal. The candidate identified that the heifer was suitable for **breeding** by providing detail on animal temperament and physical standing. Accurate terminology is consistently used in the report documentation.

Task 2a – Rearing

Evidence contributes to the following:

Performance outcome	Assessment theme
PO3 Rear livestock from birth to production standard	Rearing

Evidence	Assessment themes	Candidate producing	Assessor producing	Included in this version of GSEM
assessor observations	PO3: Rearing		√	√
photo(s)	PO3: Rearing		√	√

Assessor Observation - Task 2a

Task	Qualification number
Correctly fit a calf jacket and attach a halter	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO3: Rearing

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• correct fitting of a calf jacket (correct fastening, correct length of straps)	The candidate: • placed the jacket over the back of the calf and fastened the chest clips and adjusted it to the calf's size • then fastened the straps and adjusted the straps to allow a hands width (approx. 7cm) • placed their hand between the calf's stomach and the strap • clipped the leg straps and tightened them sufficiently. The calf jacket was attached quickly and efficiently.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• correct attaching of halter (correct direction/ orientation, tightened appropriately)	The candidate: • correctly placed the halter over the head of the calf and adjusted it for a comfortable fit, making sure that the nose band was just below the eyes and the lead rope of the halter was underneath the chin of the calf on its left side. • worked quietly and calmly, with due regard to the welfare of the animal. The calf halter was attached quickly and efficiently.

Assessor signature	**Date**
Sample Assessor	23/03/23

Photo evidence:

Jacket:

Calf with Jacket fitted.

Calf with Jacket fitted.

Halter:

The halter is correctly positioned across the calf's nose away from its eye. The neck loop is close to the calf's poll and the lead rope is being kept low.

Commentary

The candidate demonstrated an excellent performance that fully met the requirements of the **rearing** task, demonstrating strong technical skills and techniques for the fitting of the calf jacket and halter, handling the animal, with minimal discomfort to it.

The candidate demonstrated excellent knowledge relating to the practical task e.g. they fitted the straps to allow the animal to be comfortable whether standing up or lying down. This also feeds into the health and welfare of this animal demonstrated through handling techniques.

The candidate demonstrated excellent ability by fitting the halter to the calf correctly in this **rearing** task by ensuring that the lead rope end of the halter went under the chin and was on the calf's left side which would mean that when the animal was restrained, it would be firmly held but comfortable.

Task 2b – Rearing

Evidence contributes to the following:

Performance outcome	Assessment theme
PO3 Rear livestock from birth to production standard	Rearing

Evidence	Assessment themes	Candidate producing	Assessor producing	Included in this version of GSEM
assessor observations	PO3: Rearing		√	√
video/audio(s)	PO3: Rearing		√	√

Assessor Observation - Task 2b

Task	Qualification number
Catch one sheep from a group	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO3: Rearing

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• appropriate methods used to restrain and catch the sheep with minimum stress to sheep	The candidate: • approached the group calmly and slowly moving towards the selected sheep. • demonstrated a strong awareness of animal flight zone and animal point of balance; just behind the mid-point of the side of the sheep which is the point of balance-. • moved closer to the sheep using this method until the sheep was close to the side of the pen. • then caught the sheep working quickly, holding it securely under the chin and at the flank (correct method) using the right leg to secure the animal with minimal stress to the animal.

Assessor signature	**Date**
Sample Assessor	23/03/23

Video evidence:

- catch a sheep from a group. Video is a separate file: Task 2b - catch one sheep from a group (D) V2

Commentary

The candidate demonstrated an excellent performance that fully met the requirements of the **rearing** task and showed strong technical skills and techniques for catching the sheep and using the correct hold.

The candidate demonstrated an excellent technique used when working with livestock, by placing themselves in the correct position; just behind the mid-point of the side of the sheep which is the point of balance. To move in front of this point will cause the sheep to turn back to be too far back from this point will cause the sheep to escape forwards which is explained above.

The swiftness and dexterity of the candidate showed application of understanding of health and welfare of animals demonstrated through handling techniques.

Assessor Observation - Task 2b

Task	Qualification number
Manually tip and turn a sheep using the correct techniques and check feet to identify if treatment is needed	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO3: Rearing

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• use tip and turn technique correctly, appropriate restraint whilst sheep is turned • observation and handling (checking for heat, parting of hooves, smell, damage, inflammation) of all feet to identify if treatment is needed	The candidate: • demonstrated safe tipping of the sheep through standing beside the sheep and holding the head under the jaw with the left hand and placing the right hand on the flank of the sheep. • correctly placed legs (left knee behind sheep's left shoulder, right knee touching the side of the right hip of the sheep). • used pressure to the flank of the sheep, candidate stepped back and turned the sheep's nose towards its shoulder, resulting in the sheep sitting on its right hip with its back against the candidate's legs. • visually inspected /held each hoof to look for signs of infection. • placed their head to each hoof and sniffed. • safely released the sheep by gently rolling her onto her side, allowing her to get to her feet.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
Question and Answers • What are the signs that indicate that the feet require treatment?	When you observe the sheep, you could see: Lameness - sheep with a foot up or walking with a limp. Nodding head when walking, walking on their knees. When you turn the sheep over you might: Smell foot rot See the hoof coming away and/or pus. See a trapped stone in between the cleats. If a sheep has the following, you could see: Scald – red rub marks, discharge between the cleats. CODD – discharge, sores, hoof wall coming away from the coronary band abscess/ strawberry like lesions. Shelley hoof - overgrown hooves.

Assessor signature	**Date**
Sample Assessor	23/03/23

Video/Audio evidence:

- manually tip and turn a sheep. Video is a separate file: Task 2b - tip and turn sheep (D)
- question and answers. Video is a separate file: Task 2b - Q&A signs feet require treatment AUDIO (D)

Commentary

The candidate demonstrated strong technical skills and techniques for carrying out the husbandry tasks associated with **rearing** by using safe tipping techniques to protect themselves and avoid harm to the sheep.

The candidate displayed excellent technical skills to assess the condition of the sheep hooves. Followed safe working methods in practical tasks by carrying out a thorough inspection of all the hooves and using industry standard practises to check the welfare of sheep. Excellent applied knowledge of hoof disease shown by responding with a range of signed such as CODD, shelly hoof and scald.

Assessor Observation - Task 2b

Task	Qualification number
Age a sheep from its teeth and assess teeth condition	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO3: Rearing

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• correct techniques and identification of presence of broad teeth (incisors)	The animal was restrained safely and securely with the jaw held so that the candidate could count the teeth. The mouth was assessed by pulling back the sheep's lips to expose the teeth. The candidate was thorough in completing this task and showed good dexterity while handling the animal.
Question and Answers • How many broad teeth (incisors) are present?	Correct number of incisors noted - 6 incisors.
• Based on the number of broad teeth (incisors) present, approximately how old is the sheep?	Correct age estimated (3 years)

Assessor signature	Date
Sample Assessor	23/03/23

Audio evidence:

- Question and answers. Audio is a separate file: Task 2b - Q&A ageing a sheep from its teeth AUDIO (D)

Commentary

The candidate demonstrated an excellent understanding of health and welfare, consistently applying safe and welfare orientated techniques when handling livestock by correctly restraining the sheep and holding the lips of the sheep's mouth open. The candidate used excellent skills techniques, identifying the correct number of incisors. This enabled the candidate to age the sheep correctly at 3 years as part of this **rearing** task.

Task 3a – Livestock production

Evidence contributes to the following:

Performance outcome	Assessment theme
PO4 Optimise livestock production	Production/Routine production

Evidence	Assessment themes	Candidate producing	Assessor producing	Included in this version of GSEM
assessor observation	PO4: Production/Routine production		√	√
video(s)	PO4: Production/Routine production		√	√

Assessor Observation - Task 3a

Task	Qualification number
Determine individual body condition score of a group of three animals	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO4: Production/Routine production

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• safe handling of sheep in the appropriate areas to determine BCS	When assessing body condition, the candidate safely handled the loin on all animals, with clear consideration for animal comfort. Handling of the animals was controlled by checking the correct area of the loin. Candidate scored correctly referred to industry standard.
Questions and Answers	
• What is the body condition score for each of the three animals?	Sheep 1: Body score 2.5 (assessor graded 2.5) Sheep 2: Body score 4.5 (assessor graded 4.5) Sheep 3 Body score 3 (assessor grade 3)

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• What is the locomotion score for each of the three animals?	Sheep 1: Score 0 – Sound Sheep 2: Score 0 – Sound Sheep 3 Score 3 – Severely lame
• What visual signs and industry guidance have enabled you to determine the locomotion score for the three animals?	For sheep 1 and 2 there were no signs of lameness For sheep 3 The sheep was lying down a lot and when walking was severely lame in front on its right foot and its moderately lame behind on its hind foot.

Assessor signature	**Date**
Sample Assessor	23/03/23

Video evidence:

- body condition score for three animals. Video is a separate file: Task 3a - body condition scoring three sheep (D)
- locomotion for three animals. Video is a separate file: Task 3a - locomotion scoring three sheep (D)

Commentary

The candidate demonstrated excellent **routine production** skills while working with the sheep to determine the condition score and locomotion score. The candidate correctly handled the sheep through a race when determining the condition score and moved the sheep around the pen quietly to make an accurate assessment of the animals' locomotion. The animals were consistently and correctly scored in both body condition and locomotion with due regard given to animal health and welfare. The candidate was specific and accurate regarding which foot the sheep was lame on and the degree of lameness by pointing out which front foot was severely lame and that the hind feet were moderately lame. The candidate understood and applied all the appropriate techniques and correctly used one of the industry standards when assessing the locomotion.

Task 3b – Livestock production

Evidence contributes to the following:

Performance outcome	Assessment theme
PO4 Optimise livestock production	Transportation

Evidence	Assessment themes	Candidate producing	Assessor producing	Included in this version of GSEM
assessor observations	PO4: Transportation		√	√
video/audio(s)	PO4: Transportation		√	√

Assessor Observation - Task 3b

Task	Qualification number
Visually assess condition of transport for livestock	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO4: Transportation

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• correct checks carried out as part of the visual assessment including roadworthy condition, well-constructed and maintained transport.	The candidate checked the roadworthiness of the towing vehicle and trailer as follows: • tyre condition and pressure • lights and indictors • hitch including brake attachment and lighting cable • the inside of the trailer • the internal partitions • the condition of the ramp.
Question and Answers • What are you checking, and why, regarding the suitability of the transport vehicle and loading facilities?	• tyre condition to ensure the tyre pressure was sufficient – no flat tyres. • the land rover needs to be roadworthy - no accident to be caused to the sheep on board or a third-party vehicle. • the lights and indicators - to be checked with the ignition on (damaged and broken bulbs) to make sure they were undamaged and that the cable was connected.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
	• the hitch point to make sure it was correct and fastened onto the towing vehicle by the brake cable – to be secured as it could be a bad accident if it came off. • the trailer has to be secure as it would cause a bad accident if it wasn't. • it can be quite dangerous if you drive without indicators or lights especially during nighttime. • with the trailer she wanted to make sure there were no sharp edges • the ramp correctly fitted. • the roof and sides were in good condition. • the inside of the trailer had no sharp edges. • the decks and the partitions were secure and correctly fastened. • if transporting off the farm, a movement licence would be needed.

Assessor signature	Date
Sample Assessor	23/03/23

Audio evidence:

- question and answers: Audio is a separate file: Task 3b - Q&A visually assess condition of transport AUDIO (D)

Commentary

The candidate's visual inspection of the trailer and responses to questions showed an excellent understanding of the required preparation of the towing vehicle and trailer **transportation** prior to loading with livestock. The candidate's responses showed how they would mitigate potential risks prior to commencing loading tasks and gave justifications for many of the responses for example the trailer having to be secured onto the towing vehicle by the hook and braking system. The candidate displayed excellent knowledge and understanding of practical and legal requirements for the safe **transportation** of livestock.

Assessor Observation - Task 3b

Task	Qualification number
Visually assess livestock for fitness for travel	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO4: Transportation

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• correct checks carried out as part of the visual assessment to determine fitness for travel.	The candidate went to the group of six sheep and observed them from the outside of the pen initially. The candidate then went into the pen, walked amongst the sheep and continued to check their fitness to travel getting the sheep to stand if they were lying down.
Questions and Answers • What are you checking, and why, regarding the fitness of the livestock for travel? • What actions would you take if you discover one of the animals is unfit for travel?	The candidate confirmed no sheep: • were lame • prolapsed • had visible injuries/cuts • had respiratory diseases e.g., pneumonia • had Orf/Lice/Scab • displayed signs of being close to lambing Any of these conditions could increase the stress on the sheep during travel which could cause them to be very sick or even die. Also, any infectious disease they have can transfer to other sheep during the journey or at point of arrival.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
	If an animal was unfit to travel off the premises, I would not load it in the first place return it in the pen, tell the shepherd and I would amend the movement licence. Candidate stated that the animals were fit to travel.

Assessor signature	**Date**
Sample Assessor	23/03/23

Audio evidence:

- questions and answers: Audio is a separate file: Task 3b - Q&A visually assess condition of transport AUDIO (D)

Commentary

Candidate showed excellent underpinning knowledge when checking the suitability of livestock for **transportation**. They checked the sheep from outside of the pen initially, before entering the pen and making sure all sheep appeared to be healthy, so that welfare was not compromised when being moved.

The explanations given regarding when livestock should not be **transported** were comprehensive. They noted and commented on reasons for not moving animals, this included lameness, no bad cuts, prolapses, respiratory illness such as pneumonia, checking for pregnant ewes close to lambing, lice or sheep scab, and noted travelling could cause stress which could disadvantage their overall welfare.

Assessor Observation - Task 3b

Task	Qualification number
Load and unload livestock onto and off transport	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO4: Transportation

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
	Assessor - provided six sheep
• the appropriate techniques for loading and unloading sheep onto and off transport	**Load** The candidate: • lowered the ramp • opened the side gates of the trailer ramp • brought the sliding door on the left-hand side to the side gate and tied it using twine • checked the trailer partition was open • opened the pen gate and secured it with twine to the pen • walked around to the back the sheep, herding them towards the ramp with vocal encouragement • encouraged the sheep up the ramp and into the trailer swiftly following behind keeping the momentum going • secured the internal partition behind the final sheep • untied the sliding door. • closed ramp gates • lifted and secured the ramp • checked sheep by looking into trailer (safety).

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
	Unload The candidate: • lowered the ramp • opened the ramp gates • tied the right hand gate back to the enclosure gates • tied left hand ramp gate to the enclosure gates • walked inside the trailer • asked the film person to stand back from the flight zone • walked behind the sheep and encouraged the sheep to exit the trailer • followed the sheep into the pen and secured the holding pen gate.

Assessor signature	**Date**
Sample Assessor	23/03/23

Video evidence:

- load livestock onto transport. Video is a separate file: Task 3b - loading livestock onto transport (D)

- unload livestock off transport. Video is a separate file: Task 3b - unloading livestock off of transport (D)

Commentary

Candidate has demonstrated an excellent ability to always use appropriate techniques when handling livestock for **transportation.** All techniques the candidate used were safe, welfare oriented. For example, by fully preparing the gates and trailer to receive the sheep, mitigating potential risks prior to commencing the loading e.g. fully prepared the gates to receive the sheep to reduce chance of escape. When unloading the sheep the candidate was aware of the flight zones and asked the film person to move back so that the sheep could exit the trailer.

Task 3c – Livestock production

Evidence contributes to the following:

Performance outcome	Assessment theme
PO4 Optimise livestock production	Production/routine production

Evidence	Assessment themes	Candidate producing	Assessor producing	Included in this version of GSEM
assessor observation	PO4: Production/ Routine production		√	√
video(s)	PO4: Production/ Routine production		√	√

Assessor Observation - Task 3c

Task	Qualification number
The procedure for milking cattle • Set up milking equipment • Strip and inspect foremilk • Milk livestock • Clean down milking equipment	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO4: Production/routine production

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*

• set up milking equipment
• strip and inspect foremilk and milk livestock
  ○ cleaning udder
  ○ strip and inspect foremilk
  ○ attach clusters and ensure cow is milked correctly
  ○ teat dipping/ spraying
• clean down milking equipment
	The candidate:
	• used the appropriate methods to set up and prepare milking equipment (pipework, filters, valves, taps, controls) having referred to and in line with the protocols provided
	• checked vacuum dial and listened for the pulsation
	• checked the sprays/ dips were functioning
	• checked gates/barriers operation
	• assembled the milk filter and attached it to the pipework
	• let the cows into the parlour
	• cleaned six cows' teats
	• stripped and inspected the foremilk of 2 cows.
	• washed hands up to forearms
	• placed the clusters onto cleaned teats working in a clockwise direction quickly
	• candidate then moved onto the other cows attached the clusters to the cows' teats.
	• Waited for the cows to be milked. The clusters automatically apply the teat dip solution before the clusters were removed.
	• opened the gates and released the cows
	• changed all the relevant controls into the washing position following the protocols.
	• washed the outside of the clusters and the pipeline to remove any dirt.
	• removed, checked and washed the milk line filter.
	• completed the wash process according to the protocols.
	Following the cleaning process, the candidate opened all the taps to ensure that the system was thoroughly drained.

Assessor signature	**Date**
Sample Assessor	23/03/23

Video evidence:

- milk livestock (three cows min.) Video is a separate file: Task 3c - Milking Cows (D)

Commentary

The candidate demonstrated an excellent performance that fully met the requirements of the **routine production** task, demonstrating strong technical skills, techniques and excellent preparation of machinery and equipment to safely undertake tasks for setting up, carrying out and cleaning down in the milk production of livestock to a consistently high standard. By thoroughly checking the equipment and carrying out the task logically and correctly. For example, they checked the gates, cleaned each teat and checked the pulsation.

The candidate demonstrated an excellent understanding of safe working practices with livestock, assessing and mitigating the risk of being injured. The candidate consistently applied safe and welfare orientated techniques when milking livestock by being fully aware and attentive to the task at hand.

Task 3d – Livestock production

Evidence contributes to the following:

Performance outcome	Assessment theme
PO4 Optimise livestock production	Production/routine production

Evidence	Assessment themes	Candidate producing	Assessor producing	Included in this version of GSEM
assessor observations	PO4: Production/ Routine production		√	√
video(s)	PO4: Production/ Routine production		√	√

Assessor Observation - Task 3d

Task	Qualification number
Handle a small group (6-10) of sheep into and through a race	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO4: Production/routine production

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• use of appropriate, welfare friendly handling techniques to move the sheep through the race	The candidate: • set the access gates to the race and handling pens • walked around behind the sheep and moved them towards the race, the sheep responded in a calm manner to the candidate's actions. • vocally encouraged the sheep into the race using steady sweeping hand movements and the sheep entered at their own pace. • secured the race back gate when all the sheep were in the race. • went to the other end of the race and opened the front gate in a controlled manner to allow the sheep to exit at their own pace.

Assessor signature	**Date**
Sample Assessor	23/03/23

Video evidence:

- handle a small group (6-10) of sheep into and through a race. Video is a separate file: Task 3d - handle sheep through a race (D)

Commentary

The candidate demonstrated an excellent performance that fully met the requirement of the **routine production** task by preparing the entrance to the race before bringing the sheep towards it. The animals' welfare was considered throughout the task and safe working practices used indicating a comprehensive understanding. The candidate controlled the movement of the sheep into the race and then through the race in a calm and efficient manner without rushing or causing any distress to the sheep.

Assessor Observation - Task 3d

Task	Qualification number
Crutch or dag **two** sheep	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO4: Production/routine production

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
	Assessor set requirements for keeping the sheep clean – battery electric shears and handpiece provided.
• appropriate handling techniques • appropriate use of equipment • crutching or dagging carried out safely without injury to sheep or candidate	The candidate: • checked the handpiece plugged, the battery into the handpiece and checked and adjusted the tension and oiled the blades. Turned it on and off again to make sure it was working. • ensured that the sheep was restrained in the correct position • correctly dagged the sheep by removing all excess wool and dirt from the tail and around the crutch without causing any injury to the sheep to industry speed and standard - clean and tidy looking sheep in under 1 min 30. • turned off the equipment and placed the hand piece in a safe position. • checked that the dagging had been carried out correctly before releasing the sheep. The candidate: • ensured that the 2nd sheep was restrained in the correct position

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
	• picked up the handpiece and correctly dagged 2nd sheep by removing all excess wool and dirt from the tail and around the crutch without causing any injury to the sheep to industry speed and standard (clean and tidy looking sheep in 1 min 30 secs). • turned off the equipment and placed the hand piece onto a nearby bale. • checked that the dagging had been carried out correctly before releasing the sheep

Assessor signature	Date
Sample Assessor	23/03/23

Video evidence:

- crutch or dag one sheep. Video is a separate file: Task 3d - dag a sheep (D)

Commentary

The candidate demonstrated an excellent performance in routine production skills that fully met the requirement of the **routine production** task by checking the equipment, ensuring the sheep was securely held and carrying out the task efficiently without causing any distress or injury to the sheep. The candidate displayed safe working practices by lubricating the handpiece to ensure effective and safe use.

Assessor Observation - Task 3d

Task	Qualification number
Footbath a small group (6-10) of sheep	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO4: Production/routine production

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• appropriate movement and speed/ or duration of the sheep through/ or in the footbath	The candidate was advised that this is a walkthrough product and the sheep must not remain standing in the product for longer than is necessary. The candidate: • released the sheep from the pen into the race and footbath. • guided the sheep to walk through the solution in the footbath as a single group. • opened the exit gate and released the sheep from the footbath.

Assessor signature	**Date**
Sample Assessor	23/03/23

Video evidence:

- footbath a small group (6-10) of sheep. Video is a separate file: Task 3d - footbath a small group of sheep (D)

Commentary

The candidate demonstrated an excellent performance that fully met the requirement of the task by controlling the movement of the sheep through the footbath, displaying excellent skills/techniques and by not allowing the sheep to stay in the product for longer than was required.

This evidence in isolation provides minimal differentiation between grades, however it supports the candidate's ability to carry out ***routine production*** *tasks for livestock production and are carried out with an understanding of the methods of safe working practices.*

Task 4a – Feeding and accommodation

Evidence contributes to the following:

Performance outcome	Assessment theme
PO3 Rear livestock from birth to production standard	Health and welfare

Evidence	Assessment themes	Candidate producing	Assessor producing	Included in this version of GSEM
assessor observation	PO3: Health and welfare		√	√
video(s)			√	√
photo(s)			√	√

Assessor Observation - Task 4a

Task	Qualification number
Prepare and mix feed for bottle feeding, and feed one animal using a bottle	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO3: Health and welfare

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
	Assessor advised the candidate of the age of the lamb – one week.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• calculation of feed requirements (type and quantity of feed) as appropriate to the requirements of the sheep • preparation and mixing of feed (weighing out milk powder and mixing, removal of lumps in feed, checking temperature) • feeding sheep using a bottle (keep bottle at correct angle to ensure sheep is not taking in excessive air)	The candidate: • read the instructions on the back of the milk powder bag and worked out how much powder was needed to mix up a feed using the age of the lamb (50g milk powder 200mls warm water). • weighed the correct quantity of milk powder for the feed for one lamb at that age. • added the measured amount of powder to the quantity of water needed. • used a whisk to thoroughly mix the artificial milk checking for lumps. • checked using a thermometer, that the temperature of the milk was correct at 39 degrees C. • poured the milk into a bottle and made sure there were no lumps of unmixed milk at the bottom of the bowl. • attached a teat to the bottle. • fed the lamb to appetite, with the bottle correctly positioned to prevent the lamb taking in air.

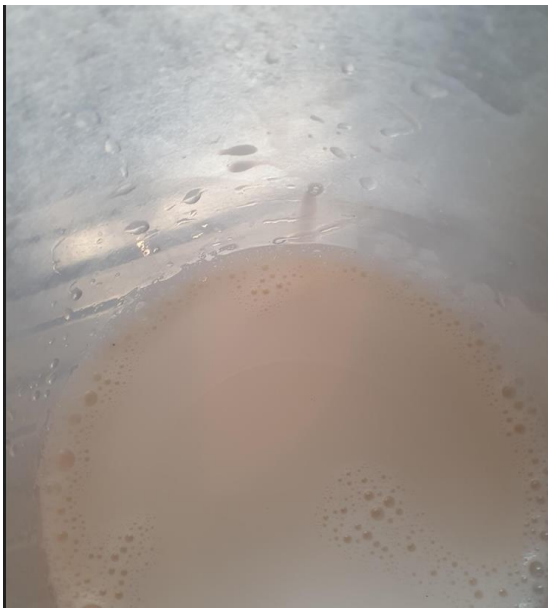
Assessor signature	**Date**
Sample Assessor	23/03/23

Photo evidence:

The preparation of equipment and milk powder

The weigh scales showing powder weight.

Smooth milk in the plastic jug



Milk being poured into the bottle.

Video evidence:

- feed one animal using the bottle. Video is a separate file: Task 4a - feeding a lamb with a bottle (D)

Commentary

The candidate demonstrated an excellent performance that fully met the requirement of the **health and welfare** task, by measuring the milk requirements using the technical information correctly. Efficiently carrying out the routine husbandry task associated with the rearing and production of lambs.

During the feeding the candidate demonstrated excellent skills when preparing the feed and feeding the lamb, by ensuring that the bottle was positioned correctly during the feeding process so the lamb was not taking in air.

Task 4b – Feeding and accommodation

Evidence contributes to the following:

Performance outcome	Assessment theme
PO3 Rear livestock from birth to production standard	Environment and accommodation

Evidence	Assessment themes	Candidate producing	Assessor producing	Included in this version of GSEM
assessor observation	PO3: Environment and accommodation		√	√
photo(s)	PO3: Environment and accommodation		√	√

Assessor Observation - Task 4b

Task	Qualification number
• Prepare indoor accommodation • Measure accommodation to determine stocking densities • Measure available feed and water access	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO3: Environment and accommodation

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
	Assessor has set up the candidate by providing the scenario of: A pen **The candidate is given an area to clean in the pen** • **The pregnant ewes are approximately 65kg to 80kg**
• ensuring environment is safe and free from hazards • use of hygienic techniques and biosecurity (disinfecting pens, foot dips) • use of hand tools (brush, shovel, fork) to prepare accommodation • appropriate use of measuring equipment to determine floor area	The candidate: • collected a fork, brush, shovel and wheelbarrow from outside of the pen and dipped their boots in the foot dip before entering. • used the shovel and brush to pick up and clear debris from the pen. • ran their hands across the enclosure walls checking for any rough/sharp areas. • sprinkled the pen with antibacterial product as per the instructions on the packet. • used the wheelbarrow to collect straw to bed up the pen shook out the wafers with the fork to provide a soft bed. • used a tape measure to measure the size of the pen recording that the pen was 6m by 12m which is 72m squared. (accurate)

Assessor observation	Notes – *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• determine feed and water access	• checked the water trough to ensure that the supply was uninterrupted and clean • used tape measure to determine the available feed barrier area and water access points. • checked access to feed along the barrier and that the gaps in the barrier were suitable for the sheep to feed without escaping by using the measuring tape. • checked the security of the enclosure by making sure the gate fastened correctly.

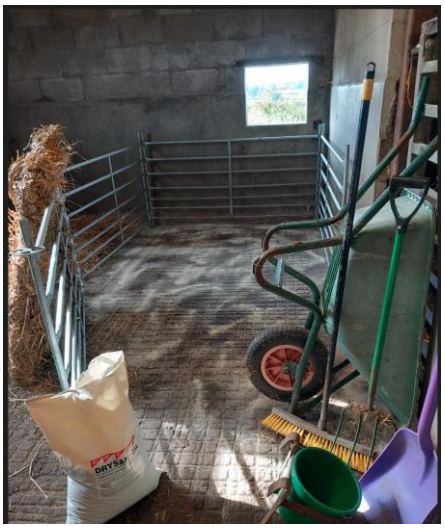
Assessor signature	Date
Sample Assessor	23/03/23

Photo evidence:

- using hygienic techniques (e.g., clean pen)
- applying biosecurity measures

Bio security measures being used on entry to the pen:
(simulated for this GSEM purpose only)

The clean pen with anti-bacterial powder down (even distribution) in prep for adding straw.



Commentary

The candidate demonstrated an excellent performance that fully meets the requirement of the task, using the correct tools and equipment for carrying out the preparation of the indoor **environment and accommodation**.

The candidate gave an excellent demonstration of the need for cleanliness and disease prevention, by using the foot dip prior to commencing the task and utilised all of the tools they had chosen effectively.

The candidate was accurate in the use of the measuring equipment recording and calculating the correct size for the area and used the measure to determine the available feed barrier area and water access points.

The candidate demonstrated an excellent understanding of animal welfare by providing clean dry soft bedding, checking that the supply of water and access to feed (including barrier gaps) was appropriate for the numbers and size of livestock. They checked the surfaces of the pen to make sure that there were no sharp or rough edges which could harm the animals.

Task 4c – Feeding and accommodation

Evidence contributes to the following:

Performance outcome	Assessment theme
PO3 Rear livestock from birth to production standard	Environment and accommodation

Evidence	Assessment themes	Candidate producing	Assessor producing	Included in this version of GSEM
report	PO3: Environment and accommodation	√		√

Candidate evidence - Written Report

Task 4c - **Written report on the suitability of the accommodation, including any relevant calculations.** (word count: 726)

Housing during different production stages is a very common practice that allows farmers to monitor their stock health and wellbeing whilst also allowing them to rest their land during the winter. With sheep enterprises, housing is most likely to occur during the lambing period and occasionally to house young sheep and fattening stock. The sizes of pens provided are important for the health and welfare of the stock and must ensure they meet the following criteria:

- Lowland ewes 1.2-1.4 m^2 floor space per (60-90 kg live weight) ewe during pregnancy
- Hill ewes 1.0-1.2 m^2 floor space (45-65 kg live weight) per ewe during pregnancy

The ewes presented are a mixture: hill ewes (65kg) and lowland ewes (65kg to 80kg)

The measurements of the pen are 6m by 12m which is 72m^2. This space would be sufficient for 55 ewes allowing 1.3m^2 at the average space requirement (72m^2/55 ewes= 1.3m^2).

Pregnant ewes should normally be kept in groups of less than 50, this is because it will make management easier. Lambing sheep are more easily identified and problems such as prolapses, dystocia, lameness can be spotted if they are not over-crowded. Space allowances can be reduced by 10% for sheared sheep, this is due to the sheep having less wool which provides them with more physical space.

Slatted floors can cause injury and so the best environment is clean straw on a solid surface. Deep litter straw beds should be mucked out regularly to ensure health and welfare of stock, and this should be done no less than every 4 weeks (Welfare Code for Sheep, DEFRA).

Feed and water space:

Access to feed and water during pregnancy and lambing period is vital in order to make sure this happens we have ensured there is sufficient feed space.

We feed in troughs and allow, 30cm trough space required for hill sheep and 45cm trough space is required for lowland ewes. This is due to the size difference between breeds and using the correct spacing means there will be less competition and fighting for trough space which prevents injury and ensure all sheep get access to feed. Forage analysis should be carried out to determine the nutritional status of the forage so that rations can be determined according to need.

The water to the pen is via a clean and uninterrupted supply of mains water to troughs mounted on the wall at the ewe's head height to encourage drinking, avoid contamination and to avoid drowning of newborn lambs. During late pregnancy and peak lactation, housed ewes are at risk of heat stress and so water is vital for life. I would suggest having at least two troughs for

this but there is room for adding more based on the size of the pen and the number of ewes. Water access should be monitored to ensure the ewes are getting enough.

Building suitability:

The building is well ventilated and has Yorkshire boarding and an open ridge to encourage air movement and to help prevent heat stress and pneumonia, both of which can increase costs for medications or dead stock removal and decreased productivity might be seen through decreased fertility, growth, and condition.

Our building also contains handling facilities which include a collection pen, curved forcing pen and race with a squeeze clamp, to facilitate ease of handling.

There are metal gates/hurdles which are superior to wooden gates/hurdles as they can be cleaned to prevent disease spreading and will also last longer. All gates/hurdles/pens have been checked for sharp edges prior to use to prevent any accidents.

We have CCTV installed for security purposes and for monitoring livestock behaviour whilst they are housed, and this can also be used to ensure stock is secure by helping to reduce the risk of theft.

This building complies with the five freedoms as follows:

1. freedom from hunger and thirst - by ready access to fresh water and a diet to maintain full health and vigour.

2. freedom from discomfort - by providing an appropriate environment including shelter and a comfortable resting area.

3. freedom from pain, injury or disease - by prevention or rapid diagnosis and treatment.

4. freedom to express normal behaviour - by providing sufficient space, proper facilities and company of the animals' own kind.

5. freedom from fear and distress - by ensuring conditions and treatment to avoid mental suffering

Commentary

The candidate produced a comprehensive report that covered all the elements required for this **environment and accommodation** task to an excellent standard. They used accurate technical terminology, and their knowledge recall was detailed and provided clear justification for the proposed specifications. for a mixture of ewe breeds. Measurements and calculations given are accurate for the livestock breeds, feeding area and water supply requirements. Principles and requirements of environment design, accommodation and its

suitability for the specified livestock have been correctly linked to best practice e.g., when describing welfare and feeding requirements, linking to the five freedom requirements.

Task 5a – Crop production

Evidence contributes to the following:

Performance outcome	Assessment theme
PO3 Rear livestock from birth to production standard	Crop

Evidence	Assessment themes	Candidate producing	Assessor producing	Included in this version of GSEM
assessor observation	PO3: Crop		√	√
photo(s)			√	√

Assessor Observation - Task 5a

Task	Qualification number
Take and test a soil sample for pH	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO3: Crop

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

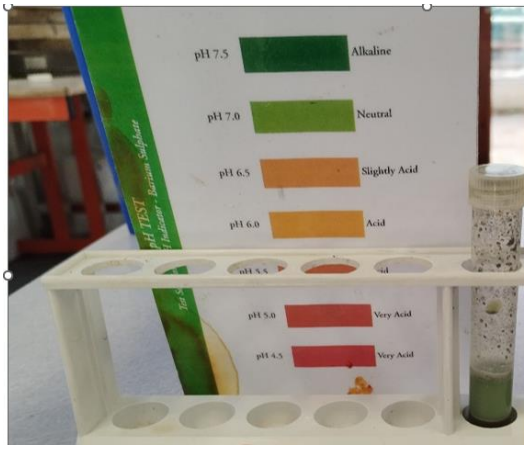
Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• appropriate techniques used to take a representative soil sample (Depth, W pattern, areas to avoid, suitable timing) • testing a soil sample to identify the pH	The soil sample for pH testing was collected using a soil sampling spear. The spear was checked for cleanliness prior to use and inserted at the appropriate depth for the crop being sampled. Ten individual samples were collected by walking in a 'W' shape across the field, avoiding any areas that were not representative of the field. The samples were grouped into a clean plastic bucket and thoroughly mixed. The pH test was conducted using an industry standard pH testing kit. All kit components were checked and cleaned before starting the test. The test was conducted according to the instructions with great care and accuracy. The sample was left for the prescribed amount of time before being carefully assessed against the colour chart. The test result was pH 7 - neutral.

Assessor signature	**Date**
Sample Assessor	23/03/23

Photo evidence:

- collecting the sample

pH test:



Commentary

The candidate demonstrated an excellent performance that fully meets the requirement of carrying out the soil sample and pH test in this **crop** task. The methods used demonstrated strong technical skills and techniques with accurate measurements and a clear regard for the need to avoid cross contamination and maintain cleanliness.

The candidate avoided areas of the field that were not representative which might have given a false reading.

Prior to the pH testing, the candidate mitigated potential risks and consistently applied comprehensive control measures during the tasks which allowed safe and efficient working for example, during the pH testing, the candidate took care in ensuring that the reagents were in contact with the sample for the correct amount of time so that an accurate reading could be taken.

Task 5b – Crop production

Evidence contributes to the following:

Performance outcome	Assessment theme
PO3 Rear livestock from birth to production standard	Crop

Evidence	Assessment themes	Candidate producing	Assessor producing	Included in this version of GSEM
proforma with images	PO3: Crop	√		√
written report	PO3: Crop	√		√

Candidate evidence - Proforma with images

Fig 6: Plant identification (for use with task 5b)

Candidate's name	**Sample Candidate**	**Enrolment number**	**CG12345**
Task / Activity	Plant identification	Location	Sample Centre
Assessor's name	Sample assessor	Date	23/03/23

Ref:	Image:	Common Name:
Grass 1		Perennial ryegrass

Ref:	Image:	Common Name:
Grass 2		Timothy

Ref:	Image:	Common Name:
Legume 1		Red clover

Ref:	Image:	Common Name:
Legume 2		White clover

Ref:	Image:	Common Name:
Forage 1		Stubble turnip
Ref:	Image:	Common Name:
Forage 2		Fodder beet

Ref:	Image:	Common Name:
Weed 1		Creeping thistle

Ref:	Image:	Common Name:
Weed 2		Broad leaved dock

Ref:	Image:	Common Name:
Weed 3		Stinging Nettle

Candidate evidence - Written Report

Potential impact of invasive plants on livestock (word count: 618)

There are several invasive plants which will impact on grazing livestock. The most likely of these are, Japanese Knotweed, Giant Hogweed, Himalayan Balsam, Horsetail and Ragwort. These plants will cause many issues for farmers to deal with.

Ragwort can sometimes be found in grassland and is poisonous to livestock. While the plant is alive and growing it is unpalatable and livestock will ignore it. If Ragwort is sprayed or cut and starts to die, it then becomes more palatable but is still poisonous and can cause cirrhosis of the liver. It is very harmful to livestock in this state and should be removed by hand rogueing and then incinerated. The grazing area available for the livestock will be reduced because the plant is very competitive. It is also a legal requirement to control the plant and if this not complied with fines could be imposed. There are also associated costs with controlling the plant for example labour costs when the plant must be manually removed.

Japanese Knotweed is one of the most destructive invasive plant species in the UK. There are laws governing how it must be dealt with. Japanese Knotweed can find its way onto your farm. This plant is difficult to manage because it sprouts large amounts of rhizomes in the soil. If left untreated and it becomes strong, it can undermine building foundations and require many structural repairs and legal costs. The removal of Japanese Knotweed is, usually with a pesticide and then the whole plant is removed by a specialist waste disposal contractor to avoid it spreading to other parts of the farm or to neighbours. The required method of control as outlined above will cause additional costs to the farmer and require the removal of livestock from the affected area.

Giant Hogweed looks like Cow Parsley but is a lot larger. The plant can be found in areas of land which are often wet such as bogs, fens, grassland, woodland and in agricultural or horticultural areas. This plant is highly competitive over native plants, it competes for space and resources by shading out native and other grazing plants. In the summer high infestations can cause footpaths to be impassable. The plant is harmful to human health as it produces sap that causes severe burns which may blister in the sun and these symptoms can continue to affect the skin for many years after the initial burn.

Himalayan Balsam is able to grow in a wide range of soil conditions and is mainly found on riverbanks, ditches, wet meadows and waste ground. The plant will grow densely and will dominate native grasses. It germinates and sets seeds before dying in the same year. To eradicate the plant, it is best to stop the plant's seed bank producing new plants. The control and clearance should be done by cutting the stems below the lowest node to avoid the plants sprouting new growth between June and October. It is important when disposing of the plant that care is taken to avoid spreading the seed heads and causing the plant to spread to agricultural land grazed by livestock.

Horsetail, sometimes called Marestail, is a very invasive and deep-rooted perennial weed growing to about 50cm tall. The underground stems are very fast growing, and the plant produces lots of foliage. This plant will compete quite aggressively with other grasses and take over from them therefore reducing the amount of grazing available for livestock.

To control the weed, it is necessary to dig out the rhizomes and to make sure all roots are removed. Chemical control of this weed is difficult as Glyphosate is not fully effective but once applied, livestock would have to be excluded from the area.

Commentary

The candidate has correctly and fully identified several invasive plants seen for this crop task. The information supplied has included the identification of each plant and the impact that the plants have on agriculture, and how to control them. The candidate has correctly and fully identified the images on the proforma. All correct full names are given.

There is excellent detail indicating the reasons why the plants must be controlled. The candidate has included the fact that the plants are very competitive and therefore reduce the available grazing area. Where the plant can cause harm to the livestock through either being toxic or by causing injury this information has been included.

The impact of legislative requirements has been explained along with the requirement to control the plants. The candidate showed excellent understanding of the impact of invasive plants and has also covered the various cost implications relating to their control either by physical or chemical means which would cause extended grazing intervals.

Task 5c – Crop production

Evidence contributes to the following:

Performance outcome	Assessment theme
PO3 Rear livestock from birth to production standard	Crop

Evidence	Assessment themes	Candidate producing	Assessor producing	Included in this version of GSEM
written report - grass ley	PO3: Crop	√		√
written report - cereal crop	PO3: Crop	√		√

Candidate evidence - Written Report

Written plan for establishing a new grass ley in a field for grazing sheep and conservation. (word count: 586)

The field consists of a medium loam soil type and the previous crop was Winter barley which was harvested in mid-July; the straw was baled and removed. The tramlines in previous crop were sub-soiled to break up any possible compaction caused by repeated machinery operations. The stubble would be cultivated at a depth of approx. 100cm and rolled to retain the moisture and to help provide a firm seed bed which is required for clover. The soil would be left to allow for any germination of volunteers from the previous crop plus any other weeds. After germination occurred a non-selective herbicide e.g., glyphosate would be used to control the volunteer cereals and any other emerged weeds.

The chosen mix for the grass ley is 23.75kgs/ha of a mixture of intermediate and late flowering Perennial rye grass, 5kgs/ha of Timothy and 1.25kgs/ha of White clover; this gives a total seed rate of 30kgs/ha. This mix is ideal for silage, hay or grazing, will last for about 5 years, and is suitable for most soil types. The new ley could be managed in several ways, for example if the grass was well established in the autumn and the ground was firm then the sheep could graze the ley and encourage it to tiller. The sheep would then be taken off the field to allow it to grow and a crop of silage taken off in the following May.

Alternately if the autumn was wet and there was a risk of the sheep poaching the ground, then the grass could be left to grow through to the spring. The grass could be left to fully flower and cut for hay in June/July. In either case, grass should then be given a recovery period of 3-5 weeks before the sheep are allowed to graze. There would also need to be a similar rest period between each grazing.

In terms of nutrients, the crop should receive no more than 60kg/ha Nitrogen in March or April and then a top up of about 30kg/ha Nitrogen after silage conservation. If the hay was cut in mid to late July this additional Nitrogen may not be required, however the sward would be monitored, and a decision made at the time. Approximately 150g/ha of Nitrogen would be supplied by the White clover in the sward which would be sufficient in subsequent years.

The weather forecast must be considered as the newly sown seeds are being drilled into a dry, friable, and firm seedbed, so ideally rain will be required soon after drilling. The grass seed is drilled between 10mm and 20mm deep with an air drill which has following tines to cover the sown seeds. The sown crop will firstly be ring rolled to break up any clods, followed by a flat roll to compact the soil around the smaller clover seeds, to retain moisture and provide a flat surface. In the spring the grass should be harrowed and then rolled in preparation for mowing.

Once the seeds have germinated it will be necessary to control any weeds which are present to allow the grass/clover to become well established. Due to White clover being used in the

ley it would not be practical to apply a post emergent herbicide, but rather to graze with sheep during the autumn and winter to supress the weeds.

Written or electronic field records would be kept for any fertiliser and pesticides used. It would be best that these records are kept up to date continually throughout the process.

Candidate evidence - Written Report

Written plan for establishing a cereal crop, in a field, which will be harvested for the grain and straw. (word count: 515)

The field consists of a medium loam soil type and the previous crop was forage maize, which was harvested in early October. Due to the wheelings left by the harvesting machinery and the amount of maize stubble left standing. it was decided to plough the field; this would bury the trash and help to level any ruts in the ground. A maize crop tends to clean the ground so there would be very few weeds to be controlled.

To establish the wheat, if possible before late October, it would be necessary to start cultivations straight away after the maize harvest. The field would be cultivated using either a power harrow with a press or a one pass cultivator fitted with a rear crumbler roller. For germination to be successful and for any pre-emergence herbicides to be applied, the established seedbed needs to be moist and friable and without any large clods. The wheat will be drilled using an air drill at a depth of 20-40mm with following tines and then ring rolled to provide sufficient compaction.

The farm has a six-year rotation of Maize followed by Winter wheat then Winter barley and a two-year grass ley followed by Winter wheat again and finally back to Maize.

The wheat variety chosen for this cropping is Skyfall and the aim is to sell the wheat for milling bread flour if possible but if not, then biscuit quality. The straw would be baled into mini Heston bales and used on the farm as bedding for livestock. The wheat would be sown at a seed rate of about 150kg/ha dependant on Thousand Grain Weight if drilling was completed by 10th of October. If the sowing date was delayed, then this would need to be increased up to possibly 200kg/ha for drilling into November.

Aiming for an average yield of 8 tonnes/ha the total fertilizer required would be a combination of 55kg/ha Phosphate, 80kg/ha Potash applied in the seedbed and 250kg/ha Nitrogen split with 50kg applied mid-end Feb, 80kg/ha applied early April, 80kg/ha applied end of April and 40kg/ha applied as a folia urea spray at milky ripe stage to boost grain protein for the Milling wheat. Sulphur would also be applied at a rate of 40kg/ha in a compound with the Nitrogen in a split dose with early and late April applications. Fertiliser use, particularly Nitrogen, is higher due to the choice of growing a milling wheat.

The pre-emergent herbicide used would be Stomp (pendimethalin) for grass weeds and Hurricane (diflufenican) for control of broad-leaved weeds. It would be necessary to check for slug activity post drilling and if the threshold was reached, then the required application of Sluxx (ferric phosphate) would be applied for an effective control of the slugs.

Written or electronic field records would be kept for fertiliser and pesticides used. It would be best that these records are kept up to date continually throughout the process.

The required records would be: - Seed label including lot number and dressing, Nitrogen, Phosphate and Potash Fertilizer use, Pesticide records for pre-emergence herbicides and slug pellets if required.

Commentary

The candidate has prepared two reports which display their excellent understanding of **crop** preparation and rotation. The candidate has done this by providing detailed information concerning the preparation of the seed bed, quantities of seed, fertilizer and pesticides accurately listed and has chosen excellent application times. There is information relating to the need for increased sowing rates due to late drilling. The candidate has read the instructions for the reports and followed through with clear intent. The use of technical information about the **crop** rotation shows a detailed understanding of the importance of **crop** rotations to suppress weeds and maintain expected yields.

Task 6 – Machinery and equipment

Evidence contributes to the following:

Performance outcome	Assessment theme
PO4 Optimise livestock production	Machinery and equipment

Evidence	Assessment themes	Candidate producing	Assessor producing	Included in this version of GSEM
pre-Use Checklist	PO4: Machinery and equipment	√		√
assessor observations	PO4: Machinery and equipment		√	√
video(s)	PO4: Machinery and equipment		√	√
photo(s)	PO4: Machinery and equipment		√	√

Candidate evidence - Pre-Use Checklist

Candidate's name	Sample Candidate	**Enrolment number**	CG12345
Task / Activity	Pre-Use Checklist	Location	Sample Centre
Assessor's name	Sample Assessor	Date	23/03/23

Agricultural Tractor

Pre-Use Check:	Check Completed (Tick):
Fuel level checked	✓
Coolant level checked	✓
Engine oil level checked	✓
Hydraulic, back axle oil levels checked	✓
Horn	✓
Front, rear, and work lights working	✓
Direction indicators clean, undamaged and working	✓
Cab glass clean and undamaged	✓
Screen wipers working and washer fluid checked	✓
Mirrors clean and undamaged	✓

Operator presence controls	✓
Visual checks that wheel nuts are secure	✓
Visual checks to tyre pressures	✓
Tyres free from damage and excessive wear	✓
Lubrication sites identified	✓
Check for absence of oil leaks	✓
Battery isolation devices working	✓
Park brake working	✓

Tractor Mounted Front-End Loader

Pre-Use Check:	**Check Completed (Tick):**
Loader attachment pins	✓
Hydraulic pipes	✓
Couplings	✓
Lubrication points	✓

Loader controls	✓

Remember to check in the operator's manual as to how often to carry out checks, and if anything is wrong with the tractor or front-end loader, report it to your supervisor.

Commentary

The candidate completed an excellent, detailed pre use check list covering both the tractor and the loader. thorough checks are included as would be expected when completing a pre-use check for **machinery and equipment**.

The **machinery and equipment** checks include all tractor fluids plus lights, direction indicators and wheels. Visibility checks have also been completed. Safety aspects were completed for the brakes, and operator presence controls have also been checked**.**

The loader was thoroughly checked including lubrication requirements.

The completed pre use check list shows that the candidate has a thorough understanding of the checks which are required prior to using tractor and loader **machinery and equipment**.

Assessor Observation - Task 6

Task	Qualification number
Use mechanical equipment to load and unload **four** large bales of forage or straw on and off a trailer	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO4: Machinery and equipment

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• optimum use of available area • safe use of mechanical equipment • smooth operation of controls • loads placed in specified positions • tractor left in a safe position after use • all round observations throughout	The candidate: - • climbed into the loader tractor facing forwards using the hand holds and the steps, attached the seat belt, completed all round visual safety checks, started the tractor up and lifted the loader forks off the ground. • engaged gear and released the park brake, the candidate kept the loader close to the ground during travel and only raised it up when spiking the bale to pick it up and put it on the trailer. Repeated another 3 times. • loaded 4 large square bales onto the trailer, 2 onto each side working from the front towards the back to keep the trailer level. • successfully spiked the bales off the trailer, checked all round before reversing away from the trailer and kept the bales low to the ground when placing them in the building. • maintained all round observation throughout the task and operated all the controls smoothly and safely. • kept the tractor movements precise and made best use of the available space. • parked the tractor in a safe position placing all the controls in neutral, applying the park brake, lowering the loader, stopping the tractor, and removing the key. • stepped down from the tractor facing inwards and using the handholds and the steps. • gave the assessor the tractor ignition key.

Assessor signature	Date
Sample Assessor	23/03/23

Video evidence:

- use mechanical equipment to load and unload **one** large bale of forage or straw on to a trailer.
    - loading. Video is a separate file: Task 6 - load one large bale (D)
    - unloading**.** Video is a separate file: Task 6 - unload one large bale (D)

Commentary

The candidate completed an excellent performance to show the safe and efficient operation of a loader tractor. The candidate's actions clearly showed adherence to health and safety legislation and regulations within this task for **machinery and equipment**.

All observational safety checks were completed prior to movement and the loader was operated with care and attention for example, the candidate ensured that the loader remained low whenever possible to maintain stability.

Precise movements were used which avoided unnecessary travel and wasted time, the candidate used all round observation at all times.

The bale was loaded onto the centre of the trailer to maintain a balanced load. The bales were removed from the trailer without issue and placed back in the building at the end of the task.

The candidate used Safe Stop procedure when the tractor was parked.

Assessor Observation - Task 6

Task	Qualification number
Hitch a trailer to a tractor and reverse the tractor and a trailer into a confined area	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO4: Machinery and equipment

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• tractor aligned with trailer • correct and safe use of hitching mechanism • accurate manoeuvring when reversing into a confined area • smooth operation of controls • tractor left in a safe position after use • all round observations throughout	The candidate: - • climbed into the tractor facing forwards using the hand holds and the steps, completed all round observation checks, started the tractor up. • engaged reverse gear and released the park brake, aligned the tractor to the trailer and reversed to within about a metre of the trailer ring hitch. • operated the hydraulic controls, released the pickup hook and lowered it to sit just above the ground. • reversed up to the trailer until the hook was directly underneath the trailer ring hitch. • operated the hydraulics to raise the hook up until it clicked into place and then lowered the hydraulics to ensure the weight of the trailer was being carried by the pick-up hook latch and not the hydraulics. • completed safe stop, stepped down from the cab facing inwards, connected the trailer brakes and lights and disengaged the trailer park brake. • climbed back into the tractor facing forwards using the hand holds and the steps • started and operated the tractor and trailer smoothly forwards and in reverse, accurately reversing into the prescribed confined area at the first attempt.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
	• parked the trailer as instructed, correctly dismounted the tractor facing inwards, applied the trailer park brake, disconnected the trailer brakes and the light cable. • climbed back into the cab, started the tractor and raised the hydraulics, released the pickup hitch hook, the trailer drawbar was lowered to the ground to rest on its shoe. • moved the tractor pick up hitch clear of the trailer, raised the hydraulics to secure the hitch, then lowered them to ensure the hydraulics were not under strain. • maintained all round observation throughout the task and operated all the controls smoothly and safely. • left the tractor in a safe position placed all the controls in neutral, applied the park brake, stopped the tractor and removed the key. • stepped down from the tractor facing inwards and used the handholds and the steps. • gave the assessor the tractor ignition key

Assessor signature	Date
Sample Assessor	23/03/23

Video evidence:

- reversing the tractor into a confined area. Video is a separate file: Task 6 - reverse tractor confined area (D)

Photo evidence:

- trailer hitched to tractor.

1. Trailer park brake is on

2. Tractor correctly aligned to trailer

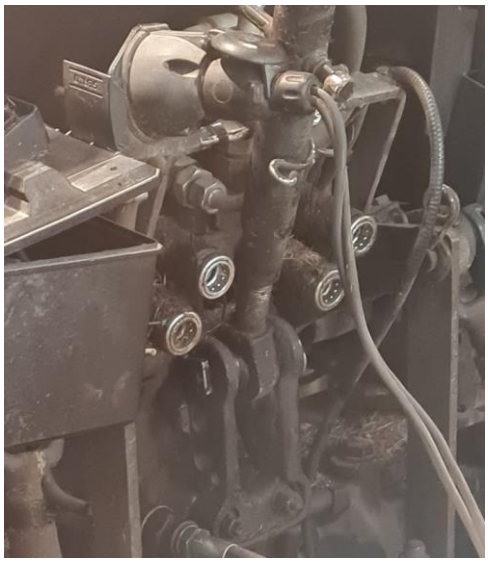
3. the hook lowered to just above the ground in preparation to go under the trailer drawbar ring

4. The tractor is reversed so that the hook is under the ring

5. The pickup hitch is raised and locked into position under the ring

6. Hydraulic arms lowered

7. Brake pipe and trailer lights connected



8. Park brake off

Commentary

The candidate displayed excellent preparation of **machinery and equipment** to safely undertake the task, applying detailed control measures.

The candidate showed excellent accuracy by reversing up to the trailer and hitching up at the first attempt. They operated the pick-up hitch correctly and once it had locked into place; they lowered the hydraulics to take the pressure off the system. The brakes and lights were connected.

The trailer was reversed into a confined space correctly at the first attempt. The tractor controls were operated smoothly throughout with the candidate ensuring all round observation.

The trailer was parked in the agreed place and the tractor was parked safely with Safe Stop being observed.

Assessor Observation - Task 6

Task	Qualification number
Operate a diet feeder to feed livestock	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO4: Machinery and equipment

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• correct use and smooth operation of controls • accurate driving and even distribution of feed • tractor left in a safe position after use • all round observations throughout	The candidate: • used smooth operation to accurately line up the tractor and diet feeder to the feed barrier. • adjusted the forward speed of the tractor to obtain an even feed distribution. • drove the tractor accurately, maintained the correct distance and speed to obtain an even spread of feed along the feed barrier, maintained all round observations throughout. • parked the tractor and diet feeder in a safe place ensuring safe stop was implemented.

Assessor signature	**Date**
Sample Assessor	23/03/23

Video evidence:

- operate a diet feeder to feed livestock. Video is a separate file: Task 6 - operate a diet feeder (D)

Commentary

The candidate completed an excellent operation of **machinery and equipment** using the diet feeder, showing an excellent understanding of the requirements to enable a smooth and consistent feed distribution. For example, the candidate the candidate lined up the tractor and diet feeder accurately to maintain an even feed distribution. All round observation was maintained and at the end of the process the tractor and machine were parked correctly, and Safe Stop was implemented.

Task 7a – Estate maintenance

Evidence contributes to the following:

Performance outcome	Assessment themes
PO5 Maintain all areas of the livestock production environment	Health and safety Plan boundary maintenance

Evidence	Assessment themes	Candidate producing	Assessor producing	Included in this version of GSEM
written report	PO5: Health and safety PO5: Plan boundary maintenance	√		√

Candidate evidence - Written Report with diagram **(word count: 641)**

Task 7a) Plan a permanent stock proof boundary.

Fence repair

The new fence installation on a level site will consist of stock netting and two strands of barbed wire, to ensure that the fence is sheep proof. The stock netting and barbed wire will be attached on the inner side of the boundary (livestock side) because the stock will push from that side.

Materials and specification

The first strand of barbed wire will be positioned close to the top of the stock netting (50mm above) to prevent the sheep pushing their heads through the gap.

The top strand of barbed wire provides additional height to the fence and will be positioned 100mm above the lower strand of barbed wire and 50mm down from the top of the post. This will prevent the top of the post from splitting when the staples are inserted.

An alternative would be to position the stock netting at a higher level and install one of the strands of barbed wire below. This would be more appropriate for smaller breeds of sheep.

Barbed staples will be used to attach the stock netting and barbed wire. These will have better retention than non-barbed staples. Full tub provides more stock than required. The excess will be stored for future tasks.

The following materials will be required for the installation (all prices excluding VAT):

Item:	Quantity:	Price Each:	Total Price:
Straining post	3	£30.81	£92.43
Strut	4	£8.00	£32.00
Intermediate post	65	£4.10	£266.50
Stock netting (100m roll)	2	£76.67	£153.34
Barbed wire (200m roll)	2	£27.43	£54.86
Staples (20kg tub)	4kg	£40.00	£8.00
		Total:	**£576.13**

The specification for the materials is provided on the plan on the next page.

Environmental considerations, legislation and codes of practice

Prior to installation a full site survey will be carried out to ensure that there are no public rights of way that will be obstructed by the fence. If a public right of way is on the site, the type of right of way will be identified (e.g., footpath, bridleway) and the national legislation regarding the right of way will be adhered to. If this is not adhered to the business could face prosecution, fines and other penalties.

Any equipment used for fence installation will be thoroughly checked prior to use to ensure safety and suitability for the task. Any defective equipment will be reported and repaired or replaced prior to use. If this does not happen then this could result in an accident or injury which could lead to prosecution, fines and other penalties.

Wooden fencing posts will be purchased from sustainable sources. Suppliers will have Forest Stewardship Council (FSC) certification. If the supplier does not have FSC certification it could mean that the wood supply is not of a sustainable type and they are not replanting which is an ethical issue for the business.

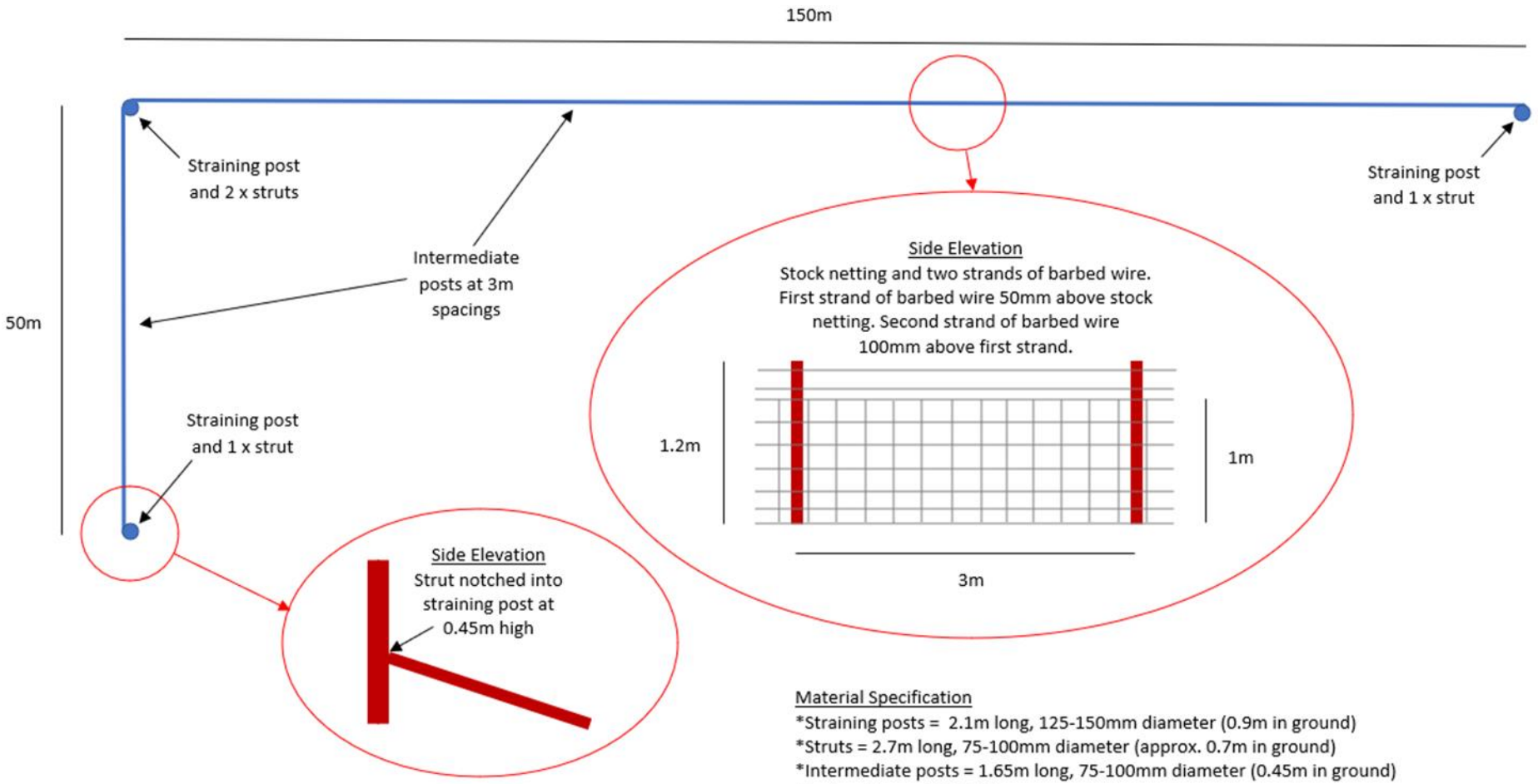
The wooden posts are pressure treated with a preservative to ensure longevity. The pressure treatment would be completed by the manufacturer. This would reduce the need to replace posts on a more regular basis so the posts should last longer.

The following items of waste will arise from the fence installation:

- metal stock netting/barbed wire offcuts and tape banding clips. These will be stored safely pending disposal and disposed of as scrap metal via a licensed commercial waste disposal contractor.
- plastic tape banding used to bind bundles of posts. These will be stored safely pending disposal and disposed of via a licensed commercial waste disposal contractor.
- wood offcuts from notching strainers. As the fencing posts are pressure treated with preservative chemicals the waste offcuts must be managed according to hazardous or controlled waste regulations (manufacturer to advise). They may need to be disposed of via a licensed hazardous waste disposal contractor.

In all cases of waste disposal, a copy of the waste transfer documentation must be retained as evidence of the legal transfer of waste.

Plan a permanent stock proof boundary



Material Specification

*Straining posts = 2.1m long, 125-150mm diameter (0.9m in ground)
*Struts = 2.7m long, 75-100mm diameter (approx. 0.7m in ground)
*Intermediate posts = 1.65m long, 75-100mm diameter (0.45m in ground)
Stock netting = C8/80/15
Barbed wire = 2mm wire gauge
Staples = 40mm barbed

*Posts pressure treated with preservative

Commentary

The candidate used detailed, relevant knowledge and understanding of **planning boundary maintenance** to create a plan for a high-quality fence replacement.

The candidate's comprehensive plan includes justifications for their approach, such as the correct spacing of wire and netting to prevent the sheep getting their head through and positioning the staples away from the top of the post to avoid splitting.

All the requirements of the fence have been considered so the materials are appropriate to the brief, and the quantities and costs are accurately calculated or estimated (the quantity of staples), meeting the estate's requirements.

The plan is clearly communicated through the report and accompanying annotated diagram, with accurate use of technical terminology e.g., strands of barbed wire, and strut notching. The diagram shows strong understanding of the techniques used to maintain a fence, such as the strut notching to enable tensioning of the wires.

The candidate correctly cited the need to check for rights of way, and accurately considered the environmental impact of sourcing and protecting the posts with preservative. The candidate has clearly considered malpractices appropriate to the task which include ethical, illegal and inefficient malpractices e.g. the risk of prosecution etc for non-compliance with legislation.

Task 7b – Estate maintenance

Evidence contributes to the following:

Performance outcome	Assessment themes
PO5 Maintain all areas of the livestock production environment	Health and safety Carry out boundary maintenance

Evidence	Assessment themes	Candidate producing	Assessor producing	Included in this version of GSEM
risk assessment	PO5: Health and safety	√		√
assessor observations	PO5: Carry out boundary maintenance		√	√
photo(s)	PO5: Carry out boundary maintenance		√	√

Candidate evidence - Risk assessment

Fig 4: Risk Assessment (for use with task 1a and task 7b)

Candidate's name	**Sample Candidate**	**Enrolment number**	**CG12345**
Task / Activity	Boundary maintenance	Location	Sample Centre
Assessor's name	Sample assessor	Date	23/03/2023

Item no.	What are the hazards?	Who might be harmed and how?	What precautions are already in place?	Risk rating (High / Medium / Low)	What further action is necessary?	Action by who and when?	Final risk rating (High / Medium / Low / Trivial)
1	Uneven Ground	Candidates - slips and trips	The grass along the line of the fence has been cut to help identify any trip hazards.	Medium	Filling in holes with soil, removal of any stones to conform with Health and Safety at Work Act.	Candidates – ongoing	Low
2	Lifting items of unknown weight	Candidates - muscular skeletal injuries	Manual handling training as required Manual handling Operations regulations	Medium	Candidate to identify when two people are required or there is an option to use a mechanical aid	Candidates - ongoing	Low
3	Post knocking equipment	Candidates - Impact injury.	Full training given to ensure safe and correct operation of equipment	Medium	Ensure clear communication between machine operator and helper. Ensure full PPE is used, including hard hat.	Candidates - ongoing	Low
4	Barbed wire straining	Candidates - cuts and possible wire whipping	Use of approved wire strainers, gloves and eye protection	Medium	Avoid over tensioning the wire	Candidates – during use of the wire straining equipment	Low

5	Stapling netting and barbed wire	Candidates - flying staples, impact from hammer, cuts from barbed wire	Checks made on hammer head and shaft fitting. Use of gloves and eye protection	Medium	Hold the staples firmly and tap carefully with the hammer maintaining control of the hammer	Candidates - ongoing	Low
6	Tractor and trailer	Candidate - in the way being hit by tractor	Keep at a safe distance	Medium	Hi-Viz jacket	Candidate – prior to starting	Low

Date: 23/03/2023	Risk assessment carried out by: Sample candidate

Commentary

The candidate has completed an excellent risk assessment which has detail of the on-site hazards and those likely to be affected associated with the **health and safety** at work Act and associated legislation whilst completing this boundary maintenance task. The candidate has identified the risk level and the control measures already in place referring to legislation e.g. MHO legislation. Additional control measures have been identified and the final overall risk has been lowered accordingly. The candidate has provided a risk assessment which covers more than just themselves and identified a comprehensive range of mitigation methods.

Assessor Observation - Task 7b

Task	Qualification number
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	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO5: Carry out boundary maintenance

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• correct selection of tools, equipment and machinery • demonstrating safe and efficient use of hand, power and/or mechanical tools appropriate to the task • post placement: depth, vertical, spacing, in line with marker • netting: tensioned, attachment (number and depth of staples) • barbed wire: tensioned, attachment (number, position, and depth of staples)	The candidate: • selected and checked the following equipment for the task: a tape measure, spirit level, posts, barbed wire, stock netting, staples, empty bucket for used staples, nails, hammer, wire tensioner, pegs, length of metal tube, string line, marker spray, spade, soil compactor, drive-all, gloves, goggles, hard hat, hi-viz jacket. • laid out a string line where the fence was to be built and marked the intermediate post positions at 3m spacings with a spray marker. • laid out intermediate posts at the spray marks and then knocked them in with a drive-all giving clear instructions to their assistant that each person was to hold the drive-all securely with each person having one hand on each side of the drive-all. • used a spirit level to check for accuracy of the posts being upright. • measured the height to the top of the post and it was 1.2m. • carefully rolled the netting out along the line of posts, instructed that the assistant fix the roll of netting to the ground with pegs at each end to stop it from rolling back up. • secured the free end to the strainer post whilst asking the assistant to hold the netting upright. The netting was then tensioned to be upright against the posts on the livestock side of the fence in preparation for fixing with staples. The netting was orientated with the larger holes at ground level as an environmental benefit for allowing small wildlife to pass through. • used barbed staples driven in at the correct depth, on the top and bottom horizontal wires and then on alternate horizontal wires. The netting was secured to the posts giving a height to the top of the netting of 1.0m. • secured the loose end of the barbed wire to the strainer 50mm above the top of the netting (candidate measured using tape measure). • instructed the assistant to help them to roll out the first length of barbed wire along the fence using the metal tube which was placed through the centre of the barbed wire roll. The candidate and assistant held either end of the tube whilst unrolling the barbed wire.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
	• tensioned the barbed wire with a strainer before fixing with staples. The second length of barbed wire was unrolled in the same fashion as the first, tensioned and secured to the strainer approx. 50mm above the first length and 50mm below the top of each post to avoid splitting the post. All staples were fixed diagonally and were not too tight on the wire (this avoids damaging the protective coating on the wire). The finished fence was to specification. Intermediate posts at 3m spacings which were straight and the wire mesh which is level. The barbed wire attached above the mesh is taut, level and correctly distanced.

Assessor signature	**Date**
Sample Assessor	23/03/23

Photo evidence:

- the finished fence
    - the finished boundary: full section, sample of post (vertical), sample of wire attachment (including staple), wire straining equipment (how wire was tightened)

The Photograph shows:

section of the completed fence including the strainer post and supporting strut.

The Photograph shows:

Intermediate posts at 3m spacings, the wire mesh and the barbed wire attached.

The staples on a diagonal in the fence post

The strainer in place

Stock netting clamp and strainer in place

These pictures are for illustrative purposes only and are not of the same stretch of fencing and may have the same pictures as used in the threshold competence.

Commentary

The candidate demonstrated an excellent performance that fully met the requirement of the task to **carry out boundary maintenance**.

The candidate was able to thoroughly interpret the technical information and apply excellent technical skills to build the boundary fence. The candidate selected and completed pre used checks on the appropriate tools and equipment for the task and thought about waste disposal by having a bucket to collect used staples. They used all the planned measurements to set out and skilfully build a stock proof fence which fully met the specifications. The posts were accurately positioned for spacing (as per the plan at 3m) and height. The wire was correctly tensioned before being stapled to the fence. The stapling avoided damage to the protective coating of the wire.

The candidate gave clear instructions to and made effective use of the assistant when asking for assistance with the fixing of the netting and barbed wire.

Assessor Observation - Task 7b

Task	Qualification number
Dispose of waste materials appropriately	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO5: Carry out boundary maintenance

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• Process for waste disposal followed • Waste separated and segregated and put into correct containers/ sacks.	The candidate followed the farm's procedure for disposing of waste as follows: • metal stock netting/barbed wire offcuts and tape banding clips were stored safely for disposal as scrap metal via a licensed commercial waste disposal contractor using the correct bin containers • plastic tape bandings used to bind bundles of posts were safely stored pending disposal and disposed of via a licensed commercial waste disposal contractor using the correct bin containers • paper wrappings from the stock netting were collected and sent to recycling via the correct bin containers

Assessor signature	Date
Sample Assessor	23/03/23

Commentary

The candidate displayed an excellent performance that fully meets the requirement of the task **carry out boundary maintenance** by correctly and fully segregating the different types of waste materials in readiness for disposal by the correct methods, which include waste disposal contractor or recycling as appropriate.

Task 7c – Estate maintenance

Evidence contributes to the following:

Performance outcome	Assessment theme
PO5 Maintain all areas of the livestock production environment	Carry out boundary maintenance

Evidence	Assessment themes	Candidate producing	Assessor producing	Included in this version of GSEM
assessor observation	PO5: Carry out boundary maintenance		√	√
photo(s)	PO5: Carry out boundary maintenance		√	√

Assessor Observation - Task 7c

Task	Qualification number
Check a ditch and drain outfalls to ensure free flow of water Safely carry out remedial work using tools and equipment as appropriate	8717-403
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO5: Carry out boundary maintenance

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

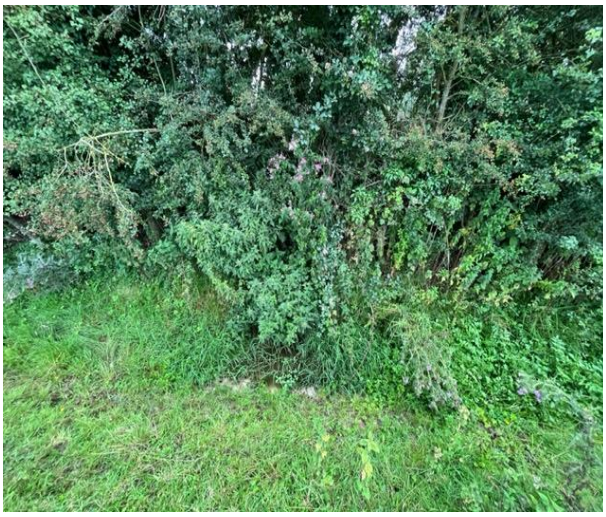
Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
○ correct selection of tools, equipment and machinery ○ correct pre-use checks on tools, equipment and machinery	The candidate selected: • Tools for the task, including the appropriate pre-use checks. • Drain rods with spiral attachment – used for inserting into drain and extracting the blockage (vegetation). Drain rods were checked for damage prior to use. • Slash hook – used for cutting overgrown vegetation around the area adjacent to the drain outfall. Checked to ensure head and handle attached. • Prong – used for clearing cut vegetation from ditch. The handle connection to the metal prong was checked prior to use.
○ safe and efficient use of tools, equipment and machinery as appropriate to the task ○	The candidate: • checked area for other people before starting work. • ensured they had a stable footing prior to using the slash hook. • removed the excessive vegetation from around the outfall using the slash hook.

	• cut the vegetation close to the ground to create a clear site. • Vegetation was cleared away using the prong. No damage by the candidate. • cleared the blockage from the drain using the drain rod and spiral attachment (turned clockwise). No damage by the candidate. • checked that the outfall was flowing freely. • Excessive vegetation put high up the bank to rot down. • cleaned and stored all equipment after use. Outcome was a free flowing drain and ditch.

Assessor signature	**Date**
Sample Assessor	23/03/2023

Photo evidence
'before' and 'after' the candidate has undertaken the task: whole area

Before the candidate has undertaken the task: whole area.



After the candidate has undertaken the task: whole area.

Commentary

The candidate applied an excellent understanding of how to **carry out boundary maintenance** to effectively clear the drain to a high standard. The candidate recognised **boundary maintenance** needs by moving the waste vegetation high up the bank to avoid it blocking any pipes further down the ditch.

The candidate considered the detailed requirements of the **boundary maintenance** task to select a comprehensive range of tools and equipment, recognising the need to cut and remove vegetation, and clear the blockage. For example, the candidate selected the spiral attachment for the drain rods so that they could effectively clear the blockage, and a prong for removing the cut vegetation. All tools and equipment were checked before use.

The candidate worked safely throughout the task, for example, checking the area for other people before starting work and making sure they had a stable footing before swinging the slash hook.

The candidate used the tools and equipment correctly. For example, they turned the drain rods clockwise to avoid the threaded joints becoming unscrewed.

Task 7d – Estate maintenance

Evidence contributes to the following:

Performance outcome	Assessment theme
PO5 Maintain all areas of the livestock production environment	Carry out boundary maintenance

Evidence	Assessment themes	Candidate producing	Assessor producing	Included in this version of GSEM
assessor observation	PO5: Carry out boundary maintenance		√	
photo(s)	PO5: Carry out boundary maintenance		√	

Task 8 – Environment and accommodation

Evidence contributes to the following:

Performance outcomes	**Assessment themes**
PO2 Establish conditions for animal breeding	Breeding
PO3 Rear livestock from birth to production standard	Environment and accommodation

Evidence	**Assessment themes**	**Candidate producing**	**Assessor producing**	**Included in this version of GSEM**
calculations of annual breeding performance	PO2: Breeding	√		√
an annotated (A3 size) plan of the units	PO2: Breeding PO3: Environment and accommodation	√		√
written report	PO3: Environment and accommodation	√		√

Candidate evidence - Calculations of breeding performance

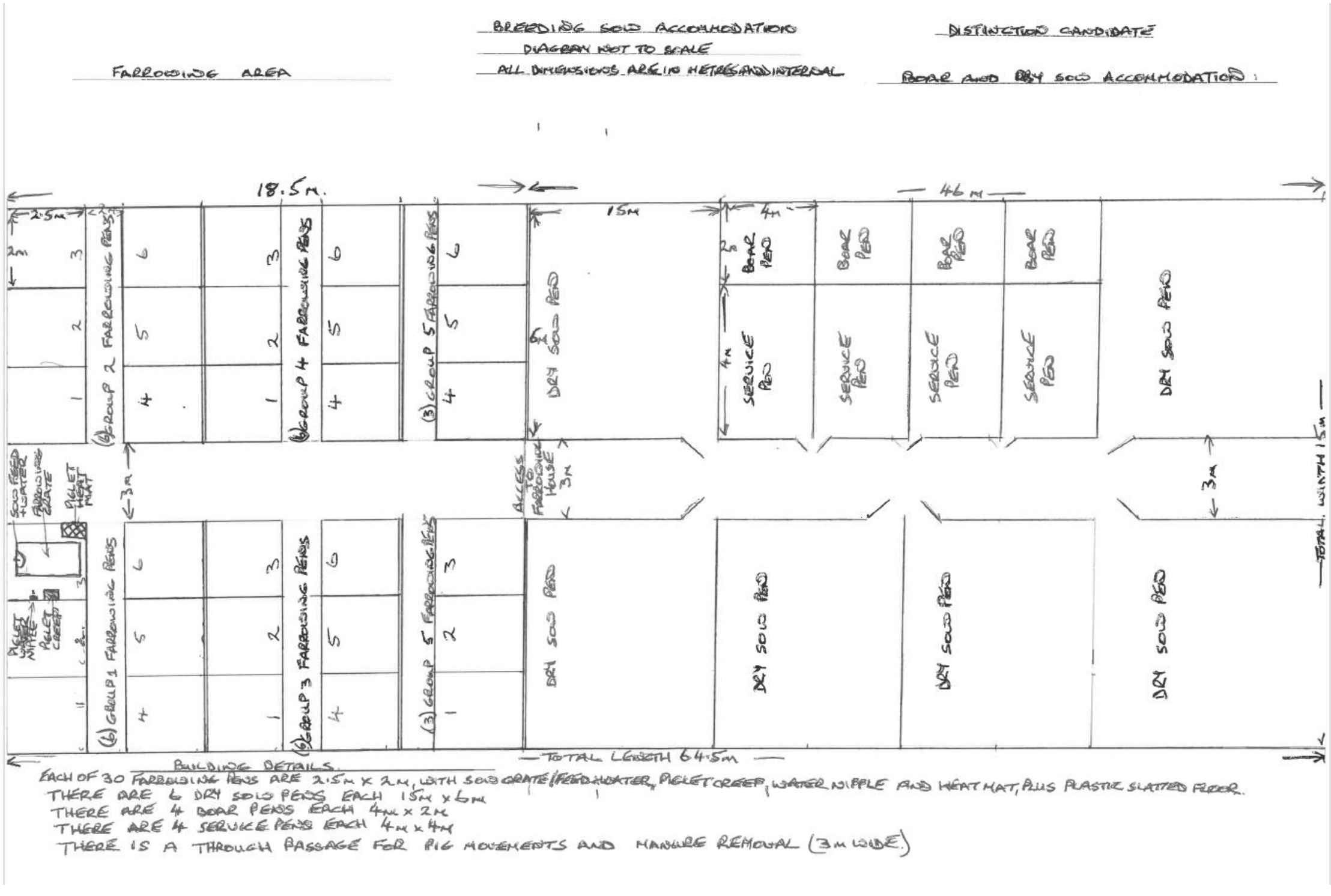
The calculation of breeding performance is based on figures for a commercial pig herd. The 100 sows each having a normal gestation period of 114-118 days, producing 2.2 litters per year and weaning 12.5 piglets per litter, giving an output per sow per year of 26 weaners. This allows for 4.5% rearing losses.

Commentary

The candidate produced an accurate calculation of **breeding** performance for a commercial pig herd of 100 sows. The correct gestation period has been used to give each sow producing 2.2 litters per year. The weaning numbers of 12.5 piglets per litter and therefore 26 weaners per year is also the expected output from a commercial herd. The candidate has also included rearing losses showing a realistic approach to the calculations.

This evidence in isolation provides minimal differentiation between grades, however it supports the candidate's ability to carry out the annotated plan and written report.

Candidate evidence - Annotated plan (A3 size) of the layout of the units



BUILDING DETAILS.

EACH OF 30 FARROWING PENS ARE 2.5M X 2M, WITH SOLID CRATE/FEED/WATER, PIGLET CREEP, WATER NIPPLE AND HEAT MAT, PLUS PLASTIC SLATTED FLOOR.
THERE ARE 6 DRY SOLID PENS EACH 15M X 6M
THERE ARE 4 BOAR PENS EACH 4M X 2M
THERE ARE 4 SERVICE PENS EACH 4M X 4M
THERE IS A THROUGH PASSAGE FOR PIG MOVEMENTS AND MANURE REMOVAL (3M WIDE)

Commentary

The candidate has provided an excellent plan for the pig **environment and accommodation,** showing the farrowing and dry sow areas. The plan has dimensions indicated which are within the requirements of the Pig Welfare Codes - DEFRA.

The candidate has considered potential overflow and issues of pig ill health in the dry sow area through the provision of additional pens which are not next to boar pens. Consideration has been given for ventilation and substrate, plus access for the stock person and for safe and effective movement and handling of livestock. There is a suitable passageway in both buildings to allow for manure removal, access for workers and pig movement.

There are extra farrowing pens for any overflow in this area. Each farrowing pen has been shown to have a crate, feed and water supply for the sows plus a heat mat, water nipple and creep feed for piglets. The candidate has included suitable temperature, ventilation and environmental needs.

In terms of **breeding** and **environment and accommodation**, the boar and service pens are within sight and sound of the dry sow pens to assist in checking for sows coming on heat and standing for service.

Candidate evidence - Written Report

(word count: 1038)

The herd is on a 28-day weaning system with 70% of the sows holding at first service and 30% at second service. Based on this information I would aim for 6 sows farrowing per week, each batch of 6 would be in the farrowing pen 4 weeks plus a week to allow for sow accommodation prior to farrowing, piglets using the area after weaning, piglet fostering, cleaning, disinfecting, and running repairs. This would require a total of 30 farrowing crates. Each farrowing area is 2.5m x 2m and would have a partition to segregate sow from the piglets. The farrowing partitions would help to avoid the potential of injury and death to piglets and are adjustable to accommodate different sizes of sow and to allow for more natural behaviour than a fixed farrowing crate would.

The farrowing accommodation would be an environmentally controlled building with a temperature of 28 degrees at farrowing which would be reduced to 24 degrees by weaning. Heat mats would be provided for the piglets so electrical points would be available in each pen. Nesting material, either straw or paper and suspended rope, which are all considered to be optimal enhancements, would be used to help provide a more natural environment for the animals to encourage more natural behaviours such as rooting, touching and chewing. The floor would be perforated plastic with a slurry pit below.

The sows would have access to feed in each individual pen and would not have to leave the accommodation whilst suckling their young. The accommodation has sufficient space to allow for husbandry tasks to take place without having to move piglets or sows to another accommodation area. The sow would have access to ad lib water through a nipple drinker in each pen. Should fostering of piglets become necessary, there are sufficient bays to allow for this practice. Fostering assists in maintaining suitable space requirements for piglets and also the provision of sufficient feed from the sow.

If the improvement of environmental and management systems fails to stop tail biting and damage to sows' teats, it would be necessary that piglet teeth are reduced. The piglets are offered creep feed from about 10 days old to supplement the sows' milk and introduce them to solid food at an early age to encourage growth and ensure that they are at the desired weaning weight each pen has a creep feed unit fitted. Giving creep food to the piglets reduces the demand on the sow which could lead to a loss of body condition. If this was the case, the sow would require an increase in environment temperature to keep them healthy. The aim is to have the sow with a condition score of 2.5 – 3 at weaning and the accommodation is designed with sufficient access to food and water to maintain a good weight.

To reduce piglet stress at weaning the sow is taken away from the piglets leaving the piglets in the environment they are used to for a couple of days before being moved to their weaner accommodation.

The weaned sow is moved into a straw yard to join others who are at the same stage. The environment is a large naturally ventilated building, providing at least 8 hrs of lighting per day. The temperature range in this building is between 17-22 degrees C. The building has accommodation for dry sows, and boars. It is also equipped with service pens. Each of the 4 boar pens is 4m x 2m in size and has a service pen adjacent to it approx. 4m x4m in size, this pen has a non-slip floor and vertical bars for pen divisions to allow the boar to see the sow. Each dry sow pen holds 24 sows and is 15m x 6m allowing 90 m^2 to allow sufficient space. This equates to 3.75m^2 per sow. Each service area has a boar pen adjacent which helps with the process. The pen wall height would be approximately 1.5m to allow for observation of the sows without having to enter the pen and cause a disturbance. The sows would have to be observed closely for 21 days after 1st service for signs of heat. At present this is approximately 30% of the sows. If this percentage was to increase, there would be an additional demand on the dry sow accommodation provision. They remain in the dry sow accommodation until approx. 5 days before they are due to farrow.

The boar and dry sow accommodation is bedded with straw to keep a clean dry bed, this also serves as an enhancement to encourage natural behaviour which allows the sows to move the straw around when a bale without the string is placed in the pen; the pigs will break it up and spread it around which allows them to mimic natural behaviour of rooting and also reduces boredom and incidents of fighting. The front area where the sows muck and urinate is scraped off each day in order to keep the animals clean and reduce the incidents of disease which could affect their productivity. The dry sows are fed cobs at a which are dropped via a dump box onto the bedding of each pen, this encourages the pigs' instinct to root around for their food and is an optimal enhancement as they will be mimicking what they would do naturally. There are suspended plastic toys provided to relieve boredom; these are sub optimal enhancements. Water is supplied ad-lib through nipple drinkers.

- All staff will be encouraged to ensure that the accommodation conditions and care given to the pigs at all times avoids fear and distress
- regular monitoring of the pigs takes place in order to quickly diagnose and treat any health issues to keep them free from pain, injury and disease.
- To avoid hunger and thirst water and feed supplies are checked daily to ensure they are fresh and there is sufficient supply.
- The environment is monitored for temperature and for a clean dry bedded lying area with sufficient room, so the pigs are comfortable.

- As far as possible enhancements are provided along with sufficient room to allow the pigs to express their normal behaviour as much as possible given that they are in pens.

Commentary

The candidate has produced a comprehensive written report which covers in detail the **environment and accommodation** facilities and resources in the farrowing and dry sow areas. The candidate has suggested batch farrowing which is a sensible approach and assists in the management of the herd.

There is information regarding the size of each farrowing pen and each dry sow area which are within Welfare Code requirements. The report shows that the system makes use of both optimal and sub-optimal enhancements to meet welfare requirements.

The temperature given for of each of the buildings is within acceptable guidelines. There are clear details relating to the feed requirements for the pigs given at different stages of production.

The use of iron injections plus other additional piglet husbandry tasks are listed, and reasons given for those tasks which have been given. The timing of the introduction of creep feed to the piglets is specified. Piglet fostering is covered in detail including the reasons for this which are linked to accommodation provision.

Weaning is managed properly and with minimum stress to the piglets. The straw yard system is good for sow welfare and also for boredom relief.

The service process is well documented as is the monitoring of the sows as they approach farrowing. Movement back into the farrowing area is completed within a suitable timescale prior to farrowing.

The requirements of the 5 freedoms have been met with examples given as to how they have been achieved.

Task 9 – Health, welfare and performance

Evidence contributes to the following:

Performance outcome	Assessment themes
PO4 Optimise livestock production	Health and welfare Transportation Production/Performance data

Evidence	Assessment themes	Candidate producing	Assessor producing	Included in this version of GSEM
health, welfare and performance template	PO4: Health and welfare PO4: Transportation PO4: Production/Performance data	√		√

Candidate evidence - Health, welfare and performance

Fig 8: Health, welfare and performance

This template may be modified by adding items/rows only.

Candidate's name	Sample Candidate	**Enrolment number**	CG12345
Task / Activity	health, welfare and performance template	Location	Sample centre
Assessor's name	Sample Assessor	Date	23/03/23

The animal welfare frameworks and legislation that must be considered and how they relate to the enterprise	The Animal Welfare Act 2006 covers the welfare needs for all animals that are kept in a captive environment. As part of this legislation, keepers must ensure that the five freedoms are followed: • The need for a suitable environment – the environment for the hens must be of a suitable size and conditions to house 32,000 hens and have enough room to move around. The main considerations would be to have perches without sharp edges and providing at least 15 cm per hen, which must not be mounted above the litter, and the horizontal distance between perches must be at least 30 cm and the horizontal distance between the perch and the wall must be at least 20 cm at least 250 cm² of littered area per hen, the litter occupying at least one third of the ground surface. The floors of installations must be constructed so as to support each of the forward-facing claws of each bird's foot.

	• The environment should be kept clean and well maintained which will need to be considered when staffing the new enterprise and the costs associated with this. Housing must have sufficient nesting areas for all of the birds and have lower lighting in these areas to help laying and each nest should be shared by no more than 30 birds. For free range systems there are also additional requirements for rotating the pasture that the hens have access to. The size of the popholes used to access it should be 35 cm high and 40 cm wide which is large enough to prevent injury. The open runs must be large enough for the 32000 hens and the ground conditions need to be taken into consideration in order to prevent contamination, equipped with shelter from adverse weather conditions. The area would normally be protected by an electric fence in order to keep the hens safe from any preying animals such as foxes. • The need for a suitable diet – laying hens are normally fed a complete feed which is usually 18% protein and the diet must have enough calcium for adequate egg production and grit to help with digestion of their food. The drinking and feeding facilities must be distributed in such a way as to provide equal access for all hens. Feed and water should always be given under cover and away from areas where wild birds or pests may be able to access it. Feed must be kept fresh and stale feed removed. • The need to express normal behaviours – the hens must have adequate outdoor space in order to move around and the free range aspect will help to encourage these natural behaviours. The indoor space should ensure that the litter occupies at least one third of the ground surface. Enrichment should be included regularly to help with the natural behaviours and the cost of this should be considered. This should include dustbathing areas.

	• The need to be protected from pain, injury, suffering and disease – adequate preventative health care such as worming and mite treatment should be used and also the cost of this to consider when setting up the health plan for the laying unit. Consideration should also be made for avian influenza risk, with adequate barn space being available and covered outdoor spaces to prevent wild bird populations from coming into contact with the chickens. If diseases such as Avian Influenza are a risk, then it would be necessary to keep the hens indoors. The Welfare of Farmed Animals (England) Regulations 2007 Schedule 5 gives detailed conditions applicable to keeping laying hens and covers things such as noise levels, space allowances, lighting and security. This will ensure that the enterprise covers all of the relevant needs of the laying chickens. This also links to the DEFRA Codes of Practice for Laying Hens and Pullets. The Veterinary Surgeons Act 1966 prohibits any medical treatment or diagnosis of disease or injury by any lay person. This means for any injury or illness within the laying unit, it will have to be diagnoses and treated by a veterinary surgeon and so the cost of this must be taken into consideration. The farm should also have regular checks from the veterinary surgeon to ensure that they have the best animal welfare considerations. The Veterinary Medicines Regulations 2013 will also consider the storage of any medicines prescribed by a veterinary surgeon and the farm will have to consider the adequate storage locations for this. Records surrounding medicines must be kept for 3 years and be available for viewing at any time. The British Lion egg safety scheme is also relevant to be considered as only farms with the highest animal welfare and disease prevention can be

	considered for the scheme and will affect sale of eggs and profits as many supermarkets will not buy eggs unless they are certified under the scheme.
The handling methods and techniques when catching and loading/ unloading with justifications	When the hens are handled, it is important that this is done so correctly with consideration of animal welfare and to prevent stress. According to the DEFRA Codes of Practice for Laying Hens and Pullets, only people with suitable skill should handle the hens to ensure that it prevents unnecessary suffering or injury. Hens with severe injuries or illness are not fit for travel or handling and should be humanely culled. During physical handling, the hens should be held by both legs and never by any other body part and never more than 3 hens in each hand, dependent on the skill of the handler. Care must be taken to avoid hitting the hens against solid objects, particularly if the wings are flapping. By bringing the containers or transportation closer to where the chickens are kept, reduces the time of carrying the hens and also the stress inflicted upon the hens can be kept to a minimum. It is important for the laying unit that hens are only handled by correctly trained professionals.
Transportation requirements (legislation, documentation, fitness to travel)	Transportation regulations are laid out in The Welfare of Animals (Transport)(England) Order 2006 and the DEFRA Codes of Practice for Laying Hens and Pullets. Water should not be withheld at any stage. For any journeys longer than 12 hours (including loading and unloading) feed and water must not be withheld, and birds under 72 hours of age have extra regulations surrounding the provision of feed and water.

	When travelling, crates used must have wide openings to prevent damage to the wings and also, during unloading and loading, these hens should be protected from any inclement weather. This is important for the laying unit when pullets are brought in, and end of lay birds are sent to slaughter. All hens should be checked to make sure they are fit to travel and any hens which are not, should not be loaded. This should include hens that are displaying lameness or illness. Documentation required for travel is an Animal Transport Certificate which is correctly filled in at the point of loading this taken with haulier to the destination and the document is completed at that point. This document has to be retained for inspection.
The techniques used to identify and monitor the health and wellbeing of the birds with justifications (benefits/ limitations) for each technique	A health and welfare plan should be implemented on all farms to give instruction to all workers on how to look after the hens and the routines needed for feeding, maintenance and cleaning. This will also lay out conditions to help prevent disease and any contingency measures if disease was to occur within the unit. This will also include any biosecurity measures in place. A health and welfare plan is a requirement under the assurance scheme to ensure hens are kept healthy and only supplied with the approved medication. The Hens should be visually inspected at least once a day and their behaviour will be a large indicator of their health. Any birds looking withdrawn or acting abnormally may have some kind of disease. Lack of or not feeding and drinking or no interest in food or water might indicate that the hens are unwell and possible suffering from a disease. They may also display other signs such as not grooming, not interacting, not alert, quiet, no vocalisation. In older birds these may be signs that they may be coming to the end of their

<table>
<tr><td></td><td colspan="3">natural life. Visual inspection ensures that any issues are spotted quickly to avoid any suffering or cross contamination.

Any birds suspected of having an illness or parasite should be physically health checked, starting at the eyes to prevent cross contamination from more soiled body parts.

CCTV may be a valuable aid in this laying unit with so many hens. It can quickly help to identify behavioural changes from a distance so that time of workers can be spent in a more useful way. More regular checks can be done on a greater number of birds in a shorter time frame. However, CCTV does not replace the need for the stockperson to go into the building.

Monitoring yield of eggs will also help to give a general idea of whole flock health. Hens can produce one egg every 25 hours, and so around 6 eggs in a week per bird. Hens are likely to be laying at approximately 80% capacity at a time of good yield, and so when yield drops below this then there may be a wider health issue such as parasites, or it may indicate an issue with the environment in which the birds are being kept.

Faecal sampling can also be done on both an ad hoc and an as needed basis. Random ad hoc sampling can help to identify any parasites or pathogens that the birds may be carrying before physical or behavioural signs are noticed so disease can be managed quickly.</td></tr>
<tr><td rowspan="2">The health checks for the bird and signs of good and poor health</td><td>Body part</td><td>Signs of good health</td><td>Signs of poor health</td></tr>
<tr><td>Head</td><td>Head held alert. Skin light pink, feathers preened and glossy appearance</td><td>Head held down, pale skin, ruffled feathers, unkempt.</td></tr>
</table>

	Eyes	No discharge or infection. Eyes are bright and clear.	Discharge of abnormal colour could indicate bacterial infection or a foreign body in the eye. Severe discharge can also be a sign of avian flu.
	Ears	Ears clear from discharge. No sign of red mites, redness or inflammation	Discharge, red mites, redness, inflammation
	Beak	No signs of damage or malformation. Beak parts are not overgrown and are in line with each other.	If the beak is overgrown this could indicate poor husbandry, with not enough grit in the diet or enough pecking areas or blocks. It should not be held open – gaping may be a sign of parasites or overheating. Flaking or broken beaks may be a sign of poor diet. If the beak is misaligned, this could also be a sign of poor diet or a genetic weakness which could affect the ability to eat.
	Comb	Should appear upright (breed dependant), bright and healthy red.	If the comb is pale this may be a sign of dehydration or shock or it may be a sign that it is coming to the end of its laying cycle.

		No damage from pecking.	This may also be signified if the comb is not turgid and flopping to one side. The comb may also be an area where other hens peck at, so it is important to be aware of any blood or scabbing.
	Feathers and skin	Should appear preened and shiny. Skin clear of scabs and not flaking.	The feathers should not look 'scraggy' – this could mean that the bird has parasites or is not dust bathing effectively or frequently enough. Feathers that are taking time to moult may be an indication of poor calcium and so poor laying ability. Feathers are a good indication of diet and environmental conditions. Obviously flaky or scabby skin may be a sign of dehydration or pecking from companions.
	Crop	Full but soft. Showing no distress and bird is feeding normally.	An overly hard crop may be a sign of impaction or ingestion of too much grit. Ideally check the birds at a similar time each day to check the size of the crop – if it is not full this could be a sign of malnutrition.

	Wings	Held normally against the body. Showing easy movement in the group.	If the wings are held awkwardly or not against the body this could be a sign of injury. This may be as a result of poor environmental conditions such as too hot (not enough shade) or too cold (not enough shelter from poor weather conditions).
	Legs, feet, claws and gait	Scales are smooth and evenly coloured. No signs of lesions on the feet. Claws are not overgrown. The birds have an even gait when walking.	If the scales are discoloured or not smooth, this may be a sign of parasites. Any sign of lesions on the feet may be a sign of bumblefoot, which usually occurs as a result of poor conditions underfoot such as mesh wiring. Claws can become overgrown which will affect the ability to move easily. Limping could be caused by injury or by disease such as parasites under the scales on the legs or overgrown claws.
	Cloaca and vent	Should be moist to allow for easy egg laying. Clear skin with	Dryness could be a sign of dehydration. Flaky skin could be a sign of external parasites.

		no flaking. No visible parasites	If the cloaca is dry, this will slow down laying ability which is particularly important in a laying flock. This could be a sign of dehydration or poor diet, as well as other underlying disease. It is also important to check for parasites in this area
Other signs of good and poor health	**Area**	**Signs of good health**	**Signs of poor health**
	Interaction with flock	Eating and drinking together, no aggression. Sitting/perching together when resting	Not approaching feeders or drinkers. Lack of effort to get to feeders or drinkers which could be a sign of poor physical or mental health. Aggression or segregation from others could also indicate issues with health.
	Faeces	Firm not runny consistent with diet.	Loose and runny. Blood in the faeces. Strong smelling faeces.
Key performance indicators of the production operation and factors affecting livestock achieving these	**KPIs**		**Factors**
	The number and quality of eggs produced		The eggs produced by the hens are indicative of the husbandry routine and quality that the hens

		receive. Poor diet or insufficient feed will result in fewer or in poorer quality eggs, particularly the shells, and as a result affect the number of eggs laid. The life stage of the hens can also affect laying numbers e.g. Hens would come into lay at about 20 weeks of age. New laying hens may often produce double yolk eggs and older hens will produce less than 6 eggs a week. Records are kept to show the quality of the eggs laid per hen that meet the standards required. The production operation needs to factor in the point at which the hens cost more to keep than they make from the eggs they produce when they get older.
	The health and mortality records of the laying flock	The health of the hens helps to ensure that the eggs are laid in good numbers and to quality standards, but also is indicative of the welfare and husbandry practices. Mortality records should be kept to show when birds are dying and the reasons

		for this. This will help to identify particular trends, and also to determine if birds are dying prematurely. There should not be significant deaths for reasons other than natural causes as this would suggest poor welfare and husbandry.

Commentary

The candidate provided a comprehensive report demonstrating an excellent performance that fully met the requirement of the task, demonstrating strong technical knowledge for carrying out tasks associated with **Health and Welfare, Transportation** and **Production Performance Data** for free range laying hens.

This is shown through comprehensive knowledge of environmental requirements, legislation, handling of birds, transportation, health, feeding and KPIs such as mortality rates including clearly stating how the five freedoms are met. There is detailed information relating to the quantity and quality of feed required. The candidate also covered the documentation required for transportation. The candidate consistently used technical terminology accurately in their report. The candidate referred to the legislation for this area clearly and accurately e.g. DEFRA codes. The candidate displayed an excellent understanding of the signs of good and poor health and the impact of this on production covering a wide range of the indicators and making reference to the health and welfare plan. The candidate has given a clear description of handling methods of the birds. The different stages of production were referenced and given supporting statements.

Task 10 – Areas of the livestock production environment

Evidence contributes to the following:

Performance outcome	Assessment theme
PO5 Maintain all areas of the livestock production environment	Plan boundary maintenance

Evidence	Assessment themes	Candidate producing	Assessor producing	Included in this version of GSEM
written report	PO5: Plan boundary maintenance	√		√

Candidate evidence - Written Report

(word count: 672)

I am assuming that at Guilds Farm we will have use of there is 10.11 hectares (approx. 25 acres) of grassland that has always been used for grazing by sheep and cattle and mowing for hay and silage production. I am assuming that the land has been re-seeded with perennial rye grass in the last 4 years and I now want to use the land for environmental improvement, so have decided to put the land into a GS4 Legume and herb rich sward as a part of the mid-tier stewardship scheme.

In order to do this, I will need to establish a mixed sward of grasses, legumes, and herbs within the first 12 months of signing up to the agreement and then maintain the mixed sward for five years. The land will still be used for grazing with sheep and cattle as part of a grazing rotation.

In the GS4 Legume and herb rich sward there will need to be at least five species of grass, four species of legume and four species of herb or wildflower.

The benefits to the environment of doing this include:

- Increase flower growth in the sward to provide food for pollinators such as bees, butterflies, hoverflies.
- Improve soil structure which in turn increases soil microbes and increase soil organic matter.
- Increases soil fertility through the sowing of nitrogen fixing legumes such as clover.
- Reduces runoff through the improvement of soil structure.
- Captures carbon and stores it to the soil as organic matter.

The herbal ley will also be a huge benefit to the livestock grazing it as it will:

- Provide grasses that are high in energy.
- Provide legumes that are high in protein.
- Include herbs or wildflowers that provide important minerals.
- If used, plants like sainfoin, chicory or bird's foot trefoil can help control parasites naturally.

Herbal leys can also:

- Reduce the need to use fertilisers and herbicides- benefits the environment and help improve soil health as well as reducing farm costs.
- Be drought resistant- certain species have very deep roots that can access water in the deeper layers of the soil, which will help during very hot, dry weather.
- Help control weeds such as blackgrass when used in arable rotations.

Lastly, Guilds Farm will also be able to claim £382 per hectare (ha) used as part of the GS4. In this case, 10.11ha's will make the farm £3862.02 per year. Over five years, this comes to £19,310.10 and will hopefully have increased livestock productivity as well. This will be of

some benefit to the farm when considering the loss of the Single Farm Payment and fluctuating market prices.

The herbal ley will be established by over-sowing into the original grass ley.

- The grass will initially be grazed very short.
- The land will then be harrowed or “scratched” to create at least 50% bare ground, although achieving 70% bare ground is better.

This minimum cultivation method is being used to help maintain soil health and reduce costs when compared to full cultivations such as ploughing.

- The seed will then be broadcast into the soil in a diamond formation to ensure even coverage.
- After broadcasting, the ground should be rolled to ensure good seed to soil contact to maximise germination and subsequent yield. Rolling also helps to reduce potential slug damage from occurring.

The seed mix could also be shallow drilled directly into the ground at a depth of 1cm, but the farm is trying to reduce contractor costs.

The farm must maintain records of the entire process such as invoices for buying the seed, any machinery hire/contractor costs as well as keeping photographic evidence of the herbal ley establishing and being grazed and maintained throughout the five-year period. Once established, grazing in the first year will be done lightly, this will help prevent damage to the ley but manage weeds and encourage plant development. The farm will include rest periods between grazing to allow plant species to recover and last longer. They must not overgraze plants must be at least 8cms tall throughout the growing season.

Commentary

The candidate produced a comprehensive report that covered all the elements required to an excellent standard for this **planning boundary maintenance** task. The candidate used excellent technical terminology, was accurate with their recall and knowledge and provided excellent justification. For example, the benefits of including an environmental stewardship scheme into the system was fully explored and justified for example the costs and income generated were accurately calculated and the mixture of herbs and legumes was correctly explained. Excellent linking of theory to best practice for example, the process for establishing the new herb/legume mix was clear and concise. The requirement for detailed record keeping was clearly explained.

Task 11 – Performance data

Evidence contributes to the following:

Performance outcomes	**Assessment themes**
PO2 Establish conditions for animal breeding	Breeding
PO3 Rear livestock from birth to production standard	Rearing
PO4 Optimise livestock production	Production/Performance data

Evidence	**Assessment themes**	**Candidate producing**	**Assessor producing**	**Included in this version of GSEM**
written report	PO2: Breeding PO3: Rearing PO4: Production/Performance data	√		√

Candidate evidence - Written Report

(word count: 1248)

Physical Data Comparisons

Guilds Farm Lambing March-April	Physical Data:	Benchmark Data 2023 edition John Nix	Analysis
Ewes put to tup	500	500	
Lambing %	188%	175%	+13%
Young lamb deaths	5%	6%	-1%
Older lamb losses	7%	4%	+3%

Benchmark Data taken from John Nix 2023.

Gross Margin Data

Guilds Farm	£/hd	Benchmark £/hd (Average)
Sales:		
Finished lambs	£105	£97
Ewe/ram depreciation	£24	£24
Wool sales	**£1/ ewe** (2kg/ewe @£0.50p/kg)	**£0.80/ ewe (**2kg/ewe @£0.40p/kg)
Total Sales	£130	£121.80
Variable Costs:		
Vet Med	£11	£10
Concentrate costs	£20	£16
Miscellaneous	£12	£15
Total Variable Costs	£43	£41
Gross Margin	£87	£80.80

Evaluation of findings:

Keeping records of performance and cost analysis as well as carrying out benchmarking activities against other similar types of farms data is a vital tool that allows farms to see how well they are doing and to set targets for the areas they need to make improvements on.

Lambing is 13% above benchmark and total lambing losses is 12% which is 2% above benchmark. So overall lamb sales are 11% above benchmark (13-2). This is a significant difference in favour of Guilds farm flock because there were more lambs sold overall.

Guilds Farms physical data shows that they have a slightly lower scanning percentage than the benchmark data, which is in line with industry targets as set by the AHDB. This could be due to a number of reasons, such as ewe age, health and body condition as well as the grazing conditions at tupping time which is influenced by weather conditions such as drought and rainfall. For example, the drought can lead to poor grass yield which will affect feed intake and body condition which will in turn lead to a lower conception rate. Where possible, the ewes' condition on a lowland farm needs to be maintained at 3-3.5 at tupping time, this is because body condition is directly linked to ovulation and conception rates. The farm could also "flush" the ewes on good grass to enhance fertility 21 days prior to tupping, but only where ewe BCS is not above the benchmark.

Another reason the scanning percentage may be slightly lower, could be down to tup fertility but if the tup wasn't fertile, you would expect to see a much lower scanning percentage, and an increase in the number of barren ewes.

Early pregnancy abortion (re-absorption) caused by Toxoplasmosis, Enzootic Abortion or Campylobacter, could also be a reason for the lower scanning percentage. It would be worth the farm taking blood tests from the barren ewes to test for potential infection. It is good practice to carry out blood testing in the flock where there are >3% empty ewes at scanning.

Lamb Mortality for Guilds Farm is marginally higher than the benchmark farm, which is at 10% mortality in line with industry targets. Mortality can be reduced at lambing time by ensuring the farm follows best practice such as ensuring colostrum intake, hygiene, and cleanliness, dipping navels and ensuring bonding between ewe and lambs is allowed to happen prior to turnout. Guilds farm should continue to manage early lambing as they are. Perhaps ewe diet and condition could be assessed to try to get the early mortality figure to <5%. Colostrum quality and quantity produced is impacted on by ewe condition and diet; the farm should ensure that ewes carrying twins and triplets should have 16-18% protein and no less than 11.5MJ/ME Kg DM in the last 4-6 weeks before lambing.

Guild Farms older lamb mortality is nearly double that of the benchmark farm which is running at lower than the industry target of <5%. The biggest cause of older lamb mortality is attributed to pneumonia, septicaemia, and pulpy kidney. Guild Farm could vaccinate all ewes 4-6 weeks before lambing with Heptavac P+ to provide them with 3-6 weeks' worth of passive protection gained through the ewe's colostrum at birth from these diseases.

The lambs can then be vaccinated with Ovivac from as early as 3 weeks old, but no later than 6 weeks old, to maximise their protection and reduce mortality rates. Other management tasks that could be included would be to ensure the ewes are fed high energy and protein diets to maximise milk production to prevent lambs from getting hungry and cold, which increases the risk of lamb deaths. Should the farm have a problem with orf, vaccination with a scratch vaccine could be used to reduce lamb mortality as lambs with orf cannot feed as easily, if at all. Making sure lambs are kept out of bad weather can also help to reduce mortality. Where possible, make sure they have access to shelter and means of getting away from bad weather.

Lambing in March-April should mean that Guilds Farm lambs experience better weather than early lambers, but this is not guaranteed.

When comparing Guilds Farms Gross Margin data to the benchmark data, you can see that sales are slightly more for Guilds Farm. Individual Lamb values are £8 higher, wool value is 20p more per ewe. These higher values could be attributed to the breed of sheep being used. Guilds farm could try introducing a different tup breed to improve carcass quality and wool/skin value. Using a terminal sire such as a Texel on crossbred ewes would increase lamb productivity and value as well as increasing the hybrid vigour within the flock which would improve the potential of the gimmer replacements kept back for breeding purposes.

Considering Estimated Breeding Values (EBVs) for the tup would also help improve value of lambs as well as other management areas such as mothering ability, ease of lambing and growth rates. The depreciation figure could then be lower, where ewes are worth more and perhaps longevity increases, therefore ewes can stay on the farm for longer.

Ewe gestation is 146-149 days. I would plan for early October tupping (rams in on 5th October, rams out on 17th November), for a March-April lambing but use better tups and aim to get improved carcass and growth rates as well as superior breeding replacements.

Vet medicine costs are £1/ewe higher than the benchmark farm. To lower this value, Guilds Farm could arrange to have a Flock Health Plan put in place, this would help reduce the amount of antibiotic and wormers used on the farm, by following vaccination, lameness and Faecal egg counts policies. This would help increase farm productivity.

Concentrate costs for Guilds Farm is £4 more than the Benchmark farm, Guilds Farm could try to utilise their grass better, perhaps by incorporating different grazing strategies such as rotational or mob grazing or they could improve their grass ley, by adding a re-seed that includes clover and/or herbal leys to increase the nutritional value of the grass available. Where this is not possible, the farm could analyse their forage to ensure its quality and where forage is at a good standard, they may be able to reduce their concentrate use. They could also consider incorporating stubble turnips/fodder beet as a source of energy pre-lambing which is normally a cheaper form of feed. The farm could also make sure they are only feeding the ewes that need it, that being multiple bearing ewes 4-6 weeks before lambing. If they ensure ewe condition is maintained pre and post lambing, milk supply for the lambs should mean creep feed is not needed, assuming ewes have access to good grass/forage. However, creep feeding of lambs can increase lamb performance and profitability on some occasions.

References:

John Nix Pocketbook 2023

Commentary

The candidate demonstrated an excellent performance that fully met the requirement of the task, demonstrating strong technical knowledge and understanding associated with **Breeding**, **Rearing** and **Performance Data** for a sheep breeding flock.

This is shown through extensive knowledge and understanding of physical and financial data relating to topics such as condition scoring and its effect on fertility, scanning, diseases which effect performance, mortality rates, feed requirements including increasing amounts up to lambing and vaccinations. The candidate has produced a solid analysis of the data and used their knowledge to support their detailed comparisons and provided suggestions to increase the profitability of the Guilds Farm for example using another breed to provide hybrid vigour. The candidate consistently used technical terminology accurately in their report. The candidate displayed an excellent understanding of the effects of good and poor health on livestock breeding and performance by the use of appropriate vaccinations and flushing of ewes prior to tupping.

The T Level is a qualification approved and managed by the Institute for Apprenticeships and Technical Education.