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UNIVERSITY OF SWAZILAND

2nd SEM. 2012/2013

FINAL EXAMINATION PAPER

**PROGRAMME: B.Sc. ANIMAL SCIENCE YEAR 3, B.Sc. ANIMAL SCIENCE
(DAIRY OPTION) YEAR 3, B.Sc. AGRONOMY YEAR 3**

COURSE CODE: AS 305

TITLE OF PAPER: PASTURE AND FODDER MANAGEMENT

TIME ALLOWED: TWO (2) HOURS

**INSTRUCTIONS: ANSWER QUESTION ONE AND ANY OTHER THREE (3)
QUESTIONS; FOUR QUESTIONS IN TOTAL**

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CHIEF INVIGILATOR**

QUESTION 1

(a) A well prepared seedbed is a fundamental requirement in pasture establishment. What are the characteristics of a well prepared seedbed? (10 marks)

(b) Forage conservation is one way to address the problem of winter feeding. Assume you are in charge of a dairy farm at Luyengo. The farm has 250 cows which require supplementary feeding in the form of silage for 180 days in winter. Given that the cows are fed at a rate of 10 kg silage DM per head per day, calculate:

(i) the total silage needs during winter. (3 marks)

(ii) the total area required for silage production if the yield of maize is 20 tonnes/ha fresh material, with 24% dry matter. (4 marks)

(iii) the number of pit silos required assuming each silo is 5.5 m long, 3 m wide and 1.5 m deep, and each cubic meter can take 120 kg of silage on dry matter basis. (5 marks)

(iv) adjust the values for total silage needs during winter, area required to produce the maize and the number of pit silos assuming a 20% loss in silage production. (3 marks)

QUESTION 2

(a) Briefly comment on the integration of cultivated pastures into the farming system. (10 marks)

(b) With the aid of a diagram show and explain the response to added fertiliser. (15 marks)

QUESTION 3

Estimation of correct stocking rate is important in managerial decision making. Fully discuss the concept of overstocking. (25 marks)

QUESTION 4

(a) Based on grazing of Italian rye grass at the UNISWA Farm, discuss the concept of strip rotation grazing. (13 marks)

(b) Explain why it is important for a pasture manager to fully understand the response of pasture plants to defoliation. (12 marks)

QUESTION 5

(a) Give six broadcast methods that can be used for planting pasture seeds. (7 marks)

(b) Name five forage grasses and five forage legumes that can be used in planted pastures. In each case give both common and scientific names. (18 marks)