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Ch 1: Nutrition in plants

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Chapter 1 Nutrition in Plants

LONG ANSWER QUESTIONS

Ques1. Differentiate between autotroph and Heterotroph. Give two examples of each.

Ans1-

Autotroph

Heterotroph

1. Auto means self + Troph means to feed.

2. Hetero means depending on others + Troph means to feed.

2. Organisms that can make their own food.

2. Organisms that directly or indirectly depend on green plants.

3. Eg: Green Plants, cyanobacteria

3. Eg: Human, Animals.

Ques2- How do plants get nitrogen to synthesize proteins?

2. For eg: Dodder (Cuscutta) is a plant that sucks food from another plant using root-like structures and is a parasitic plant.

2. For eg: Some parasitic plants like mistletoe plant which grow on trees such as mango or mahua, have green leaves and can synthesize their food. They take water & minerals from the host plants.

Ans 2. Plants get nitrogen in two ways:-

- * Soil contains certain bacteria called Rhizobium that can convert atmospheric nitrogen into water-soluble compounds. Plants absorb these compounds along with water to get nitrogen.
- * Farmers add fertilizers rich in nitrogen to the soil. These are absorbed by plants.

Ch-1 Nutrition in Plants

Ques Explain the following with the help of an example of each

(a) Parasitic Nutrition

- Some non-green plants live in or on other living organisms and derive their food from them. For eg- dodder is a plant that sucks food from another plant using root-like-structures. Such plant are called parasites. The plant from which the parasites get their food are called host.

(b) Symbiosis - Two different kinds of organisms work together for their mutual benefit. For eg- alga which is an autotroph, and fungus, which is a saprophyte, live together in lichen. The fungus supplies water and minerals to the cells of the alga, supplies food to the fungus. Such a mutually beneficial relationship is called symbiosis.

Ques. Why are manures and fertilizers added to the soil in a farm?

Ans. Plants absorb nutrients from the soil. Therefore, the amount of nutrients in the soil gets goes on decreasing. These nutrients get naturally replenished by decaying of dead plants and animals. However, on a farm these nutrients have to be added to the soil in the form of manure and fertilizers. These manures and fertilizers contain plant nutrients such as nitrogen, potassium and phosphorus. A farmer knows which crops and adds manures and fertilizers accordingly.

Ques. Distinguish between parasites and partial parasites in plants, giving one example of each.

Parasitic plants

1. Some non-green plants derive their food from the host & depend completely on them for their food. are called parasitic plants.

Partial parasitic plant.

1. Some plants depend incompletely on their host plant for food. They are called partial parasites.

1. What is nutrition?
2. What are 'stomata'?
3. Write down the essential elements for plants.
4. What factors are essential for photosynthesis?
5. How does an insectivorous plant absorb nutrients from an insect trapped by it?
6. Why is nitrogenous fertilizer not added in soil in which leguminous plants are grown?
7. How does a saprophyte digest its food?

D. LONG-ANSWER QUESTIONS: Answer these questions.

1. Differentiate between autotrophs and heterotrophs, giving two examples of each.
2. How will you test a leaf for starch? Mention any precautions you will take.
3. How do plants get nitrogen to synthesize proteins?
4. All animals—whether herbivores, carnivores or omnivores—depend on plants for their food. Discuss.
5. Explain the following with the help of an example for each:
a. parasitic nutrition b. symbiosis c. saprotrophic nutrition
6. Why are manures and fertilizers added to the soil in a farm?
7. Distinguish between parasites and partial parasites in plants, giving one example of each.

HOTS QUESTIONS: Think and answer.

1. We make our own food in the kitchen. This means that humans are also autotrophs. Do you agree? Give reasons.
2. Why can't animals make food from carbon dioxide, water and sunlight, like plants do?
3. The pitcher plant and Venus flytrap are green plants that can photosynthesize. Why do they need to feed on insects?
4. Plants do not have a digestive system like us. Why do they not need a digestive system?