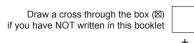


90921







**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 ( only write in a will be cut off when the booklet is marked.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

### **QUESTION ONE: Digestion and feeding**

	low is a pig's digestive system different to cattle and sheep?
_	
_	
_	
_	
_	
_	
_	
_	
E	Explain why a pasture-only diet is unsuitable for pigs.
	Explain why a pasture-only diet is unsuitable for pigs.
- -	Explain why a pasture-only diet is unsuitable for pigs.
- -	Explain why a pasture-only diet is unsuitable for pigs.
	Explain why a pasture-only diet is unsuitable for pigs.
- - -	Explain why a pasture-only diet is unsuitable for pigs.
	Explain why a pasture-only diet is unsuitable for pigs.
	Explain why a pasture-only diet is unsuitable for pigs.
	Explain why a pasture-only diet is unsuitable for pigs.
	Explain why a pasture-only diet is unsuitable for pigs.
	Explain why a pasture-only diet is unsuitable for pigs.
	Explain why a pasture-only diet is unsuitable for pigs.
	Explain why a pasture-only diet is unsuitable for pigs.

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.

Me	ethod:	
(a)	(i)	How is this method carried out?
	(ii)	Why is correct heat detection important?

In sheep, the LoinMAX gene (L), increases muscle mass allowing for increased production for farmers. A ram that is known to carry the LoinMAX gene was mated with three ewes.

- 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)

Based on these results the farmer decided to cull the ram and purchase a new one.

		1				
		]				
						If you
						If you need to
						need to redraw yo
						need to

page 11.

Speckle Park cattle have become popular in New Zealand as they carry a gene for marbled meat that has good eating qualities. Farmers who want to introduce Speckle Park cattle to an existing herd can either buy a bull or cows.



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.

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		
0		
2		
3		

Justify why farmers would choose to use both methods to improve animal health rather than

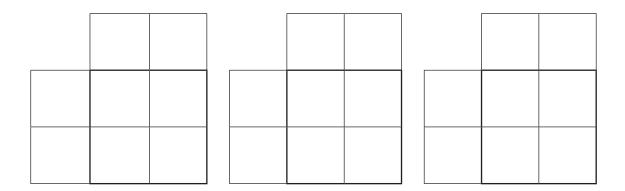
Pigs can be prone to internal parasites such as intestinal roundworms. Farmers manage worms through drenching and by preventing overcrowding in piggeries.

(c)

•	y 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.



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

QUESTION NUMBER			
NUMBER			