

90924



Draw a cross through the box (X) if you have NOT written in this booklet

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Mana Tohu Mātauranga o Aotearoa
New Zealand Qualifications Authority

Level 1 Agricultural and Horticultural Science 2023

90924 Demonstrate knowledge of horticultural plant management practices and related plant physiology

Credits: Five

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate knowledge of horticultural plant management practices and related plant physiology.	Demonstrate in-depth knowledge of horticultural plant management practices and related plant physiology.	Demonstrate comprehensive knowledge of horticultural plant management practices and related plant physiology.

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.

Do not write in any cross-hatched area (DO NOT WRITE IN THIS AREA). This area will be cut off when the booklet is marked.

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

QUESTION ONE: Shelter



Image source: <https://www.maxcoverage.co.nz/artificial-orchard-shelters/>

- (a) Why would growers use a shelter belt in an orchard?

- (b) Explain how a shelter belt improves the growth and production of horticultural crops.

(c) Choose either a natural or artificial shelter belt for an orchard. Explain why this option is the most effective, comparing the advantages and disadvantages of both options. In your answer consider:

Soils are cultivated before seed is sown.

- (b) Explain how the growing conditions for plants are improved by cultivating soils.

(c) Choose either base dressing or side dressing and explain why this is the better option by comparing it to the alternative. In your answer you may consider:

QUESTION THREE: Training and establishment



Image source: supplied

The apples pictured above are from the same tree. The green apple was picked from the centre of the tree, the red ones are on the outside.

- (a) (i) How are training and pruning techniques carried out?

Training: _____

Pruning: _____

- (ii) Explain how training and/or pruning improves the uniformity of the apple crop.

(c) Why is plant spacing and row orientation important in crop growing? Justify your answer by considering:

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

QUESTION
NUMBER

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