Life Science

Chapter 9 Part 2
Fungus

Fungi

- **water molds, bread molds, Sac fungi, yeasts, mushrooms and *Penicillium sp.***
- Usually require moist, dark and warm habitats.
- **Characteristics:**
  - i. Eukaryotic heterotrophs decomposers
  - ii. Many are Saprophytes or parasites
  - iii. Most are Multicellular however yeast are unicellular
  - iv. Most are immobile
  - v. Cell Wall present and composed of Chitin (except Oomycota)
  - vi. Sexual and asexual reproduction present





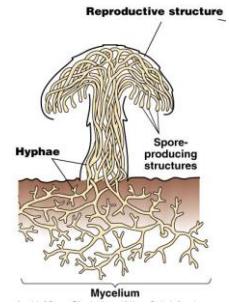


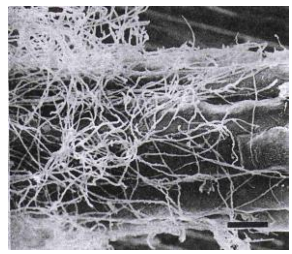




Fungi Structure

- **Hyphae**- main individual structure that makes up all multicellular fungi
- **Mycelium:** Thick masses of hyphae
  - Individual branching threadlike tubes
    - Loosely tangled hyphae – fuzzy mold
    - Tightly packed hyphae– mushrooms

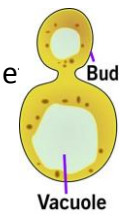


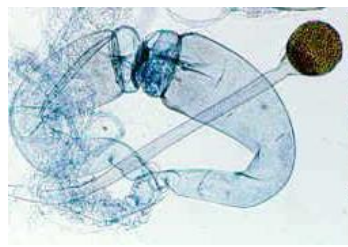


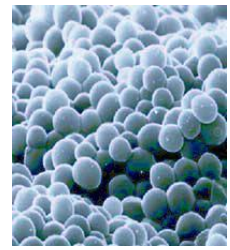
Remember all fungi are heterotrophs – their hyphae grow into the food source, secrete digestive enzymes and breakdown (dissolve) the tissue then absorb and use as an energy source.

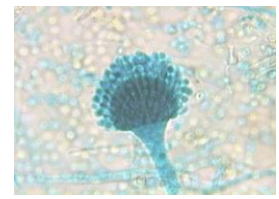
Reproduction – Sexual & Asexual

- **Sexual**:
  - **Gametangia**: the hyphae of two fungi meet and form swollen haploid tips that eventually fuse to form a game the **zygospore**
- **Asexual**:
  - **Sporangia & Conidia** produce spores. **Spores:** are tiny lightweight structures usually dispersed by the wind.
  - Budding – in yeast a mitotic "growth" comes off of the cell forming a new genetical identical organism







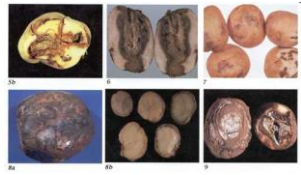


5 "Need-to-Know" Phyla

- Phylum **Oomycota** – Protist like fungi –water molds
- Phylum **Zygomycota** – Thread-like fungi, Common bread molds
- Phylum **Ascomycota** – includes yeast and Sac Fungi: Dutch Elm Disease fungus
- Phylum **Basidiomycota** – Club Fungi, the mushrooms
- Phylum **Deuteromycota** – The Imperfect Fungi, *Penicillium* sp., athlete's Foot Fungus, Ringworm

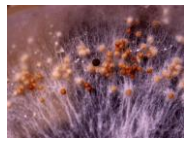
Phylum Oomycota

- Protist-like fungi
- water molds, Potato fungus, fish fungus

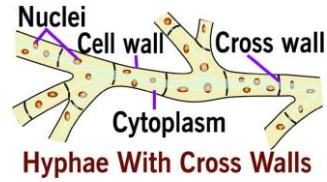


Potato fungus

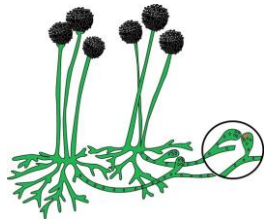
Spores w/ flagella

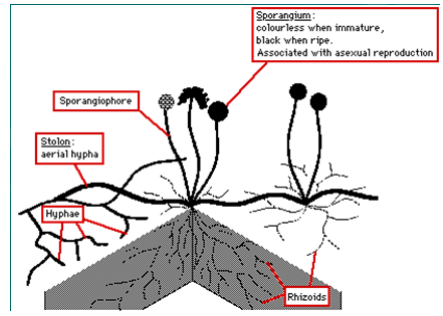


Phylum Zygomycota

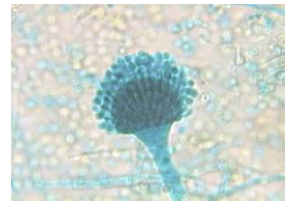


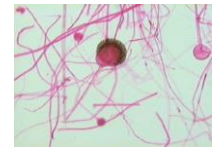
- Thread-like fungi
- bread molds
- Stolon, rhizoids, sporangiophore, sporagium, spores

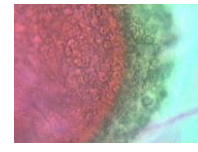


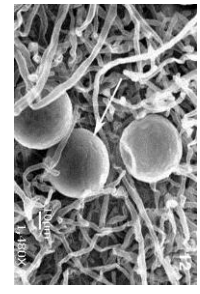


Phylum Zygomycota



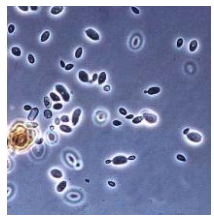




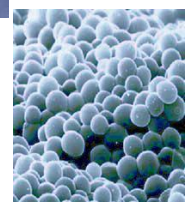


Phylum Ascomycota

- Sac Fungi
- Yeast, Dutch Elm Disease, truffles
- Cell Wall, Vacuole, nucleus, bud



truffle



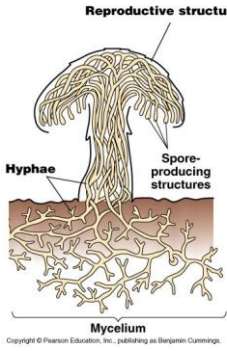
Dutch elm fungus

Phylum Basidiomycota

- The Club Fungi –
- The toadstools, mushrooms & puff balls
- Stipe, Cap, Gills, Basidia, Rhizoids

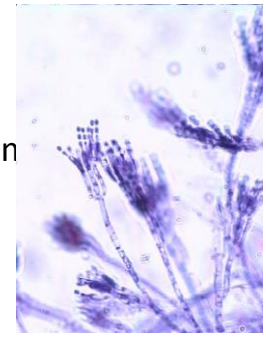
Basidiomycota

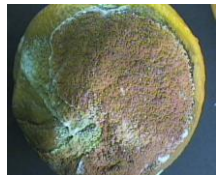
The name means
"Pedestal Fumgus"



Phylum Deuteromycota

- The Imperfect Fungi
- *Penicillium* sp., Athlete's Foot, Ringworn





Lichens

- **Symbiotic** relationship
  - both organisms benefit from the relationshi
- certain fungus have with a green algae.
- algae carry out photosynthesis providing the fungus w/ nutrients.
- fungus provide the algae w/ water and minerals and a substrate to grow.

I admit it …. I am no longer the "Fun Guy"
But someone had to tell you about the Kingdom Fungi…
Let's go Home!!