Hello everyone, this is Sankrita Gaonkar and I am assistant professor in Chowgule College, Margao.

So this program is for first years and the subject is botany semester one. Course code is BOC 1 course, title is biodiversity, which includes microbes, algae, fungi, and bryophytes. The title of the unit is Unit 3 fungi and the module name is range of thallus organization in fungi.

So this is the outline of my presentation.

That is definition of thallus, types of thallus, types of mycelia, modifications of hyphae.

At the end of this presentation, The students will be able to differentiate the types of fungal Taylors and they'll know the functions of different forms.

So let us discuss about the thallus.

So thallus is basically the body of any Organism. So in this case it is body of the fungus.

So thallus is the vegetative phase of the fungus, and it consists of tubular filaments called hyphae.

The singular form of it is Hypha.

So here you can see I have shown in the diagram also.

These each filament is the Hypha, and the mass of this together forms the mycelium and the

plural of mycelium is mycelia. So mycelium is the mass of hyphae here.

I have given in the diagram.

There are two types of thallus, which are formed in the fungi.

That is unicellular thallus and filamentous thallus.

So unicellular thallus is which are found in the species of chytrids.

So here that is spherical and single cell which becomes the reproductive unit.

They perform the function of both sexual as well asexual cells during the reproduction phase.

And the whole cell which acts as a reproductive unit is called as holocarpic form of fungi.

Some of the fungal genus, like *Plasmodia flora* during their vegetative phase are naked multinuclear and they form amoeboid mass of protoplasm, which is called as plasmodium, and this plasmodium cleaves to form the resting spores.

Coming to the filamentous thallus, these originate through germination of spores. Like I have shown you in my earlier slide also, so the filaments protrudes after the germination of spores and the spore on germination produces hypha and later on they forms fluffy thallus of long filaments which is called as hyphae which is a singular.

Hypha at maturity, some of hyphae extend into air and form the reproductive bodies and other part of the thallus spread on the substratum and these types of fungi are called as Eucarpic forms of fungi.

The vegetative body, formed collectively by hyphae is called mycelium.

It is the mass of hyphae.

Here I have shown you in the diagram, so this is the unicellular thallus like that of yeast and all.

And this is the filamentous thallus

so these are the filaments.

And there are several types

of mycelia or mycelium.

There are two types of this

mycelia that is aseptate mycelium and septate mycelium.

So in case of aseptate mycelium, they lack internal partitions.

The mycelium lack internal partition,

so here you can see in this diagram

there are no septations or no wall formation, right?

So they they form a multinucleate or aseptate mycelium, which is called as coenocytic mycelium.

So Coenocytic is basically the aseptate multinucleate mycelium.

The septate mycelium develop internal partitions like here you can see so these are the partitions which separates the mycelium into different segments. So these segments can be uninucleate or multinuclear.

So this mycelium, undergo several modifications. And these modifications perform different functions,

some of the modifications I have listed down here.

And the first one is Plectenchyma which is basically the false tissue of hyphal aggregation,

It is further divided into two classes that is prosenchyma and pseudoparenchyma.

So prosenchyma is basically the loosely woven tissue of hyphae.

And the pseudoparenchyma is the compact mass of interwoven or intertwined hyphae form during the fructification.

That is, while forming the Fruiting bodies.

Then the second type of modification of mycelium or the hyphae is rhizomorphs, which are rootlike

aggregation of somatic hyphae, somatic hyphae, meaning vegetative hyphae.

Then the third type is clear sclerotia and it is the compact globose or elongated structure formed by the hyphal aggregation.

So here I have shown you the diagrams, so this is the prosenchyma forming the elongated structures and this is pseudoparenchyma formed by the aggregation of hyphae.

Then the fourth type is stromata or it is called stroma. So in this the fungal tissue forming reproductive structure forms the reproductive structure is called as stromata.

Then there is something called as pseudosclerotium and these are the sclerotia like bodies formed at the base of the fruiting bodies.

Then the 6th modification is appressorium and the plural of it is appressoria, and these are the swollen structures of germ tube. After germination it produces the hypha or the germ tube and the it attaches. The APPRESSORIUM helps in attachment to the host. It is the bulbous structure which is formed by the hyphae.

That last one is the haustorium, so these are intracellular absorbing structures which are formed inside the host.

So these are sclerotia.

And this is the appressorium.

Here you can see this is the appressorium, the bulbous structure and these are these invaginations

which are entering into the host cells are called as haustoria.

Coming to the summary of the presentation, thalloid body of fungi is unicellular or multi multi cellular.

These are the two types of thallus and it consists of tubular hyphae and mass of hyphae that is mycelium.

In some fungi, a part of or the whole mycelium undergoes modification to perform several functions.

Several somatic as well as reproductive functions.

So these are some of the book references.

This is the web link which I have referred to.

Thank you.