



1ST SEM 2012/2013

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UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER

PROGRAMME: B.Sc. AGRONOMY 4

COURSE CODE: CP 403

TITLE OF PAPER: FIBRE, TOBACCO AND TUBER CROPS

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER ANY FOUR (4) QUESTIONS

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

Sq s a k a b h o a n b e

QUESTION 1

- (a) Give reasons why farmers should prepare a good seedbed for the production of tuber crops and other annual crops. (6 marks)
- (b) Give the advantages and limitations of planting tuber crops such as sweetpotato and cassava on mounds and/or ridges. (7 marks)
- (c) Give reasons why a seedbed should be prepared early or very early. (5 marks).
- (d) What is the best time to prepare a seedbed for the production of sweetpotato or cotton? (4 marks)
- (e) Give reasons for the answer in (d) above. (3 marks).

[25 MARKS]

QUESTION 2

- (a) Define the terms: (2 marks each)
 - (i) competition
 - (ii) critical LAI
 - (iii) erectophiles
 - (iv) harvest index
 - (v) source
- (b) Explain why a low LAI index is undesirable in crop production. (3 marks)
- (c) What does a LAI of 6.0 mean? (2 marks)
- (d) Why is harvest index low in **Named annual crops** in many parts of the tropics? (5 marks)
- (e) Explain why the efficiency of photosynthesis is very low. (5 marks)

[25 MARKS]

QUESTION 3

- (a) Describe the various methods of planting cassava stem cuttings indicating the unique features of each method. (6 marks)
- (b) What is 'crop ideotype'? (4 marks)
- (c) Outline the traits or characteristics of an ideal plant (ideotype) for a named crop of your choice. (5 marks).
- (d) What is the single most important constraint to potato cultivation in the world? (2 marks)
- (e) Give reasons why late blight of potato is difficult to control. (8 marks)

[25 MARKS]

QUESTION 4

- (a) Using a suitable diagram describe yield/density curves for annual crops. (5 marks)
- (b) Using a suitable table distinguish erectophiles from planophiles. (10 marks)
- (c) Discuss agronomic practices for the production of a good crop of cotton. (10 marks)

[25 MARKS]

QUESTION 5

- (a) In some annual crops organs that are 'sources' of photoassimilates change with crop growth and development. Discuss this observation with specific examples. (10 marks)
- (b) Give examples of 'sinks'. (4 marks).
- (c) What is the single most important production constraint in sweetpotato? (2 marks)
- (d) Write a short essay about the constraint named in (c) above. (4 marks)
- (e) Distinguish the two main types of competition. (2 marks)
- (f) Describe Gause's law and its relevance (3 marks)

[25 MARKS]