

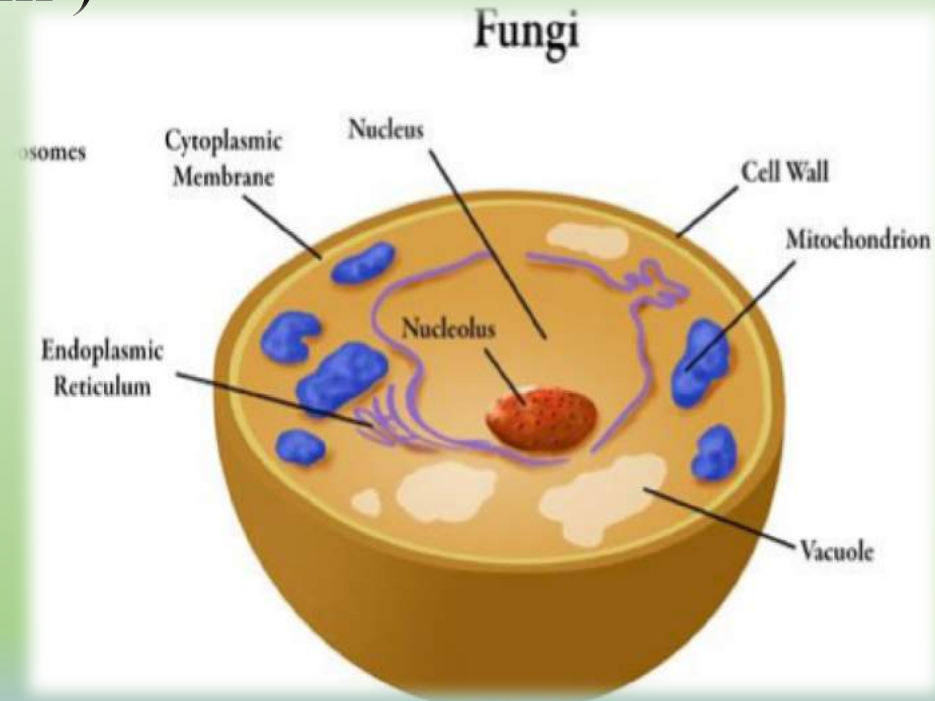
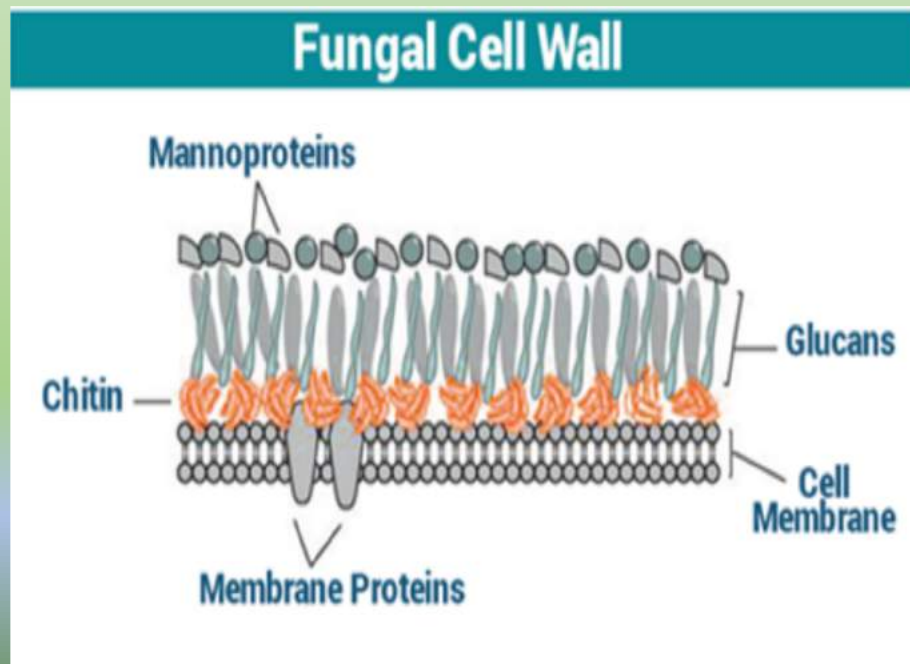


Kingdom Of Fungi

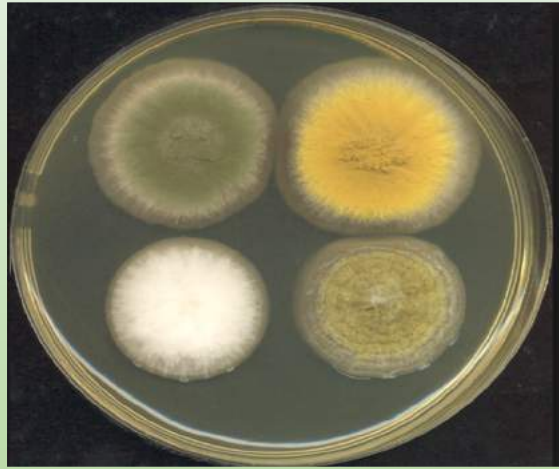
Lab7

Fungal characteristics

- Fungi are group of **eukaryotic** (have nucleus and organelles including mitochondria and endoplasmic reticulum)
- The cell wall is composed of large amount of **chitin** (carbohydrate).



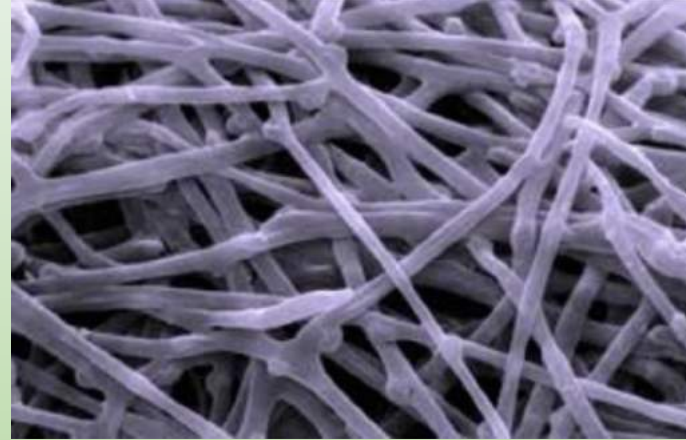
- Most fungi are multicellular (**molds**) some are unicellular (**yeasts**).
- **Mold** fungi grow as long **filaments** of cells that give rise to visible colonies.



- **Yeast** colonies on agar similar to bacterial colonies (**muroid**).

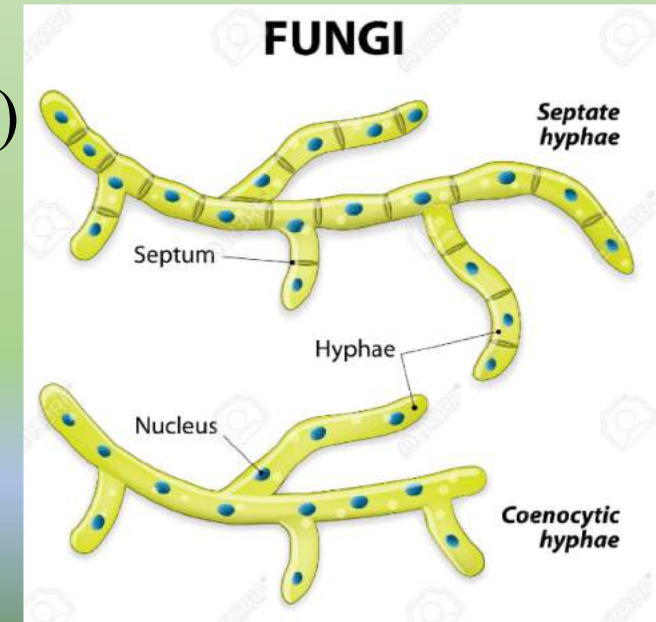


- Fungi are consist of masses of tubular structures called (**hyphae**)



- Some fungi have cross walls or **septa** which divide the filaments into sections while other fungi lack septa (**coenocytic**)

- Fungi are **heterotrophic** (non-photosynthetic organisms)
- All fungi require water and oxygen to grow and reproduce.
- The optimal temperature of most fungi is **25°C**.



- **Reproduction.** Fungi reproduce **sexually** and/or **asexually** to produce spores.

➤ **Asexually:**

- Spores ex:

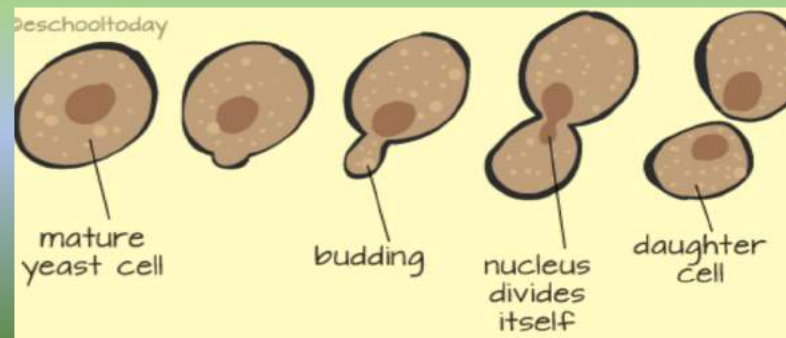
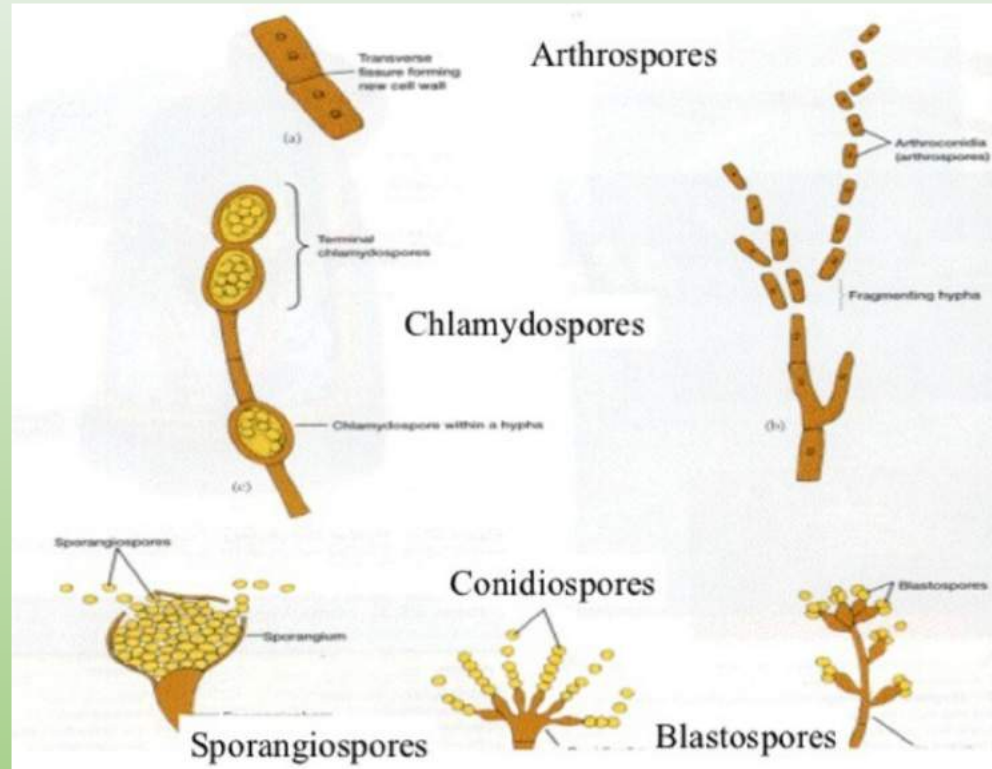
- ❖ Conidiospore

- ❖ Chlamydospore

- ❖ Sporangiospore

- Budding (yeast)

- Fragmentation



- **Reproduction.**

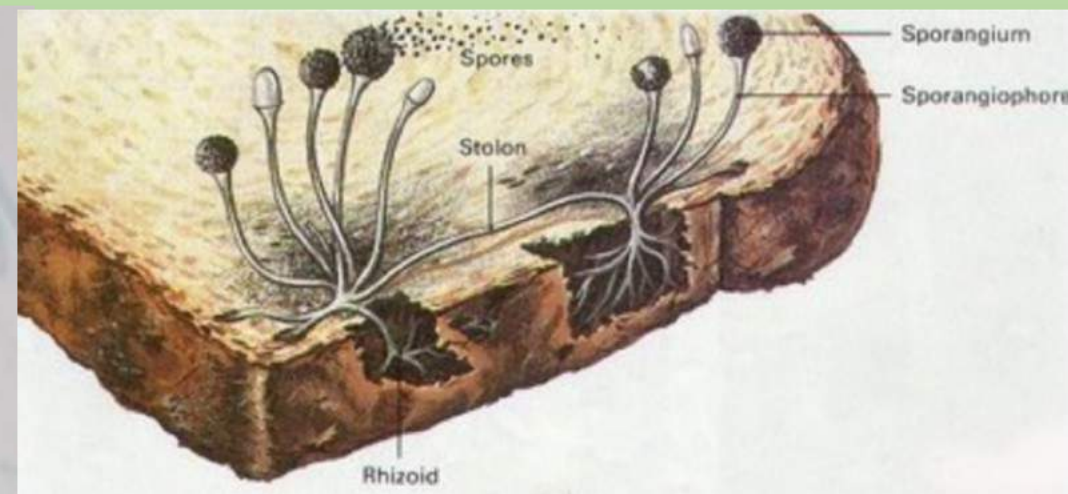
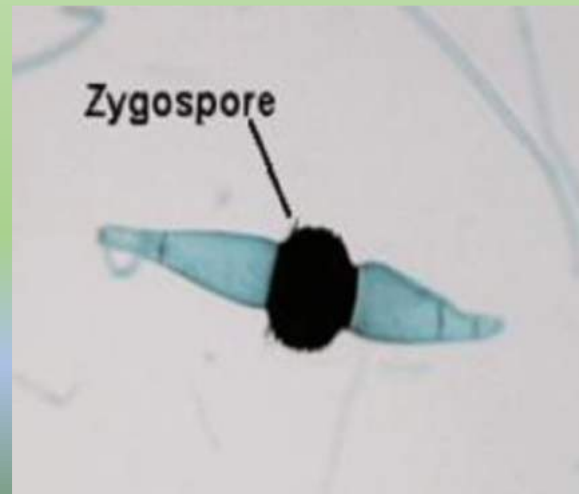
- **Sexually.**

- Fungi are classified by their sexual reproductive structures into 4 phyla :

- 1-Zygomycota**

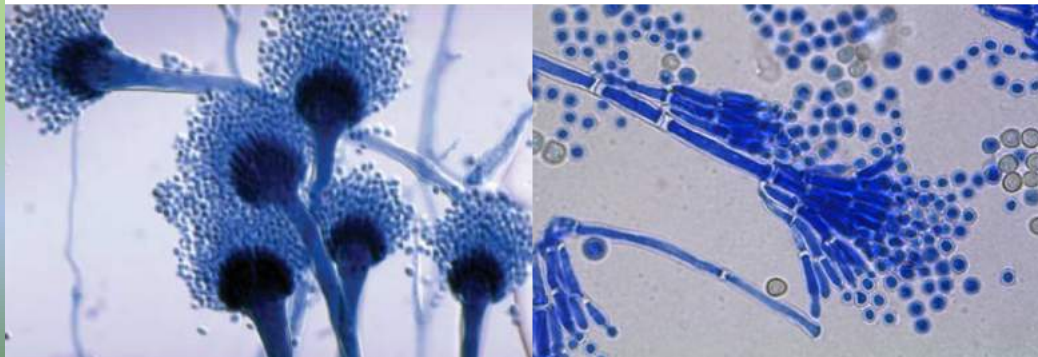
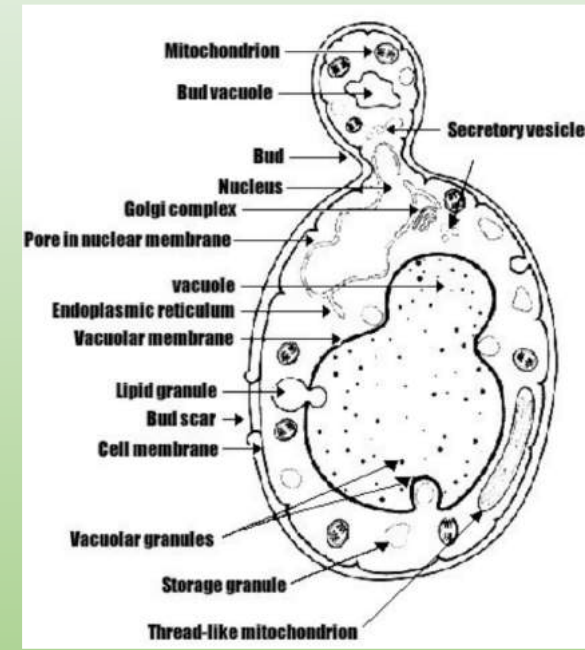
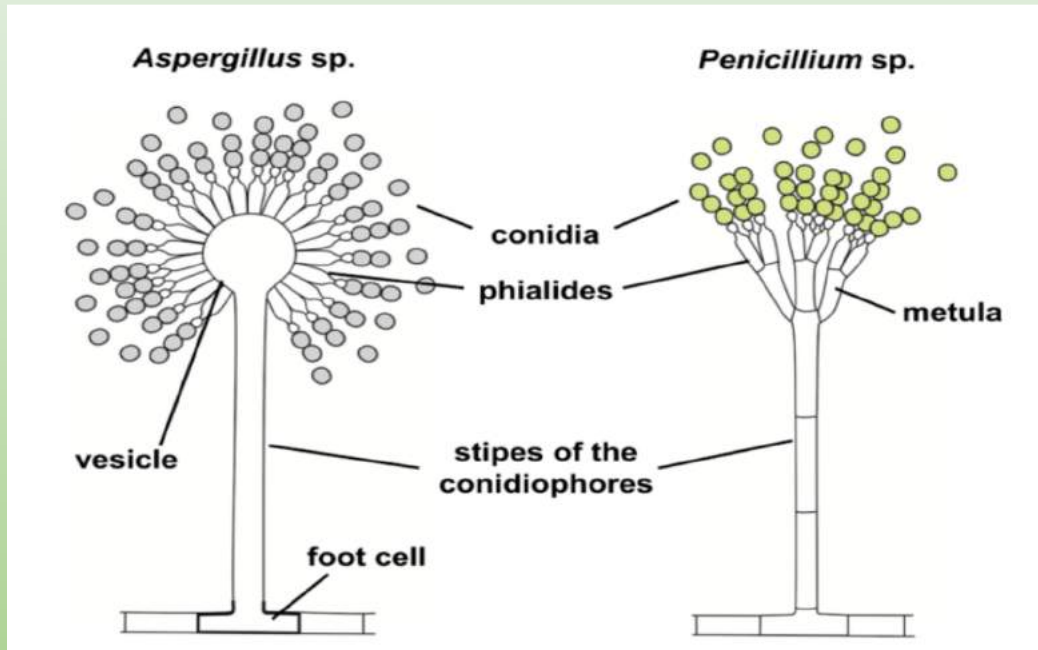
- Sexual spores produced by conjugation when (+) hypha and (-) fuse is called **zygospores**.

- **Ex: *Rhizopus sp.***



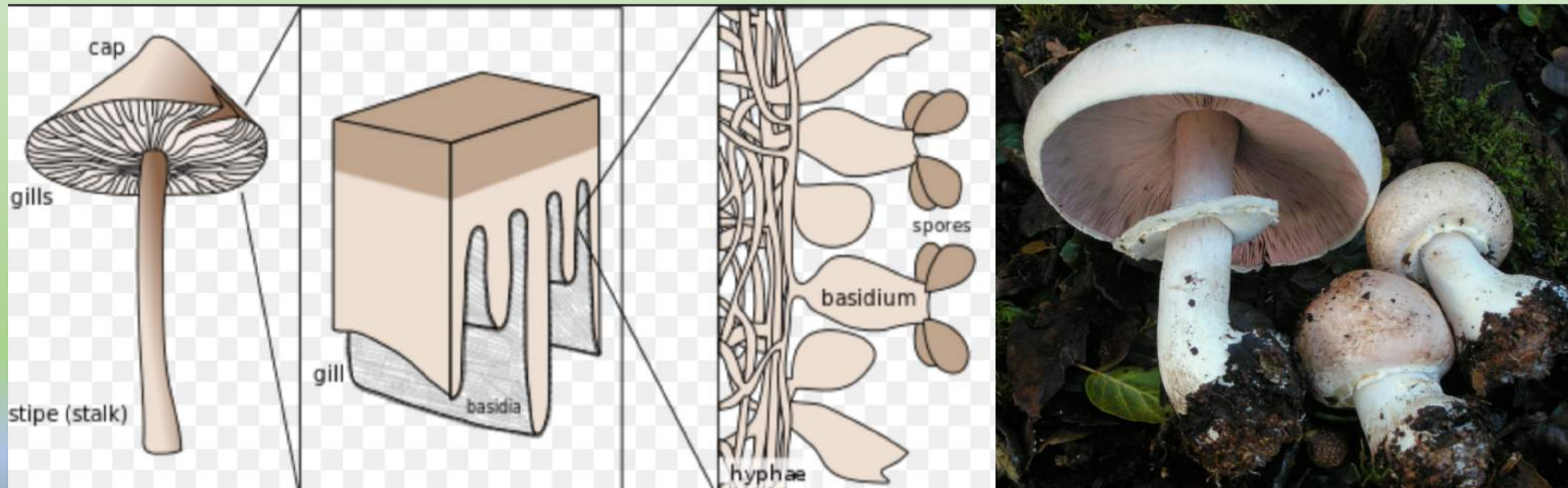
2-Ascomycota

- Ascospores contained in an ascus.
- Ex: *Aspergillus sp.*, *Penicillium sp.*, *Saccharomyces cerevisiae*



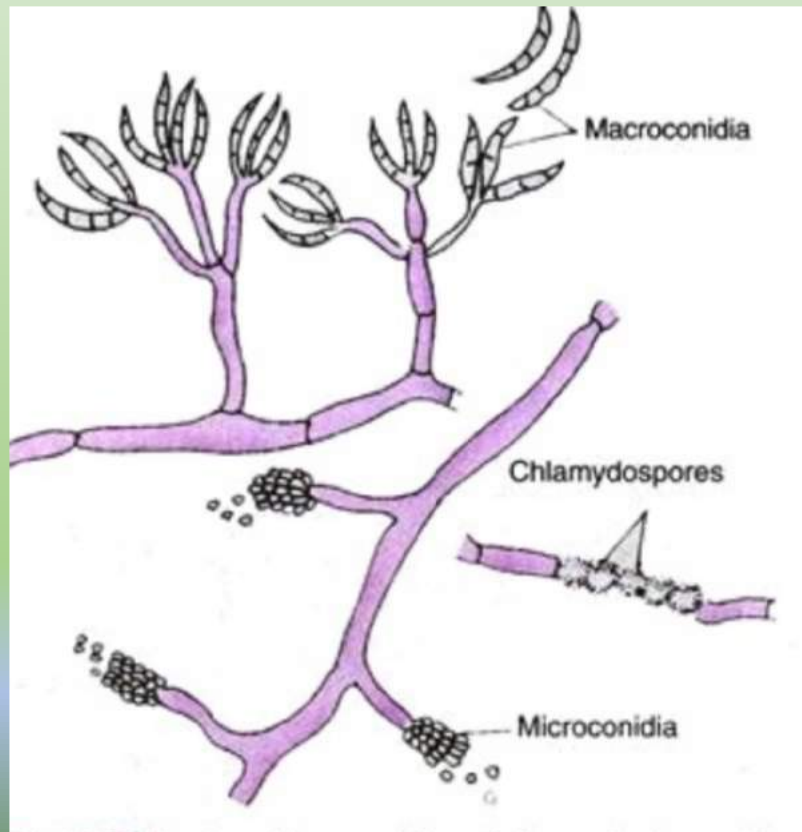
3-Basidiomycota

- Basidium is sexual reproductive structure that make **basidiospores**.
- Ex: *Agaricus sp.*



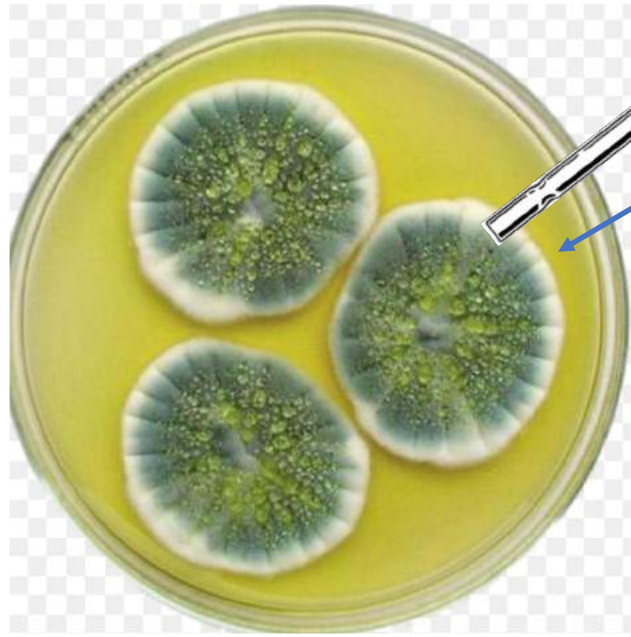
4-Deuteromycota

- Sexual reproduction not yet observed.
- Ex: *Fusarium* sp.



Purification of Fungi by Disc Transfer

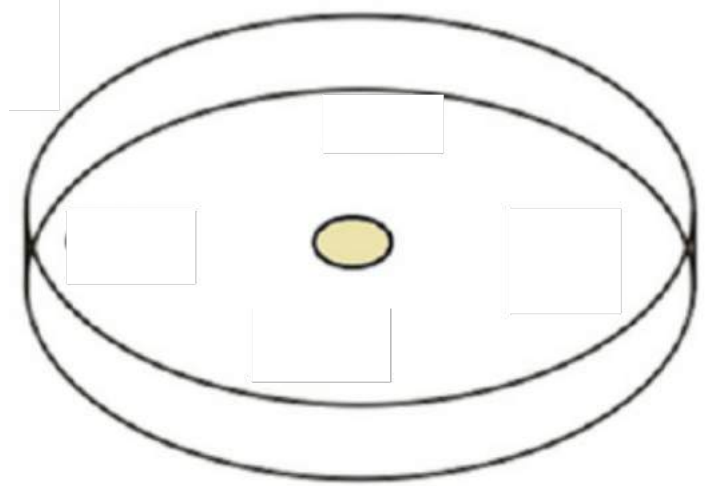
- Use a cork borer or Pasture pipette.
- Flame Pasteur pipette using alcohol and allow to cool.
- Cut few discs from the edge of an actively growing fungal colony.
- Inoculate it (surface facing down) on the center another media plate with the help of flamed forceps
- Incubate it for 3-5 days
- Pure culture of the organism will grow.



1- Use a Pasteur pipette to pick up some material from the colony



2- A fungal colony Disc transferred Aseptically to the centre by loop



A sterile media plate (PDA) being inoculated



3- Incubation at 26°C for 5 days

