

91297



NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

2

SUPERVISOR'S USE ONLY

Level 2 Agricultural and Horticultural Science, 2012

91297 Demonstrate understanding of land use for primary production in New Zealand

2.00 pm Monday 26 November 2012

Credits: Four

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of land use for primary production in New Zealand.	Demonstrate in-depth understanding of land use for primary production in New Zealand.	Demonstrate comprehensive understanding of land use for primary 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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You are advised to spend 60 minutes answering the questions in this booklet.

QUESTION ONE: DAIRY CONVERSIONS

This year it is expected that 20 farms in both the Southland and Canterbury regions will convert to dairying – mainly sheep farm conversions in Southland, and cropping farm conversions in Canterbury. Dairy cow numbers have expanded to 5 million, and now there are concerns over the continued growth of dairy cow numbers, both in regions where dairying has been the traditional land use and in regions where dairy conversions have occurred. A typical farm with potential for such conversion is shown in the photograph below.

Southland sheep farm for dairy conversion



- (a) Explain in detail how economic and environmental factors are affecting the rate at which sheep and cropping farms are being converted to dairying.
 - (i) Economic factors

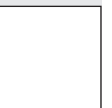
(ii) Environmental factors

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(b) Evaluate the impact that **increased dairy cow numbers** is having on the New Zealand economy, the land, and its people.

Consider the relative importance of the impacts of increased dairy cow numbers by comparing:

- positive impacts on the economy
- negative impacts on the environment
- positive impacts on society.



QUESTION TWO: TRADITIONAL HILL COUNTRY FARMING

Semi-extensive pastoralism in the form of sheep, cattle, and deer production has long dominated land use in the hill country of the North Island. A typical property of this type is shown in the photograph below.

Hill country property



(a) Explain in detail, considering economic and social factors, why farmers on North Island hill country properties continue to farm a combination of sheep, cattle, and deer.

(i) Economic factors

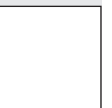
(ii) Social factors

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(b) Justify the decision of most farmers to continue with existing land use (some combination of sheep, cattle, and deer) for these hill country properties.

In your answer, consider sustainable production in terms of:

- economic returns
- technological requirements
- social advantages.



QUESTION THREE: KIWIFRUIT DILEMMA

The kiwifruit disease Psa-V has killed vines in the Bay of Plenty, a region that produces 80% of New Zealand's export crop. Experts say that the disease affects nearly 1,000 orchards growing the gold variety, and they expect a 20% reduction in the volume harvested. Affected growers are now considering other forms of land use for their properties.

Bay of Plenty kiwifruit orchard



- (a) Explain in detail other land use options that could be considered for Bay of Plenty orchards affected by Psa-V.

In your answer, consider:

- economic factors
- social factors *OR* technological (which could include research) factors.

- (i) Economic factors

(ii) Social OR technological (which could include research) factors

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(b) Justify the decision of a kiwifruit grower to continue to grow kiwifruit rather than selling the orchard or changing to another form of land use. Support this decision by analysing the advantages and disadvantages of the grower's options.

In your answer, consider:

- the economic impact of change
- potential technological improvements
- social factors that include the grower's family and the wider community.



