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Level 1 Agricultural and Horticultural Science 2020

90919 Demonstrate knowledge of soil management practices

9.30 a.m. Wednesday 18 November 2020

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 2–12 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: Growing carrots

Carrots are grown from seed. Before planting the seed, the soil is cultivated.



- (a) Describe THREE actions carried out when cultivating paddocks, and explain why each action should be carried out.

	Description of action	Explanation of why the action is carried out
Action 1		
Action 2		
Action 3		

Carrots are grown in a silt loam soil.

- (b) Describe the physical properties of silt loam, and explain how these affect plant growth.

QUESTION TWO: Cattle farming

Having stock in paddocks during winter can lead to pugging of the soil.



(a) Explain how pugging affects soil properties.

(b) (i) Describe a suitable drainage system that could be put into soil to reduce pugging.

Part (b) continues on page 6 ►

QUESTION THREE: Sandy soils

The particle size, or texture, of a soil affects the soil's physical, chemical, and biological properties.

- (a) Describe the texture of sandy soils.

A grower has decided to make compost.

- (b) Describe THREE actions carried out when making compost, and explain why each action should be carried out.

	Description of action	Explanation of why the action is carried out
Action 1		
Action 2		
Action 3		

Acknowledgements

Images from the following sources have been adapted for use in this examination:

Page 2

<https://bidfreshhamilton.co.nz/any-time/southern-fresh/>

Page 5

<https://thisnzlife.co.nz/what-is-pugging-how-to-avoid-damaging-your-soil-this-winter/>