

Brown Spot (Septoria Leaf Spot)

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What is brown spot? Brown spot of soybean, also referred to as Septoria leaf spot or Septoria brown spot, is a common and usually relatively minor foliar disease of soybean in Wisconsin. Brown spot typically does not lead to significant yield loss in soybeans produced in the state, although yield losses of up to 15% have been reported from other areas of the US. In Wisconsin, brown spot tends to be more prevalent on soybeans that are under stress [e.g., stress due to drought, low fertility (particularly low potassium), high insect feeding, or other diseases such as soybean cyst nematode].



Angular, reddish-brown leaf spots are typical of brown spot. (photo courtesy of Craig Grau)

What does brown spot look like? The most typical symptom of brown spot is the formation of angular, reddish-brown spots (pinpoint to 3mm in diameter) on both primary and trifoliate soybean leaves. Using a hand lens, one can often also see small, roughly spherical pycnidia (reproductive structures) of the causal fungus in the brown areas. The pycnidia often ooze strands or masses of tannish fungal spores. When brown spot is severe, plants may begin to defoliate from the ground up. The disease is often more prevalent where drainage is poor.

Where does brown spot come from? Brown spot is caused by the fungus *Septoria glycines*, which survives in residue from previously diseased soybean crops. The fungus can also survive on diseased seeds. Brown spot tends to be more common during warm, wet weather, and when relative humidity is high.

How can I save a soybean crop with brown spot? Brown spot is not a lethal disease and in Wisconsin, it rarely leads to economic loss. However brown spot is more prevalent, and can be yield limiting, in late planted soybeans and in early maturing soybean varieties. Fungicide treatments for brown spot are typically neither warranted nor economical.

How can I avoid problems with brown spot in the future? Brown spot is best managed through proper rotation. DO NOT grow soybeans continuously in the same field, but rotate soybeans with other crops for at least one year to allow time for soybean residues to naturally decay. Tillage techniques that bury crop residue and promote more rapid decay of residues that harbor the brown spot pathogen may also help provide control. Also, avoid using seed that has been produced in fields with high levels of the disease. Finally, reduce other stresses on your soybeans that may predispose plants to brown spot. Plants that are properly fertilized, have sufficient water and are insect- and pathogen-free are less likely to develop the disease.

For more information on brown spot of soybean: Contact your county Extension agent.