



**1<sup>ST</sup> SEM. 2009/2010**

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**UNIVERSITY OF SWAZILAND**

**FINAL EXAMINATION PAPER**

**PROGRAMME: BACHELOR OF SCIENCE IN AGRONOMY YEAR FOUR**

**COURSE CODE: CP 404**

**TITLE OF PAPER: SOIL MANAGEMENT**

**TIME ALLOWED: TWO (2) HOURS**

**INSTRUCTION: ANSWER ANY FOUR (4) QUESTIONS**

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THE CHIEF INVIGILATOR**

**QUESTION 1**

- (a) "Pineapples destroy the soil" Explain the basis for this contention and outline the suspect management practices that may have given rise to this contention. [12]
- (b) What management strategies would you recommend to improve crop yield in land previously under a 7-year pineapples production. [13]

**QUESTION 2**

- (a) Highlight the origin of charge in highly weathered soils of the tropics and subtropics. [8]
- (b) Discuss the implications of variable charge in tropical and subtropical soils on:  
(i) nutrient retention, and  
(ii) lime requirement [13]
- (c) Distinguish between "total cation exchange capacity" and "effective cation exchange capacity". [4]

**QUESTION 3**

- (a) What is a saline soil? [3]
- (c) Outline the ways in which such a soil condition develops. [10]
- (b) Discuss the strategies you would recommend to increase crop yields in such soils. [12]

**QUESTION 4**

- (a) Highlight the development and distribution of acid-sulphate soils [10]
- (b) Discuss practical interventions you would recommend to increase crop yields in such soils. [15]

**QUESTION 5**

Discuss in detail the management requirements of soils in the middlveld of Swaziland. [25]