"Investing in Africa's Future"

COLLEGE OF HEALTH, AGRICULTURE & NATURAL SCIENCES

NACP 114: PRACTICAL AGRICULTURE II

END OF SECOND SEMESTER SUPPLEMENTARY EXAMINATIONS

JULY 2022

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. Fanny wants to spray her maize with an insecticide named Lambda. The label recommends 500 ml per Ha in 256 litres of water.

   a. How much Lambda should she use in one knapsack sprayer holding 16 litres of water?   (2 marks)

   b. What insect pest of maize is controlled using lambda at germination of the crop?   (1 mark)

2. A farmer named Mirela was calibrating the fertilizer applicator for her planter. She came up with the following numbers:
   Desired application rate: 450 kg/Ha
   Diameter of drive wheel tyre- 55 cm
   Distance between rows- 75 cm

   a. How much fertilizer should be applied in one row of 100 m?   (1.5 marks)

   b. How many times should the wheel be turned to cover 100 m?   (1.5 marks)

3. Write short notes on gap filling of maize.   (4 marks)

4. Use the cancellation procedure as discussed in class to answer the following. If you want to check your work using other methods that is fine, but demonstrate your ability to use the cancellation method by showing your work.
   a. Leon has a plot of maize which measures 8 m x 20 m. He wants to apply Cpd D at a rate of 350 kg/Ha. How much Cpd D does he need for his plot?   (2 marks)

5. A sow was served by a boar on 5 July..
   a.   Give the date she will come on heat again if she does not become pregnant.   (1 mark)
   b.   Give the date on which farrowing should occur if she becomes pregnant.   (1 mark)
   c.   What three activities on the piglets should be done within 24 hours of birth?   (3 marks)

6. Four pigs in a pen were weighed for several weeks, with the recorded results below. The pen was given the same amount of feed every day for a week, as indicated in the table below.

The feed was of good quality. No pigs from other pens were able to get into the pens and eat the food.

Date	Pig number	Weight of pigs, kg				Total	Kg of feed given daily	Kg of feed given weekly
		334	335	336	338			
Week 1	12-18 April	22	21	24	23		4.5	
Week 2	19-25 April	25	24	27	26		4.5	31.5
Week 3	26 April-2 May	28	27	30	29		5	
Week 4	3 May	29	30	28	33		------------	xxxxxxxxxxx

a. Copy and complete the table below. (5 marks)

Week	Week beginning	Week ending	Total gain, kg	Total Feed used, kg	Feed Conversion, $Kg_{feed} : kg_{lwg}$
1	12 Apr	18 Apr			
2	19 Apr	25 April			
3	26 Apr	2 May			
4	3 May	xxxxxxxx	xxxxxxxx	xxxxxx	xxxxxxx

lwg = liveweight gain

b. Compare the feed conversion in Week 1 with what is considered acceptable for pigs this size. (1 mark)

c. Feed costs $29/50kg. If the pig has a dressing percentage of 70% and a feed conversion ratio of 3.3, what is the cost of feed to produce 1 kg of meat? (3 marks)

7. Write clear notes about the different types of pig feed needed by different ages of pigs. (5 marks)

8.
a. Use the graph paper at the end of the exam to graph the growth of maize using the table below. Label clearly all parts of the graph. (5 marks)

b. Indicate on the graph when AN should be applied if the applications are split. (2 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	19	205
10	19	245
11	19	260
12	19	260
13	19	260

TO BE DONE OUTSIDE:

9. Identify the labeled parts (*a*. to *c*.) of the machine and **briefly** describe the function of each.   (6 marks)

10. Use paces to calculate the area of the small lawn outside the lab (the borders will be marked.) Draw a diagram to indicate the shape, and show all calculations on your answer sheet. Give the answer in both square meters and *estimated* in hectares.   (5 marks)

11. a. Draw diagrams to show the ear notches of the pigs, and give their numbers.   (3 marks)

   b. Look at the photos of the animal, then based on the number of teeth, give the appropriate term to describe its stage of development.   (1 mark)

   c. Use the spring balance to find the weight of object 11c.   (1 mark)

   d. Write the temperature that is displayed on the clinical thermometer 11d .   (1 mark)

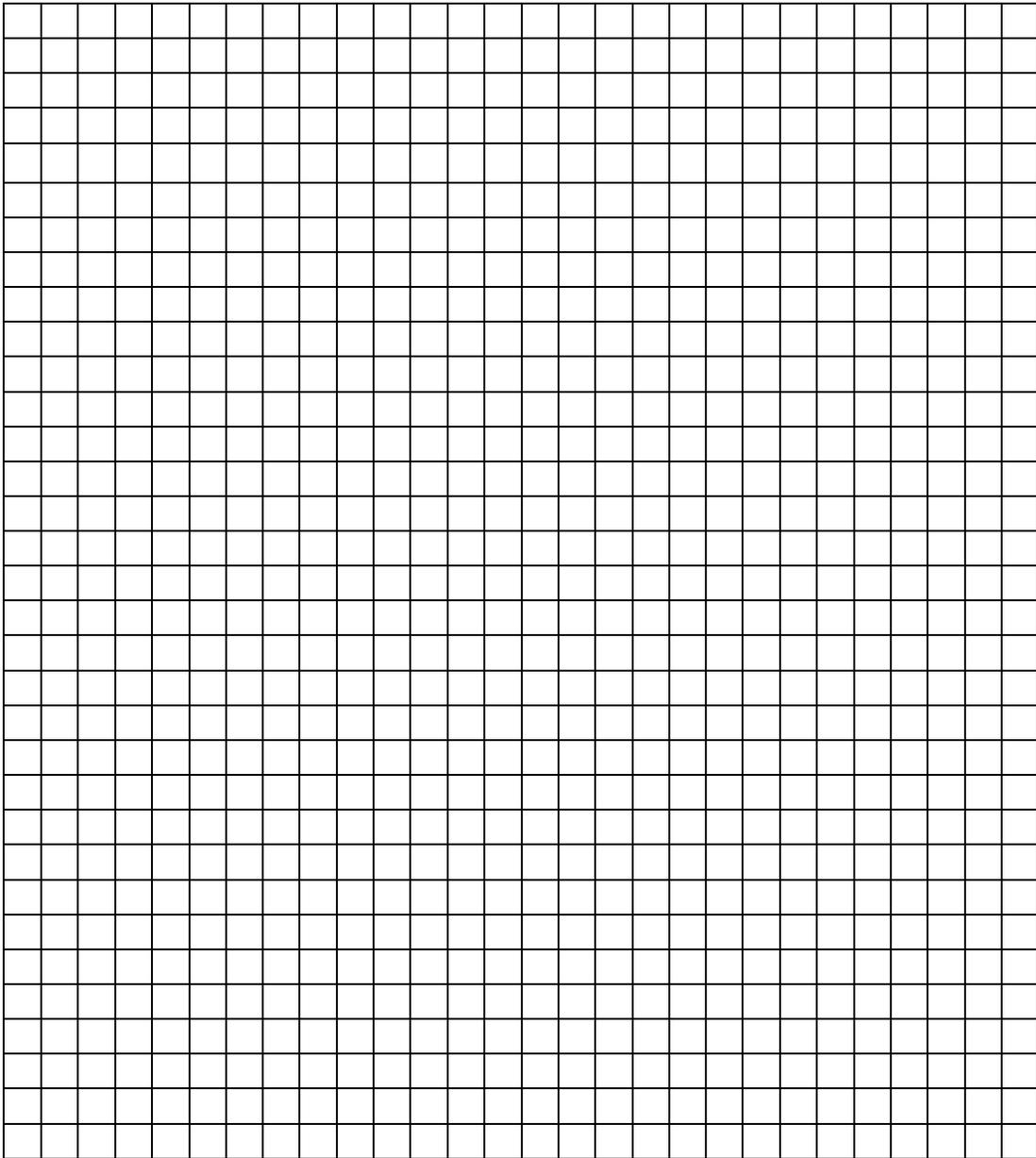12. a. What is the use of the chemical 12A?   .   (1 mark)

   b. Give the heights of the labeled maize plants.   (2 marks)

   c. Give the name of this crop plant.   (1 mark)

   d. Give the name of this crop plant.   (1 mark)

End of Examination Paper