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SUPERVISOR'S USE ONLY

Level 2 Agricultural and Horticultural Science, 2017

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

9.30 a.m. Wednesday 29 November 2017
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 2–10 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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A number of techniques are used to produce commercial tomato and capsicum crops in greenhouses in New Zealand.

- (a) Explain TWO techniques used in greenhouses to modify the physical factors of temperature or growing media, and how each technique improves the timing of crop production.

- (b) Justify one of the techniques used in greenhouses in terms of its economic and environmental impact.

High-quality potatoes such as Perlas are grown in the rich soils of Pukekohe, in the North Island. They have helped to increase national potato sales in recent years.

- (a) Explain how TWO techniques are used by potato growers to modify physical factors of the environment in order to improve the quality of potatoes produced.

- (b) Evaluate BOTH of the techniques in (a) in terms of their economic or environmental impact on commercial potato production in New Zealand.

A fan, like the one in the picture below, has been installed in a kiwifruit orchard.

- (b) Justify the kiwifruit grower's use of a fan over an alternative technique for modifying the physical factor of the environment identified in (a).

In your answer, consider the economic and social impact of each technique.

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

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Acknowledgements

Images from the following sources have been used in this examination.

Page	Sources
2	https://nz.pinterest.com/pin/401383385509472609/
4	(left) http://www.landwise.org.nz/wp-content/uploads/2010/12/Wilcox-Photo1-Potatoes.jpg (right) https://foodbox.co.nz/wilcox-perlas

