

1<sup>ST</sup> SEM. 2013/2014



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**UNIVERSITY OF SWAZILAND**

**FINAL EXAMINATION PAPER**

**PROGRAMMES: BSC YEAR 4 IN AGRICULTURAL AND BIOSYSTEMS  
ENGINEERING, AGRICULTURAL ECONOMICS AND  
AGRIBUSINESS MANAGEMENT AND AGRICULTURAL  
EDUCATION**

**COURSE CODE: CP 409**

**TITLE OF COURSE: FIELD CROPS**

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

**INSTRUCTIONS: (1) ANSWER QUESTION ONE (1) AND ANY OTHER THREE  
QUESTIONS.**

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CHIEF INVIGILATOR**

**QUESTION 1**

The cultivation of sugarcane and subsequent production of sugar, contributes both positively and negatively to 'environmental sustainability'. Discuss this statement. **[25 marks]**

**QUESTION 2**

Intercropping evolved as an attempt to manipulate the physical and biological environment for the benefit of the crop(s). Using one physical factor of the environment, describe the merits and demerits of intercropping in capture and utilisation of this physical factor. **[25 marks]**

**QUESTION 3**

Plants have certain features or physiological processes that enable them to reduce the limiting effects of the physical and biotic conditions of existence. Discuss this statement using appropriate examples. **[25 marks]**

**QUESTION 4**

Using the agro-ecological region of the Lowveld of Swaziland, describe challenges facing the production of maize, the main cereal crop, and justify the potential for another crop that can complement or substitute maize, as a staple food crop. **[25 marks]**

QUESTION 5

Study the diagram below carefully. Low input management is where maize was grown at 22,000 plants/ha with no fertiliser while high input management supported 53,000 plants/ha with 100 kg N/ha + 10 kg P/ha. Season type is rainfall amount (mm). Describe what the diagram illustrates in as much detail as possible and suggest reasons for all your observations. **[25 marks]**

