

D.:Basidiomycota
Sd.:*Agaricomycotina*

Lab 18

Division: *Basidiomycota*

Subdivisions:

Ustilaginomycotina

Pucciniomycotina

Agaricomycotina

Classes:

Exobasidiomycetes
Ustilaginomycettes

Pucciniomycetes
Microbotryomycetes

Agaricomycetes

Smut fungi

Rust fungi

***Mushrooms,
Root rot fungi,
Wood decay***

Subdivision: Agaricomycotina

Class: <i>Agaricomycetes</i>						
Orders:						
Cantharellales		Agaricales				Boetales
Families:						
Ceratobasidiaceae	Cantharellaceae	Amanitaceae	Typhulaceae	Agaricaceaea	Physalacriaceae	Boletaceae
<i>Thanatephorus cucmeris</i> (<i>Rhizoctonia solani</i>)	Chantarella	<i>Amanita muscaria</i>	<i>Typhula incarnate</i> , <i>Sclerotium spp.</i>	<i>Agaricus campestris</i>	<i>Armillaria mellea</i>	<i>Boletus edulis</i>
						

Rhizoctonia solani (anamorph)

- Because *Rhizoctonia* species do not produce spores, these fungi are identified by characteristics of their hyphae.
- *Rhizoctonia* hyphae produce branches at right and acute angles to the main hypha, the branch hypha is slightly constricted at the branch origin, and there is often a septum near the branch origin



Rhizoctonia solani

- *Rhizoctonia* species also produce specialized hyphae composed of compact cells called monilioid cells.



Rhizoctonia solani

- The monilioid cells fuse together to produce hard structures called sclerotia, which are resistant to environmental extremes, allowing the fungus to survive adverse conditions.



Black scurf of potato (Black Scub)

- Black sclerotia are formed on the surface of potato tubers



Rhizoctonia root rot of beet

- Under certain conditions (heavily contaminated soils, favourable climate ...), the root system is invaded externally by the asexual form of *T. cucumeris*, ***Rhizoctonia solani***.
- A brown mycelial network is easily distinguished on the surface.



Thanatephorus cucumeris (teleomorph)

- The perfect form or teleomorph of the fungus,
T. cucumeris,
causes leaf spots.
- During wet periods, a hymenium is formed at lesion margins, upon which basidia and basidiospores develop.



Typhula incarnate (Speckled Snow Mould of Cereals)

- Disease severity ranges from patches to complete destruction of all above-ground foliage within a field



Typhula incarnate

- Symptoms – whitish-grey mycelium cover foliage of plant.
- Reddish brown sclerotia formed on the surface of withering part are millet grain size.



Typhula incarnate

- **Sclerotia** germinate in the autumn during cool and wet weather producing short club-shaped **fruiting bodies** (sporophores) from which **basidiospores** are liberated.
- **Fruiting bodies** (sporophores) of *T.incarnata* are light pink

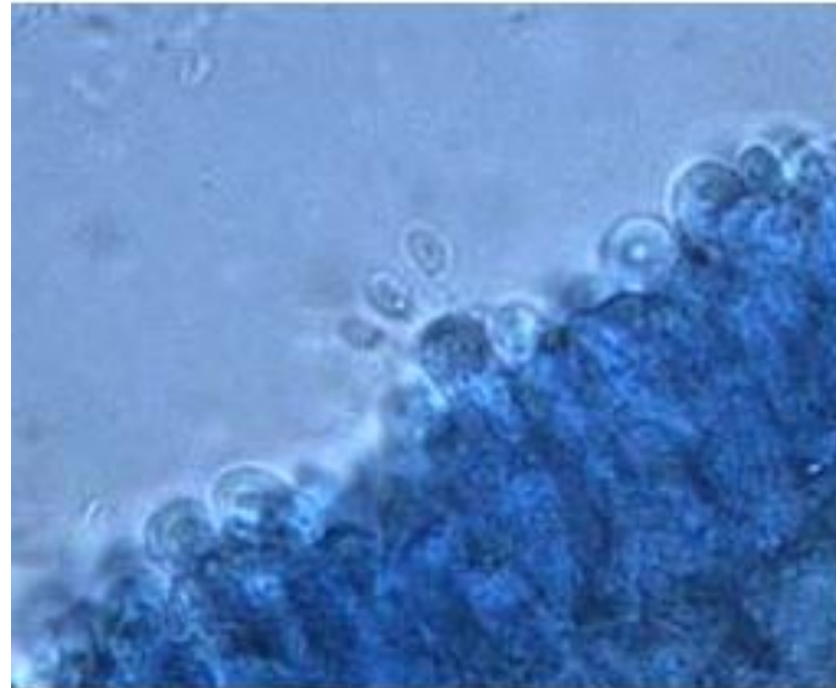


Typhula incarnate

- Club-shaped fruiting bodies



- Layer of lobes basidia are formed with ovoid basidiospores.



Armillaria mellea

(Armillaria root rot of berries)

- *Armillaria mellea*, a fungus, infects blackberry roots, killing the cambium and decaying the underlying xylem
- This fungus may form mushrooms at the base of infected canes in fall and winter.
- Mushrooms produce wind-blown spores, but these spores are not a significant means of infecting



- The fungus spreads vegetatively, below ground, which leads to the formation of groups of dead and dying plants called "disease centers."



Armillaria mellea

