

LOUISIANA PLANT PATHOLOGY

DISEASE IDENTIFICATION AND MANAGEMENT SERIES

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Southern Blight

Sclerotium rolfsii Sacc.

Southern blight is a common disease that occurs on a wide range of plants including many vegetable, ornamental and field crops in Louisiana. This disease, also called “southern wilt” (not to be confused with “southern bacterial wilt”) and “southern stem rot,” is caused by the soilborne fungus, *Sclerotium rolfsii*. Disease development is most severe in acidic soils and is associated with periods of moisture and high humidity from late spring through summer when temperatures range from about 75 degrees to 95 degrees.

Sclerotium rolfsii most commonly attacks plants at or just below the soil line causing basal cankers that often eventually girdle the stem causing wilting of the entire plant. However, it can attack virtually all plant parts in contact with the soil and on crops, such as cucurbits, it most commonly attacks the fruit in contact with the soil. Observation of the base of wilted plants or infected fruit reveals the characteristic white mycelium and tan to brown sclerotia that look like mustard seeds.

As the sclerotia of *S. rolfsii* can survive in the upper surface of the soil for many years, the management of southern blight relies primarily on avoiding fields with a history of the disease, which is not always possible, or on long-term crop rotations in fields already infested with the pathogen. Since *S. rolfsii* attacks more than 500 plant species in 100 plant families, however, the choice of a rotation crop is critical. Grasses, small grains and corn are among the better rotation crops. Other cultural practices recommended include: increasing plant spacing to increase airflow and reduce humidity; deep plowing or turning the soil to bury the sclerotia, where their survival is reduced and they are not be effective as inoculum; liming to raise the soil pH to 7 or above; and use of calcium nitrate or other nonacidifying types of fertilizers. The use



Fig. 1. Localized area of wilted tomatoes due to southern blight.



Fig. 2. Mycelium and sclerotia of *Sclerotium rolfsii* at the base of an infected tomato plant.

of plastic mulches or row covers forms a physical barrier between the plant and the soil that helps to reduce infection. This same effect can be achieved in small plots by wrapping the lower 2-3 inches of stem with aluminum foil from just below the soil line upward. Soil fumigation with metam-sodium, Vorlex, methyl bromide or chloropicrin also will aid in reducing inoculum. A limited number of fungicides are registered for control of southern blight, depending upon the crop. These are generally applied either to the soil prior to or at transplanting or as foliar sprays directed to the base of the plant during the growing season.



Fig. 3. Mycelium and sclerotia of Sclerotium rolfsii on the lower surface of a pumpkin.

Author and Photo Credits

Donald M. Ferrin, PhD
Extension Plant Pathologist, Horticulture
Department of Plant Pathology and Crop Physiology

Louisiana State University Agricultural Center

William B. Richardson, Chancellor

Louisiana Agricultural Experiment Station

David J. Boethel, Vice Chancellor and Director

Louisiana Cooperative Extension Service

Paul D. Coreil, Vice Chancellor and Director

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