Septoria Brown Spot in Soybean

Key Points

- Significant yield loss from Septoria brown spot is rare.
- Septoria is most common when the environment and plant leaves are wet and warm for an extended period of time.
- Continuous and minimum tillage soybean fields are likely to be infected more because of residue.
- Small dark brown spots progressing to irregular brown areas are characteristic.

Background

The disease Septoria brown spot (Septoria glycines), also referred to as brown spot or Septoria leaf spot, is a common Midwest foliar disease associated with wet weather. Though incidence may be relatively high, significant yield loss from the disease is rare; however, severe infection could result in a yield loss of 5 to 8 percent. Should 25 to 50 percent of the leaves drop prematurely around the R6 growth stage, yield could be significantly reduced by brown spot.

Favorable Conditions for Development

Septoria brown spot is most common when the environment and plant leaves are wet and warm for an extended period of time. Splashing rain can move spores from the soil surface and residue to soybean tissue. Continuous and minimum tillage soybean fields are likely to be infected more because the fungus survives and sporulates in soybean residue. Hot, dry weather generally stops the spread of the pathogen.

Symptoms

Small dark brown spots (< 1/8 inch) can occur on both surfaces of the lower leaves, including the first true leaves if infection occurs very early. Infection can continue upward through the canopy as the growing season progresses. Irregular brown areas can develop as the spots enlarge and encompass each other. With the use of a hand lens, small raised specks or spore producing pycnidia may be visible within the brown spots. Premature leaf drop can occur. Smaller seed size can be a result of infection.

Management

Individual soybean products can vary in their susceptibility to Septoria brown spot; resistant products are not available. Foliar fungicides applied at R3 and R6 growth stages can offer some control in the rare case that a severe infection appears to be developing. Tillage and rotation to non-legume crops may help decrease incidence.

Similar Disease

Bacterial blight (Pseudomonas sp.) can be confused with brown spot. Bacterial blight lesions are angular and brownish and are surrounded by a yellow ring or halo and may appear water-soaked. The lesions turn dark as they mature and drop out of the leaf, giving the leaf a tattered appearance. The spore producing specks that are characteristic to brown spot are absent with bacterial blight.

Sources: