



1st SEMESTER 2015/2016

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UNIVERSITY OF SWAZILAND

MAIN EXAMINATION PAPER

**PROGRAMME:** BACHELOR OF SCIENCE IN AGRICULTURAL  
ECONOMICS AND AGRIBUSINESS YEAR TWO

BACHELOR OF SCIENCE IN ANIMAL SCIENCE  
YEAR 2

BACHELOR OF SCIENCE IN ANIMAL SCIENCE  
YEAR 2 (DAIRY OPTION)

**COURSE CODE:** CP 205

**TITLE OF PAPER:** PRINCIPLES OF CROP PRODUCTION

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

**INSTRUCTION:** ANSWER QUESTIONS 1 AND 2, WHICH ARE  
COMPULSORY AND ANY OTHER TWO QUESTIONS OF  
YOUR CHOICE

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BY THE CHIEF INVIGILATOR**

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**QUESTION 1**  
**(THIS IS A COMPULSORY QUESTION)**

(a) Describe the cropping systems in Swaziland

[14 Marks])

(b) How would you address the problem of livestock dying from shortage of fodder that occurred in Swaziland in the months of September and October, 2015 [ 14 marks]

(14 Marks)

[28 Marks]

**QUESTION 2**  
**(THIS IS ALSO A COMPULSORY QUESTION)**

Explain the following terms. Give examples to illustrate your answers, where necessary. Each question carries four marks.

- (a) Ideal characteristics of green manure crops.
- (b) Plant competition.
- (c) Methods of breaking seed dormancy.
- (d) Botanical classification of crops.
- (e) Methods of applying fertilizer to crop plants.
- (f) Stages of on-farm research.
- (g) Types of agroforestry systems.

[28 Marks]

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**QUESTION 3**

Describe how you would carry out a tetrazolium test on maize [*Zea mays* L.]. With a large diagram, label all parts of the maize seed that would be stained red if they were alive.

[14 Marks]

How would you prepare 1000 cc of the right concentration for the test?

[8 Marks]

**QUESTION 4**

Distinguish between the following terms. Use examples and/or diagrams to illustrate your answers.

- (a) Cash and catch crops ( 4 marks)
- (b) Foliar and fertigation methods of applying fertilisers ( 4 marks)
- (c) Nurse and companion crop ( 3 marks)
- (d) Normal and abnormal seedlings ( 4 marks)
- (e) Inter- and intra-plant competition ( 4 marks)
- (f) Top dressing and side dressing of fertilisers ( 3 marks)

**QUESTION 5**

[22 Marks]

Explain how crop yields can be increased in Swaziland.

[22 Marks]