



Rewarding Learning

General Certificate of Secondary Education  
2025

Centre Number

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Candidate Number

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## Agriculture and Land Use

Unit 2

Animals on the Land

**MV18**

[GAU21]

**MONDAY 16 JUNE, AFTERNOON**

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### **Time**

1 hour 15 minutes, plus your additional time allowance.

### **Instructions to Candidates**

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

**You must answer the questions in the spaces provided.**

**Do not write on blank pages.**

Complete questions in black ink and use a dark HB pencil for drawings and graphs. **Do not write with a gel pen.**

Answer **all nine** questions.

### **Information for Candidates**

The total mark for this paper is 75.

Figures in brackets printed at the end of each question indicate the marks awarded to each question or part question.

You may use a scientific calculator.

Quality of written communication will be assessed in Questions **7** and **9**.

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1 Farmers must check their animals' health regularly.



(a) Use the photograph to assess the general health of the animal.

Circle your choice.

**healthy**

**unhealthy**

Give **two** reasons for your choice. [3 marks]

1. \_\_\_\_\_

2. \_\_\_\_\_

**(b)** State **two** of the basic freedoms of farm animals.  
[2 marks]

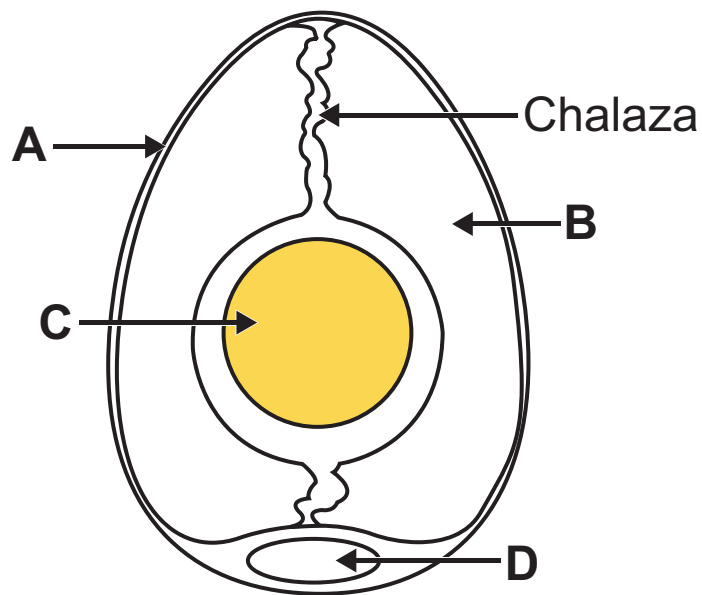
Freedom \_\_\_\_\_

\_\_\_\_\_

Freedom \_\_\_\_\_

\_\_\_\_\_

2 The diagram shows a cross section through a hen's egg.



(a) Name the parts labelled **A**, **B**, **C** and **D** in the diagram above. [4 marks]

**A** \_\_\_\_\_

**B** \_\_\_\_\_

**C** \_\_\_\_\_

**D** \_\_\_\_\_

An incubator performs the role of a broody hen. It recreates the conditions for a healthy chick to develop.

(b) Using the words/numbers in the list below, complete the following statements about hens and their eggs.

[3 marks]

**15**

**agitate**

**dry**

**turn**

**21**

**cool**

**peck**

**humid**

**28**

For healthy chicks to hatch, the fertilised eggs need to be incubated for a period of \_\_\_\_\_ days.

A hen will do this process by sitting on the eggs.

The hen keeps the eggs warm and \_\_\_\_\_ .

The hen will also \_\_\_\_\_ the eggs

regularly with her beak to ensure the chicks

develop properly.

**3** Being part of a scheme such as the **Farm Quality Assurance Scheme** can bring many benefits to a farm business.

**(a) (i)** State **two requirements** the farmer must meet for participation in the Farm Quality Assurance Scheme. [2 marks]

1. \_\_\_\_\_  
\_\_\_\_\_  
2. \_\_\_\_\_  
\_\_\_\_\_

**(ii)** Give **two** benefits of participating in this scheme. [2 marks]

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**(b)** Name **one** other scheme which farmers may take part in. [1 mark]

\_\_\_\_\_

- 4 (a) (i) Define the term 'Dry Matter Intake' (DMI).  
[2 marks]

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- (ii) Explain why DMI is a useful measurement for farmers. [1 mark]

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A suckler cow with a newborn calf requires a DMI of 14 kg each day.

(b) The suckler cow is grazing on fresh grass.

- (i) How much grass will the cow need to eat each day if the grass has a dry matter (DM) of 18%?

Give your answer to the **nearest** kg. [3 marks]

**Show your working out.**

\_\_\_\_\_ kg/day

(ii) What will happen to the cow if she eats less than her required DMI? [1 mark]

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(iii) Where will the **newborn calf** get most of its DM from? [1 mark]

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To help increase DMI, concentrates can also be fed to the suckler cow.

(c) Suggest **two** disadvantages of feeding high levels of concentrates to the grazing suckler cow. [2 marks]

1. \_\_\_\_\_

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2. \_\_\_\_\_

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Minerals are important to help meet the suckler cow's other nutritional requirements.

**(d)** Give **one** example of a mineral and describe how it helps meet the suckler cow's nutritional requirements.  
[2 marks]

Mineral \_\_\_\_\_

Description \_\_\_\_\_

\_\_\_\_\_

- 5 (a) State the name of a commercial breed of dairy cow.  
[1 mark]

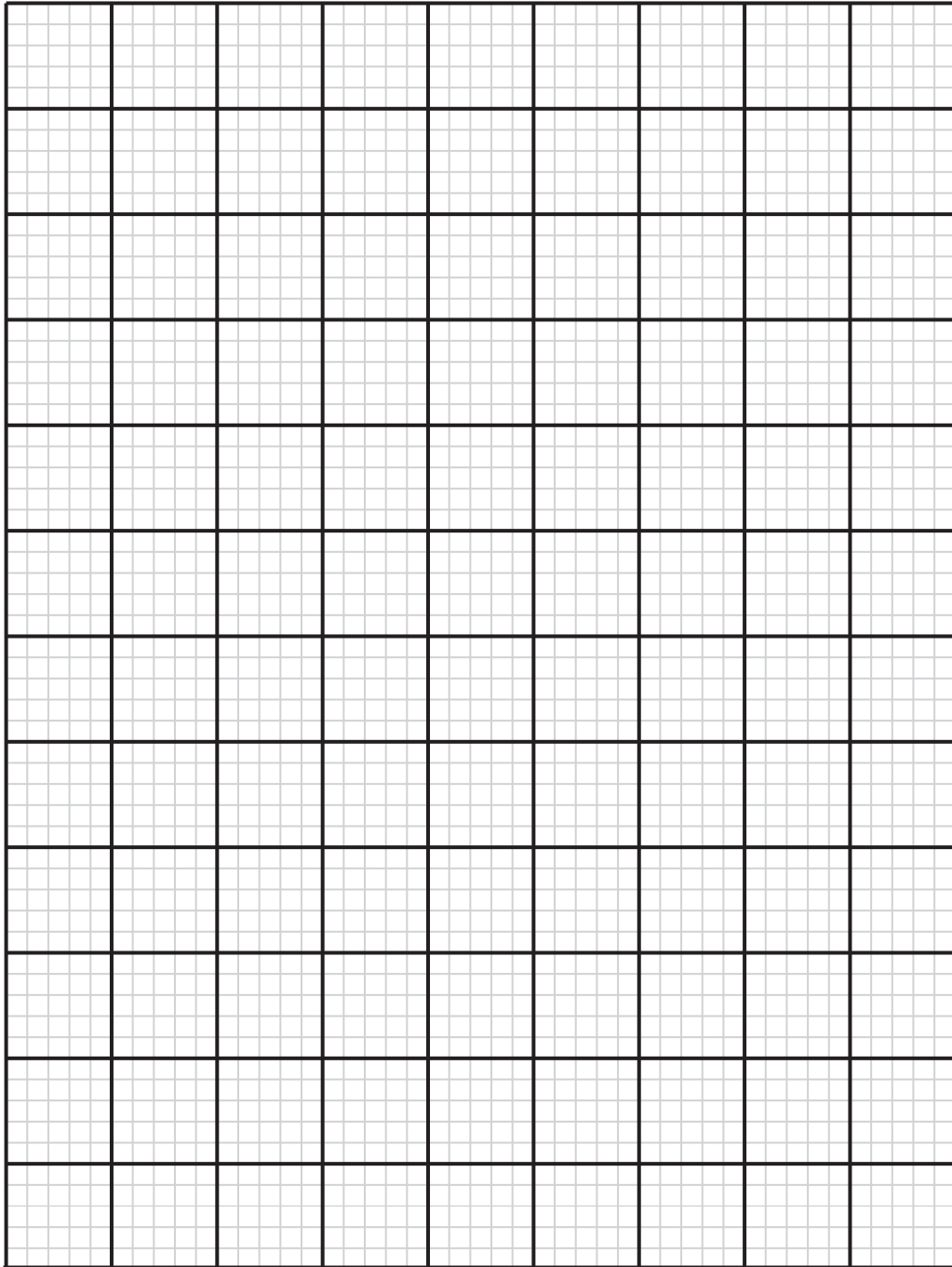
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The table shows the daily milk production for a dairy cow from calving to 55 weeks after calving.

<b>Time after calving /weeks</b>	<b>Milk production /litres per day</b>
0	15
5	40
10	39
15	36
20	32
25	28
30	24
35	20
40	17
45	14
50	12
55	11

(b) (i) On the grid below, complete the graph by:

- choosing suitable scales
- plotting the data in the table
- drawing a **smooth** line graph [6 marks]



Milk production /litres per day

Time after calving /weeks

**(ii)** Complete the title of the graph below. [1 mark]

A graph to show the L \_\_\_\_\_ Curve  
for a dairy cow.

**(c)** Describe and explain the trend shown by the graph. Use data in your answer. [3 marks]

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6 Mixing slurry can be a dangerous task if the correct precautions are not put in place. The photograph below shows slurry being mixed.



(a) Describe **two** risks when mixing slurry. [2 marks]

1. \_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
\_\_\_\_\_

The photograph opposite shows some safety precautions being used when mixing slurry.

**(b)** Using the photograph and your knowledge, give **three** safety precautions that should be taken when mixing slurry. [3 marks]

- 1. \_\_\_\_\_  
\_\_\_\_\_
- 2. \_\_\_\_\_  
\_\_\_\_\_
- 3. \_\_\_\_\_  
\_\_\_\_\_

**(c)** State **one** technology used on tractors that allows for accurate application of slurry and fertilisers. [1 mark]

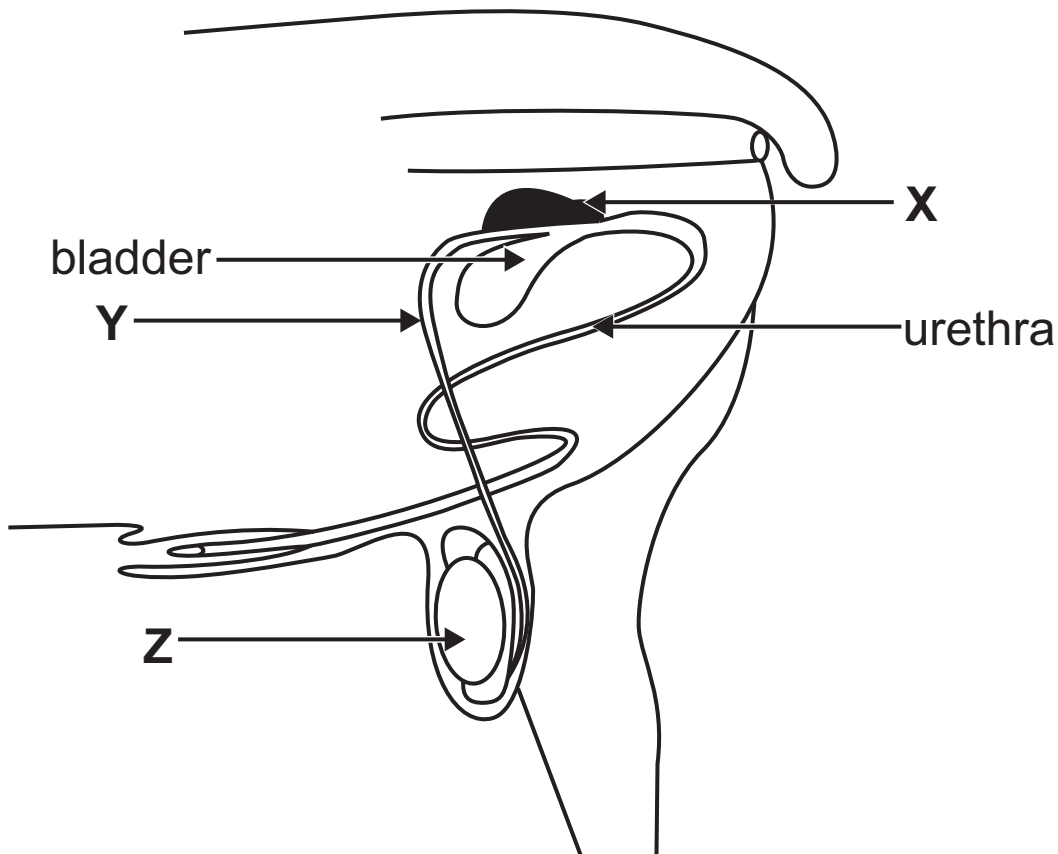
\_\_\_\_\_





- 8 A ewe (female sheep) can be mated from 7 months of age. Most commonly a ram (male sheep) is chosen and natural fertilisation is allowed to take place.

The diagram includes the main reproductive organs of a ram.



- (a) Name the parts labelled **X**, **Y** and **Z** in the diagram above. [3 marks]

**X** \_\_\_\_\_

**Y** \_\_\_\_\_

**Z** \_\_\_\_\_

**(b)** Natural fertilisation is the most common method of fertilisation used on sheep farms as it helps to reduce costs.

Apart from reduced costs, give **two other** reasons why a farmer might choose natural fertilisation for their sheep. [2 marks]

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Some farmers may choose to use embryo transfer on their flock.

**(c)** Describe the main stages of embryo transfer.  
[4 marks]

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**(d)** State **two** reasons why farmers may decide to use embryo transfer. [2 marks]

1. \_\_\_\_\_

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2. \_\_\_\_\_

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**(Questions continue overleaf)**





## SOURCES

Q1 . . . . @ Chief Examiner

Q2 . . . . @ CCEA

Q6 . . . . @ Chief Examiner

Q8 . . . . @ CCEA

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**This is the end of the question paper**

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For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	
5	
6	
7	
8	
9	

<b>Total Marks</b>	
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Examiner Number