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Level 2 Agricultural and Horticultural Science 2020

91290 Demonstrate understanding of techniques used to modify physical factors of the environment for NZ plant production

2.00 p.m. Monday 30 November 2020
Credits: Four

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of techniques used to modify physical factors of the environment for commercial plant production in New Zealand.	Demonstrate in-depth understanding of techniques used to modify physical factors of the environment for commercial plant production in New Zealand.	Demonstrate comprehensive understanding of techniques used to modify physical factors of the environment for commercial plant production in New Zealand.

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

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QUESTION ONE: ErosionASSESSOR'S
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Monitoring of two Pukekohe paddocks shows large amounts of soil are moving downhill. On average, 98 mm or 21 tonnes per hectare per year of topsoil has moved since 1952. Less than one percent of this soil is recovered from drains and roads.

Source image: <https://www.waikatoregion.govt.nz/assets/PageFiles/28959/8/129%20-%203237636.pdf>, p.22



- (a) Identify and explain how TWO management practices are used to manage soil erosion in market gardens.

Management practice 1: _____

Management practice 2: _____

- In your answer, consider crop quality and yield.

QUESTION TWO: Temperature

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Growers can carry out a number of management practices to manage temperatures. These management practices can be carried out during the establishment phase or during the growth phase of the crop.

Image: <http://thepearorchard.co.nz/communities/7/004/012/321/437/images/4624449452.jpg>



- (a) Identify and explain how TWO management practices are used in outdoor plant production to manage temperature.

Management practice 1: _____

Management practice 2: _____

- In your answer, consider timing and yield.

“Fixed netting on posts and wire cost around \$20,000 to \$30,000 per hectare to erect. [REDACTED]

Image: <https://netprohb.co.nz/wp-content/uploads/2018/06/NetPro-fruit-tree-protection-143-679.jpg>

Select a crop, and justify a grower installing fixed netting to protect it against hail.

- describe TWO ways in which hail netting can modify the physical environment for your selected crop
- explain how the use of hail netting improves yield and quality
- compare and contrast the use of hail netting with not using hail netting and relying on insurance, in terms of social and economic impact.

Selected crop: _____

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

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QUESTION
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