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Soybean diseases in a rainy season

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Soybean diseases in a rainy season

Abstract

The excessive rains in late May and June have created disease-favorable conditions and resulted in soybean disease problems. This article summarizes the early-season disease problems encountered thus far and provides some answers to commonly asked questions. The disease information is from our field data, reports from growers and ISU extension staff, and plant samples submitted to the [Plant Disease Clinic](#).

Keywords

Plant Pathology

Disciplines

Agricultural Science | Agriculture | Meteorology | Plant Pathology

INTEGRATED CROP MANAGEMENT

Soybean diseases in a rainy season

The excessive rains in late May and June have created disease-favorable conditions and resulted in soybean disease problems. This article summarizes the early-season disease problems encountered thus far and provides some answers to commonly asked questions. The disease information is from our field data, reports from growers and ISU extension staff, and plant samples submitted to the [Plant Disease Clinic](#) [1].

Damping-off has been the most damaging disease so far this season. This disease has been reported across Iowa and is most severe in southern Iowa. It is not uncommon to have reports of damping-off in areas larger than 50 acres; the largest infested field was 200 acres in southern Iowa, reported by Mark Carlton, ISU field crop specialist. Many fields did not have good stands even when replanted with a susceptible cultivar without a seed treatment. Two reports on failures of seed treatments have been received.

Our analyses with *Phytophthora* ELISA testing kits, which produce reliable results in less than half an hour, showed that most damping-off samples submitted to the ISU Plant Disease Clinic are preemergence damping-off caused by *Phytophthora sojae*. Varieties that do not have resistance to *Phytophthora* have experienced the greatest losses. For the fields that have damping-off this season, it is recommended that you plant resistant varieties for the next soybean season and treat seeds with Apron because of the inoculum buildup.



[2] **Seedlings killed by *Phytophthora*.**

Keep in mind that the damage by *Phytophthora* has two phases: a damping-off phase and a root and stem rot phase. Susceptible plants that do not have damping-off problems may still be infected after the seedling stage if the rain continues. *Phytophthora* may continue to attack susceptible soybeans by causing root and stem rot. For prevention of disease next season, scout for *Phytophthora* root rot in mid-season if you have had the disease in the past.

Brown spot, a fungal disease caused by *Septoria glycines*, also has occurred early this season. Plants as young as the V2 growth stage are showing symptoms. The fungus spreads from the soil to soybean plants by splashing rain. Frequent rainfall this season is the primary reason for the early occurrence of this disease. Symptoms of the disease are many irregular, dark brown spots on both upper and lower leaf surfaces. Adjacent lesions frequently merge to form irregularly shaped blotches. Sometimes, brown spot can be mistaken as bacterial blight. In early disease stages, lesions of bacterial blight have a yellow halo that is lacking in brown spot. Brown spot lesions are chocolate brown to blackish brown.

**[3] Brown spot in soybean.**

There are no remedial measures for protection from brown spot because we cannot predict the development of this disease. It normally does not affect plant growth and soybean can outgrow the disease if the weather in midsummer becomes less rainy. However, if the weather continues to be rainy, the disease will progress from the lower leaves to the upper leaves rapidly. Furthermore, wet soils have been ideal for fungal root rot diseases in some soybean fields (see last week's ICM article, [Soybean root rot and stress](#) [4], pages 118-119). Soybean plants with root rot are more susceptible to brown spot because the brown spot pathogen prefers to attack older leaves or weakened plants. Practices that reduce plant stress and increase vigor will help reduce the chances of infection by brown spot.

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Links:

[1] <http://www.exnet.iastate.edu/Pages/plantpath/pdcintro.html>

[2] <http://www.ipm.iastate.edu/ipm/icm//iphyto.html>

[3] <http://www.ipm.iastate.edu/ipm/icm//ibspot.html>

[4] <http://www.ipm.iastate.edu/ipm/icm/1998/6-22-1998/soyrotstress.html>

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