Sclerotium rolfsii

SIGNS & SYMPTOMS

- Mature plants are attacked just below the soil surface and are completely girdled.
- The mycelium often grows over the diseased tissue and surrounding soil forming a white mat of mycelial threads with the typical tan-to-brown, mustard-seed-sized sclerotia.
- The tops wilt and die rapidly, often the entire root system is destroyed.
- Slightly sunken, yellow spots develop on invaded fruit, which rapidly decay, collapse, and become covered by a white fungal mass with numerous sclerotia.

DISEASE CYCLE & EPIDEMIOLOGY:

- The fungus can survive as sclerotia in soil for a long time, which may serve as the primary inoculum.
- Southern blight is favored by moist conditions and high temperatures (80-95°F).
- Southern blight is usually not a problem in plants growing in calcareous soils with high pH.

FIELD SIGNATURE:

- Entire plants are killed often in spots within the field or in a linear fashion following the row.

PHOTOS:

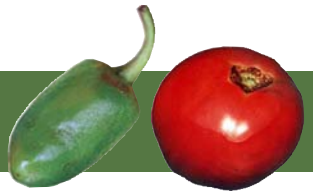
Figure 1. The mycelium growing over the diseased tissue on tomato. Photograph by: Hank Dankers.

Figure 2. Southern blight on tomato in the field. Photograph by: Hank Dankers.

Figure 3. Sclerotia on diseased tissue of pepper. Photograph by: Hank Dankers.

Prepared by: Dr. Tim Momol

DISEASE MANAGEMENT:
Southern Blight



CULTURAL CONTROLS:

- Whenever diseased fruit or plants are found in a field they should be collected and disposed of, preferably by burying 2 or 3 feet deep or by burning.
- Use a well-designed irrigation-drainage system to prevent excessive soil moisture.
- Plants should be staked to keep the fruit from touching the ground, and turn soil at least 6 inches deep when plowing.
- Crop rotation with non-susceptible grass crops, such as corn and small grains, for the best results use long rotations for several years.

Figure 4. Southern blight on pepper in the field. Photograph by: Hank Dankers.

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CHEMICAL CONTROL:

- Use of multipurpose soil fumigants such as metam-sodium or methyl bromide/chloropicrin provides control of southern blight.

RESISTANCE MANAGEMENT:

- Chemical control should be integrated with cultural and other methods to reduce selection pressure for resistance development.

RESISTANT CULTIVARS:

- There are few, if any, resistant cultivars commercially available.

References:

Momol, T. and K. Pernezny. 2005. 2006 Florida Plant Disease Management Guide: Tomato. PDMG-V3-53. University of Florida, IFAS, Cooperative Extension Service. http://edis.ifas.ufl.edu.

Roberts, P. D. 2003. Southern Blight, pp. 20-21. *In* K.L. Pernezny, P.D. Roberts, J.F. Murphy and N.P. Goldberg (eds.), Compendium of Pepper Diseases. American Phytopathological Society, St. Paul, MN.