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Southern Blight of Soybean

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Southern blight is considered a minor disease of soybean in Arkansas. Typically, this disease occurs on isolated plants scattered through a field. Rarely does yield loss exceed 1% in fields affected by southern blight in Arkansas.

Symptoms can occur at any time during the season from seedlings to mature plants. The disease generally is most visible in plants during mid-reproductive stages. Seedling infection results in pre- or post-emergence damping-off. Later in the season, entire plants may become yellow and wilt, with leaves turning brown and often remaining attached to the plant (Fig. 1). A dark brown lesion that girdles the stem occurs at the soil surface. This lesion is generally accompanied by the development of conspicuous white, fanlike mats of fungal mycelium form on the base of stem, and on leaf debris, and the soil surface around infected plants (Fig. 2). Numerous, small round fungal bodies that are about the size of mustard seeds (called sclerotia) form on these fungal mats and on the lower stem (Fig. 3). Initially sclerotia are yellow-tan then progress to a reddish-brown color and finally dark brown at maturity.

Figure 1. Yellow and wilted soybean plants infected with Southern blight.

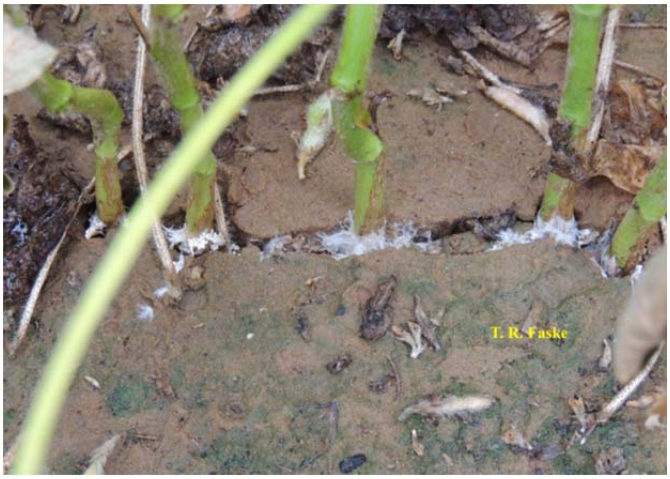

Figure 2. White fungal mats of Southern blight beginning to develop around soybean stems.

Figure 3. Fungal hyphae of *Sclerotium rolfsii* on soybean plant with immature sclerotia developing above the soil line. Photo by M. Emerson.

The causal agent is the soilborne fungus (*Sclerotium rolfsii*) that has a host range of more than 200 plant species. This pathogen overwinters as sclerotia that can remain viable 3 to 4 years near the soil surface. Disease development is favored by hot (77-95 °F), humid weather conditions, hence the name southern blight.

All soybean cultivars are susceptible to southern blight. Crop rotation with corn, grain sorghum, or wheat for 2 years can be beneficial at reducing survival and buildup of sclerotia in the soil. Deep cultivation to bury sclerotia in the soil reduces sclerotia longevity, and may be an option in certain farming systems.