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91530



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Mana Tohu Mātauranga o Aotearoa
New Zealand Qualifications Authority

Level 3 Agricultural and Horticultural Science 2025

91530 Demonstrate understanding of how market forces affect supply of and demand for New Zealand primary products

Credits: Five

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of how market forces affect supply of and demand for New Zealand primary products.	Demonstrate in-depth understanding of how market forces affect supply of and demand for New Zealand primary products.	Demonstrate comprehensive understanding of how market forces affect supply of and demand for New Zealand primary products.

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 the margins (//////). 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.

Merit

TOTAL 6

INSTRUCTIONS

Carefully read ALL instructions AND parts (a) to (c) before answering.

Use TWO different primary products to answer parts (a) and (b).

Part (c) may be answered using a primary product used in either part (a) or (b), or with a completely different product.

The primary products chosen must earn significant export revenue in their processed or unprocessed form, or allow for self-sufficiency within New Zealand. All parts of this examination must be answered.

PLANNING

viticulture

\$2.1 billion 2024

37% of that to US

90% of that export figure was sav Blanc

25% increase to US from 2023

Top exporting country

marlborough produces 77% of sav blanc

60% of their vineyards are sav blanc

cyclone gabriel:

6% down in production form 2022

800 hectares of vineyards damaged

500mm of rainfall in 12 hours

usually 1081 mm annually

2023 marlborough vintage still good

20,000 Tonne of grapes lost/damaged

production costs:

set up - \$300,000 per hectate

fencing + structure = \$10,000-15,000

vine - \$8 each (depending on variety)

irrigation - \$4000-5000

frost fans - \$66,000 each

fermentation barrells - \$1500 each (300 bottles per barrell so \$5 per bottle to be oaked)

Tax - \$2.21 per bottle

tariffs to us - \$1.10 per bottle

tariffs:

increase from 10% to 15% by dinald trump. \$112 million increase

altogether uique:

\$3.3 million and 115 million people over 3 years

pillers

-purity

-innovation

-care

climate:

gimblett gravels 30m above sea level

2180 sunshine hours annually in HB

Consumer preference:

over 80% of nz drinking responsibly

8 decline in domestic sales 2024 - lowest its been in 2 decades

younger generation more sustainable wines

low alcohol or no alcohol wines (attract to younger market)

TASK: Discussing how market forces affect supply and demand

Name a primary product.

Primary product (1):

Select a market force:

(a) How has the selected market force impacted the **supply** of your chosen product? Use evidence and data within the past five years to support your answer.

B I U

Weather events cannot be controlled, and natural disasters are untold so nothing can prevent vineyards in advance. In February 2023, Cyclone Gabriel hit the north island of New Zealand very hard, specifically having effect on the Hawkes Bay Region. The timing of this event could not have been much worse, as the 2023 vintage was nearly ready for harvest and was in the final stages of ripening when the cyclone hit. This significantly affected the supply as Hawkes Bay is the second largest producer of wine in New Zealand, and most of the vintage was written off. As in Hawkes Bay we receive around 1081mm of rainfall annually, within 12 hours we received 500mm. This catastrophic event wiped out many vineyards, and permanently damaged the crops with more than just financial loss. Being 6% down in production from 2022, there were 20,000 T of grapes that were damaged and could not be made into the premium wines Hawkes Bay claims. This significantly affected the supply, however where around 90% of the grapes are grown in Hawkes Bay, on the Gimblett Gravels this was mostly protected from the outburst of roaring floods. With 800 Ha of vineyards damaged, this brought the supply for mainly chardonnay, merlot and Sav Blanc down because of the grapes with low quality. The excessive rainfall at this time of year caused the skins of the grapes to split, and the sweetness generated through glucose production (photosynthesis) was diluted by the excessive water supply. As I carried out an interview with winery owner Serena at Pask in Hastings, she suggested that they were immensely thankful their vineyard located on the Gimblett gravels that is situated 30m above sea level was half protected from the floods. However the vintage specially in Hawkes Bay was written off as pictures of damaged vineyards had spread and turned people aside. As the supply was low in Hawkes Bay, the vintage in Marlborough the largest wine producer in the country proved to have a great vintage. This meant the supply, especially of Sav Blanc as 60% of their vineyards are Sav was still sufficient to meet the demands domestically and internationally. However the cyclone Gabriel did ruin many vineyards, with the need for years of repairing before HB begins to supply again. Although not all vineyards were affected, the fruit might have lost quality due to the excessive water supply, so this meant there was still supply of grapes, however the wine crafted did not exceed high quality. This caused the demand to be low for the 2023 vintage, therefore being a surplus of wine/grapes that had diluted quality compared to what is usually produced.

Name a primary product.

Primary product (2):

Select a market force:

(b) How has the selected market force impacted the **demand** for your chosen product? Use evidence and data within the past five years to support your answer.

B I U

The demand for Kiwifruit from New Zealand still remains strong, as it contributes to 34% of NZ exports. China and Japan being the largest countries where exported to pay premium prices for the fruit we produce, as it is grown in a sustainable country and exceeds the consumer needs, which drives the price up. Specifically in Japan, they hold Golden Week which is from 29th of April to 6th of May, where this is an occasion where NZ kiwifruit is eagerly waited for to gift or have as treats in this event. This event is something New Zealand kiwifruit growers must meet as is a significant kick start to a good season, and a kick start to generating a lot of revenue from the highly driven prices. As the Sungold kiwifruit is widely demanded for in Japan, typically for its sweetness and attributes that the consumers prefer, this already sets the price high as the demand is high. Being supplied from New Zealand, we are known for the high quality, healthy and premium fruits which are paid top dollar for. This is proved as research displayed that during normal seasonal demand the kiwifruit price in Japan is around 150-300 Yen, however in Golden week it is around 400-600 Yen, clearly signaling that the demand of the product drives these prices up. This week proves to show great turnover for the farmers and Zespri in New Zealand, generating on average around \$7.5 million export value in this week. However the rest of the year the demand slowly declines. As the kiwifruit is a seasonal produce, Golden week receives the fruit in its prime state, where just harvested and remains fresh for the customers which contributes to the top dollar they pay. However after the fruit is harvested, it can be stored for up to 8 months, or the Sungold only 3-5 months in a cool chiller that keeps the fruit fresh to be sold for 2/3 of the year. I have noticed Zespri are trying to find a way to keep the fruit stored for 12 months so the supply can be consistent throughout the year, but also to the demand remains high and prices remain consistent also throughout the year. However this may pose a decrease in value if it is not a seasonal fruit, because when supply is low the demand is high, so when fruit is out of season, this could drive the prices up being more profitable for the farmers and Zespri.



Source: https://www.stats.govt.nz/assets/Uploads/Overseas-merchandise-trade/Overseas-merchandise-trade-May-2023/Download-data/OMT_Infographics_countries-exports-May23.png



Source: Ministry of Foreign Affairs and Trade, August 2022. Further information on individual Trade Agreements can be found at mfat.govt.nz/en/trade/free-trade-agreements/



Name a primary product.

Primary product:

(c) Discuss the significance of a New Zealand trade agreement and its impact on the supply of, and demand for, your chosen primary product. Use evidence and data within the past five years to support your answer.

B *I* U

The graph has proven that New Zealand has a strong Free trade agreement with Asian countries like Hong Kong, Malasia, Thailand and Korea, even the likes of China. Noticed is a close relationship between US and New Zealand as well, which these large countries and continents pose great dealerships for the demand of New Zealand products like Wine. As Euopean countries prefer more acidic wines, US prefers more fruity wines and the Asian consumers prefer more Sweet wines, New zealand has the ability to cater to many of these consumer preferences easily through the free-trade agreement. As the supply of these wines that these nations demand, we are able to provide them with goods easily. The growing exports of up 16% in 2023 is posing oppotunities for New Zealand to supply wine to these countries without extra costs. As of 2024, the US was New Zealands largest consumer demanding wines, specifcally 37% of viticulture export was to US, and 90% of that was Sav Blanc, which achieves the fruit, zingy and crispy notes that they prefer. This free trade agreement has enabled the gates to open up to New Zealand for other countries to import NZ goods at minimal cost. However of recent, the newly elected president Donald Trump has slapped a 5% increase tariff on New Zealand from the US. This has meant that it is costing roughly an extra \$112 million for them to import NZ premium wines. Going from 10c, to \$1.10 per bottle this has the potential of turning US consumers away from the New Zealand wines because of the added cost to import into country, putting us at risk of surplus supply and low demand. However with the free-trade agreement active in other countries like china, and other asia countries, this can allow the demand to increase over-time as NZ has the ability to provide to their needs in wine if its sweet (red wines) or acidic (white wines). As New Zealand does not have a free-trade agreement with India, this could be a missed oppotunity for increased demand for NZ wine, because as their economy is fastly deveoping to 15.4%, this could increase the profitibily of NZ wine. Without an FTA with India, New Zealand is at risk of being in high competition with other countries like France producing high quality premium wines, that India may have a FTA with, seeing this as an oppotunity for singficant growth in other countries. NZ needs to make a FTA with India to see this oppotunity grow in the NZ economy as well, as the demand could increase with the same supply meaning that the prices will be driven up for more profitable results.

Merit

Subject: Agricultural and Horticultural Science

Standard: 91530

Total score: 6

Q	Grade score	Marker commentary
One	M6	The candidate explained in detail how weather events impacted on the supply of wine grapes for wine production with specific quantities supplied. The candidate also discussed how price impacts on the demand for kiwifruit in the Japanese market with specific supporting evidence throughout the response. Quantitative data was used to support the market force in both parts.