SUPERVISOR'S USE ONLY

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NZQA | Mana Tohu Mātauranga o Aotearoa
New Zealand Qualifications Authority

Level 1 Agricultural and Horticultural Science 2024

91930 Demonstrate understanding of how soil properties are managed in a primary production system

Credits: Five

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of how soil properties are managed in a primary production system.	Explain how soil properties are managed in a primary production system.	Evaluate how soil properties are managed in a primary production system.

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

You should attempt ALL the questions in this booklet.

If you need more room for any answer, use the extra space provided at the back of this booklet.

Check that this booklet has pages 2–11 in the correct order and that none of these pages is blank.

Do not write in the margins (////). This area will be cut off when the booklet is marked.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

INSTRUCTIONS

You must choose a **different** soil management practice to answer each question.

Ensure reference to a **relevant** Māori concept or value, related to soil management, is included in your response. One or more concepts may be appropriate.

Note: 'Soil properties' refers to physical, chemical, and biological aspects of soil.

QUESTION ONE: Soil water

Choose a primary production system.

Primary production system: _____

(a) (i) Name and describe a soil type that would require management to remove excess water during periods of high rainfall.

(ii) What impact can excess water have on soil properties and plant growth?

(b) Evaluate a soil management practice that is used to remove excess water from a soil in your chosen primary production system.

In your answer, you should consider how the management practice:

- modifies conditions for plant growth and productivity
- improves soil conditions
- cares for the soil.

QUESTION TWO: Soil nutrients

Choose the same or a different primary production system to answer this question.

Primary production system: _____

(a) How are nutrient levels tested in soil in your chosen primary production system?

(b) Evaluate a soil management practice for your chosen primary production system that can increase the level of nutrients in the soil. This practice must be **different** from the one discussed in Question One.

In your answer, you should consider how the management practice:

- alters the properties of soil
- cares for the soil
- helps optimise plant growth.

QUESTION THREE: Soil organisms

Choose the same or a different primary production system to answer this question.

Primary production system: _____

(a) What benefits do living organisms have on soil properties and plant growth in your chosen primary production system?

(b) Evaluate how a soil management practice for your chosen primary production system can modify soil conditions to promote living organisms. This practice must be **different** from ones discussed in questions One and Two.

In your answer, you should consider how the management practice:

- improves the overall health of the soil
- helps optimise plant production.

Extra space if required.
Write the question number(s) if applicable.

QUESTION NUMBER

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