



**AFRICA
UNIVERSITY**
A United Methodist-Related Institution

"Investing in Africa's Future"

COLLEGE OF HEALTH, AGRICULTURE & NATURAL SCIENCES

NACP 114 Practical Agriculture II

END OF SECOND SEMESTER EXAMINATIONS

APRIL/MAY 2024

LECTURER: Mr Larry Kies

DURATION: 3 HOURS

INSTRUCTIONS

1. Do not write your name on the answer sheet

2. Use Answer Sheets Provided

3. Begin your answer for Each Question on a New Page

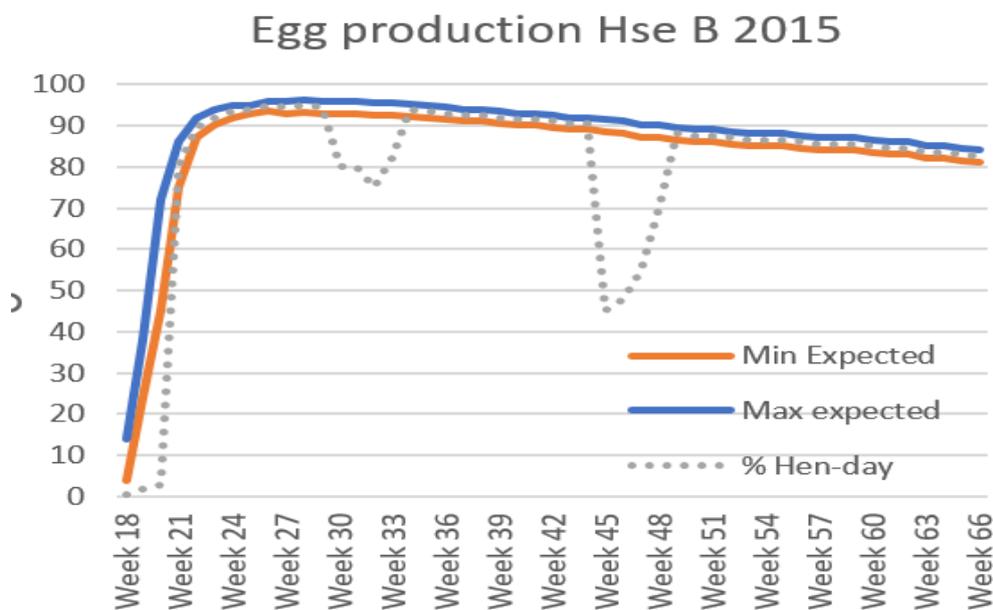
4. Credit is Given for Neat Presentation

Answer all questions.

For questions involving mathematical calculations, *show all work* and clearly indicate the final answer.

1. Write the answer only. (1 mark each, total of 5 marks)
 - a. Give the term for a female pig that has produced babies.
 - b. Give the term for a male pig.
 - c. Give the term used for planting seeds in a plot to replace those that did not grow.
 - d. What is the **animal** symbol of the Seedco maize variety SC419?
 - e. What is the **animal** symbol of the Seedco maize variety SC727?

2. The graph below shows the production of a flock of laying hens.
 - a. Is the production in Week 38 normal? Justify your answer. (2 marks)
 - b. Give some possible reasons for the change in production in Week 45. (3 marks)



3. David keeps layers and sells the eggs for \$3.50 per tray of 30 eggs (2.5 dozen). Layers mash costs \$26.00 per 50 kg.

The production in his two houses on Monday is shown below.

Day	Number of birds in the house	Number of eggs	Laying percentage
House A	400	320	
House B	800	520	

- a. What was the laying percentage in each house? (2 marks)
- b. Use the answer from (a) to calculate the feed cost per tray of eggs for **House A**. Assume 120 g of feed per bird per day. (2 marks)
- c. Comment on the profitability of House A based on the cost of feed and the selling price of eggs. (1 mark)

5. A female pig was on standing heat on 3 March.

(5 marks)

- a. If the female pig does NOT become pregnant, give the date when she will come on standing heat again.
- b. If the female pig becomes pregnant, give the date when she will farrow.
- c. Give three signs that a female pig is on standing heat.

4. Maria planted a plot of maize. Every week she counted the leaves and measured the height of the maize, with the results below. Detach the last sheet of this exam (the graph paper).

- a. Use this graph paper to draw a graph showing the growth of the maize. Use two Y-axes- one for plant height and the other for number of leaves. Be sure to include the title and axis labels. (5 marks)

Week	No of leaves	Average plant height, cm
0	0	0
1	2	7
2	4	18
3	6	35
4	8	50
5	10	70
6	12	95
7	14	130
8	16	170
9	17	190
10	17	220
11	17	230
12	17	230
13	17	230

- b. Indicate on the graph when tasseling began.

(1 marks)

5. a. A farmer named Tanaka wants to apply Glyphosate (Roundup) at the rate of 4 litres per hectare. How much she should use in one knapsack sprayer of 16 litres? (2 marks)

b. Fertilizer cups come in sizes of 2, 5, 8, 12, 16, 22 and 30.

Tapiwa is applying Cpd D in his maize. The holes are 20 cm apart in rows which are 90 cm apart. He wishes to apply 280 kg/Ha. What size of cup should he use for each hole? (3 marks)

6. Use good, clear English to write brief notes about applying nitrogen to maize including the following. You *may* use diagrams to help clarify.

-why nitrogen is needed by the plant (3 marks)

-when (growth stages of the crop) (3 marks)

7. A farmer named Carolina was calibrating the fertilizer applicator for her planter. She came up with the following numbers:

Desired application rate: 400 kg/Ha

Diameter of drive wheel tyre- 58 cm

Distance between rows- 75 cm

a. How much fertilizer should be applied in one row of 100 m? (2 marks)

b. How many times should the wheel be turned to cover 100 m? (1 mark)

Practical- To be done outside the lab.

8. Give the names of the labeled tractor and/or parts/systems:
- a.
 - b.
 - c.
 - d. (4 marks)
- 9.
- a. Draw a diagram showing the ear notches of the piglet, and give its number based on the ear notches: (2 marks)
 - b. Tell which hen is probably a better layer, and justify your answer. (3 marks)
 - c. Look at the photo of the animal, then based on the number of teeth, give the appropriate term to describe its stage of development (that is, milk tooth, 2-tooth, 4-tooth, 6-tooth, or full mouth). (1 mark)
10. a. Give the heights of the labeled maize plants. (2 marks)
- b. Give the name of this crop plant. (1 mark)
 - c. Give the name of this crop plant. (1 mark)
 - d. What is the use of the chemical 10d ? (1 mark)
11. Estimate the area of the small field marked.
Show all calculations, and give the answer in square meters *and estimated* in hectares.
..... (5 marks)

Student Number _____

