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UNIVERSITY OF SWAZILAND

2nd SEM. 2013/2014

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 QUESTIONS

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CHIEF INVIGILATOR

QUESTION 1

(a) Explain clearly why it is important to have a properly prepared seedbed before sowing pasture seeds? (6 Marks)

(b) Explain the long term effects of overgrazing on pasture composition and livestock productivity? (6 Marks)

(b) Assume you are in charge of a dairy farm at Luyengo. The farm has 110 cows which require year-long strategic feeding of silage.

Given that the cows are fed at a rate of 5 kg (on dry matter basis) 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 25 tonnes/ha fresh material, with 24% dry matter. (3 Marks)

(ii) 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 150 kg of silage on dry matter basis. (4 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

Seed quality affects the extent of pasture establishment. Discuss seed quality under the following headlines:

i) Freedom from contamination. (15 Marks)

ii) Control of seed quality. (10 Marks)

QUESTION 3

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 4

Discuss fully the management of newly established pastures.

(25 Marks)

QUESTION 5

(a) Explain the significance of tillering in planted pastures.

(5 Marks)

(b) Fully discuss and illustrate the concept of deferred rotational grazing in planted pastures. In your illustration, use a four-year rotation.

(20 Marks)