



**B O A R D O F S T U D I E S**  
NEW SOUTH WALES

**2003**

**HIGHER SCHOOL CERTIFICATE  
EXAMINATION**

# Agriculture

## Paper 2

### **General Instructions**

- Paper 2 should be attempted only by students who have studied Electives
- Reading time – 5 minutes
- Working time – 1 hour
- Write using black or blue pen
- Board-approved calculators may be used

### **Total marks – 30**

- Attempt TWO questions from Questions 1–6
- Allow about 30 minutes for each question

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**Attempt TWO questions from Questions 1–6**

**Allow about 30 minutes for each question**

Answer each question in a SEPARATE writing booklet. Extra writing booklets are available.

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	<b>Marks</b>
<b>Question 1 — Agribusiness (15 marks)</b>	
(a) Describe how a financial technique may be used when considering changing or expanding a present enterprise.	<b>3</b>
(b) Explain how a farmer would endeavour to obtain finance for an enterprise change.	<b>4</b>
(c) Describe and evaluate a research study carried out to investigate the impact of a large rural business organisation on the agricultural industries in which it is involved. In your answer, focus on: <ul style="list-style-type: none"><li>• research design;</li><li>• data analysis and presentation;</li><li>• conclusion and recommendation.</li></ul>	<b>8</b>
<b>Question 2 — Animal Management (15 marks)</b>	
(a) Describe how ONE breeding technique is used to manage the reproductive outcome of farm animals.	<b>3</b>
(b) Explain how objective measurement is used in breeding programs in an animal industry that you have studied.	<b>4</b>
(c) Describe and evaluate a research study carried out to investigate a current technique/technology which is advancing productivity in an animal production system. In your answer, focus on: <ul style="list-style-type: none"><li>• research design;</li><li>• data analysis and presentation;</li><li>• conclusion and recommendation.</li></ul>	<b>8</b>

**Question 3 — Horticulture (15 marks)**

- (a) Describe how the characteristics of an individual plant can affect its use in horticulture. **3**
- (b) Explain how ONE physiological process in plants can be manipulated to increase productivity in a horticultural system. **4**
- (c) Describe and evaluate a research study carried out to investigate a technological innovation aimed at improving productivity in a particular horticultural industry. In your answer, focus on: **8**
- research design;
  - data analysis and presentation;
  - conclusion and recommendation.

**Question 4 — Innovation and Diversification (15 marks)**

- (a) Describe ONE feature of the biology of a plant or animal and how it is related to the management of an alternative enterprise or production method. **3**
- (b) Explain how knowledge of the potential market and marketing techniques is important in alternative enterprises or production methods. **4**
- (c) Describe and evaluate a research study carried out to investigate the development and/or implementation of an alternative agricultural production system or technology. In your answer, focus on: **8**
- research design;
  - data analysis and presentation;
  - conclusion and recommendation.

**Please turn over**

**Question 5 — Plant Management (15 marks)**

- (a) Describe how plant density affects vegetative yield and reproductive yield. **3**
- (b) Explain how TWO environmental factors may limit the physiological process of photosynthesis. **4**
- (c) Describe and evaluate a research study carried out to investigate advancing productivity in plant production systems. In your answer, focus on: **8**
- research design;
  - data analysis and presentation;
  - conclusion and recommendation.

**Question 6 — Sustainable Land and Resource Management (15 marks)**

- (a) Describe the farming practices that have led to ONE form of soil degradation in Australia. **3**
- (b) Explain the detailed soil processes that have led to ONE form of soil degradation and how this degradation affects plant growth. **4**
- (c) Describe and evaluate a research study carried out to investigate an innovative technology or practice that assists conservation of, or effective use of, water in agriculture. In your answer, focus on: **8**
- research design;
  - data analysis and presentation;
  - conclusion and recommendation.

**End of paper**