



**UNIVERSITY OF SWAZILAND**

**2<sup>nd</sup> SEM. 2014/2015**

**SUPPLEMENTARY 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 FOUR (4) QUESTIONS**

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CHIEF INVIGILATOR**

**QUESTION 1**

The use of quality seed is very important for reliable pasture establishment.

Discuss seed quality under the following headlines:

- (i) Freedom from contamination (17 Marks)
- (ii) Rate of seed germination (3 Marks)
- (iii) Seed size (5 Marks)

**QUESTION 2**

Discuss the potential use of crop residues and agro-industrial by-products to address the problem of winter feed quantity and quality in Swaziland.

(25 Marks)

**QUESTION 3**

(Fully discuss and illustrate the concept of deferred rotational grazing in planted pastures.

(25 Marks)

**QUESTION 4**

For larger areas, pasture establishment is faster with the broadcasting method. Beginning with initial ploughing until seedling emergence, describe fully the steps involved in pasture establishment.

(25 Marks)

**QUESTION 5**

- (a) Explain clearly and briefly to a dairy farmer who wants to establish a stand of Kikuyu grass (*Pennisetum clandestinum*) how he can successfully do it using the vegetative propagation method. (10 Marks)
- (b) Winter feeding may present problems if proper planning is not done. Assume you are a ranch manager in charge of 100 herd of dairy 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:
- (i) the total feed needs (hay) during the winter period. (3 Marks)
- (ii) barn capacity in bales required to store the hay assuming each bale weighs 25 kg. (2 Marks)
- (iii) the total area to be reserved for hay assuming a pasture yield of 4 tonnes per/ha. (5 Marks)
- (iv) 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)