"Investing in Africa's future"

COLLEGE OF HEALTH, AGRICULTURE & NATURAL SCIENCES

NACP 304: PLANT PATHOLOGY

END OF SECOND SEMESTER FINAL EXAMINATION

APRIL/MAY   2024

LECTURER: W. MANYANGARIRWA

DURATION: 3 HOURS

INSTRUCTION

ANSWER QUESTION 1, AND ANY OTHER THREE QUESTIONS

NACP 304 PLANT PATHOLOGY

ANSWER QUESTION 1, AND ANY OTHER THREE

1. A student undertaking a research project to test the tolerance of soyabean varieties to soyabean rust disease found the following results.

Variety	Mean Disease Severity scores					
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
SC Saga	1	2.0	3.0	3.0	4.5	5.0
Soprano	1	3.5	4.0	5.0	5.5	7.0
Solitaire	1	4.0	4.5	6.5	7.5	8.0
Sonata	1	2.5	3.5	4.5	6.0	7.0
Sable	1	3.0	4.0	5.0	7.0	7.5

a) Using the graph paper provided, draw well labeled disease progress curves for each variety. [15 marks]

b) From the disease progress curves, identify the most tolerant variety and rank the varieties in decreasing order of tolerance. [3 marks]

c) Give possible reasons why soyabean rust was a huge problem in February 1998 when it was first noticed in Zimbabwe. [7 marks]

2. Discuss the main nematode species that attack tobacco and the measures that farmers can use to control these nematodes. [25 marks]

3. With the aid of relevant examples, illustrate the major differences in the transmission, ecology, epidemiology, and management of persistent viruses and non-persistent viruses. [25 marks]

4. With reference to **three** named field crops that you have studied in detail, give an overview of the main diseases encountered in each crop, and recommend appropriate control measures. [25 marks]

5. With the aid of simple illustrations, describe any two laboratory procedures used to test seeds for seed-borne fungi. [25 marks]

6. a) Define the term "fungicide resistance". [3 marks]

    b) Outline the measures that farmers and practitioners in the agrochemicals industry can implement to manage the problem of fungicide resistance in fungi. [22 marks]

End of Examination Paper