

Chapter Nineteen

Plant Nutrients And Soil

- Plant nutrients are food used by the plant for its growth.
- There are two types and these are:
 - (i) The major nutrients.
 - (ii) The minor nutrients.

The major nutrients:

- These are those nutrients which are needed in large quantities or amount for plant growth
- Examples of the major nutrients are nitrogen, calcium and sulphur.

The minor nutrients:

- These refer to those nutrients which are needed in small amount for plant growth.
- Examples of the minor nutrients are zinc and copper.

Signs shown by plants when they get enough nutrients:

- When there are enough nutrients in the soil, then the plant will get enough of these nutrients.
- There are certain signs that a plant will show when it gets enough nutrients.
- Some of these signs are that:
 - (i) The leaves of the plant will be green in colour.
 - (ii) The stem of the plant will become thick.

Signs shown by plants when they do not get enough nutrients:

- When the amount of nutrients within the soil is not enough, then the plant will not get enough of these nutrients.
- If the plant does not get enough nutrients, then it will show certain signs.
- Some of these signs are that:
 - (i) The plant will grow very slowly.
 - (ii) Parts of the leaves will become yellow, while the other parts become green.

Manure:

- This is a kind of plant food which we add to the soil, so as to make it richer in plant nutrients.

If we grow plants in a soil and they do not grow well, then we have to add manure to the soil.

doing so, the plants will grow well.

- There are two types of manure and these are:

- (i) Organic manure.
- (ii) Inorganic manure.

Organic manure:

- This is the type of manure formed when dead plants and animal parts or remains are allowed to rot or decay.

Inorganic manure:

- These are usually referred to as fertilizers.

are plant food in the form of chemicals which are made by man.

Fertilizers can also be added to soil in which plants do not grow well.

Soil:

This is the upper part of the earth's crust where plants usually live.

Formation of soil:

- Soil is formed from rock, and is formed whenever a rock breaks down into pieces.

- Rocks may break down to form soil in a number of ways and some of these ways are listed next:

– (a) During a hot day, the sun heats the rocks causing them to expand.

- When the weather becomes cold especially during the night, the rocks cool and contract.

- This continuous expansion and contraction of the rocks creates cracks in them, which lead to their breakdown into soil.

(b)- When it rains, rocks are carried into moving water bodies such as rivers. -
As these rocks are being carried along by these water bodies, they knock against each other. - This
causes them to break down into soil.

Composition of soil:

- Soil is made up of the following parts:

- (1) Rock particles.
- (2) Soil water.
- (3) Soil air.
- (4) Living organisms.
- (5) Organic matter..

Rock particles:

- This is also referred to as the mineral salt matter. -
It is made up of broken down rock particles.

Soil water:

- This is the name given to the water found within the soil. -
Soil water is important because plants use it for photosynthesis. -
It is also needed for the germination of seeds.

Soil air:

- This refers to the air found within the soil. -
The soil organisms make use of it for breathing.