Southern Blight on Tomato

Southern blight, caused by *Sclerotium rolfsii*, was observed in southern Illinois in a commercial tomato field. This disease occurs on hundreds of plant species worldwide.

Symptoms of southern blight of tomato usually appear on plant parts in or near the soil. Plants of any age may be attacked, if environmental conditions are suitable. The most common symptom is a brown to black rot of the stem, which develops near the soil line. The lesion develops rapidly, completely girdling the stem and resulting in a sudden and permanent wilt of all aboveground parts. Under moist conditions, an abundance of white, robust mycelium develops on the lesion and sometimes extends several centimeters up the stem of a mature plant. Tan to reddish brown, spherical sclerotia with an average diameter of 1-2 mm appear on the mycelial mat after a few days.

The fungus can survive for years as sclerotia in soil and host debris. Sclerotia can be disseminated by the movement of soil or infested plant material. The fungus is also highly saprophytic and is capable of producing abundant mycelial growth on various host substrates. The pathogen is favored by moist conditions and high temperatures (between 86 and 95°F).

Control of southern blight is difficult to achieve when inoculum levels are high and environmental conditions are conducive to the disease. Crop rotations with nonsusceptible grass crops, such as corn and small grains, reduce disease incidence by reducing inoculum levels. Deep-turning the soil to bury host debris and fungal structures is also a useful measure. The fumigation of soils with broad-spectrum chemicals reduces disease incidence, but this practice is limited by economic considerations.


Southern Blight of tomato in a commercial field
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Mycelium and sclerotia of *Sclerotium rolfsii*
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