

# 2024 NCEA Assessment Report

<b>Subject:</b>	Agricultural and Horticultural Science
<b>Level:</b>	1
<b>Achievement standard(s):</b>	91930, 91931

## General commentary

Both assessments gave candidates the opportunity to demonstrate understanding of management practices used in a primary production system of their choice. Candidates who achieved, showed their understanding by linking a management practice to a named primary production system. Candidates were able to explain why a named management practice should be used, as well as explaining both the strengths and weaknesses of a specific management practice.

Candidates who did well also answered most of the questions in each paper and were able to describe and explain their ideas clearly and concisely, avoiding repeating information both within and between questions.

## Report on individual achievement standard(s)

### Achievement standard 91930: Demonstrate understanding of how soil properties are managed in a primary production system

#### Assessment

This assessment consisted of three questions, each question with multiple parts. For each question, candidates were expected to name a primary production system to base their response around. Candidates were asked to use a different soil management practice for each of the three questions, and describe how the management practice changed properties of soil and improved plant growth.

#### Commentary

Candidates who did well in this assessment chose relevant management practices that had a direct impact on the soil properties named in the question. Their answers were detailed and made clear links to the ways the management practice increased plant growth or production in a named primary production system. Candidates that achieved well also wrote in a concise way, that avoided repetition of the same idea and showed clear understanding of a range of ways soil properties are managed in production systems to increase plant growth.

#### Grade awarding

Candidates who were awarded **Achievement** commonly:

- gave a basic description of how a management practice that modifies soil properties is carried out
- described how a named management practice altered or improved a property of soil
- provided repetitive ideas in the responses to the questions.

Candidates who were awarded **Achievement with Merit** commonly:

- linked a management practice to how it increased plant production with reference to a plant growing process, e.g. oxygen, and therefore aeration in soil, is needed so plants/. soil organisms can respire
- explained how a management practice changed more than one soil property per question, e.g. increased aeration in the soil will increase respiration but also improve soil temperature, which in turn increases plant growth rate.

Candidates who were awarded **Achievement with Excellence** commonly:

- evaluated management practices by identifying the strengths and weaknesses of the impact the management practices have on soil properties
- gave a balanced discussion of the impact of management practice by discussing both positive and negative impacts
- linked the management practice, and its strengths and weaknesses, to a named production system
- communicated ideas concisely, avoiding repetition.

Candidates who were awarded **Not Achieved** commonly:

- identified a management practice that modifies the soil properties
- offered partial responses in describing a management practice and its impact on soil properties
- chose management practices that were either not relevant or not linked to the question.

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## **Achievement standard 91931: Demonstrate understanding of environmental sustainability in primary production management practices**

### Assessment

The assessment consisted of a prompt with supporting questions to be answered in the form of a report and submitted to the NZQA submission portal. Candidates were required to write a report using a primary production system of their choice to demonstrate understanding of how a management practice helps in improving biodiversity and maintaining environmental sustainability. Candidates were expected to choose and apply knowledge of an appropriate Māori value in the response. The format of this assessment did not require references from external resources.

### Commentary

Candidates who achieved well, chose management practices that have clear links to improving biodiversity within their chosen production system. Candidates also achieved well when they understood biodiversity, and how their production system currently impacts biodiversity. Higher grades were awarded to candidates who showed a holistic understanding of environmental sustainability and gave evidence of big picture thinking, along with specific details in their responses.

### Grade awarding

Candidates who were awarded **Achievement** commonly:

- chose a production system that has clear and obvious impacts on biodiversity
- described how their chosen production system impacted biodiversity
- described how at least one management practice improved biodiversity
- chose a Māori value that was easily linked to sustainable use of the land.

Candidates who were awarded **Achievement with Merit** commonly:

- explained how their chosen management practice(s) improved biodiversity, including specific details of how they are carried out
- chose management practices that were effective at improving biodiversity within their chosen primary production system.

Candidates who were awarded **Achievement with Excellence** commonly:

- justified a management practice by clearly communicating why it would have the biggest impact on improving biodiversity and environmental sustainability
- explained, in detail, about the importance of carrying out the management practice
- chose primary production systems and management practices that could be linked to improving / maintaining biodiversity
- gave evidence of a deeper understanding of environmental sustainability, and its significance to a named primary production system in their response.

Candidates who were awarded **Not Achieved** commonly:

- described management practices that were not linked to biodiversity or did not prevent the negative impacts of their chosen primary production system
  - showed inadequate understanding of what biodiversity was
  - did not include a Māori value, or made no links to a Māori value in the response.
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