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

Cultivated pastures are an integral part of a commercial dairy operation.

(a) Discuss fully the role of planted pastures under the following headlines:

(i) Provision of more reliable feed   (10 marks)

(ii) Provision of better quality feed.   (5 marks)

(b) For larger areas, pasture establishment method is more faster with the

broadcasting. Beginning with seed mixing until seedling emergence, describe

fully the steps involved in pasture establishment.   (10 marks)

QUESTION 2

Seed quality affects the extent of pasture establishment. The use of high quality

seed makes sowing more reliable. Discuss seed quality under the following

headlines:

i) Freedom from contamination   (13 marks)

ii) Scarification of legume seeds   (12 marks)

QUESTION 3

Return from money invested depends on the skill of pasture management,

that is, taking care of the established pasture species. Outline the four

ways by which a farmer can achieve this goal.   (25 marks)

QUESTION 4

Comment briefly on the following pasture management practices:

(i) Renovation of sod-bound pastures.   (15 Marks)

(ii) Pasture harrowing.   (10 Marks)

QUESTION 5

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

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 (on dry matter basis) per head per

day, calculate:

(a) the total silage needs during winter. (5 marks)

(b) the total area required for silage production if the yield of maize is

20 tonnes/ha fresh material, with 24% dry matter. (7 marks)

(c) the number of pit silos required assuming each silo is 5.4 m long, 3 m wide

and 1.5 m deep, and each cubic meter can take 120 kg of silage on dry matter

basis. (8 marks)

(d) adjust the values for (i) area required to produce the maize and (ii) the

number of pit silos assuming a 20% loss in silage production. (5 marks)