



SUPPLEMENTARY 2005/2006

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UNIVERSITY OF SWAZILAND

SUPPLEMENTARY EXAMINATION PAPER

**PROGRAMME: DIPLOMA IN AGRICULTURE YEAR 2 AND
DIPLOMA IN AGRICULTURAL EDUCATION
YEAR 3**

COURSE CODE: CP 202

TITLE OF PAPER: SOIL FERTILITY

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER ANY FOUR (4) QUESTIONS

**DO NOT OPEN THIS PAPER UNTIL PERMISSION HAS BEEN
GRANTED BY THE CHIEF INVIGILATOR**

QUESTION 1

- (a) What is animal manure? [5]
- (b) Discuss the significance of animal manure in crop production [20]

QUESTION 2

- (a) What is a micronutrient? [5]
- (b) Discuss the role of micronutrients in crop production [20]

QUESTION 3

- (a) Outline the pools of potassium in soils and highlight the relative importance of these pools in the potassium nutrition of plants [10]
- (b) Discuss the factors which influence the availability of potassium to plants in soils [15]

QUESTION 4

- (a) Discuss the mechanisms responsible for the transport of nutrients to the plant root surfaces [15]
- (b) What is the importance of each mechanism for? [10]
 - (i) mobile nutrients
 - (ii) immobile nutrients

QUESTION 5

- (a) Discuss the acid-infertility of soils [15]
- (b) What remedial actions would recommend to improve crop yields in acid soils? [10]

QUESTION 6

- (a) Discuss the factors which influence the availability of phosphorus to plants in soils [15]

(b) What remedial actions would you take to improve the availability of phosphorus to plants in such soils? **[10]**