



**UNIVERSITY OF SWAZILAND**

**SUPPLEMENTARY EXAMINATION PAPER**

**PROGRAMME:** B.Sc. AGRICULTURAL & BIOSYSTEMS ENGINEERING  
YEAR 4

B.Sc. AGRIC. ECON. & AgBMgt YEAR 4

B.Sc. AGRICULTURAL EDUCATION YEAR 4

**COURSE CODE:** CP 409

**TITLE OF PAPER:** FIELD CROPS

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

**INSTRUCTIONS:** ANSWER ANY FOUR QUESTIONS

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THE CHIEF INVIGILATOR**

107

**QUESTION 1**

- a) What are heat units and how are they determined? (8 marks)
- b) Discuss the practical implications of heat units and the optimum planting date of a maize crop. (9 marks)
- c) How is the growth class of hybrids determined? (8 marks)

**[25 Marks]****QUESTION 2**

- (a) Discuss the effects of rotating sorghum with cotton and indicate the benefits that would accrue to farmers in the cotton growing regions from exercising this option. (15 marks)
- (b) Sorghum plants have an ability to yield even under severe drought conditions. Discuss. (10 marks)

**[25 Marks]****QUESTION 3**

Discuss the agronomic aspects of sorghum (*Sorghum bicolor*) production in Swaziland, under the following headings:

- a) Tillage (5 marks)
- b) Time of planting (5 marks)
- c) Plant population on yield (5 marks)
- d) Fertilizer response, water requirement and management (5 marks)
- e) Crop sanitation – weed, pest and disease control (5 marks)

**[25 Marks]****QUESTION 4**

Discuss the major reasons why soya bean is not grown in Swaziland on a large scale and suggest how production could be increased.

**[25 Marks]**

**QUESTION 5**

- a) The maize and beans intercropping system is common in tropical and subtropical regions. Discuss the factors that influence the performance of this intercropping system.

(15 marks)

- b) Discuss five aspects to successful intercropping.

(10 marks)

**[25 Marks]**