

## CHAPTER – 1

### NUTRITION IN PLANTS

- **Nutrition:** It is the mode of taking food by an organism and its utilization by the body.
- **Nutrients:** The components of food that provide nourishment to the body.
- All organisms take food and utilise it to get energy for the growth and maintenance of their bodies.
- Green plants synthesise their food themselves by the process of photosynthesis. They are **autotrophs**.
- **Photosynthesis:** Green plants prepare their own food with the help of carbon dioxide and water taken from the environment in presence of sunlight called **chlorophyll (found in green plants)** for the manufacture of food. This process is known as photosynthesis.
- Plants use simple chemical substances like carbon dioxide, water and minerals for the synthesis of food.
- Chlorophyll and sunlight are the essential requirements for photosynthesis.
- Complex chemical substances such as carbohydrates are the products of photosynthesis.
- Solar energy is stored in the form of food in the leaves with the help of chlorophyll.
- Oxygen is produced during photosynthesis.
- Oxygen released in photosynthesis is utilised by living organisms for their survival.
- Fungi derive nutrition from dead, decaying matter. They are saprotrophs. Plants like *Cuscuta* are parasites. They take food from the host plant.
- A few plants and all animals are dependent on others for their nutrition and are called **heterotrophs**.
- **Parasitic:** Organisms that live on the body of other organisms.
- All parasitic plants feed on other plants as either:
  - (i) **Partial Parasites:** Obtain some of their nutrition from the host, e.g. painted cup.
  - (ii) **Total Parasites:** dependent completely on the host for nutrition, e.g. mistletoe.
- **Saprophytic:** Organisms that obtain nutrition from dead and decaying plant and animal matter.
- Mushrooms, moulds and certain types of fungi and bacteria.

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- **Insectivorous Plants:** Green plants which obtain their nourishment partly from soil and atmosphere and partly from small insects. Example: pitcher plant, bladderwort, and venus fly trap.
  - **Symbiosis:** Mode of nutrition in which two different individuals associate with each other to fulfil their requirement of food.
  - Lichens found on tree trunks is the association between alga and fungus. Alga obtains water from fungus and it in turn obtains food from alga.