2021 Agricultural Production Subject Assessment Advice

Overview

Subject assessment advice, based on the 2021 assessment cycle, gives an overview of how students performed in their school and external assessments in relation to the learning requirements, assessment design criteria, and performance standards set out in the relevant subject outline. They provide information and advice regarding the assessment types, the application of the performance standards in school and external assessments, and the quality of student performance.

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

Students complete three agricultural reports. Two reports have a practical focus, and one report has a focus on science as a human endeavour, SHE, in an agricultural context. Both assessment design criteria, Investigation, Analysis and Evaluation, and Knowledge and Application, are used for this assessment type. Both practical reports and the SHE report have required specifications, which are described in the assessment section of the subject outline.

Student evidence in the Agricultural Reports should focus on the science inquiry skills, explain connections with science as a human endeavour and apply the key agricultural understandings. In at least one practical investigation, students deconstruct a problem and design a method to investigate one aspect of the problem. Students should trial and/or research aspects of their proposed design before they write their final method.

The more successful responses commonly:

* deconstructed open-ended problems that had several possible aspects to explore that allowed opportunities for individual design and investigation of an uncertain outcome
* provided evidence of individual design by using a unique layout and their own justification for the selection of equipment and various steps in the procedure
* used a concise, testable hypothesis, one independent variable and one dependent variable in practical investigations
* discussed trends and errors specifically in terms of the data collected in practical investigations
* had clear and succinct analysis and evaluation contained within the word count
* were able to suggest reasons for results that did not show a clear trend
* acknowledged the limitations of the conclusion by referring to the parameters of the investigation
* linked key SHE concepts specifically to aspects of the topic in the SHE investigation
* supported the discussion in the SHE investigation with substantial, relevant, and well-referenced research.

The less successful responses commonly:

* were limited by too much scaffolding in the task, such as specific questions to answer in the deconstruction and pre-formatted results tables
* had little opportunity to deconstruct a problem or develop an individual design
* rarely included justification of the design procedure
* stated potential errors without acknowledging the significance of these on the data collected and hence on the conclusion
* displayed a poor understanding of errors, mistakes, precision, and reliability of results
* responded to questions rather than discussing the actual data collected in a practical investigation
* did not explain the interaction between the relevant agricultural science and society in the SHE investigation.

Assessment Type 2: Applications

Students undertake three applications tasks, with at least one of these tasks done under direct teacher supervision within a maximum of 90 minutes of class time. Evidence should be presented for both assessment design criteria, Investigation, Analysis and Evaluation, and Knowledge and Application.

Student evidence in the Applications tasks should focus on the key agricultural understandings, apply science inquiry skills, and explain connections with science as a human endeavour.

The more successful responses commonly:

* used a variety of communication formats and included relevant diagrams, data, and images
* demonstrated deep levels understanding of concepts, application of knowledge and skills in new contexts and linked some aspects of topics to key SHE concepts.

The less successful responses commonly:

* responded to questions requiring predominately recall of learned facts and recording of information with little opportunity to demonstrate deep understanding, apply knowledge to new contexts or analyse agricultural practices.

External Assessment

Assessment Type 3: Production Investigation

The purpose of this investigation is for students to conduct their own individual practical investigation that is based on a primary production enterprise in agriculture. Students and teachers must discuss the proposed plans before they are finalised to check that animal welfare has been properly considered.

Some students’ work exceeded the word count, possibly due to information presented in tables mistakenly considered to be excluded from the word count. All of a student’s own words are included in the word count. Words after the word limit such as concluding paragraphs are not assessed nor is material in appendices.

The more successful responses commonly:

* included all assessable information within the word limit
* managed a project themselves rather than reporting on an already established enterprise managed by someone else
* investigated an aspect of agricultural production that had a useful purpose rather than just observing a production process
* identified one or two clear production goals that were relevant to the production system and used a measurable outcome i.e. weight gain (kg/day)
* provided background research relevant to the production goals that was succinct, used recent statistics about the industry and its impact on Australian agricultural production
* investigated plant production topics that enabled larger sample sizes, were easy to manage and had few ethical risks
* justified the use of specific types and quantities of resources
* presented a condensed management plan with routine monitoring across several weeks summarised as one point
* used their own format to display the projected gross margin, clearly identifying all income, expenses and the final gross margin
* included calculations to demonstrate costings, for example, how the price/kg for lamb was initially calculated
* included safety and environmental considerations that were enterprise relevant and animal welfare was referenced to welfare standards
* compared data from the trial with data provided by industrial producers
* analysed variations between the projected and final gross margin
* evaluated limitations of the investigation and explained appropriate improvements.

The less successful responses commonly:

* sometimes did not outline the procedure to be undertaken
* justified few aspects of their procedure
* exceeded the word limit, usually because of an unnecessary number of words in the plan (often in tables) rather in analysis of outcomes and evaluation of procedures
* identified unrealistic production goals with no basis in commercial practice (and sometimes in direct contradiction to stated industry standards)
* used a mixture of non-commercial breeds instead of focusing on one breed and exploring its potential
* included capital costs like the purchase of equipment in the gross margin but did not allocate values for some expenses, such as donated items, and key expenses like water consumption and electricity
* presented different data in the report than identified in the production goals in the plan, with no explanation
* presented graphs that used inappropriate formats, raw data or graphs that did not provide useful information, such as weekly weight gain rather than initial and final weights
* did not show how the income and expenses were calculated in the projected gross margin
* indicated a limited understanding of end market with poor marketing considerations and no justification for the marketing strategies
* made little reference to secondary data
* included minimal discussion about links to best practice in industry
* wrote very simple statements when attempting to evaluate procedures
* displayed poor communication skills by using conversational language that is not appropriate in a formal report, unnecessarily repeating information and confusing the projected gross margin with the actual gross margin.