

SCLEROTINIA WHITE MOLD

CAUSAL AGENT

Sclerotinia sclerotiorum

IDENTIFICATION

Infected flowers develop a white cottony growth on them. Lesions on pods, leaves, branches, and stems are initially small, circular, dark green, and water-soaked but rapidly increase in size, become slimy, and covered with white fungal growth. The white fungal mycelium mounds up and develops into hard, black seedlike structures called sclerotia. Spores are not produced on the infected tissue.

DISEASE CYCLE AND EPIDEMIOLOGY

The fungus produces black seedlike structures called sclerotia, which enable the fungus to survive in soil for 5 or more years. Sclerotia germinate to produce apothecia from which ascospores are produced. Ascospores are forcibly discharged into the air currents, and germinate on susceptible host tissues.

Flowers are the preferred host tissue for infections, and infected flowers are the main source of inoculum that infects leaves and pods. Early infections can be seen moving from infected blossoms to the pods, stems, and leaves.

The fungus has a wide host range among crop plants and weeds. Ragweed and velvetleaf are susceptible to white mold infections. Both weeds are common in New York fields, and infected weeds may pass the fungus to beans when the plants come in contact.

Moisture is essential for infection and development of white mold.

Crops are at risk when wet weather is persistent or irrigations have been frequent, and when the canopy is dense and air movement is restricted. The critical infection period for beans is during flowering.

MANAGEMENT

Avoid narrow row spacings which result in dense canopies and restricted air flow. Plant rows in the direction of the prevailing winds to promote air drainage and drying of plant and soil surfaces. Avoid using fields surrounded by dense woods that restrict air flow.

Avoid over fertilization and frequent irrigation.

Control the weeds in the field because weeds provide a favorable microclimate for disease development and additional sites for infection.

Grow varieties with an upright growth habit and a short flowering period. Split sets and varieties with extended flowering periods are particularly vulnerable.

Fungicides should be applied at flowering; coverage of the blossoms is essential.

Rotation must be practiced; grains and corn are recommended.