

New
Specification



General Certificate of Secondary Education

Centre Number

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Candidate Number

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Agriculture and Land Use

Unit 2 Animals on the Land



[GAU21] Assessment

TIME

1 hour 15 minutes.

Assessment Level of Control:

Tick the relevant box (✓)

Controlled Conditions	
Other	

INSTRUCTIONS TO CANDIDATES

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

Write your answers in the spaces provided in this question paper.

Answer **all nine** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 75.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

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

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

Total Marks	
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2 (a) Embryo transfer is used within animal breeding programmes.

Decide if the statements about embryo transfer in the table below are true or false.

Place a **tick** in the correct boxes.

Statement	True	False
Embryo transfer is more expensive than natural service		
Embryos can be frozen for later use		
Embryo transfer is only possible with cattle		

[2]

(b) Artificial colostrum is sometimes used by farmers instead of natural colostrum.

(i) State **two** benefits of feeding natural colostrum to the newly born animal.

1. _____

2. _____ [2]

(ii) Suggest **two** reasons why farmers would use **artificial** colostrum.

1. _____

2. _____

_____ [2]

On a typical dairy farm, calves are weaned off milk at around two months old.

(iii) Give **one** reason why calves are weaned off milk.

_____ [1]

Examiner Only

Marks Remark

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(Questions continue overleaf)

- (c) (i) Which of the following are food preservation methods?
Place a **tick** in the correct boxes.

Process	Preservation Process
colouring	
freezing	
tinning	
incinerating	
drying	

[2]

- (ii) Vacuum packing is another food preservation method.
Describe how it preserves food.

[2]

Examiner Only	
Marks	Remark

4 Animal breeds currently used in farming have resulted from selective breeding for desirable traits.

(a) Give **one** example of a commercial cattle breed and **one** example of a traditional cattle breed.

Commercial

Traditional

_____ [2]

(b) Landrace is a popular choice for commercial pig breeders because of their conformation and longevity.

(i) Describe the following traits:

Conformation _____

Longevity _____

_____ [2]

(ii) Suggest **two** other traits that would be selected for pig breeding stock.

1. _____

2. _____ [2]

Examiner Only

Marks

Remark

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(Questions continue overleaf)

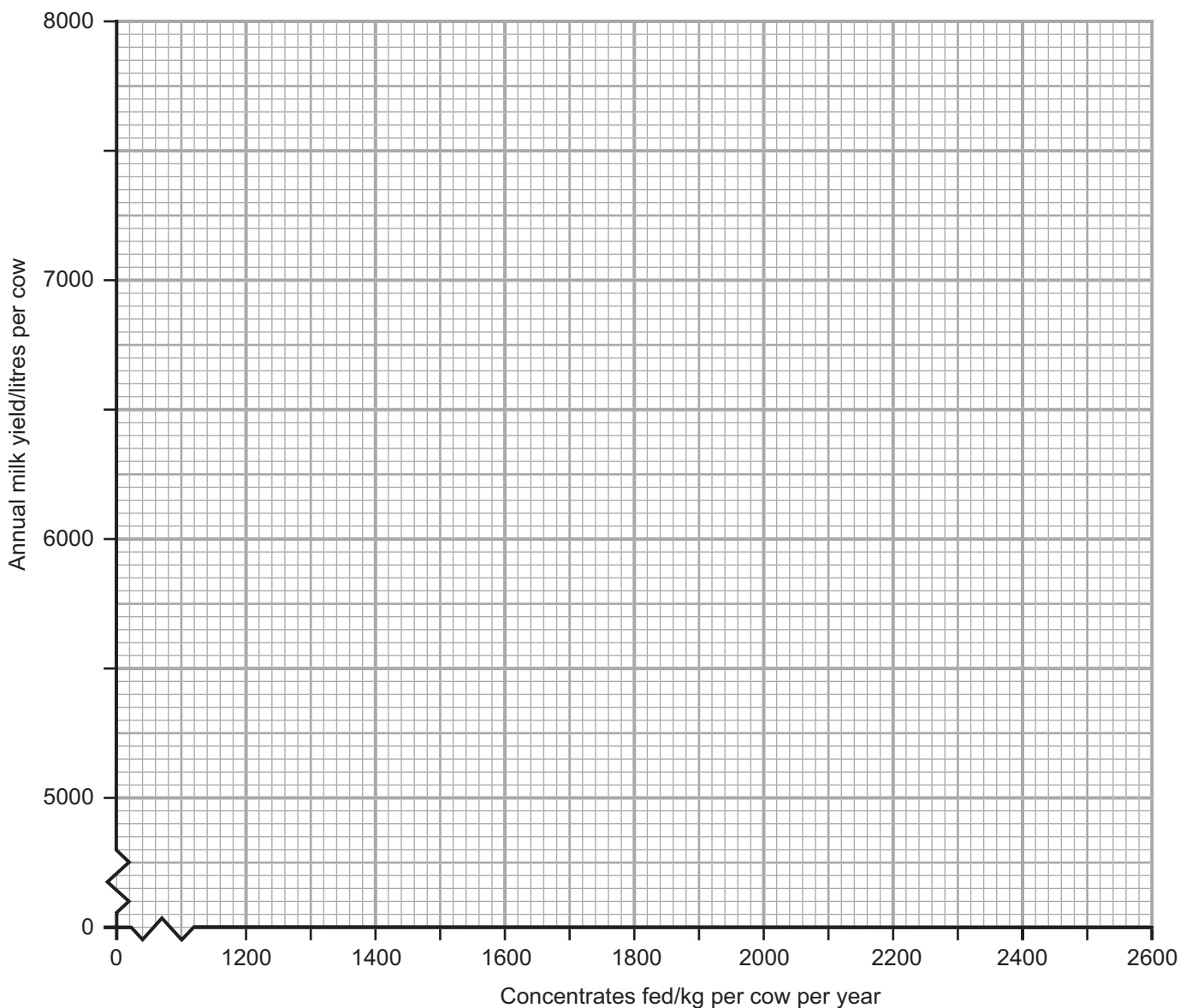
6 The level of concentrates that farmers feed to dairy herds in Northern Ireland has changed over the years.

(a) The average figures for annual milk yield and concentrates fed to dairy cows in Northern Ireland are shown in the table below.

Concentrates fed/kg per cow per year	1450	1700	2000	2500
Annual milk yield/litres per cow	6000	6750	7250	7500

(i) Using the data from the table above, plot a line graph of **Annual milk yield** against **Concentrates fed** in the graph below. [2]

(ii) Draw a smooth curve through the points. [1]



Examiner Only	
Marks	Remark

(b) (i) Complete the table below by calculating the following:

- total income per sow
- total costs per sow
- profit per sow

Show your working.

Income per sow (£)	
Cull sales	76
Piglet sales	220
Total income per sow	£ _____
Costs per sow (£)	
Meal	140
Supplements	19
Medicines	22
Labour	38
Other costs	11
Total costs per sow	£ _____
Profit per sow	£ _____

[3]

This farm has 200 sows.

(ii) Calculate the total labour costs for this farm.

_____ [1]

(iii) Suggest **one** way that the pig farm can reduce labour costs.

_____ [1]

Examiner Only	
Marks	Remark

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