Mycorrhiza.

In the broad sence mycorrhiza is the non pathogenic or slightly pathogenic association between fungi and the roots or rhizoms of flowering plant, thalli or other parts of non flowering plants. But instrict sence the close association between fungi and roots of higher plants is called mycorrhiza. Such type of association is not harmful to the plants rather beneficial for both plants and fungi.

Types of mycorrhiza:

mycorrhiza may be mainly of two types viz →

Ectomycorrhiza:

In this type of mycorrhiza the surface of fine lateral roots of the host trees are enveloped by a mantle or sheath of light pseudoparenchymatous fungal tissue. This fungal tissue sends some hyphae into the intercellular spaces of the outer cortex. The hyphae which penetrate the cortex of the root form a network of line called hartig net. The lateral roots covered by the fungal

the fungal mantle often assume a swollen or coralloid formed.

Ectotrophic mycorrhiza is common on many of the forest trees like Pinus sp, picea sp, Cedrus sp, Abies sp etc. A large number of ascomycetes fungi, basidiomycetes fungi like - Russula sp, Boletus sp, Amanita sp etc are involved in ectotropic mycorrhiza formation.

The ectotrophic mycorrhiza are basically two types- coralloid type and ball type. In coralloid form the roots invested with mantle, branches irregularly to form a coralloid structure but in case of ball type forms knot or tuber like outgrowth developed by the function of mantle.

Endomycorrhiza:

In this type of mycorrhiza external hyphal mantle or sheath is lacking. The roots are internally infected and attacked by hyphae which passed through root hairs or surface cell into the cortical cells. They form coils in the cells of the outer cortex. Later on the hyphal undergo a breakdown by digestion, soil lose their integrity and much of their contain pass into the host cell.

The fungal component in endotropic mycorrhiza may be fungi with septate hyphae or with aseptate hyphae. The fungi with septate hyphae generally belong to basidiomycetes or deuteromycets. eg - Armillaria mellea (Basidiomycetes)

Rhizoctonia sp (Deuteromycetes)

Endotropic mycorrhiza may be of 3 types — viz —

i) Arbuscular — This type of mycorrhiza produce by the fungi are dichotomously branched. This branches are called arbuscules.

ii) Vesicular — In this type the tip of the hyphae become swollen to form a vesicle.

iii) Vesicular - arbuscular mycorrhiza - (VAM)

In this type some of the hyphae produce vesicle when others produce arbuscules. This type of mycorrhiza is formed in many fungi like - Glomus sp.