



SUPPLEMENTARY 2004/2005

PAGE 1 OF 2

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 QUESTION ONE (1), WHICH IS A
COMPULSORY QUESTION, AND ANY OTHER
TWO (2) QUESTIONS OF YOUR CHOICE**

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

QUESTION 1

- (a) Discuss the factors which influence the availability of phosphorus to plants in soils and suggest strategies to increase phosphorus availability to plants in soil. [30]
- (b) A soil was shown to have a phosphorus soil test of 12mg P kg^{-1} and the sufficiency level for most crops is given as 20mg P kg^{-1} . The efficiency of conversion of fertilizer P to soil test P is 20%. Calculate the amount of triple superphosphate (22% P) required to increase the soil test P to the sufficiency level. [10]
[40]

QUESTION 2

Discuss four methods of fertilizer application which you would recommend to farmers for the application of fertilizers to cereal crops. Highlight the merits and demerits of each method. [30]

QUESTION 3

Discuss the various ways in which nitrogen is added and lost in soils. [30]

QUESTION 4

Discuss the role of micronutrients in crop production. [30]