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Mana Tohu Mātauranga o Aotearoa
New Zealand Qualifications Authority

Level 3 Agricultural and Horticultural Science 2023

91531 Demonstrate understanding of how the production process meets market requirements for a New Zealand primary product(s)

Credits: Four

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of how the production process meets market requirements for a New Zealand primary product(s).	Demonstrate in-depth understanding of how the production process meets market requirements for a New Zealand primary product(s).	Demonstrate comprehensive understanding of how the production process meets market requirements for a New Zealand primary product(s).

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 parts of the task 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 2–11 in the correct order and that none of these pages is blank.

Do not write in any cross-hatched area (DO NOT WRITE). 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 04

Page 1

INSTRUCTIONS

Carefully read ALL the instructions and parts before answering.

You must answer the different parts using TWO different primary products – Primary product (1) and Primary product (2).

Different primary products are required for parts (a) and (b). Part (c) will be answered using either the primary product used in part (a) or part (b).

In addition, you must use different market requirements from the list below for parts (a) and (b).

Market requirements

- Quality (consistency, attributes, uniformity, presentation)
- Quantity
- Timing
- Price

STIMULUS MATERIAL

Primary producers need to have a clear understanding of the requirements their customers or overseas markets have. This will allow them to make informed decisions on the farm to be able to satisfy those requirements.

Primary producers may get feedback from customers directly, from their importers overseas, from government industry bodies, or from their primary producers' organisations.

The better the feedback and understanding between the market and the primary producers, the better the alignment between production and market.

PLANNING

TASK: How management practices meet market requirements

Name a primary product and a specific market. Choose a market requirement from the [list](#) above.

Primary product (1):

Specific market:

Market requirement (1):

(a) (i) Explain a market requirement for your named primary product (1). Use data to support your answer.

B I U

A market requirement for cherries sold for the Chinese New Year (CNY) is that Quality. Quality is vital to this market especially presentation. The reason that cherries are consumed highly in the CNY season is because of their bright red color. The CNY is a celebration that is celebrated mostly with the color red and gold, making the cherries perfect for CNY celebrations. This means that the cherries cannot be delivered bruised, tarnishing the red color which is less appealing for the celebrations.

(ii) Explain two management practices that are carried out to meet the market requirement of your chosen primary product (1).

You must clearly link the management practices to the market requirement and use data to support your answer.

Management practice (1):

B I U

The cherries are handpicked and harvested weeks before they are completely ripe and falling off the tree. The time that the cherries are picked depends on the TSS rating on the cherries. TSS is essentially the level of sugar in the cherries which is an indicator to the growers how ripe their cherries are. The cherries are picked when the level is at the amount growers want them to be, which is lower than the level it should be when they are ready to eat. They are picked like this because after they are picked they will continue to ripen and if picked too late they will become too soft making them more vulnerable to bruising and rotting. Growers also make sure that these cherries are picked by hand, this means that they are handled softly, reducing the risk of bruising.

Management practice (2):

B I U

New Zealand growers choose to export the cherries via the air instead of via the sea. This is because of how much time is saved, while it may be more expensive, their profits are still able to be covered and they are able to deliver quality fruit to meet the market requirement. It is essential that the cherries are flown out of New Zealand instead of shipped because there is a very tight deadline where the cherries have to be delivered, CNY falls between January the 20th and February the 21st. New Zealand import at least 500MT of cherries into Asia for the CNY, that is an exceedingly large amount of cherries and a small amount of delivery time. New Zealand growers need to make sure that the cherries are being exported quickly as well as being able to maintain the quality expected for the market requirements. Lessening the export time reduces the risk of the cherries being bruised or going rotten as the time left for the cherries to continue ripening before consummation is significantly reduced.

Name a second primary product and specific market. Choose a **different** market requirement from the [list](#) above.

Primary product (2):

Specific market:

Market requirement (2):

(b) (i) Explain a **different** market requirement for your named primary product (2). Use data to support your answer.

B I U

Kiwifruit is widely consumed in Asia during the Chinese New Year (CNY) particularly the gold Kiwifruit due to the color which ties in with CNY's colors red and gold. A market requirement from CNY for Kiwifruit is quantity. Kiwifruit is in high demand during CNY which means New Zealand growers must be prepared to provide adequate quantities. CNY sees New Zealand exporting around 700MT of Kiwifruit during CNY season.

(ii) Explain two management practices that are carried out to meet the market requirement of your chosen primary product (2).

You must clearly link the management practices to the market requirement and use data to support your answer.

Management practice (1):

B I U

To be able to reach the quantity required quickly, New Zealand growers often use artificial pollination. Artificial pollination is where the growers manually pollenate the female flowers, leading them to produce an increased amount of seeds. This practice is very important because natural pollination usually means that only 15% percent of the flowers are pollinated, however with artificial pollination, around 99% of the flowers are pollinated. With this method, growers are able to drastically increase the quantity of Kiwifruit grown in time to meet the CNY's market requirements.

Management practice (2):

B I U

Primary product:

(c) Justify the management practice that is the most significant for maximising profit or maximising volumes for your chosen primary product. Use data to support your answer.

B I U

Achievement

Subject: Agricultural and Horticultural Science

Standard: 91531

Total score: 04

Q	Grade score	Marker commentary
One	A4	The candidate chose cherries and kiwifruit as the primary products and described their importance in the specific markets. For each product they have described a management practice that can meet the specific market requirement.