To be completed by candidate

NSN

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Draw a cross through the box (☒) if you have NOT written in this booklet

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NZQA

Mana Tohu Mātauranga o Aotearoa
New Zealand Qualifications Authority

Level 1 Agricultural and Horticultural Science RAS 2023

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

Credits: Five

SAMPLE ASSESSMENT

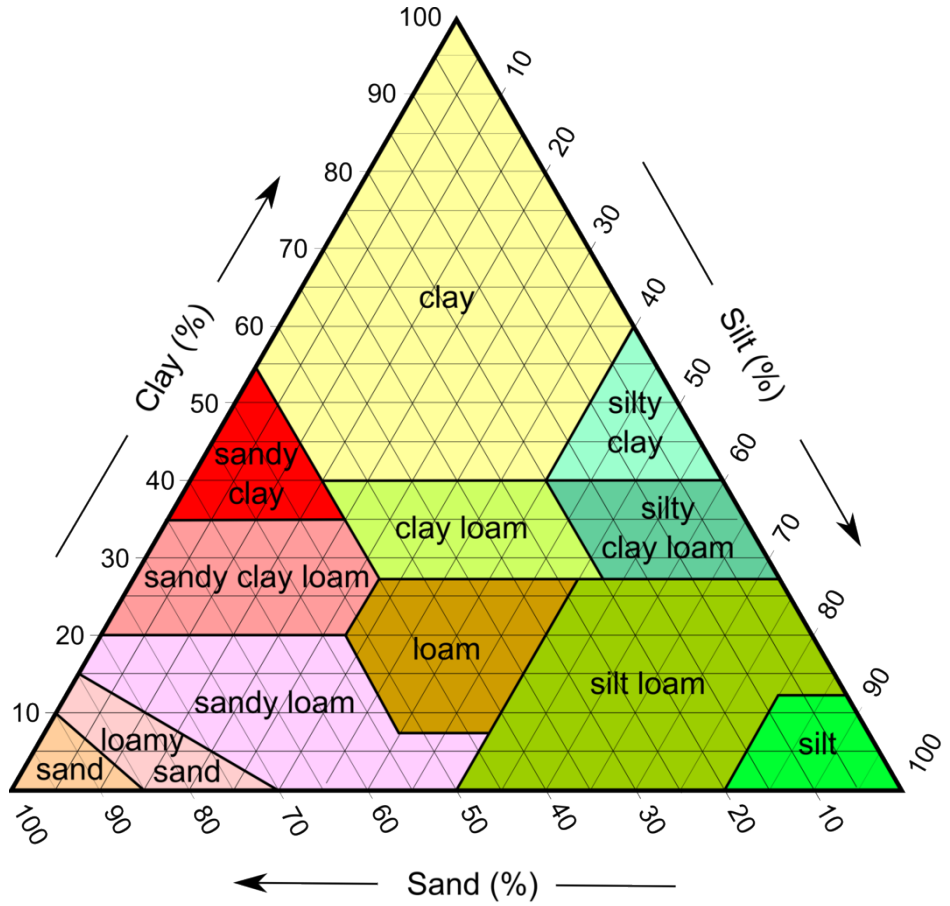
Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of how soil properties are managed in a primary production system.	Explain how soil properties are managed in a primary production system.	Evaluate how soil properties are managed in a primary production system.

This assessment is based on a now-expired version of the achievement standard and may not accurately reflect the content and practice of external assessments developed for 2024 onwards.

In the actual assessment there will be three questions.

QUESTION ONE: Physical soil properties

One method of identifying soil types is based on the proportion of sand, silt and clay they have. Soil scientists use soil texture triangles to identify these soil types.



Source: https://thinkingcountry.files.wordpress.com/2016/11/1067px-soiltexture_usda.png

Two farms had their soil tested and they found they had the following proportions of soil particles.

Farm 1: 66% sand, 22% clay, and 12% silt

Farm 2: 65% clay 20% sand and 15% silt

(a) Using the soil texture triangle above, identify the soil type that each farm has.

Farm 1: _____

Farm 2: _____

Based on the soil triangle, select a specific soil type and a primary production system.

Specific soil type: _____

Selected primary production system: _____

To answer the following soil management questions, you will also need to consider a relevant Māori management value related to soil.

(b) Describe a management practice that is used in your selected primary production system that is used to manage physical soil properties of your soil type.

In your response consider:

- how the physical soil properties are modified
- the impact on plant production.

(c) Compare and contrast this with another physical soil management practice for the same soil type and justify the use of one of these management practices.

In your response, consider:

- impact on physical soil properties
- impact on plant production
- reduction of negative soil outcomes.

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