

90919



NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

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SUPERVISOR'S USE ONLY

Level 1 Agricultural and Horticultural Science, 2014

90919 Demonstrate knowledge of soil management practices

9.30 am Tuesday 11 November 2014

Credits: Four

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate knowledge of soil management practices.	Demonstrate in-depth knowledge of soil management practices.	Demonstrate comprehensive knowledge of soil management practices.

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 2–8 in the correct order and that none of these pages is blank.

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

TOTAL

ASSESSOR'S USE ONLY

QUESTION ONE: COASTAL PROPERTY

A grower is considering planting a crop on a small coastal property where the soil is very sandy.

Sandy soil



It has been suggested to the grower that mulch should be applied to the soil once the crop is planted.

Define the term "mulch".

Explain the effect mulching has on the properties of soil, and how these properties influence plant growth.

QUESTION TWO: SCHOOL GARDEN PLOTASSESSOR'S
USE ONLY

There are a variety of methods that can be used to irrigate soil.
Describe THREE ways in which students could apply water to a school garden plot.

- (1) _____

- (2) _____

- (3) _____

Explain how irrigation affects soil properties, and how these properties influence plant growth.

The students have decided their garden plot will have raised garden beds instead of beds at ground level.

Raised garden beds

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shambhalapottery.blogspot.
co.nz/2012/09/where-day-went.
html](http://shambhalapottery.blogspot.co.nz/2012/09/where-day-went.html)*

Justify the decision to use raised garden beds by comparing and contrasting this with the use of ground-level garden beds.

In your answer, you could consider:

- physical, chemical, and biological properties of soil
- ease of use
- plant growth.

QUESTION THREE: FARMING ON CLAY SOILASSESSOR'S
USE ONLY

A farm has a clay loam soil. It has been suggested that lime be applied to the paddocks. Describe how lime could be applied to paddocks on the farm.

Explain the effect lime has on the properties of soil, and how these properties influence plant growth.

One of the paddocks is prone to surface flooding, and the farmer is considering either installing a sub-soil drainage system, or running a ripper pulled by a tractor through the soil.

Sub-soil drainage

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Soil ripper

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Select and justify the better management practice by comparing and contrasting it to the other management practice.

Selected management practice: _____

In your answer, you could consider:

- the physical properties of soil
- the long-term effects of the practice on the soil
- plant growth.
