

LESSON NOTE FOR WEEK FOUR (4) ENDING 3rd OCTOBER, 2025.

SUBJECT: AGRICULTURAL SCIENCE.
TOPIC: FARM PLANNING
CLASS SS2
DATE: 29TH SEPT, 2025.

Farm planning is a drawing or outline of a farm stead. It also involves the proper land usage i.e. putting the land into use for which it is best suited without the risk of land degradation.

Farmstead can be described as a farm house and all its production and processing structure.

A farmstead is both a home and production center. In other words, a farmstead is the farmer's dwelling place and production center.

IMPORTANCE OF FARM PLANNING

1. It enables farmers to make proper use of the land.
2. Ensure proper coordination and control of farm land.
3. Ensure neatness and avoid pollution of the farm land.
4. Arrange for channel for marketing farm produce.
5. It ensures the location of livestock building in relation to other farm buildings.

FACTORS TO CONSIDER IN PLANNING A FARMSTEAD.

1. **Water suppling:** An adequate and regular supply of water is needed for human and animal use. Livestock structures should be located close to water sources for easy cleaning. Water is required for irrigation facilities.
2. **Accessibility:** The ease of accessibility to various units within a farmstead s of vital importance for increased productivity. Good accessibility makes marketing of farm produce possible.
3. **Soil types:** Crops farms are sited on good, well drained soils while farm buildings and structures are best located on poor soil.
4. **Slope:** The slope of the land determines to a large extent the location of buildings and other farm structures. It also influences the distribution of crops in the low-lying areas while other crops such as maize, cowpea, yam, etc are better grown on the upper segments of the slope.
5. **Nearness to market:** Nearness to market reduces distribution or transportation cost. It exposes products to many buyers.it reduces the need for farm storage facilities.

PRINCIPLES OF FARM LAYOUT

1. Crops should be planted on the fertile soil within the
2. farm Livestock building should be located on less fertile soil within the farm.
3. Livestock building should be erected against the wind direction and should also be on high elevation to reduce draught and wetness.
4. Buildings should be located in easily accessible area.
5. Residential and office buildings should be located far away from livestock buildings to avoid the noise and unpleasant odour from farm animals pen, etc.

CALCULATION OF AREA OF FARM LAND.

After surveying the farm land, the shape may be rectangular, square, triangular or even circular in shape. The Formulas used in the calculation of farm land and plant population are;

a) **Area of farm land:** This refers to the product of the length and width of the farm land measure in meters. $\text{Area} = \text{length} \times \text{width in meter (LXW)}\text{m}^2$.

b) **stand/plant population Number of plant:** This refers to the number of plants in an area of farm land.

$$\text{Plant population} = \text{Area of farm land (m}^2\text{)} \div \text{spacing (m}^2\text{)}.$$

c) **Spacing:** This is the distance between one crop plant and the next plant which is usually between and within the rows,

e.g. 60cm x 30cm and 100cm x 75cm.

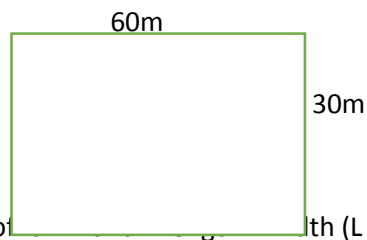
Note: one hectare of land is = 10,000m².

Formulas for calculating the area of farm land are; square side = S². Rectangle = Length, width = LXW.

Triangle = Height, base 1/2bh. Trapezium = 1/2(a+b) h.

Example: if the length and width of a farm land are 60m x 30m respectively, and the spacing of a tomato crop plant is 30cm x 30cm, calculate (a) the area of farm land (b) the plant population in the given area. (c) the total population if there are two plants per stand.

Solution:



a) Area of rectangle = Length (L X W)

$$60\text{m} \times 30\text{m} = 1800\text{m}^2.$$

b) Spacing of crop = 30cm x 30cm. convert to meters = 30 ÷ 100 = 0.3m x 0.3m.

$$\text{Area of 1 stand of crop} = 0.3\text{m} \times 0.3\text{m} = 0.09\text{m}^2.$$

No of stand/crop = Area of farm land ÷ spacing (m²).

$$1800\text{m}^2 \div 0.09\text{m}^2 = 180,000 \div 9 = 20,000 \text{ crop stand.}$$

The plant population is 20, 000 stand.

c) Since there are two plants per stand, the total population = 20,000 x 2
= 40,000 tomato plants.

EVALUATION.

1. Define farm planning.
2. Enumerate the importance of farm planning.
3. Give five principles of farm layout

ASSIGNMENT.

A piece of land to be used to establish a pasture of *stylosanthes gracilis* was surveyed to be circular.

- 1) If the radius of the farm land is 200m and the spacing of pasture legumes is 1m by 50cm, what is the population of the legume at one seed per stand.
- 2) If the germination percentage is 75, calculate the expected plant population.

(Take pi to be 22/7)

