

90154



NEW ZEALAND QUALIFICATIONS AUTHORITY  
MANA TOHU MĀTAURANGA O AOTEAROA

*For Supervisor's use only*

## Level 1 Agricultural Science, 2010

### 90154 Describe livestock management and livestock physiology important to this management

Credits: Four  
9.30 am Thursday 18 November 2010

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 answer ALL the questions in this booklet.

If you need more space for any answer, use the page(s) provided at the back of this booklet and clearly number the question.

Check that this booklet has pages 2–8 in the correct order and that none of these pages is blank.

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

<i>For Assessor's use only</i>	<b>Achievement Criteria</b>		
<b>Achievement</b>	<b>Achievement with Merit</b>	<b>Achievement with Excellence</b>	
Describe the physiology of body systems important to livestock management practice(s). <input style="float: right;" type="checkbox"/>	Explain the physiology of body systems important to livestock management practice(s). <input style="float: right;" type="checkbox"/>	Explain the physiology of body systems important to livestock management practice(s). <input style="float: right;" type="checkbox"/>	
Describe livestock management practice(s). <input style="float: right;" type="checkbox"/>	Explain livestock management practice(s). <input style="float: right;" type="checkbox"/>	Explain livestock management practice(s). <input style="float: right;" type="checkbox"/>	
		Select and justify management practice(s) used to solve a livestock production problem. <input style="float: right;" type="checkbox"/>	
<b>Overall Level of Performance (all criteria within a column are met)</b>			<input type="checkbox"/>

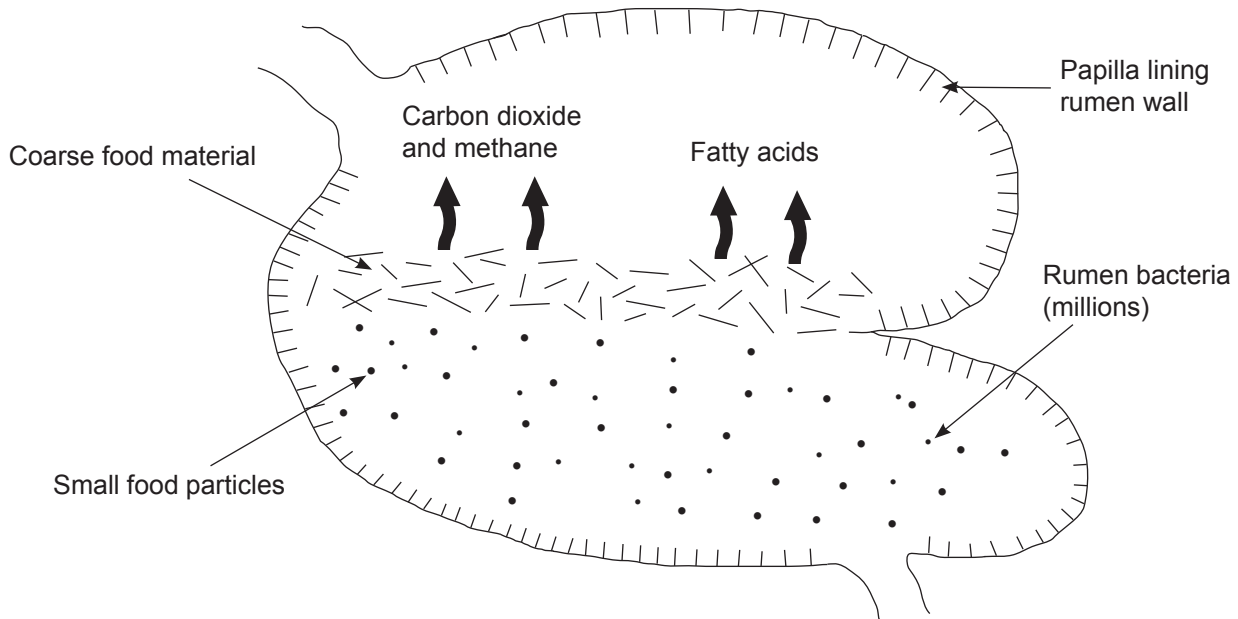
You are advised to spend 40 minutes answering the questions in this booklet.

### QUESTION ONE

To achieve high production from sheep, cattle and deer, farmers need an understanding of the ruminant digestive system.

Use the information in Diagram 1 below to help answer Part (a).

**Diagram 1: Digestive processes in the rumen**



- (a) Explain how **digestion** in the rumen takes place. In your answer, consider:
- how rumen bacteria break down food
  - conditions in the rumen that help rumen bacteria to function
  - what happens to the gases and end products produced, for example, fatty acids.

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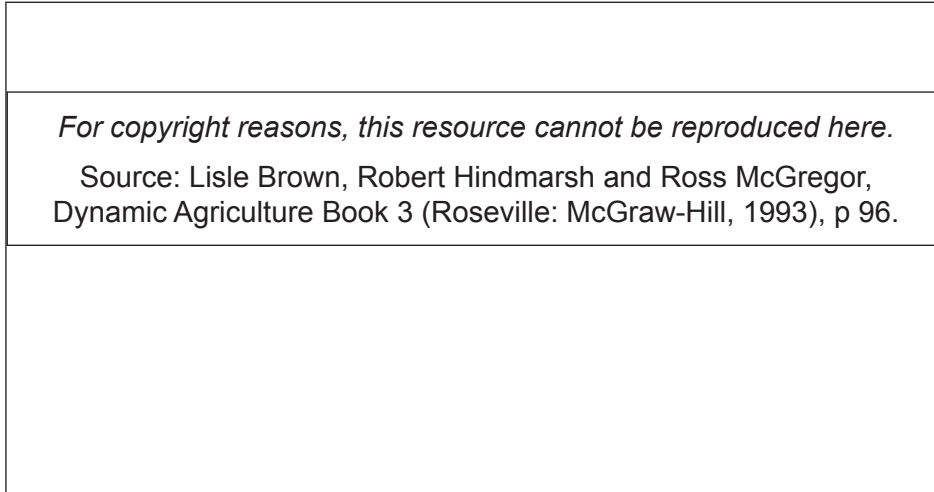
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## QUESTION TWO

Artificial insemination is used on most New Zealand dairy farms. For artificial insemination to be successful, an understanding of the female reproductive system and how to detect cows "on heat" (in oestrus) is needed.

### Diagram 2: The technique for artificial insemination of a cow



- (a) Explain the **function** of the vagina and the cervix of the cow.

Vagina:

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Cervix:

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- (b) Explain why the inseminating tube (AI gun or pistol) is put **through** the cervix when artificially inseminating a cow (refer to Diagram 2).

In your answer, consider:

- why it is important to hold the cervix when inseminating
- why placing the semen in the uterus increases the chance of the cow becoming pregnant.

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**QUESTION THREE**

Sheep farmers use management practices such as vaccinating and drenching to maintain animal health.

- (a) Describe and explain THREE steps taken when vaccinating sheep.

Step (1): \_\_\_\_\_

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\_\_\_\_\_

Step (2): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Step (3): \_\_\_\_\_

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\_\_\_\_\_

- (b) To reduce internal parasite problems, sheep farmers can use two management practices:

- observing stock and drenching only when necessary
- using rams that have proven resistance to internal parasites.

Describe and explain the signs that would indicate that drenching is necessary.

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