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Name:

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NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

SUPERVISOR'S USE ONLY

Level 1 Agricultural and Horticultural Science, 2011

90921 Demonstrate knowledge of livestock management practices

9.30 am Thursday 17 November 2011
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 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 2–11 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.

TOTAL

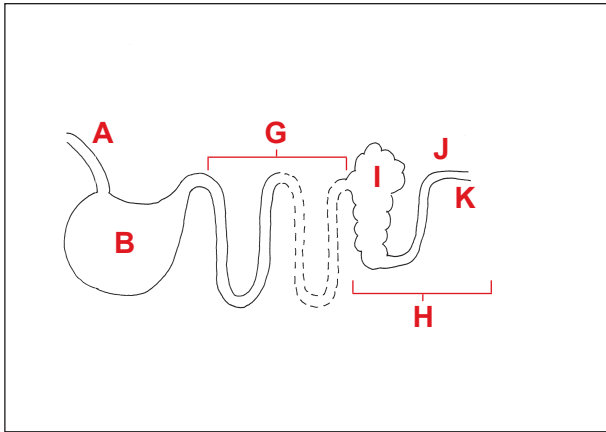
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You are advised to spend 60 minutes answering the questions in this booklet.

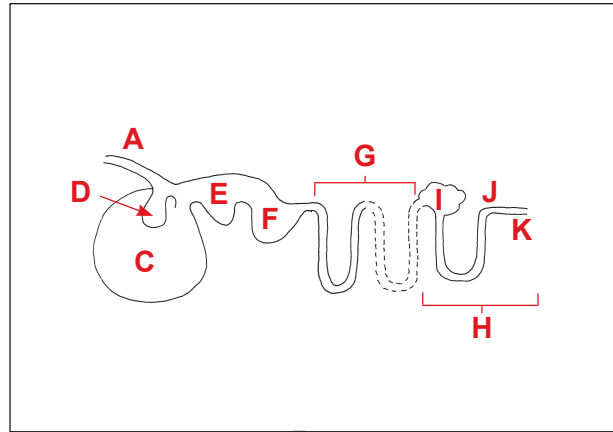
QUESTION ONE: LIVESTOCK NUTRITION

Farmers need to understand the type of digestive system of their livestock in order to provide them with correct nutrition. A key is provided under the diagrams below to identify the parts.

Digestive system of a pig



Digestive system of a sheep



Key to labels for BOTH diagrams above

A	oesophagus	E	omasum	I	caecum
B	stomach	F	abomasum	J	rectum
C	rumen	G	small intestine	K	anus
D	reticulum	H	large intestine		

- (a) Select *EITHER* a pig *OR* a sheep and explain how it digests its food. You may use information from the diagrams above to help you answer this question.

In your answer you should:

- describe where and how food is digested (broken down in size)
- describe where nutrients are absorbed from the digestive system
- explain how the surface area for nutrient absorption is increased in the digestive system.

Selected animal: _____

For weaned pigs and lambs to achieve fast growth rates, the farmer feeds them different types of feed as shown in the table below.

Animal	Feed type	% protein	Energy value (MJME)
Indoor reared and weaned pigs	Weaner meal concentrate	21	13.5
Weaned lambs	Fresh leafy pasture	21	11.5

(b) Using the information in the table, explain why the types of feed given to weaned pigs and lambs are different.

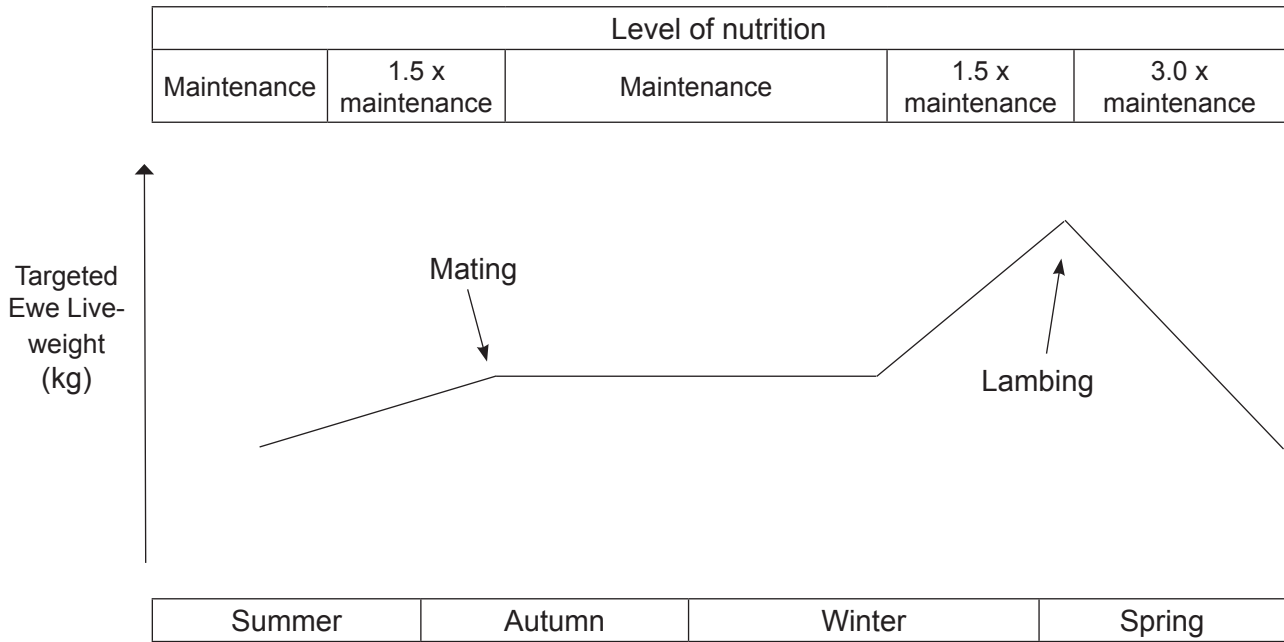
In your answer you should:

- explain how their digestive systems allow them to best use the type of feed provided
- explain how the feed produces fast growth rates in both pigs and lambs.

The diagram below shows the changing feed requirements for breeding ewes throughout the year.

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Feed requirements measured by ewe target liveweights



Source (adapted): Guy Trafford & Sue Trafford (ed.), *Farm Technical Manual* (Christchurch: Lincoln University, 2011)

(c) Justify the changing levels of nutrition for breeding ewes throughout the year.

In your answer you should:

- explain why feed requirements change throughout the year
- explain how the changes in feed requirements are important for getting high returns from lambs.

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QUESTION TWO: BREEDING PROGRAMME

A high country farmer of fine wool merino sheep considers two key factors in a successful breeding programme to decrease fine wool fibre diameter.

These two factors are:

- identification using ear tags
- ram selection.

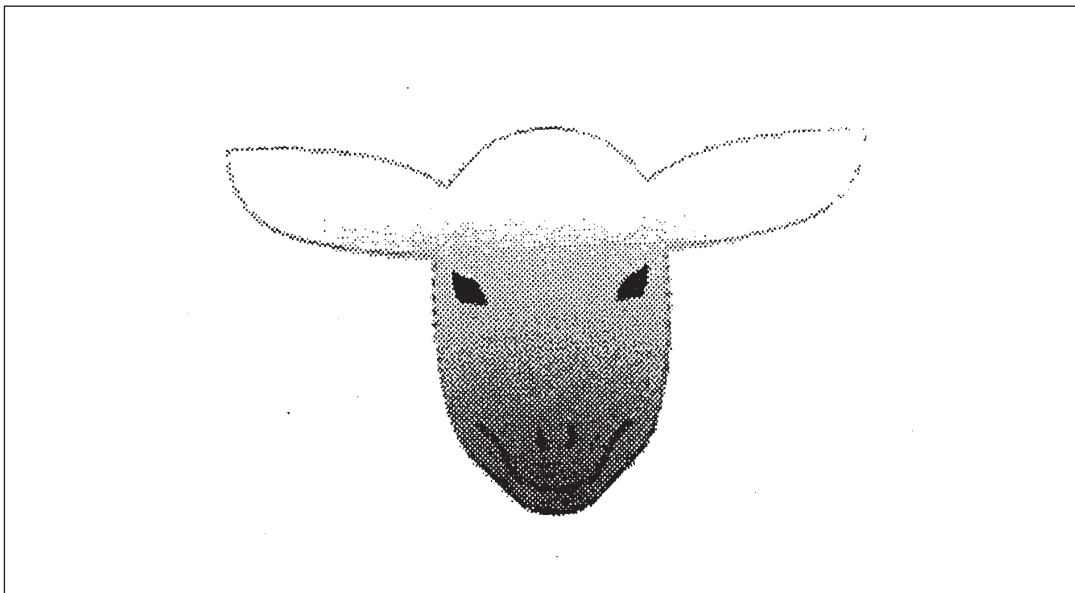
Ear tag



(a) Describe the process (practice) of putting in an ear tag.

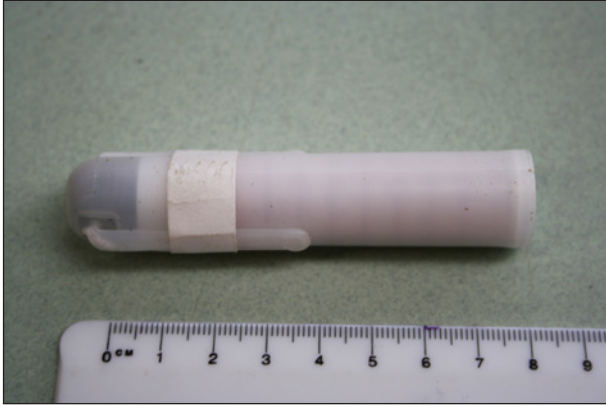
In your answer you should:

- show on the diagram below where the ear tags should be positioned
- state the information that should be shown on the ear tag(s) that the breeder would find useful.



QUESTION THREE: ORAL DRENCHING

There are different oral drenching methods used to control internal parasites in sheep. Two examples are shown in the photographs below.

100-day drench capsule**Oral liquid drench**

Select ONE of the methods farmers could use to control internal parasites.

Selected method: _____

(a) Explain how to drench using the selected method.

In your answer you should:

- describe the steps involved in drenching
- explain why each step is carried out.

(b) (i) Describe the effects that internal parasites have on sheep.

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