WEEK 1-4

CROP PRODUCTION II (PLANTING)

This topic entails the following:

- Correct planting materials for various crops
- Selection and preparation of planting materials
- Determination of optimum time of planting
- Factors which determine planting depth
- Planting procedure for different crops
- Factors which determine seed rate, spacing and plant population.
- Calculation of plant population
- Economic value of land.

The following relevant questions and their answers in this topic will greatly help and motivate

the user to comprehend and understand the required concepts and practices:

1. State **two** reasons for seed treatment of tree species before planting

2. Give **three** factors that determine spacing of beans

3. State **four** reasons for using certified seeds for planting

4. Below are diagrams showing vegetative material used for propagation.

   a) Name the propagation materials A, B, C, D

   b) What is the term used for inducing **B** to start germinating?

   c) State **four** advantages of vegetative propagation on crop production

5. Differentiate between hybrid and composite

6. a) A farmer planted 100 maize seeds and 90 seeds germinated.
   Calculate the germination percentage

b) Given that maize is planted at a spacing of 75cm by 25cm, calculate the plant population in a
plot measuring 4m by 3m

7. Give **four** qualities of a mother plant which should be considered when selecting vegetative
material for propagation

8. Explain **five** practices that a farmer should carry out to ensure uniform germination of seeds
9. State **two** factors which determine the depth of planting

10. State **two** advantages of adding organic matter to sandy soil

11. Calculate the number of tea plants in two hectares (2ha) given that the spacing is 150cm x 75cm
and one seedling is planted per hole

12. Outline **four** reasons why training is important in some crops

13. Give **four** factors that influence the depth of planting

14. Two precautions taken when harvesting cotton

15. Outline **four** reasons why training is important in some crops

16. Give **four** factors that influence the depth of planting

17. Two precautions taken when harvesting cotton

18. State **four** factors that determine the spacing of annual crops

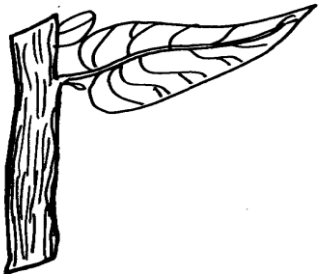
19. Outline **four** advantages of rolling in seedbed preparation

20. List **two** factors that effect rooting of cuttings in crop production
21. Outline **three** ways of preparing materials before sowing

22. Outline **three** ways of preparing materials before sowing

23. Distinguish between over sowing and under sowing

24. Study the illustration below of a tea vegetative material and answer the questions that follow



a) What name is given to the vegetative material drawn above for tea propagation

b) State **two** devisable characteristics of the selected plants used to develop the plant shown

c) Give **two** precautions observed during the preparation of the material above before planting

25. The diagram below illustrates the spacing which is used when planting beans. Study the diagram and answer the questions that follow:

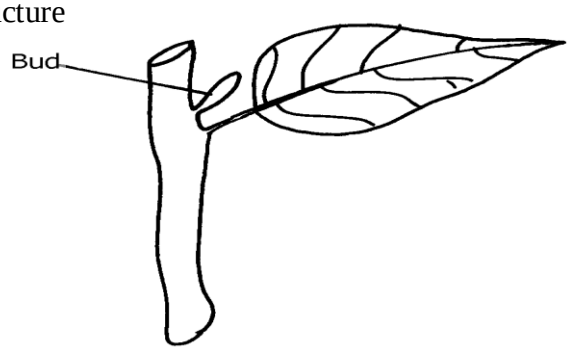
a) State the spacing illustrated above

b) Suppose the student is asked to use the illustrated spacing to plant in a plot 4m by 3m leaving 30cm distance from the edge; calculate;

i) The number of rows on the wider side of the plot

ii) Calculate the plant population

26. Using planting material whose diagram is shown below, list **four** factors that would influence the rooting of the structure



27. Describe the selection, preparation and raising of vegetative tea seedlings in the nursery

28. Explain the factors considered in timely planting of annual crops

29. Give four disadvantages of broadcasting as a method of planting.

30. Define the following terminologies as used in Agriculture
31. Give two advantages of producing crops by use of seeds over vegetative propaganda
32. State **four** ways of preparing planting materials before planting

WEEK 5-8

SOIL FERTILITY II (IN ORGANIC FERTILIZERS)

This topic entails the following;

- Essentials elements required by cops
- Classification of essential elements
- Role o micro-nutrients
- Deficiency symptoms of macro-nutrients and micro-nutrients.
- Identification and classification of fertilizers.
- Soil sampling and testing methods of fertilizer application.
- Effect of soil acidity/alkalinity air crops
- Fertilizer rate calculations

The following relevant questions and their answers in this topic will greatly help and motivate the user to comprehend and understand the required concepts and practices:

1. State **four** advantages of applying lime in clay soil

2. a) Give the form in which the following elements are absorbed by crops

   i) Sulphur
   ii) Nitrogen
   iii) Carbon
   iv) Magnesium

   b) List **three** effects of nitrogen to plants

3. Mr. Malombe of Shinyalu village prepared to top dress 10 hectares of nappier grass using sulphate of ammonia (21%N). Sulphate of ammonia is applied at rate of 150kg per hectare.

   Calculate

   a) The quantity of sulphate ammonia fertilizer the farmer will need for 10 hectares

   b) The number of 50kg bags of fertilizer he will purchase

4. Give **two** disadvantages of using farmyard manure

5. State **four** factors which influence the stage at which the crops are harvested

6. A form **four** student was given a sample of a fertilizer with the following characteristics:

   (i) Grey in colour
   (ii) It is granular
   (iii) Causes no corrosion
   (iv) It is highly hygroscopic
   (v) It is neutral

(a) Identify the fertilizer

(b) At what stage of growth of maize should it be applied?

(c) Calculate the amount of K_2O contained in 400kg of a compound fertilizer 25:10:5

7. State **two** pieces of information that soil sample should have before being taken to the laboratory for testing

8. A compound fertilizer bag has the labels 20-20-0. What do the figures stand for?

9. Give **four** functions of sulphur in crops

10. State **four** advantages of lining as a measure of soil improvement

11. State **two** methods of increasing soil PH

12. (a) State **three** factors that determine the amount of inorganic fertilizers needed to be applied to crops

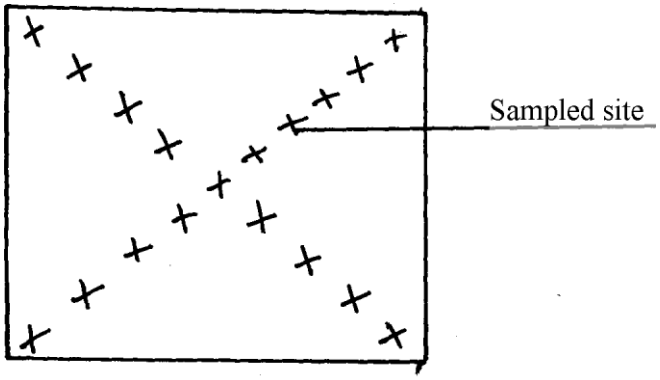
(b) What are the necessary precautions observed when carrying out soil sampling?

13. List **three** functions of nitrogen in crops

14. (a) Distinguish between fertilizer grade and fertilizer ratio

(b) List **four** elements whose deficiency results into chlorosis in plants

15. The diagram below shows a method of soil sampling



(a) Name the method illustrated in the diagram

(b) State **three** precautions taken when collecting the soil for testing using the above method

(c) Give **four** reasons why soil from the farm is tested

16. A farmer was advised to apply compound fertilizer 20-20-10 on an orchard measuring 20m X 10m at the rate of 80kg/ha. Calculate the amount of fertilizer the farmer would require

for the orchard. (Show your working)

17. a) A compound of fertilizer has a fertilizer grade of 25:10:5.calculate the a mount of phosphorus fore sent in 400kg of this fertilizer

b) The diagram below illustrate methods of collecting soil sample from a field

i) Identify the methods illustrated 1-

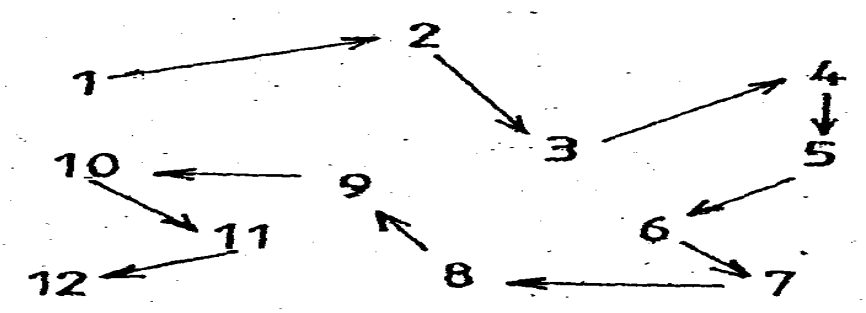
ii) xx

iii) State **three** importance of carrying out soil sampling and testing

18. (a) What is an incomplete compound fertilizer?

(b) State **four** reasons why a maize crop continued showing deficiency of potassium despite applications recommended amount of potassic fertilizer

19. The diagram below shows a soil sampling method.



(a) Identify the method illustrated above

(b) Name any **two** spots in a farm that should be avoided during sampling

(c) Describe the steps followed while carrying out the exercise in **(a)** above