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## **Q.No.2: Autotrophs & Heterotrophs ;**

The word autotrophs comes from the words auto means self and word trophs which means food . So Autotrophs are the organism which prepare their own food from inorganic materials . That's why they are called producers and form the basis of an eco system . e.g Algae , wheat , seaweed etc

While the heterotrophs are the organism that can not prepare their own food and rely on other sources for their food mainly on plants and animals . Heterotrophs are the secondary and tertiary consumers.Heterotrophs that eat plant are called herbivores or primary consumers. other examples are omnivores and carnivores .

## **Fungi autotrophs or heterotrophs ?**

Fungi is heterotrophs because it can not make its own food and has to rely on other sources. Fungi has no chlorophyll , which is must for preparation of plant food.

## **Q.No.3 : Factors that can affect the growth of fungi :**

There are many physical and physiochemical factors that affect the growth rate of fungi , which are given below ;

**Temperature :** Temperature has direct impacts on the growth of fungi. 15 to 30 degree Celsius is the most suitable temperature in which fungi growth is maximum .

**Light:** Although mostly fungi prefer darkness where they grow , but there are some moulds which prefer alternate light pattern .

**Air :** Airflow is an important factor which encourages fungi flow . That's why they are often found in mould areas around heaters and airconditioners.

**Nutrients :** Fungi needs nutrients for their growth . Different moulds need different nutrients but mostly they take high sugar or high salt for their growth.

**Moisture :** Fungi needs moisture for their growth. Without moisture their growth is not possible .

**pH:** Different fungi require different pH level but the most common rang is 3-7. It shows that most fungi needs acidic condition to flourish .

#### **Q.No.4 : Fungi groups :**

Fungi can be classified on the basis of their sexual reproduction and structure .

#### **Classification on the basis of sexual reproduction.**

- i) **Zygomycetes :** These are fungi who produce through production of **zygospores**.
- ii) **Ascomycetes :** They produce endogenous spores called ascospores in cells called asci .
- iii) **Basidiomycetes :** fungi which produce exogenous spores called basidiospores in cells called basidia .
- iv) **Deutromycetes :** This is heterogeneous group of fungi where no sexual reproduction has yet been demonstrated.

#### **Classification on the basis of structure :**

- i) **Moulds :** Filamentous fungi e.g aspergillus sps, trichophyton rubrum
- ii) **Yeasts :** single celled cells that buds e.g Cryptococcus neoformans, saccharomyces cerviciae
- iii) **Yeast like :** similar to yeast but produce pseudohyphae e.g candida albicans

- iv) **Dimorphic** : fungi that exist in two different morphological forms at two different environmental conditions . e.g Histoplasma capsulatum, Blastomyces dermatides etc

### **Q.No.5 : Names of harmful fungi ;**

- \* Death cap
- \* Conocybe
- \* Webcaps
- \* Autumn skullcap
- \* Destroying angels
- \* Podosrtoma cornu-Damae

### **Names of diseases caused by fungi :**

- i) White blister
- ii) Rust
- iii) Downy mildews
- iv) Powdery mildew
- v) Clubroot
- vi) Plasmodiophora
- vii) Pythium species
- viii) Sclerotinia
- ix) Sclerotium rots
- x) Fusarium wilts and rots

### **Names of useful and edible fungi :**

Penicillium

Mushrooms

Apricot jelly

Bear's head tooth

Birch polypore

Chaga

### **Q.No1 : structure of fungi ;**

Fungi grow as a thread like filaments. These filaments are called hyphae. Each hypha consists of one or more cells surrounded by a tubular cell wall. A mass of hyphae make up the body of a fungus which is called a mycelium . The hyphae of most fungi are divided into cells by internal walls called septa. Septa usually have little pores that are large enough to allow ribosomes, mitochondria , and nuclei. Hyphae that are divided into cells are called septa hyphae . Hyphae without septae are called coenocytic hyphae . Coenocytic hyphae are big, multinucleated cells .A mycelium may range in size from microscopic to very larg.

### **Function of organelles in fungi :**

They are the function of organelles in fungi due to cell well in the plasma membrane that is a typically bi\_lyered membrane in addition to the presence of sterols. fungal membrane possess ergosterol in contrast to cholesterol found in mammalian cells.the cytoplasm consists of various organelles such as mitochondria , golgi apparatus, ribosomes , endoplasmic reticulum, lysosomes , microtubules and a membrane enclosed nucleus.