

PLP 3002

Post-harvest diseases

Molds

- Cottony rot caused by *Sclerotinia sclerotiorum* (Ascomycete)
- Grey mold caused by *Botrytis* (Deuteromycete)
- Zygomycete molds: *Choenophora*, *Rhizopus*, *Mucor* (Zygomycete)
- Blue and green molds caused by *Pencillium* (Deuteromycete)

Molds

- Aflatoxin produced by *Aspergillus flavus* (Deuteromycete)
- Ergot caused by *Claviceps purpurea* (Ascomycete)
- Toxins produced by *Fusarium* species (Deuteromycetes)

Symptoms

- Soft rots (tissue maceration)
- Dry rots

Signs

- Sclerotinia: white mycelium sclerotia
- Botrytis: grey mold, sclerotia
- Zygomycetes: rank, translucent mycelium, black sporangia
- Pencillium: usually green or blue-colored mycelium
- Aspergillus: usually black or tan-colored mycelium

Signs

- Claviceps: conspicuous black, seed-like sclerotia
- Fusarium: mycelium

Special features (toxicities)

- *Aspergillus flavus*: aflatoxin, a deadly carcinogen
- *Claviceps* spp. (LSD and other alkaloids) lethal, hallucinogenic
- *Fusarium* species: compromised immune system

Special features (host ranges, life cycles)

- *Sclerotinia sclerotiorum*
 - Aggressive under cool, moist conditions
 - Compare and contrast with
 - *Sclerotium rolfsii* (cold/hot, taxonomy)
 - *Monilinia fructicola* (apothecia produced)

Special features (host ranges, life cycles)

- *Botrytis*
 - Very common greenhouse pathogen
 - Prefers cool, moist conditions
 - Invades via necrotic tissue (e.g. floral organs)

Special features (host ranges, life cycles)

- *Claviceps* spp. Restricted to grasses (esp. rye)
- Others infect many, many stored products (very wide host ranges)
- *Aspergillus flavus* serious in peanuts, corn
- Zygomycetes common on floral parts

Special notes (ergot)

- *Claviceps purpurea*
 - Produces sclerotia from which perithecia are produced
 - Perithecia contain filamentous ascospores
 - Ascospore discharge timed with flower initiation

Special notes (ergot)

- Problems amplified by
 - Cool weather (postpones pollination)
 - High moisture

Special notes (aflatoxin)

- *Aspergillus flavus*
 - Splitting of peanut hulls
 - Dry weather / corn husks
