

90921



Draw a cross through the box (X) if you have NOT written in this booklet

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Mana Tohu Mātauranga o Aotearoa

New Zealand Qualifications Authority

Level 1 Agricultural and Horticultural Science 2023

90921 Demonstrate knowledge of livestock management practices

Credits: Five

| Achievement | Achievement with Merit | Achievement with Excellence |
|--|---|--|
| Demonstrate knowledge of livestock management practices. | Demonstrate in-depth knowledge of livestock management practices. | Demonstrate comprehensive knowledge of livestock management practices. |

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 (Kōwhiriwhiri). 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.

(a) How is a pig's digestive system different to cattle and sheep?

Lambs are often finished on a crop, as pictured below.



Image source: <https://hnt.co.nz/2019/03/19/a-summer-oasis-farmers-weekly/>

Use the information in the table below to decide which crop would best be suited to finishing lambs.

| Crop | Crude protein % | Metabolisable energy (MJ/kg dry matter) | Digestibility of dry matter % | Dry matter % |
|--------------|-----------------|---|-------------------------------|--------------|
| Rapeseed | 15 | 12.0 | 79 | 17 |
| Lucerne | 22 | 11.0 | 72 | 18 |
| White clover | 25 | 12.0 | 79 | 15 |

(c) Compare your crop choice with an alternative and justify why your choice is the best. In your answer consider:

- the role of feed components in growth
- lamb growth rate.

Crop choice: _____

QUESTION TWO: Breeding and genetics

Heat detection is commonly used by beef and dairy farmers.

Name a method of heat detection.

Method: _____

(a) (i) How is this method carried out?

(ii) Why is correct heat detection important?

- Ewe A produced twins, of which only one carried the LoinMax gene.
- Ewe B produced a single lamb that did not carry the LoinMax gene.
- Ewe C produced twins, both of which carried the LoinMax gene.

(b) Why would the farmer make this decision? Use the punnett squares below to support your answer.

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Image source: <https://www.lic.co.nz/news/speckle-park-making-its-mark/>

- (c) Justify whether buying a Speckle Park bull or cow would be best for introducing marbling traits. In your answer consider:
- initial cost
 - short- and long-term impact(s) on herd quality.

QUESTION THREE: Parasites

Internal parasites, such as worms, and external parasites, such as lice, can cause issues across all livestock groups.

- (a) How do internal parasites impact livestock production?

Drenching is a common method that is used to treat parasites.

- (b) Identify three steps taken when using an external, pour-on drench. Explain why each step should be carried out.

| | Step | Why it is carried out |
|---|------|-----------------------|
| 1 | | |
| 2 | | |
| 3 | | |

(c) Justify why farmers would choose to use both methods to improve animal health rather than only drenching. In your answer consider:

- cost
- overall health, and growth of pigs.

SPARE DIAGRAMS

If you need to redraw your response to Question Two (b), use the punnett squares below. Make sure it is clear which answer you want marked.

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Extra space if required.
Write the question number(s) if applicable.

QUESTION
NUMBER

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