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Fall soybean disease scouting

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Abstract
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Keywords
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Every September, the Iowa State University Plant Disease Clinic [1] receives more soybean disease samples than at any other time during the year. This year is no exception. This article describes the diseases that we have seen in the clinic, observed in the field, or received from ISU Extension staff and agronomists this year.

**Sudden death syndrome (SDS)**

In the August 9, 1999, ICM newsletter [2], we described how to scout for SDS. We have some new information. Premature dying has been found in soybeans infected by the SDS pathogen. This symptom has not been described previously. Plants with premature dying lack the typical drastic defoliation symptom of SDS, but diseased plants yellow and die gradually. By closely examining diseased plants, you can find symptoms typical of SDS plants. Leaves exhibit chlorotic spots and necrosis between green veins. The roots of these plants have deteriorated. The simplest method of identifying SDS is to look for bluish fungal colonies on the taproot in severely affected plants. If you find the bluish fungal colonies, SDS is present. However, plants with SDS do not always have bluish colonies, particularly when the soil is too wet or too dry, or the plant sample is not fresh.

![Root with sudden death syndrome (SDS) fungi.](image)

**Cercospora leaf spot**

In recent years, the incidence of Cercospora has been increasing and we have seen Cercospora leaf spot in Iowa this year. The disease is easy to identify by a mottled purple-to-orange discoloration of the uppermost leaves. The leaves also have a leathery appearance. Expression of these symptoms varies with plant variety. In September, when soybean plants are approaching maturity, infected leaves turn orange or bronze. Severe infection may cause defoliation or early leaf senescence that may be mistaken for natural leaf senescence due to maturity. Seeds infected with this fungus have a purple discoloration of the seed coat. Seed infection may cause poor seed vigor and reduced germination. If the Cercospora leaf spot is severe, check seed quality of soybeans grown for seed and change to a nonsusceptible
variety in future plantings.


Bean pod mottle virus

We have received several reports from western Iowa of soybean mosaic virus and bean pod mottle virus occurrence. These two viral diseases were prevalent last year in western and parts of central Iowa. Often, it is difficult to use leaf symptoms to identify these diseases. However, plants suffering from these diseases mature later than uninfected plants. After soybeans mature, scattered patches of green plants in the field may indicate the presence of these diseases. If disease is severe, send a sample for laboratory evaluation because these two diseases cannot be confirmed by field evaluation. Because both diseases are seedborne, soybeans from severely infested fields should not be saved for seed.

Several diseases relatively new to Iowa also have been found in our Plant Disease Clinic samples this year. Frogeye leaf spot, caused by *Cercospora sojina*, and wildfire, caused by the bacterium *Pseudomonas syringae pv. tabaci*, are the two most common this season. Both diseases are seedborne and can cause severe defoliation under wet and warm conditions. We have confirmed cases of severe infestations of wildfire this year. Because the potential damage from these two diseases in Iowa is not known, no specific management recommendations can be made except that soybeans from infested fields should not be used for seed.


Interestingly, the diseases increasing in importance this year are warmer-temperature soybean diseases. In recent years, Iowa has seen more disease caused by pests typically associated with southern states.

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