SUPERVISOR'S USE ONLY

90919



Level 1 Agricultural and Horticultural Science, 2018

90919 Demonstrate knowledge of soil management practices

9.30 a.m. Thursday 22 November 2018 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 2–11 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

QUESTION ONE: SILT SOILS

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Soil texture refers to the size of the particles that the soil is made up of.

pnysicai pro	operties of that soil.	
what happe	r continuous cropping in the same soil can lead to over-cultivation. Descens to soil structure when it is over-cultivated, and explain how this affectand plant growth.	ribe ts soil

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When a grower needs to irrigate their paddocks, they can use either a centre pivot irrigator or a

gun irrigator. Centre pivot irrigator **Gun irrigator** Source: www.southernwatercompany.com/ Source: http://www.rainer.co.nz/assets/ products-services/irrigators-pivots. Uploads/SAM4.jpg. (c) Select either a centre pivot irrigator or a gun irrigator as the most suitable method of irrigating. Justify your selection by comparing and contrasting it with the other method. Selected method: In your answer, consider: the efficiency of application the effect each one has on the physical, chemical, and biological properties of soil the effect on plant growth.

More space for this answer is available on the next page.

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The examination continues on the following page.

QUESTION TWO: SOIL TESTING

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A soil drop test is when a spadeful of soil is dug up and then dropped onto the ground. The soil then breaks into peds, which are clumps of soil.

Soil drop test



-	drop test, a grower noticed that the soil had very little organic matter.
Describe a mana	drop test, a grower noticed that the soil had very little organic matter. agement practice that could be carried out on soil to improve its organic lain how adding organic matter will affect soil properties.
Describe a mana	agement practice that could be carried out on soil to improve its organic
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After a laboratory had carried out a soil test on samples taken from a farm, it was recommended that lime be applied to the paddocks.

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(c) Justify why a grower would apply lime to the paddocks.

In your answer, consider:

- how lime can be applied to soil
- how lime affects the physical, chemical, and biological properties of soil

	The wine and the physical, enemical, and blooglear properties of con-
•	the effects on plant growth.

QUESTION THREE: SOIL NUTRIENTS

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The nutrient status of soil is very important. Nutrients in the form of fertilisers need to be applied to the soil in specific ratios.

lor to	improve plant growth an a dairy property a farmer can apply either dairy shed effluer
tilise	improve plant growth on a dairy property, a farmer can apply either dairy shed effluer r.
	ect the better method, and justify your selection by comparing and contrasting it with the management practice.
Sele	ected management practice:
In yo	our answer, consider:
•	how each method is carried out
•	the effect on the physical, chemical, and biological properties of soil
•	how application rates can be managed.

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QUESTION NUMBER							

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