**Lecture: Fungi**

**Fungi**

-
- no vascular tissues
-
- eukaryotic
- aerobic or facultative

Phyla (based on form of sexual spore) terrestrial

1. Zygomycota - zygomycetes (ex. )

2. Ascomycota - ascomycetes (Aspergillus - )

3. Basidiomycota - basidiomycetes ( )

4. Deuteromycota - deuteromycetes (fungi imperfecti, no sexual phase known)

5. Oomycota - oomycetes (water molds,ex. Saprolegnia) -

**Yeasts vs. Molds**

molds - filamentous = hyphae (lots of hyphae = ) ( )

yeasts - spherical, colonies ( )

- some fungi only yeasts,
  -some only molds
  - some do both =
  - temp, nutrients, $CO_2$ affect formation
  molds at RT $\rightarrow$ yeasts at body temp

**Vegetative Structures (actively growing)**

- Molds and Fleshy Fungi (body= )

<u>Septate hyphae</u> = cells separated by walls ( )

<u>aseptate hyphae</u> =

vegetative hyphae =

reproductive (aerial) hyphae =
- colored portion of culture

- Yeasts
  nonfilamentous, unicellular, facultative, budding

**Reproductive Structures**

Spores (molds) - asexual formation ( ) and sexual formation ( )

| <u>Characteristics</u> | <u>Function</u> |
|---|---|
| - produced in large #'s | - |
| - light weight | - disseminated easily |
| - some are resistant to adverse environment | - |

Most fungi (  ) produce spores both asexually and sexually.

- resulting spores are always haploid (n) regardless of whether they were produced by sexual or asexual means

Example: Yeast

Sexual reproduction produces haploid ascospores.

Asexual reproduction is an unequal cell division = buds (  )

(see handout on fungal reproduction)

**Culturing Fungi**

SAB - Sabouraud Dextrose Agar

- low pH (5-6) retards bacteria
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**Ecology**

- saprophytes - eat dead stuff (e.g., wood), decomposers

- parasites -

- mutualistic associations -
  - lichen - combination of a fungus and an alga or cyanobacterium

**Benefits**

- industry -

**Detriments**

- diseases of animals and crops
  - Fungal disease =

**Study Objectives**

1. Compare and contrast fungi with: a) true plants b) bacteria.
2. What are the 5 phyla of fungi? What is the basis for this classification?
3. Describe yeasts and molds. How are they related?
4. Compare and contrast sexual and asexual reproduction with spore formation in yeast.
5. Compare and contrast fungal spores with bacterial endospores.
6. What is a mycosis?