



2nd SEM. 2007/2008

Page 1 of 3

UNIVERSITY OF SWAZILAND
FINAL EXAMINATION PAPER

PROGRAMME: BS.c. ANIMAL SCIENCE YEAR 3
BS.c. AGRONOMY YEAR 3

TITLE OF PAPER: PASTURE AND FODDER MANAGEMENT

COURSE CODE: APH 305

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER QUESTION ONE (1) AND ANY OTHER THREE (3)
QUESTIONS

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QUESTION 1

Pasture establishment is an integral part in pasture and fodder management; it affects the productivity of the pasture stand in subsequent years. Describe the step by step activities involved in pasture establishment to an aspiring dairy farmer.

(25 marks)

QUESTION 2

Highlight some of the benefits farmers are likely to get from pasture mixtures as opposed to pure pasture stands.

(25 marks)

OR

(b) Strategic use of fertilizers can improve pasture productivity. Describe the use of the following fertilisers in pasture improvement:

i) Nitrogen (N)

(13 marks)

ii) Lime

(12 marks)

QUESTION 3

Once pastures have been established, it is important to observe correct stocking for high and sustainable milk production. With an aid of a diagram, explain the relationship between individual animal output and stocking rate.

(25 marks)

QUESTION 4

One of the most serious constraints to livestock production in Swaziland is inadequate and low quality of forage in winter. Briefly explain how this problem can be addressed through the use of crop residues and agro-industrial by-products.

(25 marks)

QUESTION 5

Winter feeding may present problems if proper planning is not done.

Assume you are a ranch manager in charge of a herd of 100 beef cattle.

The cattle need supplementary feeding in the form of hay for 160 days in winter. Given that the animals are fed at a rate of 8 kg dry matter hay per head per day, calculate:

- (a) the total feed needs (hay) during the winter period. (5 marks)
- (b) barn capacity in bales required to store the hay assuming each bale weighs 25 kg. (5 marks)
- (c) the total area to be reserved for hay assuming a pasture yield of 12 tonnes per/ha. (5 marks)
- (d) describe a method you would employ to improve the quality and utilization of this hay. (5 marks)
- (e) Adjust the values for (i) hay needs, (ii) barn capacity and (iii) area to be reserved for hay assuming 10% loss in hay making. (5 marks)