Agricultural Production and Agricultural Systems Subject Assessment Advice

## Overview

This subject assessment advice is based on previous year’s assessment cycles in Agriculture and Horticulture. It provides an overview of how students performed in their school assessments in relation to the learning requirements, assessment design criteria, and performance standards relevant to the new Agricultural Production and Agricultural Systems subject outlines.

Teachers should refer to the subject outline for specifications on content and learning requirements, and to the subject operational information for operational matters and key dates.

# School Assessment

Assessment Type 1: Agricultural Reports

Student evidence in the Investigations Folio should include a student’s own design of a procedure, observations and display of data collected, analysis of this data, evaluation of procedures, conclusions related to an investigable question or hypothesis, discussion of the effect of the quality of the data on the conclusion and the analysis of a development, related to an agricultural concept, that is an example of science as a human endeavour.

The more successful responses commonly:

* provided a clear, considered, individual design of an experimental investigation which included a testable hypothesis, independent and dependent variables, and controlled variables
* demonstrated well-considered analysis of data and the implications for local industry
* evaluated the procedures used, highlighting improvements that could have been made
* made predictions and demonstrated an understanding of the connections between the data collected and the concepts being addressed
* drew conclusions and used these to make recommendations in a variety of contexts
* analysed practical activities (e.g. assessing lambs for sale) in terms of the concepts and principles directly related to this activity (e.g. meat quality, animal welfare, market specifications, and sheep marketing)
* provided a connection to current agricultural best practice
* consisted of a variety of activities of Stage 2 standard that reflected the local agricultural context.

The less successful responses commonly:

* showed little or no evidence of design of an investigation
* lacked depth in analysis of data and evaluation of procedures
* made tenuous, if any, links with current agricultural practice
* provided very few recommendations
* demonstrated practical skills appropriate for lower-year levels
* were often simply journals or diaries of tasks undertaken with little or no reflection.

Assessment Type 2: Applications

Applications Tasks require demonstration of knowledge and understanding of key agricultural concepts and practices, and application of this knowledge to derive solutions to problems in familiar and unfamiliar practical, social or environmental contexts. Applications tasks also require some analysis and evaluation of information and effective communication using appropriate terms and conventions.

The more successful responses in skills and applications tasks commonly:

* demonstrated evidence of higher-order thinking skills, rather than simply recall of information, for much of the content
* demonstrated a good understanding of the link between the concepts covered and their implications for real-world agricultural practice
* were assessed against a limited number of specific features for each task
* answered open-ended questions that allowed the student to demonstrate greater depth and breadth of knowledge and understanding
* responded to task sheets that clearly indicated the specific features being assessed and what to include to address each of these.

The less successful responses commonly:

* responded to simple recall and multiple-choice questions in tests and simple research or comprehension tasks, with little evidence of analysis or evaluation of information
* attempted to address specific feature I1 only in a skills and applications task rather than a practical skills task
* were of a standard expected at lower-year levels.

# External Assessment

Assessment Type 3: Production Investigation

Students individually undertake one production investigation. In negotiation with the teacher they design a production plan and then develop and conduct their own individual practical investigation based on a primary production enterprise in agriculture.

Further details of the requirements of this task can be found in the assessment section of the Agricultural Production subject outline.

Assessment Type 3: Experimental Investigation

Students individually undertake one experimental investigation. They develop their investigation in negotiation with the teacher and conduct it based on a specific aspect of animal or plant production systems. Students design a proposal. They develop their own hypothesis, then design and undertake the investigation, and analyse, evaluate, and report on their findings.

Further details of the requirements of this task can be found in the assessment section of the Agricultural Systems subject outline.

The more successful responses to the external investigation commonly:

* demonstrated evidence of thorough and timely planning
* posed a question that did not have an obvious or predetermined answer
* showed explicit links to agricultural practice
* provided a clear, considered, individual design of an experimental investigation that included a testable hypothesis, independent and dependent variables, and controlled variables
* provided an unambiguous outline of the investigation
* used a reasonable sample size
* presented a summary of only the data required to directly address the hypothesis
* were drafted carefully and did not repeat content
* responded to tasks that provided opportunities for demonstration of higher-order scientific thinking skills and analysis and evaluation of data
* analysed results using appropriate scientific concepts; for example, rather than saying that an increased protein level leads to increased growth, which is not in-depth analysis, they explained the biochemical link between protein ingestion and muscle development, demonstrating understanding of the reasons behind the trends have identified
* clearly identified weaknesses in the experimental design and suggested realistic improvements to overcome these
* included, where appropriate, a discussion of the financial implications of trial outcomes
* included a correctly formatted bibliography and in-text referencing, where appropriate.

The less successful responses commonly:

* did not relate directly to agricultural practice
* had extremely small sample sizes without justification
* presented copious amounts of raw data without clear summaries showing averages, differences between trial groups, etc
* presented graphs of individual results, rather than just the averages for each group
* presented data in graphs that were not formatted correctly, or were the wrong type of graph for the data used
* did not reflect current industry best practice
* did not take advantage of the opportunity to discuss the financial implications of the results; for example, even though using a food high in protein led to increased egg production, it may be that the increased cost of feed outweighed the increased financial return from the extra eggs produced
* did not acknowledge sources of information used in the preparation of the investigation.