



**UNIVERSITY OF SWAZILAND  
MAIN EXAMINATION PAPER**

**1<sup>ST</sup> SEMESTER 2017-2018**

**PROGRAMME: BACHELOR OF SCIENCE IN AGRONOMY YEAR 4**

**COURSE CODE: CP 403**

**TITLE OF PAPER: FIBRE, TOBACCO AND TUBER CROPS**

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

**INSTRUCTIONS: ANSWER QUESTION 1 AND 2 AND ANY OTHER TWO QUESTIONS**

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**COURSE CODE: CP 403 (F) 2017 - 2018**

**QUESTION 1 – COMPULSORY**

Given the general characteristics and production requirements of root and tuber crops (cassava and sweet potato) compared with cereal and legume grains, justify whether or not you would recommend production of roots and tubers to small scale farmers. Please use only one major agro ecological zone of Swaziland (Lowveld, Middleveld or Highveld) for illustration, in your answer.

**[25 Marks]**

**QUESTION 2 - COMPULSORY**

- a) Discuss the common similarities that root and tuber crops share, based on their biology and agricultural production and use. (15 marks).
- b) Discuss the dissimilarities that roots and tuber crops have. (10 marks).

**[25 Marks]**

**QUESTION 3**

Choosing which variety to plant is one of the most critical steps in producing a cotton crop and achieving optimal yields and fibre quality.

- a) Explain the basis on which cotton producers decide on a variety to plant. (5 marks).
- b) Give the two methods of delinting cotton seed and indicate which of these is preferred by producers for use as seed and give reasons. (5 marks).
- c) What is the recommended seeding rate for each type of seed? (5 marks).
- d) What is the recommended treatment for cotton seed? (5 marks).
- e) Explain the importance of crop rotations in cotton production. Give an example of a build-up of a disease that could occur in a cotton monoculture. (5 marks).

**[25 Marks]**

**QUESTION 4**

Describe three mechanisms that are considered to contribute to drought tolerance for each of the following crops:

- a) Cotton
- b) Cassava

**[25 Marks]**

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**QUESTION 5**

- a) Discuss the aims of sweetpotato breeding for resource-poor farmers and for commercial production. (5 marks).
- b) Discuss the climatic and soil requirements of sweet potato production. (5 marks).
- c) Explain the importance of irrigation and scheduling in sweet potato production. What is the critical period during which the producer should ensure the occurrence of very little moisture stress? (5 marks).
- d) Weed control in a well-developed crop of sweet potato can be a serious challenge as a result of spreading vines. What weed control strategies may be employed to reduce weed competition and improve root yields? (5 marks).
- e) Discuss the importance of the sweet potato weevil and explain how it may be controlled. (5 marks).

**[25 Marks]**