

NUTRITION IN PLANTS



INTRODUCTION -

All living organisms such as plants and animals require food. So food is essential for all living organisms.

Organisms need food (nutrients) to

obtain energy

**obtain materials for
growth**

**obtain materials for
repair of damaged body
parts**

carry out life processes

- **Plants are capable of making their food themselves but animals cannot.**
- **Carbohydrates, proteins, fats, vitamins and minerals are essential components of food, these components are called nutrients.**
- **The mode of taking food by an organism and its utilization in the body is called nutrition.**

Mode of
nutrition

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graph LR; A[Mode of nutrition] --> B[Autotrophic]; A --> C[Heterotrophic]
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Autotrophic

Heterotrophic

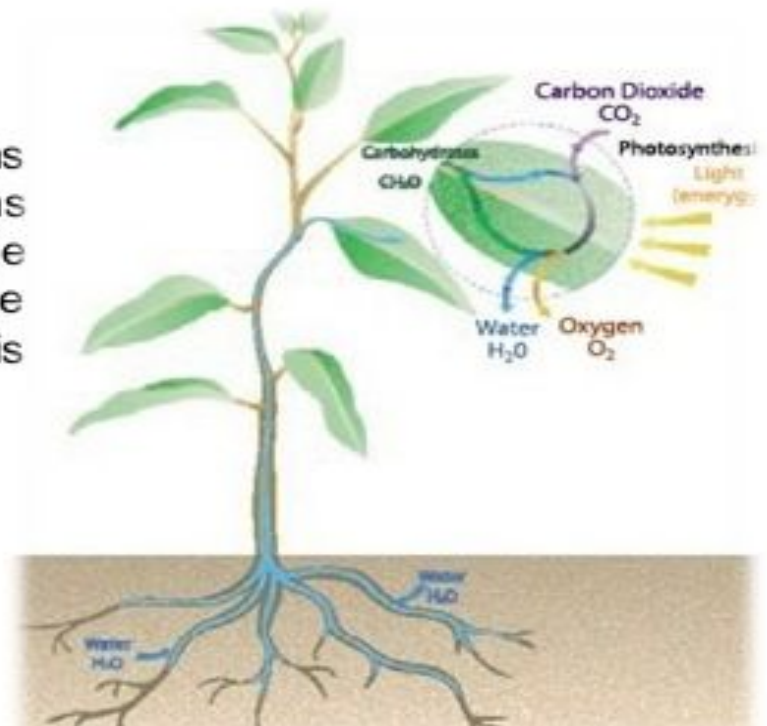
Mode of nutrition in plant



Autotrophic Nutrition -

Auto means self and trophos means nourishment. Plants are called autotrophs because they make their food themselves. The making of food for themselves is called the Autotrophic nutrition. Autotrophic nutrition is found in green plants.

Autotropic: (auto = self;
Trophos = nourishment)

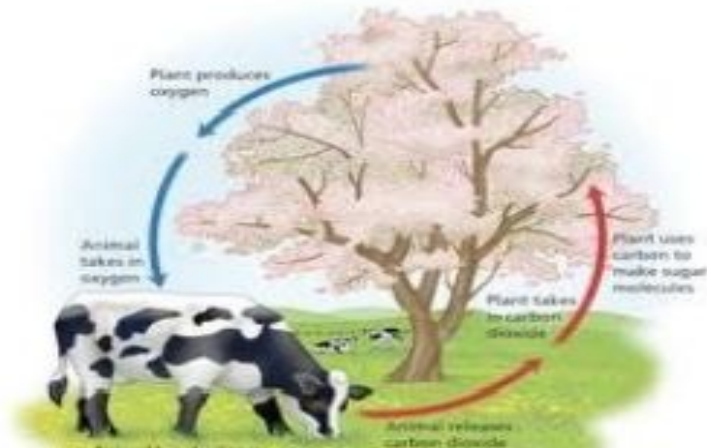


Heterotrophic Nutrition –



The word Heterotrophic is the combination of two words i.e. Hetero + Trophos. Hetero means 'others' and 'trophos' means nourishment. If organisms depend on others for their food, it is called the Heterotrophic Nutrition.

Animals cannot make their food themselves. They depend for food upon plants. Therefore, nutrition in animals is called Heterotrophic Nutrition. Animals are known as Heterotrophs.



Saprotrophic Nutrition –



The taking of nutrients by organism from dead and decaying matter in the form of solution is called the saprotrophic nutrition. The organisms which use saprotrophic mode of nutrition are called saprotrophs. For example: fungi.



PLENARY

Application Based Questions -

Q. Potato and ginger are both underground parts that store food. Where is the food prepared in these plants?

Q. Plants prepare their food using a different mode of nutrition than us. What is it?

A. In both the plants, shoot system and leaves are above ground. They prepare food through photosynthesis and transport it to the underground part for storage.

A. The mode of nutrition in plant is autotrophic, i.e. they synthesise their own food.

ASSESSMENT & EVALUATION (ORAL)

Check your answer:



Questions – 1: What is autotroph?

Answer- Organisms that make their food themselves are called autotrophs.

Question-2: What is autotrophic mode of nutrition?

Answer: The mode of nutrition in which the organism makes its own food is called autotrophic mode of nutrition.

Question -3: Give some example of autotrophs.

Answer: All green plants, such as grass, mango, bougainvillea, etc. are the examples of autotrophs.

Question-4: What is heterotrophic mode of nutrition?

Answer: The mode of nutrition in which an organism takes food from another organism is called heterotrophic mode of nutrition. The nutrition in animals and non-green plants is the example of heterotrophic mode of nutrition.

Question-5: Give examples of Heterotrophs.

Answer: Animals and non green plants are the examples of heterotrophs.

Question-6: What is saprotrophs?

Answer: Plants which get their nutrition from dead or decaying plants in liquid form are called saprotrophs.