

Scholarship

2010 Assessment Report

Agricultural and Horticultural Science

INTRODUCTION

2010 was the second cohort of the scholarship examination for Agricultural and Horticultural Science which was introduced in 2009. In 2010, 36 five students sat the examination, and seven scholarships were awarded with a cut score of 13 marks.

Seven of the thirty-six candidates did not attempt/answer all questions – a similar proportion to 2009. This was surprising given that the examiner recognised that parts of the 2009 examination were unnecessarily complicated and had simplified the question and examination format for 2010.

COMMENTARY

This report should be read in conjunction with the 2009 Assessment Report, the more important sections of which are copied (in italics) below. While it was clear that some students (schools) had specifically responded to the issues raised in the 2009 report, in general the same issues were identified in 2010. As a consequence, both the overall level of achievement and the number of scholarships falls short of expectations. In 2010, the mean mark was slightly lower than in 2009 but the standard deviation slightly higher.

The examination required the candidates to discuss issues in relation to primary production systems. The examiner expected responses that discussed the issues by drawing on appropriate systems that had been studied. Many of the responses were ‘system centric’ – candidates came to the examination generally well prepared to discuss the system(s), but less so on the issues. Often, the relevance of the issue to the chosen system was tenuous. This was disappointing as the focus of the examination – studies of primary production systems for sustainable production in relation to contemporary issues – had been clearly signalled in both the Performance Standard and the Assessment Specifications.

The Assessment Specification included the statement ‘...questions will require the candidate to answer in relation to at least one primary production system **of their choice**’. This wording was chosen to allow the question(s) to be answered with reference to a wide range of systems. However, future candidates should be encouraged to prepare by reading reference material on primary production systems that **best** illustrate the types of issues that are listed in the Assessment Specifications. In the Level 3 Agricultural and Horticultural Science Explanatory Notes, the choice of system is defined as those that ‘earn significant export earnings ... or allow for self-sufficiency ... or employ a significant workforce’. Primary products such as blueberries, kumara and sandersonia may be appropriate selections for those Level 3 standards but are likely to be limiting in the scholarship examination. Candidates that selected the major export products and systems such as apples, dairy, kiwifruit, meat or grapes would have access to better learning resources, especially those with a contemporary issues and sustainability focus, than those candidates that chose minor products and systems.

Unlike other subject examinations where there is often a relatively concise body of knowledge, this examination requires the student to collate widely dispersed learning resources then to interpret, critically analyse, and write a clear answer to the specific parts of the question. It is not possible to develop those skills without repeated practice, and prospective students for the 2011 examination are encouraged to develop model answers for the questions in 2009 and 2010 examinations, and to discuss and refine those answers with their study peers.

Specific comments on each of the three questions follow.

Question ONE – ‘Discuss either biosecurity, market access or water...’

1. *Most students’ understanding of the selected issues did not show critical analysis, perceptive thinking or evidence of wider general knowledge.* It was encouraging that a few students had

clearly read widely on the issues and had planned a model answer before the examination.

However, most showed little or no evidence of reading on the topic and their understanding was little more than general knowledge.

2. *Most students were able to relate the selected issues to the ONE nominated production system although, as stated in the general commentary above, in most cases the system was not the best illustration of the issue.* This weakness was compounded when the question was extended to the wider primary production sector.
3. Some students confused ‘production system’ with ‘production process’ (on-farm practices) – perhaps because of the process focus in NCEA Level 3? Similarly, ‘market access’ was commonly interpreted in the border control/biosecurity sense rather than the wider global trade, border control/biosecurity and consumer demand sense. That interpretation was not wrong per se but did limit the scope of the student’s answer.

Question TWO – ‘Compare and contrast ONE issue on TWO primary production systems...’

1. This question required the choice of one issue and two systems that can be compared (similarities) and contrasted (differences). A problem identified last year (and highlighted in paragraph 3 of the Commentary), is most students first chose the system then found the system did not give them the scope to develop a comprehensive answer. The examiner encourages students (and their teachers) to include at least one major export product and system in their study preparation.
2. The six students who were most able to discuss how the farmer/grower might respond to the selected issue were all awarded scholarship. This was due to the overall quality of their answer to this question and not due to the weighting of the marks on that second part of the question.
3. Only a few students effectively discussed the implications of the farmer/grower responses on the processors, marketers and consumers of the product – the other essential parts of the ‘value chain’. The primary production system is defined in the Performance Standard to include the farmer/grower, processor, marketer and consumer. In theory, the consumer is the most critical element of that chain as they have the power to purchase or not. But in reality the practices of one can impact on the others and the question required the student to discuss how farmer/grower responses to the contemporary issue impact on those other players. In later examinations, students might be asked to discuss how decisions taken by a marketer such as a supermarket might affect the farmer/grower.

Question THREE – ‘Discuss balancing environmental (clean green) with economic and social sustainability...’

1. As in 2009, this was the worst answered question in the examination, with an average mark of 2.42 out of 8.00.
2. *The major weakness in the responses to this question is that students appeared to equate sustainability with environmental considerations. Most gave little or no discussion on economic sustainability (businesses being able to continue profitable trading) and social sustainability (business activity creates employment for owners and employees to sustain families and communities). This broader perspective of sustainability is highlighted in Explanatory Note 2 in the Performance Standard, which was taken from the MAF web site (www.maf.govt.nz).*
3. *Only three candidates understood what was meant by ‘balance’ – that there are trade-offs between the considerations. For example, a dairy producer might maximise economic gains at the expense of the environment. Consumers may demand pork that is not reared in stalls but not be prepared to pay the higher costs of ‘free-range’ production methods.*
4. While the question did not require a student to illustrate their answer using producer, processor, marketer and consumer examples (as explicitly required in question 2), most chose producer-centric examples and so limited the scope of their answer.

5. Most students confused social sustainability (people and communities, social and cultural well-being, employment, health and safety, consumer preferences etc.) with social issues. Many simply omitted any discussion on social sustainability until the last paragraph where it appeared “... and therefore this provides economic and social sustainability”.
6. The response to this question should have been informed by wide reading on the topic and thoughtful analysis and interpretation. Without this, the student runs the risk of it being seen as an ill-informed opinionated rant of the sort commonly seen in agriculture industry journals.
7. *As discussed in the Commentary section, a candidate would have more scope to develop a high quality answer if sustainability issues and perspectives were chosen first then illustrated using the most appropriate production system.*

SCHOLARSHIP WITH OUTSTANDING PERFORMANCE

There were no candidates who were awarded Scholarship with Outstanding Performance.

SCHOLARSHIP

Candidates who were awarded Scholarship but not Scholarship with Outstanding Performance typically:

- read the questions carefully, especially those in multiple parts (as outlined in Question 3, point 3 above)
- communicated in a logical concise manner
- provided evidence of in-depth reading of relevant learning resources
- quoted data and references in support of their answer
- managed their time effectively, especially answering questions in an order that allocated their initial time to their most confident response
- demonstrated some ability to ‘evaluate’, ‘critically analyse’ and ‘compare and contrast’
- provided evidence of understanding of a broader range of systems, issues and considerations.

OTHER CANDIDATES

Candidates who were not awarded Scholarship or Scholarship with Outstanding Performance typically:

- failed to read the questions carefully and understand what the examiner was asking for, especially for multiple part questions
- failed to allocate time effectively – while no student appeared to run out of time, the quality of answers generally deteriorated despite few students changing the question/response order
- selected ‘minor’ primary production systems that gave reduced scope for a comprehensive answer
- concentrated on environmental aspects of sustainability and producer responses
- provided limited understanding or no mention of economic and social considerations
- provided generic responses – did not illustrate the answer with specific data or references
- showed little evidence of reading on the topics
- lacked in-depth knowledge and understanding of at least two primary production systems.
- lacked structure in the presentation of their written responses
- spent most of their response discussing what the issues involve and why they are issues but not showing understanding and perception of the future implications and range of stakeholder responses.

CONCLUSIONS

The key ‘take-home messages’ arising from the 2010 examination are that students should:

- choose primary production systems that give greater scope for discussing aspects of sustainability and a range of contemporary issues
- read a wide range of learning resources on the topics listed in the Assessment Specifications
- read the examination questions carefully and write a well-structured answer that addresses each part of each question.