

## Assessment Schedule – 2021

### 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 <b>explaining</b> how the production process meets market requirements for a New Zealand primary product(s).	<i>Demonstrate in-depth understanding</i> involves <b>explaining in detail</b> how the production process meets market requirements for a New Zealand primary product(s), with quantitative data.	<i>Demonstrate comprehensive understanding</i> <b>justifying</b> and <b>giving a detailed explanation</b> of how the production process meets market requirements for a New Zealand primary product(s).

#### Evidence

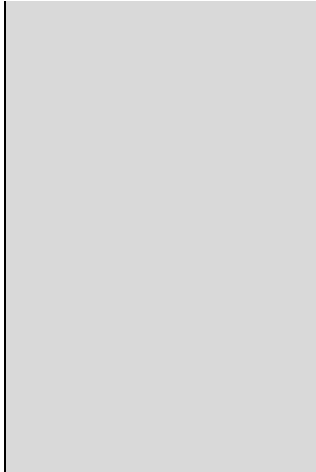
Task	Sample evidence	Achievement	Achievement with Merit	Achievement with Excellence
(a)	<p><b>Market requirements</b> Two different market requirements must be used from the list provided.</p> <p><i>Timing requirements</i></p> <ul style="list-style-type: none"> <li>The amount of returns for the chilled lamb market in the UK is high pre-Christmas, with premiums being paid to producers who can supply during this time.</li> <li>New Zealand apples are in high demand in Asia when their domestic producers cannot produce fruit. <u>This gives us a window of supply. New Zealand fruit is in demand from week 7 of the year through to week 35, when the 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.</u></li> <li>Mandarins are required for Golden Week in Japan, <u>and premiums are paid for growers who can supply during this week.</u></li> </ul> <p><i>Quality requirements</i></p> <ul style="list-style-type: none"> <li>Apples are to have less than 1 cm<sup>2</sup> of blemish on their skin to be able to be sold as class 1 fruit. <u>This is due to their being sold as high-quality premium fruit.</u></li> <li>Strong wool used for carpets needs to be sound and not break easily for it to make a quality carpet. <u>The staple strength would need to be greater than 30 Newtons per kilotex, preferably higher. This way, the strands of wool will not break easily.</u></li> </ul>	<b>Explains</b> TWO market requirements for a chosen primary product.	<b>Explains in detail</b> TWO market requirements for a chosen primary product, supported with data, including <u>underlined-type</u> evidence.	

*Attribute requirements*

- Wool used for clothing, like the Icebreaker brand, 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 the 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 55–63 mm.

*Quantity requirements*

- 700 tonnes of mandarins are supplied into the Japanese market, with much of this demand being attributed with festivities associated with Golden Week.



<p>(b)</p>	<p><b>Management practices</b></p> <p>Management practices may be selected from the establishment to the harvest of the primary product.</p> <p><i>High-quality feed – Timing</i></p> <ul style="list-style-type: none"> <li>• Having lambs on high-quality crops, with high-energy values, will result in faster weight gain in lambs. <u>Lambs put on an average of 150 g per day ‘live weight’ on average pasture, but are able to put on in excess of 500 g per day live weight feeding on crops such as chicory.</u> 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.</li> </ul> <p><i>Fruit thinning – Quality</i></p> <ul style="list-style-type: none"> <li>• Growers of apples commonly thin their fruit trees, to reduce the number of fruit on the tree. <u>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, fewer fruit come into contact with one another in bunches. It is these collisions that cause blemishes on fruit that can downgrade the fruit or make them unsellable.</u></li> </ul> <p><i>Breed selection – Attribute</i></p> <ul style="list-style-type: none"> <li>• Farmers must choose the correct breed of sheep to allow them to produce the micron size the market requires. <u>Base layer clothing typically requires the micron count to be 20 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.</u></li> </ul>	<p><b>Explains</b> how TWO management practices are carried out to meet market requirements.</p>	<p><b>Explains in detail</b> how TWO management practices are carried out to meet market requirements, using data to support answer, including <u>underlined</u>-type evidence.</p>	This cell is intentionally left blank in the original image
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<p>(c)</p>	<p><b>Management practice to maximise profitability</b></p> <p><i>Response should cover how the chosen management practice has the greatest impact on profitability. It will likely link the management practice to meeting many of the market requirements listed on pg 5. It should identify that the chosen management practice will allow it to meet some market requirements which have a greater impact on profitability than others. It may identify the relative cost of carrying out the management practice to the increased returns it can generate.</i></p> <p><i>Flushing – lamb production</i></p> <ul style="list-style-type: none"> <li>• Putting ewes on high-quality feed before ovulation increases the amount of eggs released. <u>This results in a higher number of fertilised eggs, and more twins and triplets are produced, increasing volumes.</u></li> <li>• Putting ewes on high-quality feed ensures the ewes are in good health, which allows them to pass on goodness to the lamb during the early stages of pregnancy. <u>Consequently, there is an increase in the volume produced.</u></li> <li>• Putting ewes on high-quality feed can assist in the release of eggs earlier than with no stimulus. <u>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.</u></li> </ul> <p><i>Breed selection – lamb production</i></p> <ul style="list-style-type: none"> <li>• The choice of breed can affect the fertility of the flock. <u>A more fertile breed will produce more twins and triplets, increasing the volume of sheep meat produced.</u></li> <li>• The choice of breed will determine how fast the lambs grow, which will determine the time the lambs will be supplied to market. <u>Faster growing lambs will get to export markets earlier, so that higher prices can be received.</u></li> <li>• The choice of breed can determine how large the lamb will grow. <u>Larger lambs will produce larger carcasses, which will increase the volume of sheep meat exported from New Zealand.</u></li> <li>• The breed of sheep will determine where the meat is laid down on the carcass. <u>The conformation of the animal will determine how much the market will pay, as buyers will want muscle in certain parts of the carcass for their consumption requirements. Each market has different attribute requirements.</u></li> </ul>	<p><b>Explains a</b> management practice that has the greatest impact on the profitability of the producer.</p>	<p><b>Explains in detail a</b> management practice that has the greatest impact on the profitability of the producer, using data to support answer, including <u>underlined-type evidence</u></p>	<p><b>Justifies a</b> management practice that has the greatest impact on the profitability giving detailed explanations to support answer.</p>
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	<p>The choice of breed will determine how much fat is on the carcass. <u>Too lean, and the eating experience is less savoury because of less taste. Too much, and consumers have health concerns. Both low-fat meat and high-fat meat is deemed low-quality meat.</u></p> <p><i>Justification</i></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Buying genetics, to allow the producer to meet these market requirements, benefits the producer not just this year, but into the future as the animals do not lose genetics.</li> <li>• Buying in rams allows many lambs to be produced because of mating ratios.</li> <li>• 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, not replace it.</li> </ul>			
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N1	N2	A3	A4	M5	M6	E7	E8
<p><b>Partially explains</b> how ONE relevant management practice allows the producer to meet a market requirement.</p>	<p><b>Partially explains</b> how TWO relevant management practices allow the producer to meet market requirements.</p>	<p><b>Explains</b> in general terms how ONE relevant management practice allows the producer to meet a market requirement.</p>	<p><b>Explains</b> in general terms how TWO relevant management practices allow the producer to meet market requirements.</p>	<p><b>Explains in detail</b> (using quantitative data or well-linked material) how ONE relevant management practice allows the producer to meet a market requirement.</p> <p><i>AND</i></p> <p><b>Explains</b> in general terms how ONE relevant management practice allows the producer to meet a market requirement.</p>	<p><b>Explains in detail</b> (using quantitative data or well-linked material) how TWO relevant management practices allow the producer to meet TWO market requirements.</p>	<p><b>Explains in detail</b> (using quantitative data or well-linked material) how TWO relevant management practices allow the producer to meet TWO market requirements.</p> <p><i>AND</i></p> <p><b>Partial justification</b> of the management practice that has the greatest impact on maximising profitability, but lacking detail or data in some areas.</p>	<p><b>Explains in detail</b> (using quantitative data or well-linked material) how TWO relevant management practices allow the producer to meet TWO market requirements.</p> <p><i>AND</i></p> <p><b>Full and comprehensive justification</b> of the management practice that has the greatest impact on maximising profitability.</p>

**N0** = No response; no relevant evidence.

**Cut Scores**

<b>Not Achieved</b>	<b>Achievement</b>	<b>Achievement with Merit</b>	<b>Achievement with Excellence</b>
0 – 2	3 – 4	5 – 6	7 – 8