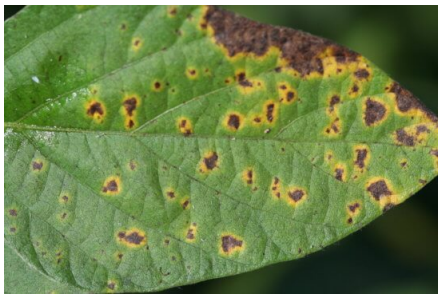
SEPTORIA BROWN SPOT

Soybean Diseases



Overview

Septoria Brown Spot is one of the most common foliar diseases of soybeans. It is caused by the fungus *Septoria glycines*. Like bacterial blight, brown spot occurs in most soybean fields every year, especially in years with plenty of rain.

Septoria brown spot infects the lowest leaves in the canopy first. However, during a rainy season, the disease may move up throughout the plant. As the disease develops, infected leaves usually turn yellow and then drop prematurely.

The disease overwinters on infested plant debris. The pathogen spreads from old crop residue to lower soybean leaves when raindrops impact onto infested residue and splash spores into the air. Epidemics can occur in seasons with frequent rainfall. Development of the disease slows dramatically during hot, dry weather.

Soybean plants weakened by other diseases or agronomic practices become more susceptible to brown spot. It has been observed that relatively high levels of brown spot occur in fields with severe soybean cyst nematode damage, Fusarium root rot, and other conditions. If you find abundant Septoria brown spot, check to see if plants are being weakened by other problems such as nematodes.

Scouting

Symptoms of Septoria brown spot include numerous small, irregular, dark brown spots on the leaves. These spots (lesions) frequently merge to form irregularly shaped brown blotches, especially along leaf edges or leaf veins. Infected leaves turn yellow and drop prematurely.

Early stages of brown spot can be mistaken for bacterial blight. Both diseases often occur in the same fields and even the same plant, and symptoms can be difficult to separate. Typically, Septoria brown spot infection begins on oldest leaves, whereas bacterial blight occurs on the newest leaves. In the earliest stages of disease development, bacterial leaf blight lesions usually have a yellow halo around each lesion. With brown spot, entire leaves will turn yellow and drop from the plant, whereas bacterial leaf blight infected leaves remain attached. As bacterial blight continues to develop, the lesions will coalesce and the diseased tissue will fall out, giving the leaf a tattered appearance.

Management

Manage residue
The disease is most severe when soybeans are grown continuously or in a no-till cropping system, especially if under irrigation. Rotate out of soybeans long enough to allow time for soybean crop residue to degrade. Where soil erosion is not a concern, plow or shred soybean straw to promote rapid decay.

Variety selection
Soybean varieties vary in their susceptibility to brown spot. Companies typically do not

provide ratings for this disease, however. Growers should make note of particularly susceptible varieties and remove them from their lineup.

Fungicide control
In the northernmost production areas, where temperatures are more likely to be cooler and daily dews are common, response to fungicide application has been demonstrated to be economical. Foliar fungicides are best applied at the R3 to R5 growth stages. Consult Fungicide Efficacy for Control of Soybean Foliar Diseases for recommended products. In most soybean producing regions, however, there is generally no need for fungicide control, since the disease stops on its own with hotter, drier weather. Often the disease will redevelop late in the season, but by that time, it is too late to make an economical application.

Distribution

Brown Spot of Soybean, Ohio State University, 2011

Fungicide Efficacy for Control of Soybean Foliar Diseases, *Crop Protection Network*, CPN-1019, updated annually

Identifying Septoria Leaf Spot (Brown Spot) – Video, University of Nebraska, 2014

Managing Septoria Leaf Spot (Brown Spot) – Video, University of Nebraska, 2014

Septoria Brown Spot, University of Minnesota, 2018

Septoria Leaf Spot (Brown Spot), University of Wisconsin

Resources

Bacterial blight and Septoria brown spot appearing in soybeans
Michigan State University, 2013
https://www.canr.msu.edu/news/bacterial_blight_and_septoria_brown_spot_appearing_in_soybeans

Brown Spot of Soybean
University of Nebraska, 2011
https://soybeanresearchinfo.com/wp-content/uploads/2019/03/g2059.pdf

Brown Spot of Soybean
Ohio State University, 2011

https://ohioline.osu.edu/factsheet/AC-18

Get to Know the Common Foliar Diseases of Soybean
University of Illinois Extension, 2009
http://bulletin.ipm.illinois.edu/article.php?id=1201

Septoria Brown Spot
University of Minnesota, 2018
https://extension.umn.edu/pest-management/septoria-brown-spot

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This website is funded by the soybean checkoff

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