

90924



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



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.

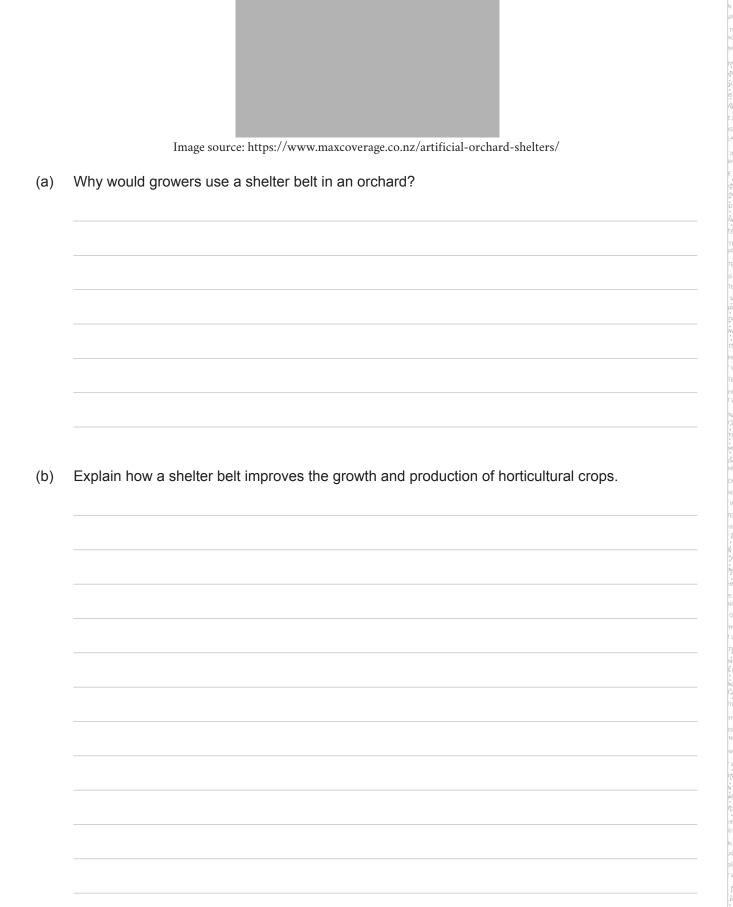
If you need more room for any answer, use the extra space provided at the back of this booklet.

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 (continue of the cut off when the booklet is marked.

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

QUESTION ONE: Shelter



A grower has bought an existing orchard, but there is no shelter currently in place.

•	sider: effectiveness
•	cost
•	
•	impact on plant growth.

QUESTION TWO: Cultivation

Soils are cultivated before seed is sown.

(a) A grower wants to cultivate a large area. Describe the steps taken from 'existing crop' through to 'ready for sowing'.

Steps	How each step is carried out

A grower with a limited budget needs to decide between applying a heavy base dressing of a general fertiliser while cultivating the soil, or side dressing during crop growth.

(c)

Cho con	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:				
•	crop yield				
•	environmental impacts				
•	cost.				

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)	(1)	now are training and pruning techniques carried out?
		Training:
		Pruning:
	(ii)	Explain how training and/or pruning improves the uniformity of the apple crop.



 $Image\ source: https://gregalder.com/yardposts/wp-content/uploads/\\2019/05/thin-apples-with-pruners-600x731.jpg$

xplain why growers often remove the terminal bud from fruit clusters.				

A lot of research and development is put into giving growers advice on plant spacing.

•	plant growing conditions crop yield and overall production.

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

QUESTION NUMBER	write the question number(e) if applicable.	
NUMBER		