



SUPPLEMENTARY 2007/2008

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UNIVERSITY OF SWAZILAND

SUPPLEMENTARY EXAMINATION PAPER

PROGRAMME: DIPLOMA IN AGRICULTURAL EDUCATION YEAR III

COURSE CODE : CP 202

TITLE OF PAPER : SOIL FERTILITY

TIME ALLOWED : TWO (2) HOURS

INSTRUCTIONS: ANSWER ANY FOUR (4) QUESTIONS

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THE CHIEF INVIGILATOR**

QUESTION 1

Discuss the methods of fertilizer application you would recommend to farmers for application of fertilizer to cereal crops. Highlight the merits and demerits of each method [25]

QUESTION 2

Discuss the various ways in which nitrogen is added and lost in soils [25]

QUESTION 3

(a) Discuss the factors, which influence the availability of phosphorus to plants in soils [14]

(b) What strategies would you recommend to increase the availability of phosphorus to plants in such soils [5]

(c) A soil was shown to have a phosphorus soil test of 10 mg P kg^{-1} soil and the sufficiency level for most crop plants is given as 20 mg kg^{-1} soil. The efficiency of conversion of fertilizer P to soil P is 20%. Calculate the amount of triple superphosphate (22% P) required to increase the soil P to the sufficiency level [6]

QUESTION 4

(a) What is a micronutrient? [5]

(b) Discuss the role of micronutrients in crop production [20]

QUESTION 5

(a) Discuss the acid-infertility of soils [18]

(b) What strategies would you recommend to increase crop yields in such soils? [7]