

Assessment Schedule – 2023

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

Assessment Criteria

Achievement	Achievement with Merit	Achievement with Excellence
<i>Demonstrate understanding</i> involves explaining how the production process meets market requirements for a New Zealand primary product(s).	<i>Demonstrate in-depth understanding</i> involves explaining in detail how the production process meets market requirements for a New Zealand primary product(s).	<i>Demonstrate comprehensive understanding</i> involves using detailed explanations to justify how the production process meets market requirements for a New Zealand primary product(s).

N1	N2	A3	A4	M5	M6	E7	E8
Partially explains how ONE relevant management practice allows the producer to meet a market requirement for ONE primary product.	Partially explains how TWO relevant management practices allow the producer to meet a market requirement for ONE primary product.	Explains how ONE relevant management practice allows the producer to meet a market requirement for ONE primary product, and partially explains a management practice to meet a market requirement for the SECOND primary product.	Explains how ONE relevant management practice allows the producer to meet a market requirement for primary product (1) and explains how one relevant management practice allows the producer to meet a market requirement for primary product (2).	Explains in detail (use of data) how ONE relevant management practice allows the producer to meet a market requirement for primary product (1) and explains how ONE relevant management practice allows the producer to meet a market requirement for primary product (2).	Explains in detail (use of data) how ONE relevant management practice allows the producer to meet a market requirement for primary product (1) and explains in detail how ONE relevant management practice allows the producer to meet a market requirement for primary product (2).	Explains in detail (use of data) how ONE relevant management practice allows the producer to meet a market requirement for primary product (1) and explains in detail how ONE relevant management practice allows the producer to meet a market requirement for the primary product (2). <i>AND</i> Partial justification of the management practice (for either primary product) that has the greatest effect on maximising profitability or maximising production, but lacking detail or data in some areas.	Explains in detail (use of data) how ONE relevant management practice allows the producer to meet a market requirement for primary product (1) and explains in detail how ONE relevant management practice allows the producer to meet a market requirement for the primary product (2). <i>AND</i> Full and comprehensive justification of the management practice (for either primary product) that has the greatest effect on maximising profitability or production.

N0 = No response; no relevant evidence.

Evidence

Task	Sample evidence	Achievement	Achievement with Merit	Achievement with Excellence
(a)(i)	<p><i>Timing requirements</i></p> <ul style="list-style-type: none"> • The returns for the chilled lamb market in the UK is high pre-Christmas, with premiums being paid to producers who can supply during this time. • New Zealand apples are in high demand in Asia when their domestic producers cannot produce fruit. This gives us a window of supply. New Zealand fruit is in demand from week 7 of the year through to week 35, when their domestic supply kicks in. Early in this window is especially profitable for New Zealand producers, as other Southern Hemisphere producers are not in the market. • Mandarins are required for Golden Week in Japan, and premiums are paid for growers who can supply during this week. <p><i>Quality requirements</i></p> <ul style="list-style-type: none"> • Apples are to have less than 1cm² of blemish on their skin to be able to be sold as Class 1 fruit. This is due to their being sold as high-quality premium fruit. • Strong wool used for carpets needs to be sound, and not break easily for it to make a quality carpet. The staple strength would need to be greater than 30Nkt, preferably higher. This way, the strands of wool will not break easily. • Wool used for clothing like Icebreaker needs to be around 20 microns. This is to ensure the fibre is not prickly when worn next to the skin. • Apples need to be a count size of between 70 and 90 to return high prices in Asian markets. The count size is the number of apples that can fit into an 18.6 kg box. • Satsuma mandarins going to the Japanese market need to be in the size range of 55 to 63 mm. <p><i>Quantity requirements</i></p> <ul style="list-style-type: none"> • 700 tonnes of mandarins are supplied into the Japanese market, with much of this demand being attributed to festivities associated with Golden Week. 	Explains a market requirement for the chosen primary product and specific market.	Explains a market requirement for the chosen primary product in detail.	

(ii)	<p><i>High-quality feed – Timing</i></p> <ul style="list-style-type: none"> Having lambs on high-quality crops with high energy values will result in faster weight gain in lambs. Lambs put on an average of 150g per day 'live weight' on average pasture, but are able to put on in excess of 500g per day live weight on crops such as chicory. Higher weight gains per day will result in the lamb reaching slaughter size earlier, allowing them to make the chilled Christmas market, where higher returns are paid. <p><i>Fruit thinning – Quality</i></p> <ul style="list-style-type: none"> Growers of apples commonly thin their fruit trees to reduce the number of fruit on the tree. They do this by spraying sulphur or hormones during and just after flowering to force the tree to drop flowers and fruitlets. By reducing the number of apples on the tree, less fruit comes into contact with others in the bunches. It is these collisions that cause blemishes on fruit that can downgrade the fruit or make them unsaleable. <p><i>Breed selection – Attribute</i></p> <ul style="list-style-type: none"> Farmers must choose the correct breed of sheep to allow them to produce the micron size of wool the market requires. Base-layer clothing typically requires the micron count to be 20 microns or less to make it softer against the skin and less irritable. Merino sheep produce wool with a micron count from 12 microns upwards, therefore allowing the farmer to meet the requirements of the market by choosing this breed. 	<p>Explains two management practices that are carried out to meet the market requirement.</p> <p>The associated management practices carried out in order to meet the specific market requirement identified above.</p> <p>The management practices must link to the market requirements for both Achievement and Merit.</p>	<p>Explains two management practices that are carried out to meet the market requirement.</p> <p>The associated management practices carried out in order to meet the specific market requirement identified above.</p>	
(b)(i)	<p>Same as for part (a), except must use a second primary product – primary product (2).</p> <p>The market requirement used for part (b) (i) must be different to the market requirement for part (a).</p>	<p>Explains a different market requirement for primary product (2).</p>	<p>Explains a different market requirement for primary product (2).</p>	
(ii)	<p>Same as for (a) (ii).</p>	<p>Explains two management practices carried out to meet the market requirements of primary product (2).</p>	<p>Explains two management practices carried out to meet the market requirements of primary product (2).</p> <p>Both practices comprehensively discussed.</p>	

(c)	<p><i>Flushing – Lamb production</i></p> <ul style="list-style-type: none"> • Putting ewes on high-quality feed before ovulation increases the number of eggs released. This results in a higher number of fertilised eggs, and more twins and triplets are produced, increasing volumes. • Putting ewes on high-quality feed ensures the ewes are in good health, which allows them to pass on good nutrition to their lambs in the early stages of pregnancy. Consequently, there is an increase in the volume produced. • Putting ewes on high-quality feed can assist in the release of eggs earlier than with no stimulus. This results in earlier production and enables farmers to get lambs to market earlier to meet the high demand, with less competition from other suppliers. <p><i>Breed selection – Lamb production</i></p> <ul style="list-style-type: none"> • The choice of breed can affect the fertility of the flock. A more fertile breed will produce more twins and triplets, increasing the volume of sheep meat produced. • The choice of breed will determine how fast the lambs grow, which will determine the time the lambs will be supplied to market. Faster-growing lambs will get to export markets earlier, where higher prices can be received. • The choice of breed can determine how large the lamb will grow. Larger lambs will produce larger carcasses, which will increase the volume of sheep meat exported from New Zealand. • The breed of sheep will determine where the meat is laid down on the carcass. The conformation of the animal will determine how much the market will pay as they will want muscle in certain parts of the carcass for their consumption requirements. Each market has different attribute requirements. • The choice of breed will determine how much fat is on the carcass. Too lean, and the eating experience is less due to less taste; too much, and consumers have health concerns. Low-fat meat and high-fat meat are deemed low-quality meat. 	Justifies the management practice that is the most significant for maximising profit or maximising volumes.	Justifies the management practice that is the most significant for maximising profit or maximising volumes. This may be a different management practice than used for parts (a) and (b).	Justifies the management practice that is the most significant for maximising profit or maximising volumes. Covers the strengths of their chosen management practice and why it is the most significant management practice at affecting profitability or productivity. It is likely the candidate will cover how the selected management practice will meet more than one market requirement when justifying profitability or production.
	<p><i>Justification</i></p> <ul style="list-style-type: none"> • The choice of breed allows the producer to meet all aspects of the market requirements. They are able to alter the quantity, quality, timing, and attributes of the lamb meat, therefore maximising profitability. The more market requirements producers are able to meet, the more consumers are willing to pay. • Buying genetics to allow the producer to meet these market requirements benefits the producer not just this year, but into the future as you do not lose genetics. • Buying in rams allows many lambs to be produced, due to mating ratios. 			

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| <ul style="list-style-type: none"> While flushing is useful, it is not reliable, as it is dependent on feed availability and the condition of the ewe prior to flushing. Flushing should be done in conjunction with good genetics, rather than replacing it. | | | |
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Cut Scores

Not Achieved	Achievement	Achievement with Merit	Achievement with Excellence
0 – 2	3 – 4	5 – 6	7 – 8