

LUI

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Book

of

books used

External assessment 2025

Question and response book

# Agricultural Science

## Paper 1

### Time allowed

- Perusal time — 10 minutes
- Working time — 90 minutes

### General instructions

- Answer all questions in this question and response book.
- QCAA-approved calculator permitted.
- Planning paper will not be marked.

### Section 1 (15 marks)

- 15 multiple choice questions

### Section 2 (39 marks)

- 9 short response questions



**DO NOT WRITE ON THIS PAGE**  
**THIS PAGE WILL NOT BE MARKED**

## Section 1

### Instructions

- This section has 15 questions and is worth 15 marks.
- Use a 2B pencil to fill in the A, B, C or D answer bubble completely.
- Choose the best answer for Questions 1–15.
- If you change your mind or make a mistake, use an eraser to remove your response and fill in the new answer bubble completely.

	A	B	C	D
Example:	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	A	B	C	D
1.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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13.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Ensure you have filled an answer bubble for each question.

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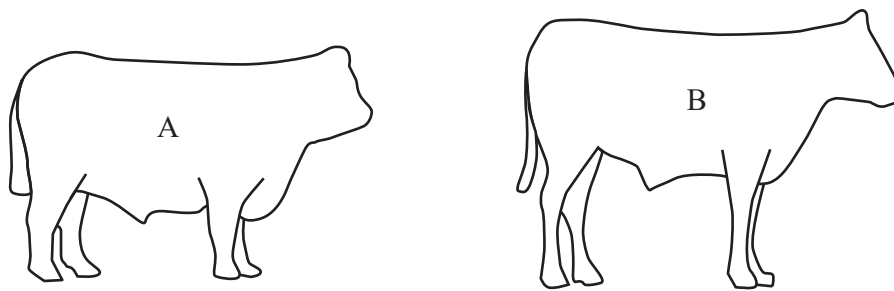
## Section 2

### Instructions

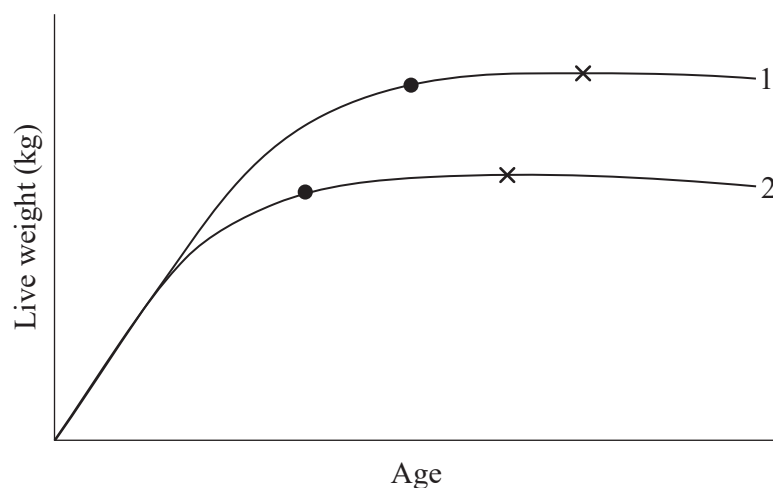
- Write using black or blue pen.
  - If you need more space for a response, use the additional pages at the back of this book.
    - On the additional pages, write the question number you are responding to.
    - Cancel any incorrect response by ruling a single diagonal line through your work.
    - Write the page number of your alternative/additional response, i.e. See page ...
    - If you do not do this, your original response will be marked.
  - This section has nine questions and is worth 39 marks.
- 

### QUESTION 16 (4 marks)

The images show two breeds of cattle at 36 months of age.



The graph shows the growth curve of two breeds of cattle with different frame scores.



**Key** ● Puberty × Mature weight

Do not write outside this box.

a) Identify which growth curve aligns with breed A.

*[1 mark]*

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b) Describe the similarities and differences in growth and development of breeds A and B from birth to maturity.

*[3 marks]*

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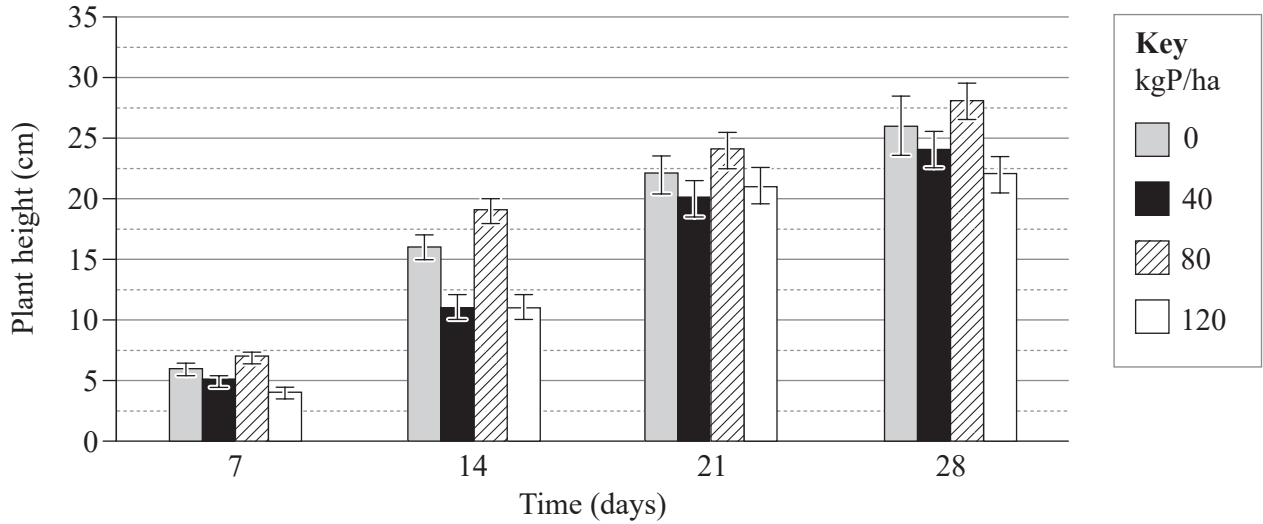
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**QUESTION 18 (4 marks)**

The graph shows the effect of different applications of phosphorus fertiliser on mean values for plant height of a vegetable crop over a 28-day period. Standard error bars are included.



a) Describe the relationship between application of phosphorus fertiliser and plant height during 28 days of growth. *[2 marks]*

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b) Contrast the results for 28-day plant height for 80 kgP/ha with those for 0 kgP/ha, 40 kgP/ha and 120 kgP/ha. *[2 marks]*

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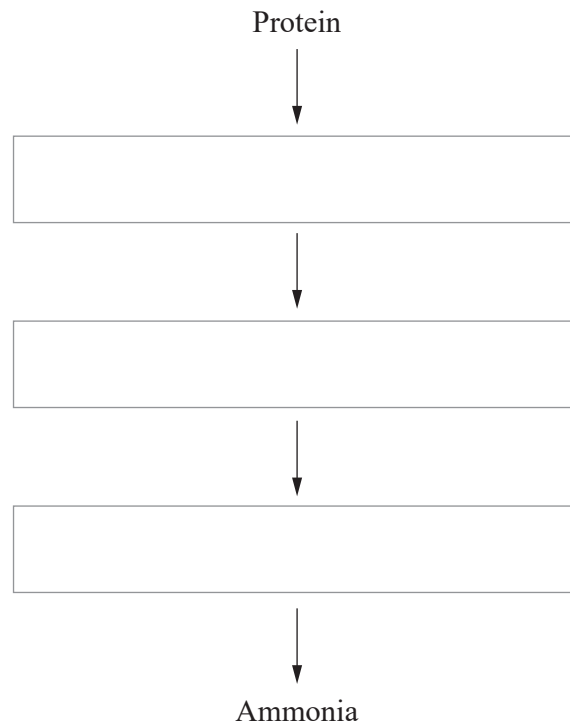
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**QUESTION 19 (7 marks)**

a) Complete the flow chart of the breakdown of protein to its simplest product.

[3 marks]



b) Describe two physiological processes for the digestion of protein in ruminant animals and identify where in the body each process occurs.

[4 marks]

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**QUESTION 20 (5 marks)**

a) Explain *integrated pest management*.

[2 marks]

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b) Define *nematicide*.

[1 mark]

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c) Explain how a physical control method can assist with weed management in an agricultural setting. Use an example of a plant pest in your response.

[2 marks]

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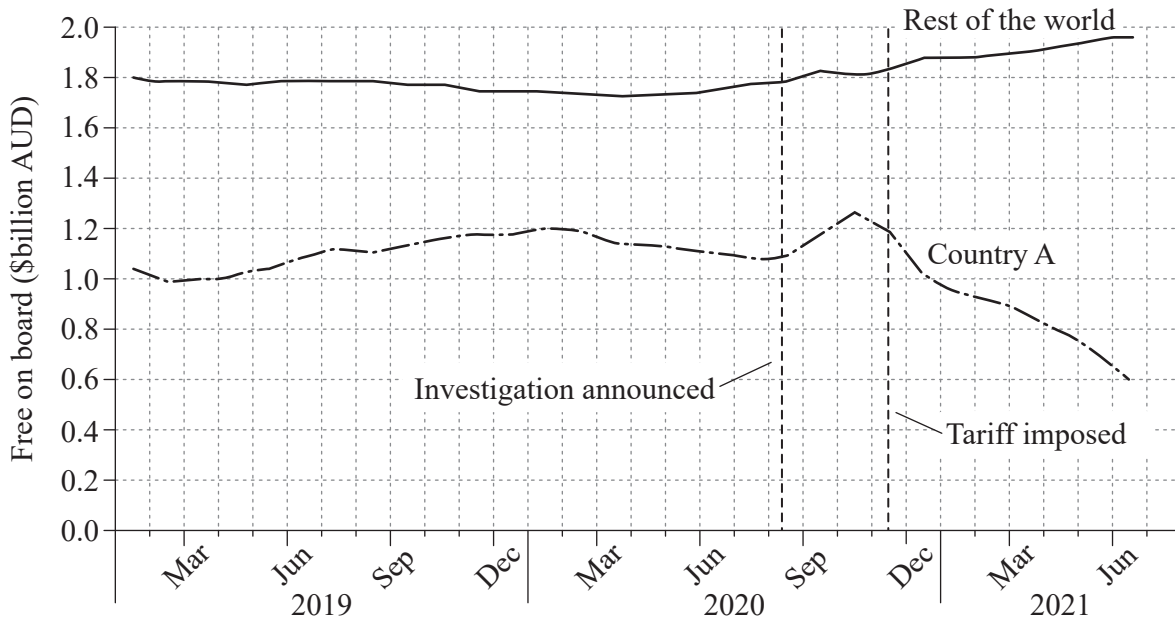
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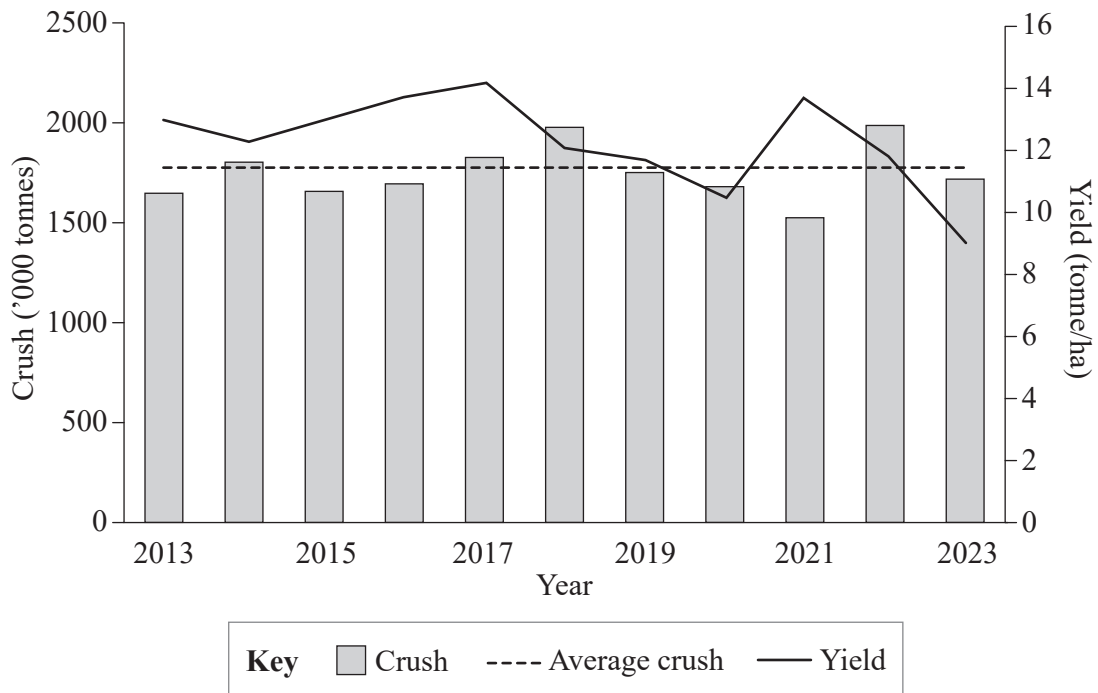
**QUESTION 21 (4 marks)**

In August 2020, country A began an investigation into the quantity of wine it imported. In November 2020, it introduced a tariff on bottled wine originating from Australia.

This graph shows when the investigation was launched by country A, when the tariff was imposed and the effect of the tariff on the export value of the Australian wine industry.



This graph shows the production of wine from the yearly crush for the Australian wine industry.



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### QUESTION 23 (3 marks)

Describe the role of biosecurity in an agricultural industry and identify two actions that may be taken to ensure biosecurity.

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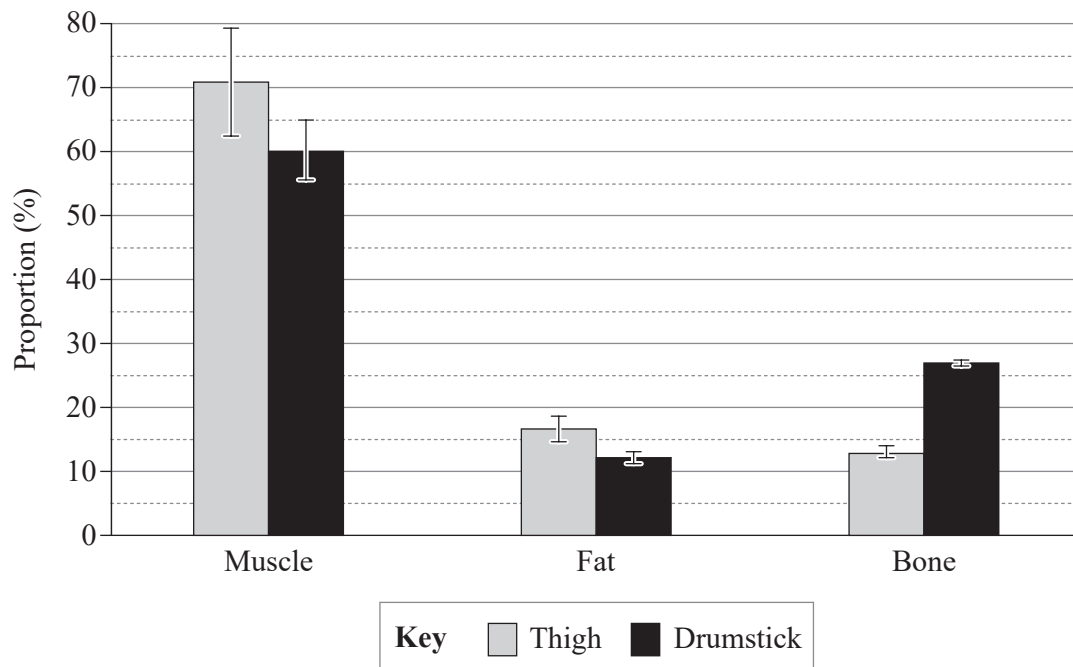
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### QUESTION 24 (4 marks)

The graph shows mean values from an investigation into the proportion of muscle, fat and bone tissue in two different poultry meat cuts. Standard error bars are included.



Do not write outside this box.

- a) Determine the poultry meat cut with greater variation in data collected.  
Use statistical evidence to support your conclusion.

*[2 marks]*

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- b) Draw a conclusion about which poultry meat cut would provide better value for money if both cuts were a similar commercial price/kg. Justify your conclusion.

*[2 marks]*

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**END OF PAPER**

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**ADDITIONAL PAGE FOR STUDENT RESPONSES**

Write the question number you are responding to.

Do not write outside this box.

## References

### Question 16

Cattle images from Table 1. in *Frame scoring of beef cattle*. (2007). Nsw.gov.au. <https://www.dpi.nsw.gov.au/animals-and-livestock/beef-cattle/appraisal/publications/frame-scoring> Licensed Creative Commons Attribution 4.0

### Question 21

Australian Government (2026). *Transparency Portal*. <https://www.transparency.gov.au/publications/agriculture/wine-australia/wine-australia-annual-report-2022-23/year-in-review/chair's-report-2022-23> Licensed Creative Commons Attribution 4.0



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