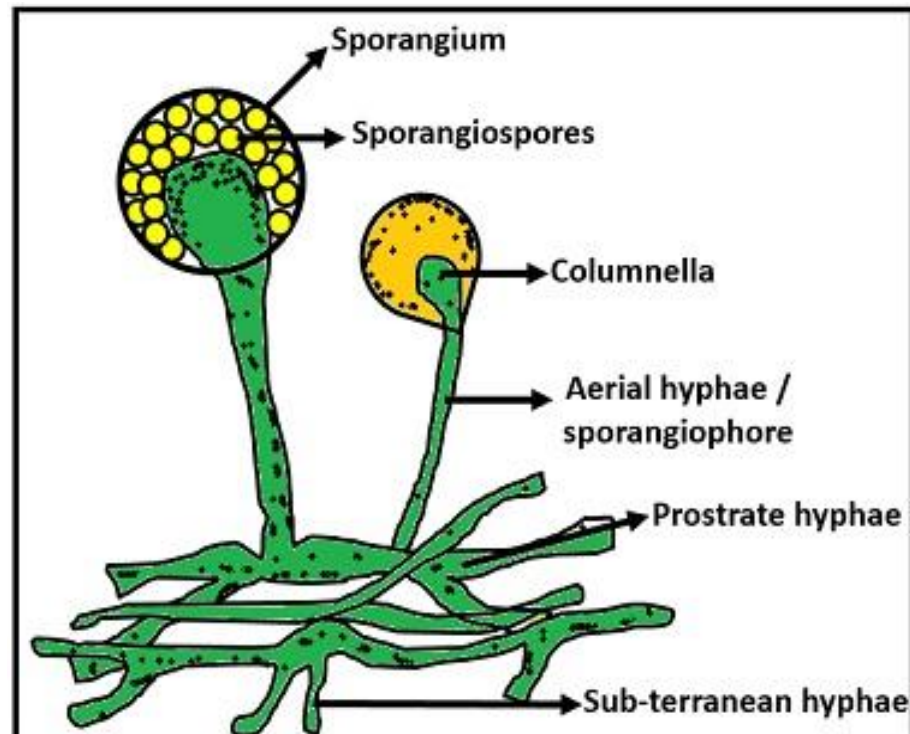




Bhagalpur National College, Bhagalpur

(A Constituent unit of Tilka Manjhi Bhagalpur University, Bhagalpur)

PPT Presentation for B.Sc. I- Life Cycle of Mucor



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Taxonomic position

- Kingdom : fungi
- Division : Mycota
- Class : Zygomycota
- Order : Mucorales
- Family : Mucoraceae
- Genus : Mucor



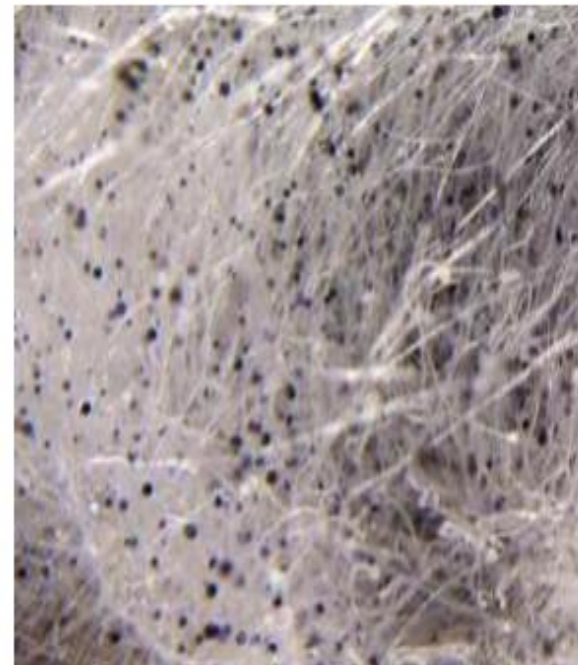
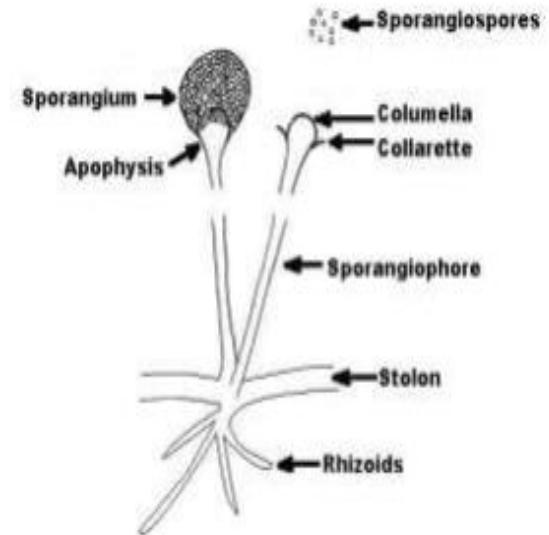
Habitat

- It appears readily in damp horse dung when kept under a bell jar
- Present in soil, bread, and other food materials



Vegetative structure

- Mycelium consists of numerous, slender, freely branched filaments called hyphae
- The hyphae form a fluffy mass , **white in color** called as mycelium
- After mycelium formation, reproductive phase starts
- **Black pin** like structures appear on mycelium called as sporangia.
- The hyphae are **coenocytic and aseptate**.
- At vegetative stage , the hyphae consists of **stolon (horizontal hyphae)** and rhizoidal hyphae.
- The rhizoidal hyphae helps in the absorption of nutrients from the substrate
- Cell wall is made up of **chitin** and cellulose is absent
- The organelles like mitochondria , endoplasmic reticulum etc are present in cell.



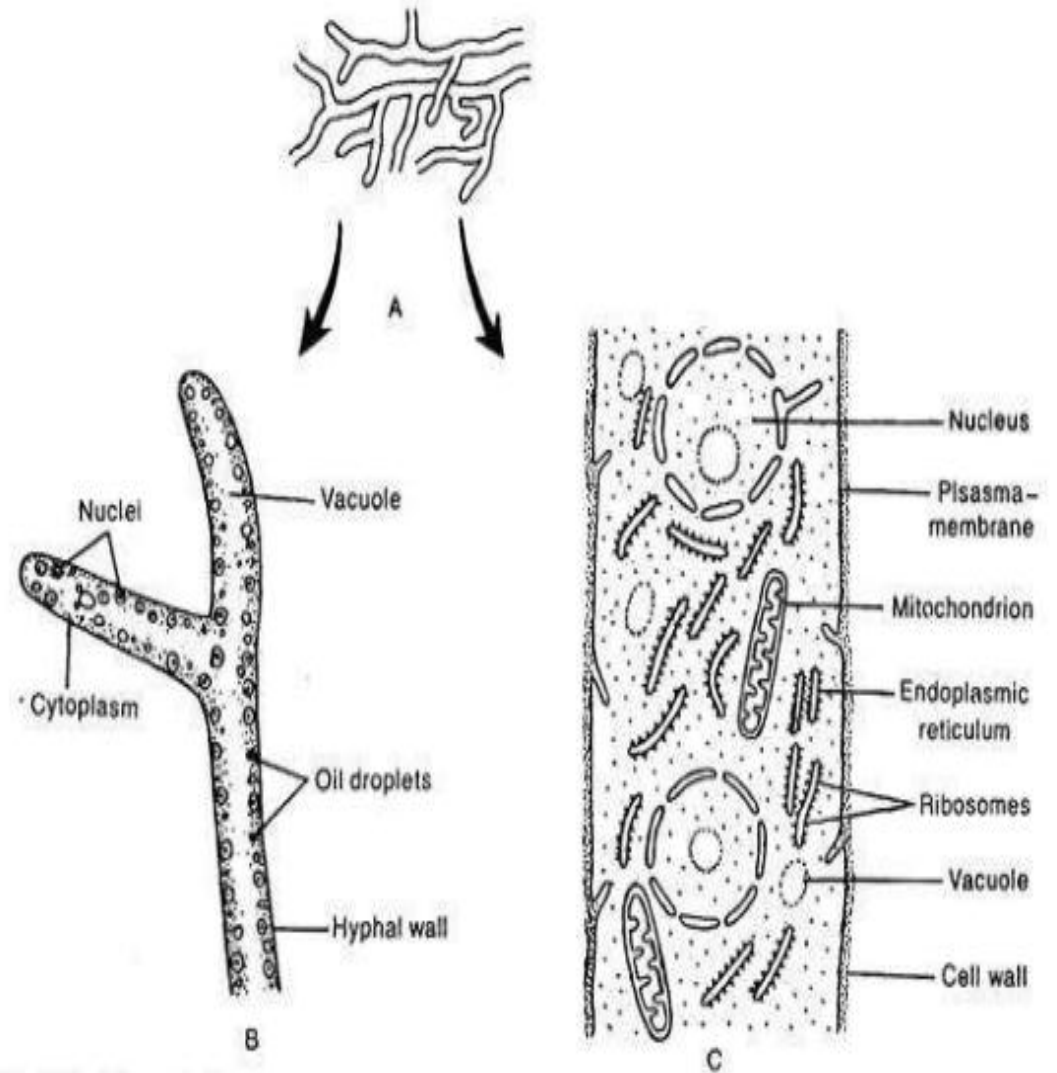
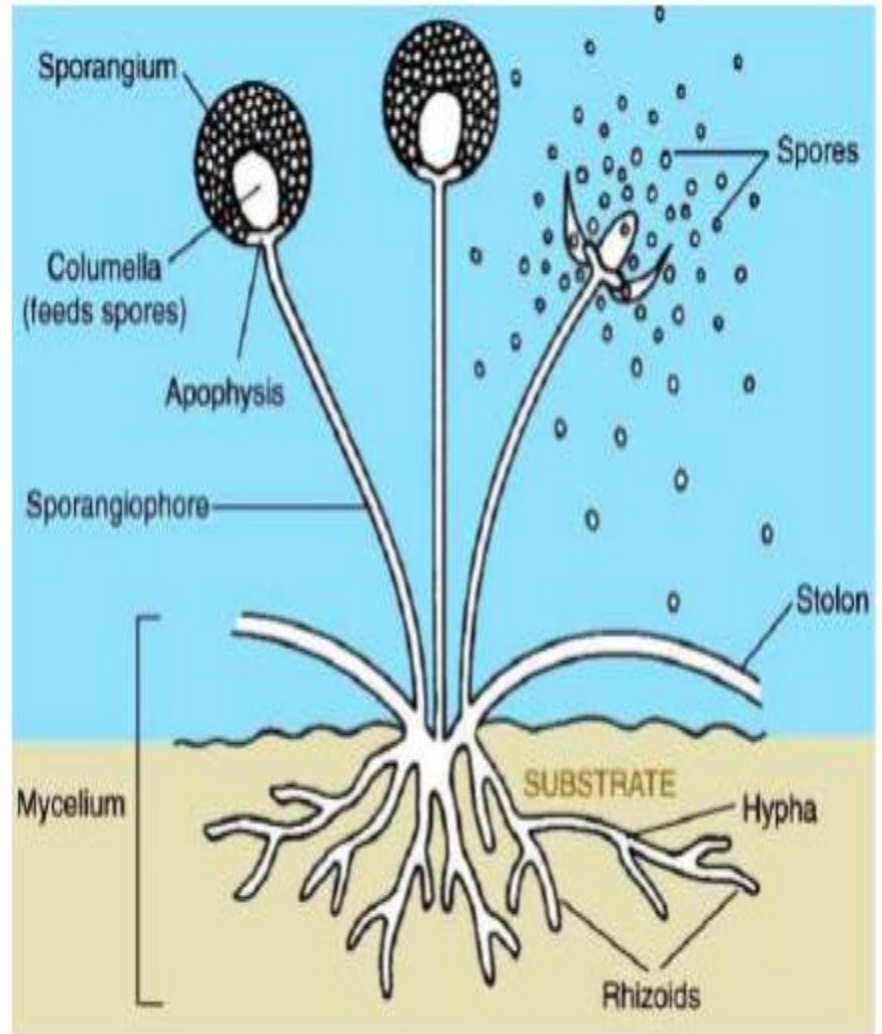
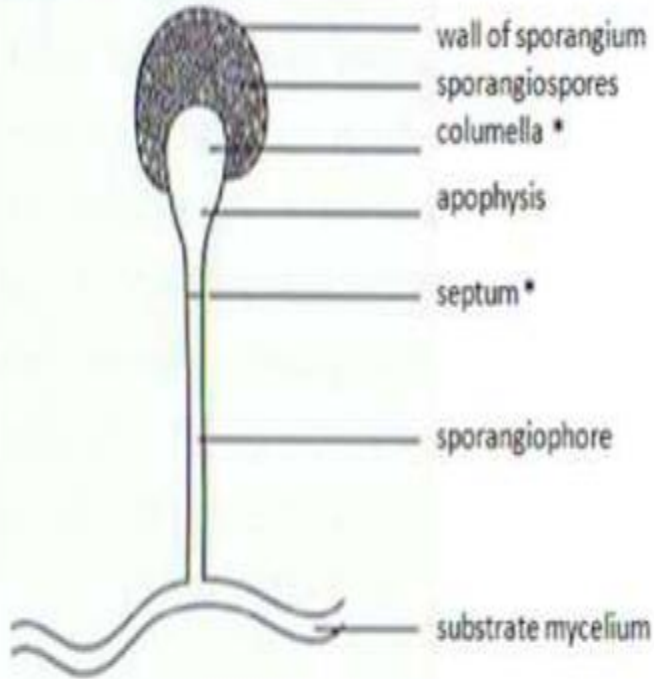
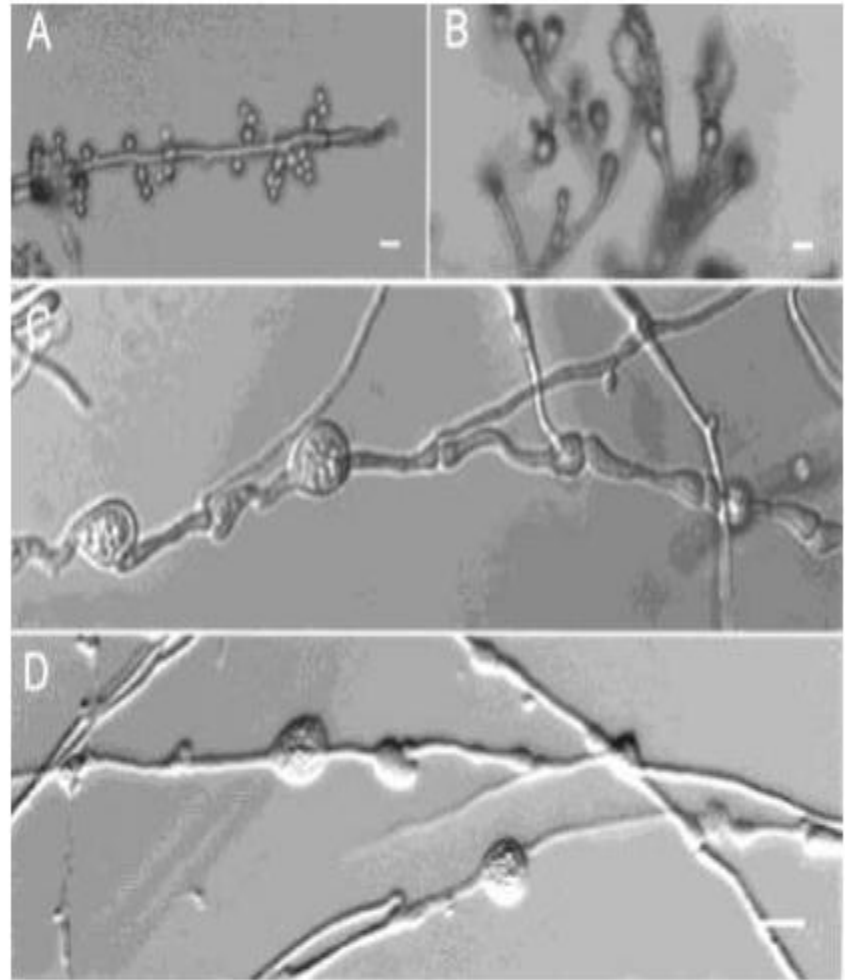


Fig. 4.27 : *Mucor* : A. Vegetative mycelium, B. Portion of hypha under light microscope, C. Portion of hypha under electron microscope



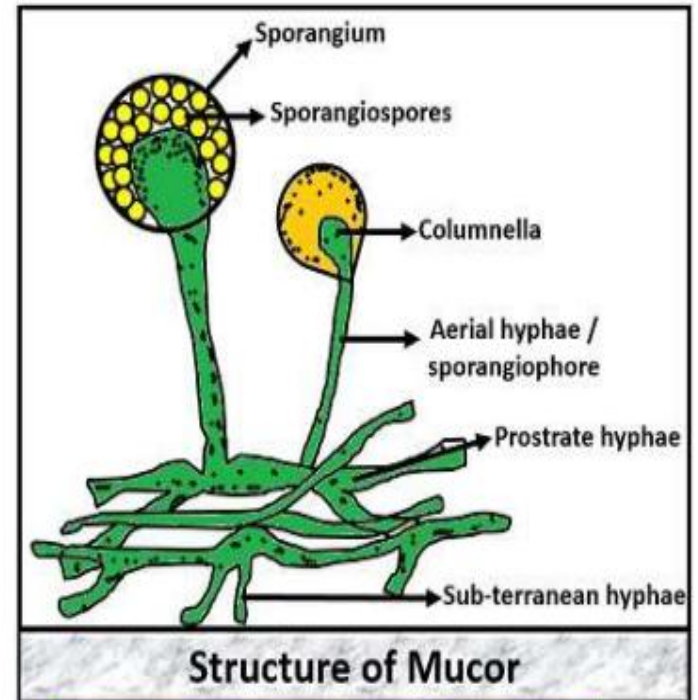
Vegetative reproduction

- **Fragmentation**
- When the separation of hyphae occurs from the aerial portion, then these fragments are capable of producing new hyphae , and this is called fragmentation
- **Chlaymadospore formation**
- Under unfavorable conditions , the fungus produce special modified thick walled , resting cells, called as chlaymadospores. They contain food and are very resistant to desiccation . When conditions become favorable , it germinates to form new mycelium



Asexual reproduction (sporangia and sporangiophore)

- It takes place by the formation of non motile, multinucleate , sporangiophore. The sporangia arise singly and terminally at the tips of sporangiophore .
- The young sporangium is **white** spherical structure.
- At maturity it turns **into black color** due to formation of spores.
- In the center of spore there is large dome shaped structure called collumella .
- The sporangia are haploid, they are produced in haploid mycelium , and produce haploid spores



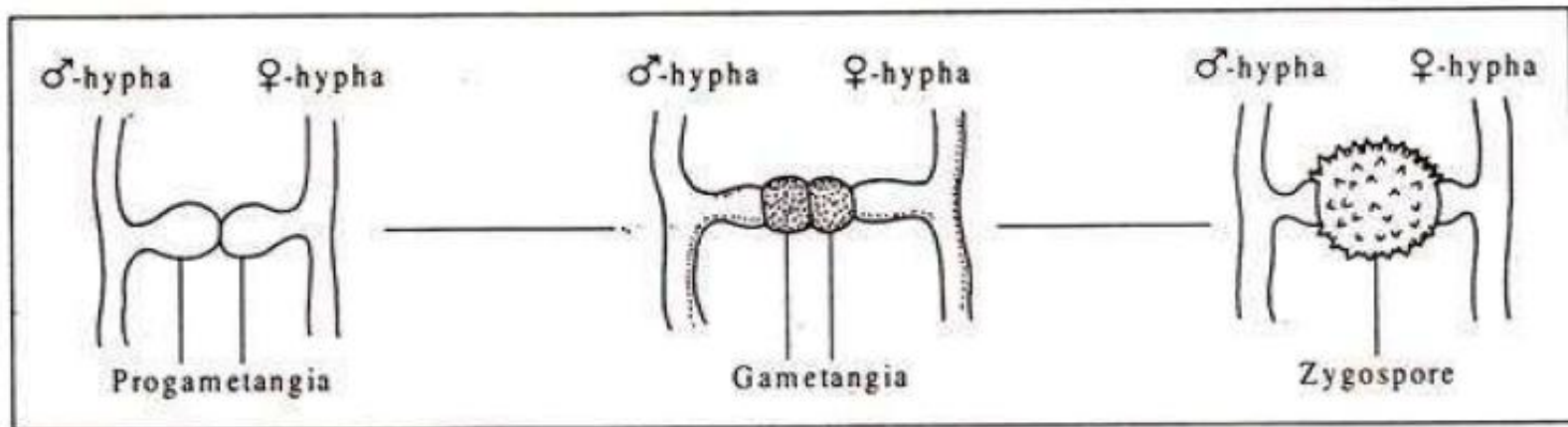
Spores

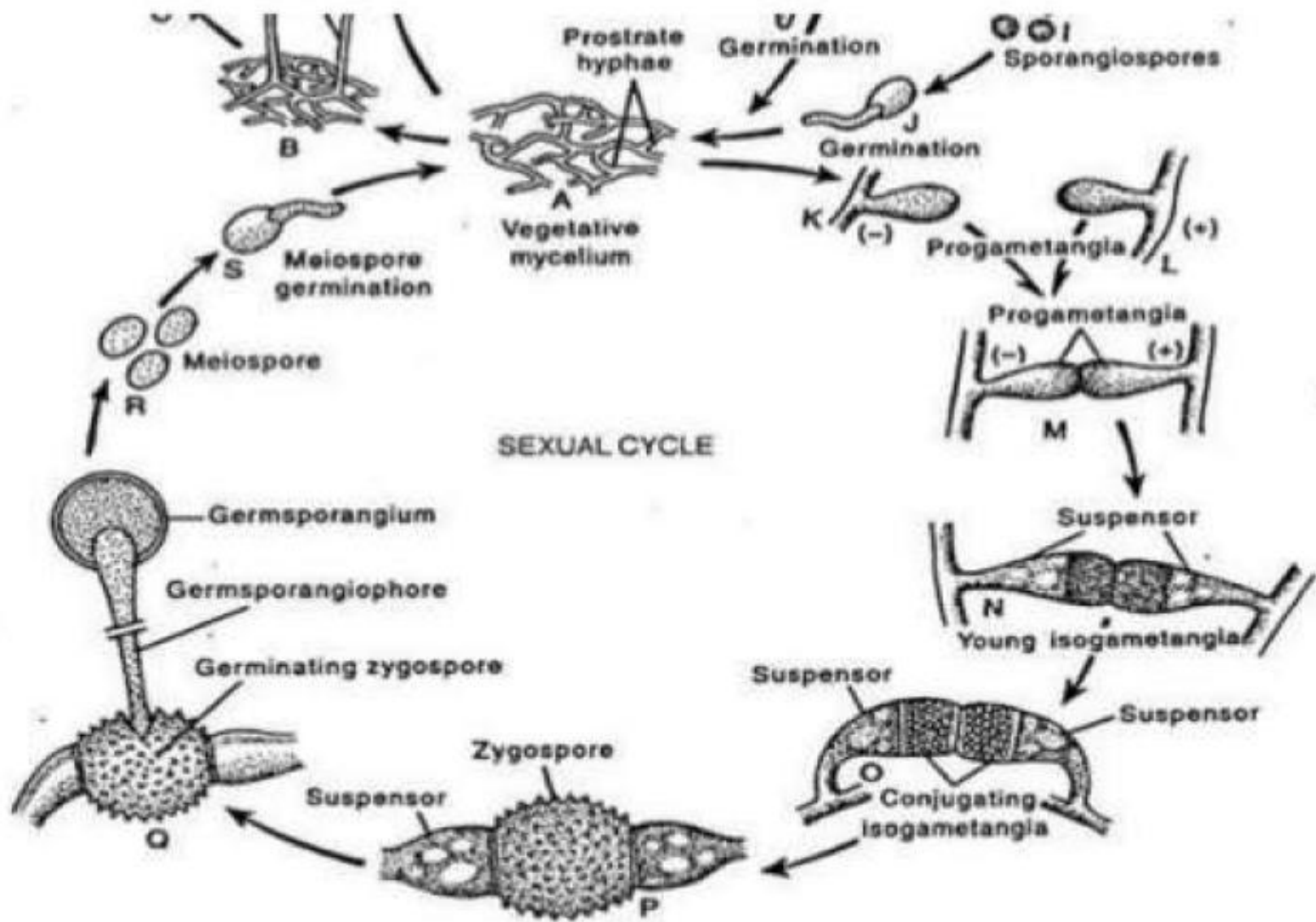
- Spores are dispersed after the rupturing of sporangia ,they are dispersed by wind
- The spore is **non motile** , **oval** and contain protoplast surrounded by **single layered cell wall**
- Under suitable conditions, the spore germinates to form a germ tube . The hyphae arises from the germination tube and spread in all direction



Sexual reproduction

- It takes place by **gamentangial copulation**
- The **fusion gametes** are multinucleated and are distinct from each other
- The sexual process starts with the formation of two special hyphae called **zygophores**
- They arise from near the apices of actively growing somatic hyphae of **+ve and -ve strains**
- They are chemically induced
- The **zygophores** meet and adhere in pairs at the tip to form fusion septum
- The tip swells due to flow of nuclei and cytoplasm in them, called as **progametangia**
- Progametangia combined to form **prozygosporangium**, containing many diploid nuclei called as zygospore





Thank You

A group of hands holding up colorful letters that spell out 'Thank You'. The word 'Thank' is on the left and 'You' is on the right. Each letter is a different color: 'T' is red, 'h' is blue, 'a' is pink, 'n' is green, 'k' is purple, 'Y' is yellow, 'o' is blue, and 'u' is pink. The hands are of various skin tones, suggesting a diverse group of people. The background is plain white.