

Study on the foot and root rot disease of lentil/grass pea/gram

Symptoms

1. The first visible field symptom is appeared at the base of stem/collar region at the soil level and dark brown to black discoloration light decay develops, yellowing of the top leaves and gradually covered the entire plant.
2. In advance stages of disease development the stem, leaf and whole plant become wilted then dried and die.
3. White mycelia or sclerotic may be present in the infected region of the plant.

Causal organism:

Sclerotium rolfsii (teleomorph *Athelia rolfsii*)

Rhizoctonia solani (teleomorph *Thanatephorus cucumeris*)

Pathogenic Characters:

Sclerotium rolfsii

Do not produce any spore or conidia. Reproduce by mycelia or sclerotia.

Mycelium: Mycelium is well-developed, profusely branched, septate and cottony white.

Sclerotia: Sclerotia are whitish when young and brown to dark brown when mature, spherical, hard and look like mustard seed. It is formed of compact mass of irregular cells of hyphae by interweaving.

Rhizoctonia solani

Do not produce any spore or conidia. Reproduce by mycelia or sclerotia.

Mycelium: mycelium is well developed, profusely branched, septate and white at early stage and light brown at maturity. There is a constriction just at the point of the lateral branches, which remain perpendicular on the main branches forming a right angle ($\sim 90^\circ$). Characteristics septation is found just before the origin of the lateral branches and little above the branching point.

Sclerotia: Sclerotia are irregular in size and shape but uniform in texture, whitish when young and brown to dark brown when mature, hard and comparatively loosely packed as compared to the sclerotia produce by *Sclerotium rolfsii*. It is formed of compact mass of irregular cells of hyphae by interweaving.

Taxonomic position:

Kingdom: Fungi Division: Deuteromycota Class: Hyphomycetes Order: Agonomycetales Family: Agonomycetaceae

Genus: *Rhizoctonia/Sclerotium* Species: *R. solani/S. rolfsii*

