

UNIVERSITY OF FORT HARE

SMALLSTOCK SCIENCE  
AGQ 311

DEGREE EXAMINATION

JUNE 2023

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Time: 3 HOURS

Subject: AGQ 311

Marks: 100

This paper consists of 2 pages including the cover page

Internal Examiners  
Dr C.T. Mpendulo

External Examiners  
Dr F.N. Fon

INSTRUCTIONS

Answer ALL questions.

**Question 1 (25 marks)**

- a) Mortality is one of the factors which affect goat and sheep production. Briefly explain about the causes of mortality and how it can be reduced in small stock production (13 marks)
- b) Describe breeding soundness examination (BSE) in rams. (5 marks)
- c) Outline the advantages and disadvantages of keeping small stock over large stock. (7 marks)

**Question 2 (25 marks)**

- a) Demonstrate your understanding of the three mating management methods in small stock by recommending, giving reasons, one that should be used under the following production systems:
  - (i) smallholder goat producers with 52 does and one buck. (7 marks)
  - (ii) Dohne Merino stud breeder. (6 marks)
  - (iii) Government research station with mating pens. (7 marks)
- b) List the fibre production characteristics that must be considered when evaluating an animal for mohair production. (5)

**Question 3 (25 marks)**

- a) Mr Mfonyozi is a sheep farmer in the Alice area of the Eastern Cape whose enterprise has 500 breeding ewes, 100 replacement ewes and 10 rams. The farmer practices autumn mating. During the 2017 breeding season she mated all the breeding ewes and 10 ewes cycled 21 days after the breeding season. In spring the farmer had 486 ewes lambing, of which there were 145 twin births and 50 triplet births. On calculating the weaning percentage Mfonyozi found that it was 97.5 % of the lambing percentage. Using the given information and what you have learnt in class show your understanding of small stock science by answering the following questions.
  - (i) Explain why this farmer prefers autumn mating. (3 marks)
  - (ii) What is the replacement rate of the flock? (1 marks)
  - (iii) What is the mating ratio of the flock? (1 marks)
  - (iv) What is the conception rate of the flock? (1 marks)
  - (v) Determine the pregnancy percentage of this flock. How does this answer compare with the answer in (iv)? Give possible reasons for this. (3 marks)
  - (vi) Calculate the lambing percentage of this flock. How does your answer compare with the pregnancy percentage? Give one reason for this outcome. (3 marks)
  - (vii) What is the weaning percentage of the flock? (1 marks)
- b) Comment on the management practices being implemented by Mfonyozi on his lambs from birth to weaning. (12 marks)

**Question 4 (25 marks)**

Reproduction is a key to the success of any livestock enterprise.

- a) Describe factors that affect reproductive efficiency in goat production. (15 marks)
- b) Discuss factors that influence choice of a production system. (10 marks)

**END OF QUESTIONS**