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UNIVERSITY OF SWAZILAND

2nd SEM. 2014/2015

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 ANY FOUR QUESTIONS

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**QUESTION 1**

A local dairy farmer wants to establish pastures for his cows but is not sure which grass species to plant. Discuss briefly the factors he needs to consider in selecting a pasture species to plant under:

(i) Adaptation to soil and environmental factors (8 Marks)

(ii) Species or cultivar characteristics (17 Marks)

**QUESTION 2**

(a) State **FIVE** factors that influence optimum stocking rate. (5 Marks)

(b) Strip rotational grazing is one of the mostly commonly used grazing methods in planted pastures. Describe this method to someone aspiring to be a dairy farmer. (20 Marks)

**QUESTION 3**

(a) Your neighbour who has been planting only Rhodes grass in his planted pastures wants to adopt your practice whereby in your planted pastures you have combined Rhodes grass, Guinea grass, Buffel grass and Lucerne. Highlight **FIVE** benefits farmers are likely to get from pasture mixtures as opposed to pure pasture stands. (15 Marks)

(b) Explain briefly how you could improve the quality and utilisation of hay fed to your dairy cows during the dry season. (10 Marks)

**QUESTION 4**

(a) Discuss the role of sown pastures under the headline "Providing more reliable feed". (15 Marks)

(b) Give an outline of any **FIVE** guidelines to be followed for successful pasture establishment. (10 Marks)

**QUESTION 5**

(a) Give a complete list of all the commonly used methods to establish pastures from seed and vegetative material. (10 Marks)

(b) Forage conservation is one way of ensuring feed availability throughout the year. Assume you are in charge of a dairy farm at Luyengo. The farm has 110 cows which require supplementary feeding in the form of silage year round. Given that the cows are fed at a rate of 6 kg silage (on dry matter basis) per head per day, calculate:

(i) the total silage needs during the year. (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 metre can take 120 kg of silage on dry matter basis. (6 Marks)

(iv) adjust the values for total silage needs during the year, area required to produce the maize and the number of pit silos assuming a 15% loss in silage production. (3 Marks)