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90921



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

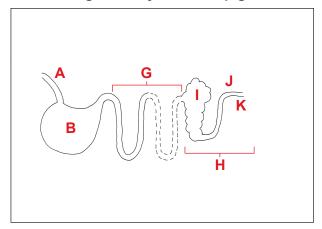
You are advised to spend 60 minutes answering the questions in this booklet.

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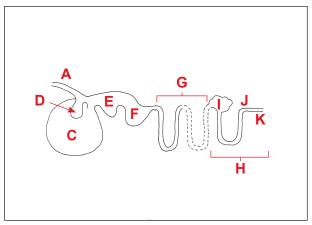
QUESTION ONE: LIVESTOCK NUTRITION

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

Α	oesophagus	Е	omasum	1	caecum
В	stomach	F	abomasum	J	rectum
С	rumen	G	small intestine	K	anus
D	reticulum	Н	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.

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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:

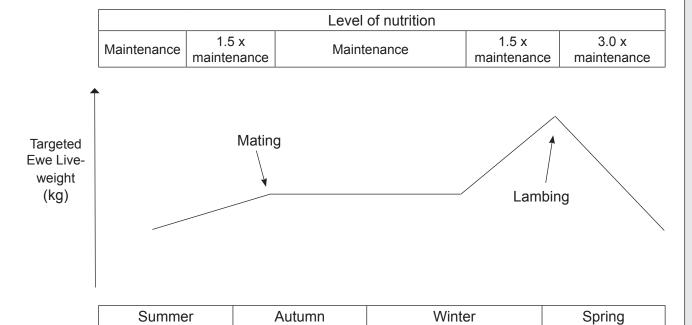
 explain how their digestive systems allow them to best use the type of feed provide

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

from lambs.		

explain how the changes in feed requirements are important for getting high returns

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QUESTION TWO: BREEDING PROGRAMME

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

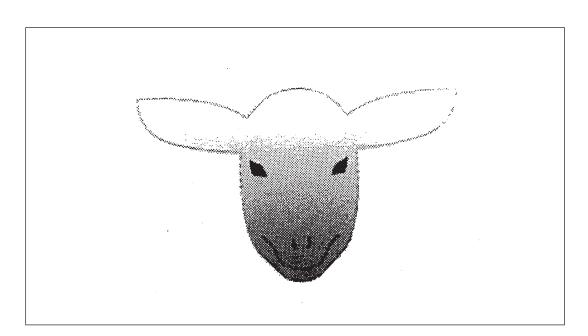
These two factors are:

- identification using ear tags
- ram selection.





- (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.



	other factor the high country farmer uses in the breeding programme to produce fine wool is selection of suitable rams.	ASSESSOR'S USE ONLY
(b)	Explain why more emphasis is placed on the selection of rams than the selection of ewes in the breeding programme.	
	high country farmer wants to produce better quality wool from the merino flock, which is free of rot. The farmer has the choice of buying rams from two breeders:	
	eder 1 farms on lower country which has rams producing better quality wool, but the flock has oblem with foot rot.	
Bree	eder 2 runs a high country farm in a different area. The wool quality of the rams is the same as armer's flock, but Breeder 2's flock is free of foot rot.	
(c)	The farmer decides to buy rams from Breeder 2 rather than from Breeder 1. Justify the farmer's decision.	
	In your answer you should:	
	 explain the impact of the environment on producing fine wool discuss the economic factors. 	
	discuss the economic factors.	

QUESTION THREE: ORAL DRENCHING

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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







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.

(ii)	Explain how drenching improves sheep production and lamb growth rates.	ASSESSOR'S USE ONLY
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internal pa	bouring hill country sheep farmers were discussing the best method for controlling trasites on their farms. Both farms have 4000 mixed-aged ewes.	
	gives ewes a 100-day drench capsule before lambing. drenches ewes before and after lambing with an oral liquid drench.	
(c) Just	fy the use of different drenching methods by each farmer.	
in yo	our answer you should consider: the ease of management of each method	
•	the possibility of parasite resistance	
•	the cost-effectiveness of each method.	
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