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Mana Tohu Mātauranga o Aotearoa  
New Zealand Qualifications Authority

## Level 2 Agricultural and Horticultural Science 2023

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

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 2–12 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.**

**Achievement**

**TOTAL 10**

### QUESTION ONE: Land use – North and South

- (a) Select a North Island region, describe a land use that is commonly carried out there, and explain why it is carried out in that region.

Region: Taranaki

Dairy Farming is commonly carried out in Taranaki for multiple reasons. The relief of the land in Taranaki is rather flat with a little amount of hills. This makes the landscape ideal for dairy farming as it is suitable for the cows. Dairy cows are better suited for flat land as it ~~they~~ does not require them so much energy to get from the paddock to the shed. This way the cows can prioritise their energy into producing milk.

- (b) Select a South Island region, describe a land use that is commonly carried out there, and explain why it is carried out in that region. The land use selected must be different from part (a).

Region: Marlborough

There are many horticultural based farms in Marlborough. This is because of Marlborough's warm climate and flat lands. Flat lands make an ideal space to have a vineyard and it ~~the~~ is more suitable for grapes to grow on flat land. Grapes also have a better growth rate when growing amongst a warm climate which is what Marlborough holds. This is why horticulture is common in Marlborough.

- (c) For one of the regions from page 2, justify a landowner's decision to either convert to a new land use or keep the land in its current use.

In your answer consider TWO of the following factors:

- economic
- political
- environmental.

Region: Taranaki

A land owner in Taranaki would be better off with keeping a dairy farm on their land. This is because dairy farming is the economic centre of Taranaki as ~~the~~ most ~~of~~ the land in Taranaki is taken up by dairy farms. A vast amount of Taranaki's economy comes from the dairy farming sector, ~~therefore~~ the owners of the land get ~~paid~~ high amounts in return for their production of milk and beef. ~~There~~ There are not many other uses of the land that would be more suitable for the land owner to convert to, as Taranaki's relief is rather flat and the climate is ~~just~~ suitable for cows it makes Taranaki an ideal place for dairy farming. New Zealand does not have a lot of flat land suitable for dairy farming, therefore it is best we put the flat land in regions such as Taranaki to use ~~to~~ to benefit New Zealand's dairy farming sector.



"This situation simply isn't good enough, considering that the primary production sector is the backbone of the New Zealand economy and only 15 percent of land is suitable for food production.

"The Government must act now to retain remaining highly productive land. Once houses have been built on it, that soil is lost forever."

- New Zealand has a limited and very small amount of flat land ~~containing~~ containing soil suitable for ~~the~~ horticultural establishments to be held. Many plants which are used for New Zealand's food ~~production~~ production grow at best on flat land, however flat land is also most suitable for houses to be placed on. ~~and~~ The Horticulture industry cannot share the space with urban areas as many ~~residents~~ <sup>residents</sup> will ~~disapprove~~ disapprove the farms and not like many factors of the farms such as smell and noise pollution. This will drive residents away and not want to live in those areas, putting the land to waste.

- (b) Justify a council's decision **not** to allow the re-zoning of rural farmland into urban zoned land. In your answer consider the economic and political factors.

This decision would be important to New Zealand's economy, this is because the agriculture and horticulture sector is a primary factor to New Zealand's economy when it comes to trade. ~~The reason~~ For this, the government would want to get the most they can out of the land suitable for agriculture and horticulture practices that there is left. This would involve the production of houses and other urban facilities to be banned from these areas. There are many other parts of New Zealand where these facilities can be produced, having them in these areas will benefit New Zealand's economy as they will not disturb the agricultural and horticultural sectors of New Zealand.

### QUESTION THREE: Changing land uses

Over the past 20 years some land users have seen considerable change in land area while others have seen very little change.



- (a) Referring to the graph above, how have economic and technological factors led to land use change?

The key factors to New Zealand's economy have changed over the past 20 years and it is seen on this graph. We can see that the farming of sheep has always been the primary factor when it comes to agriculture, however what we can see that the amount of land being used for sheep farming has been on a drastic decrease. Whereas the dairy farming industry has been increasing. This is because dairy farming has developed into a more key factor to New Zealand's economy.



- (b) Choose one land use from the graph and analyse how TWO factors might affect this land use in the future.

Choose two factors:

- political
- social
- workforce.

We can see in the graph that land being used for sheep farming has been on a drastic decrease ever since 2002. If this decrease continues we could see major impacts on the political and social factors. This would lead to New Zealand's major agriculture sector being reduced and New Zealand's image of ~~not~~ being a large agricultural country faded away. This could impact New Zealand's economy majorly. This would also involve many residents to leave the sheep farming business and work elsewhere, this may result in many New Zealanders to move overseas to work in the sheep industry elsewhere. These factors make sheep farming vital to New Zealand and it is important that the land usage for sheep farming starts increasing soon.

#### Acknowledgements

Material from the following sources has been adapted for use in this assessment:

##### Page 5

(quote) <https://www.hortnz.co.nz/news-events-and-media/media-releases/government-report-shows-need-for-urgent-protection-of-land-for-food-production-hortnz-says/>

(image) <https://www.stuff.co.nz/national/politics/local-democracy-reporting/300687900/government-gets-set-to-announce-new-policy-to-protect-prime-horticultural-land>

##### Page 8

(graph) <https://www.stats.govt.nz/indicators/agricultural-and-horticultural-land-use>



## Achievement

**Subject:** Agricultural and Horticultural Science

**Standard:** 91297

**Total score:** 10

Q	Grade score	Marker commentary
One	A4	In this response there is a clear understanding and description for why each primary production type is suited to and carried out in each region.
Two	A3	The candidate provided two brief reasons for intensive land use and linked these to both urban use and intensive production.
Three	A3	The candidate gave reasons for the decline in sheep farming. This response is minimal, but sufficient.