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## Soybean Cercospora diseases show up

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# Soybean Cercospora diseases show up

## **Abstract**

Since the planting season, weather in Iowa has been cooler and wetter than normal with frequent rainfall. The unusual weather has resulted in the prevalence of foliar diseases. Several diseases have shown up earlier than usual this season. Two weeks ago, we reported that bacterial blight and brown spot were prevalent in Iowa soybean fields. In our early planted research plots, soybean sudden death syndrome started to show foliar symptoms in the second week of July, more than two weeks earlier than normal.

## **Keywords**

Plant Pathology

## **Disciplines**

Agricultural Science | Agriculture | Plant Pathology

# INTEGRATED CROP MANAGEMENT

## Soybean *Cercospora* diseases show up

Since the planting season, weather in Iowa has been cooler and wetter than normal with frequent rainfall. The unusual weather has resulted in the prevalence of foliar diseases. Several diseases have shown up earlier than usual this season. Two weeks ago, we reported that bacterial blight and brown spot were prevalent in Iowa soybean fields. In our early planted research plots, soybean sudden death syndrome started to show foliar symptoms in the second week of July, more than two weeks earlier than normal. Interestingly, we also observed early occurrence of *Cercospora* leaf spot and frogeye leaf spot in soybean fields around Ames, especially *Cercospora* leaf spot, which is usually observed in Iowa in late August.

*Cercospora* leaf spot is caused by a fungus called *Cercospora kukuchii*. According to textbooks, symptoms of this disease are observed at the beginning of and throughout the seed set. The disease is easy to identify by a mottled purple-to-orange discoloration of the uppermost leaves. The leaves also have a leathery appearance in late summer. Expression of these symptoms varies with plant variety. Infected leaves have angular or irregular lesions, which are gray in the center surrounded by reddish purple margins. In September, when soybean plants are approaching maturity, infected leaves turn orange or bronze with or without lesions. 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. The disease is a major production problem in Argentina and China. In Iowa, yield reduction due to severe defoliation from this disease has not been reported. However, the disease has been a concern for seed quality.

Frogeye leaf spot of soybean is caused by the fungus *Cercospora sojina*, a close relative to the fungus causing *Cercospora* leaf spot. Frogeye leaf spot has been an infrequent visitor to Iowa in the past few years. The disease is a major production problem in Argentina and China. In the United States, it causes damage in regions with warm, humid environments. The disease has been more important in southern states than in Iowa. Recently, however, the incidence of frogeye leaf spot has been on the rise over the north central states, including Iowa, with reports of severe damage in several areas.



## Frog-eye leaf spot.

[Enlarge](#) [1]

The disease causes small, gray spots with reddish-brown borders to appear on the upper leaves in mid- to late August.

In severe cases the disease can cause premature leaf drop and forms brown spots on stems and pods. The fungus is spread through spores carried by wind or rain, infested plant debris, and infected seed. The disease can spread rapidly from plant to plant under moist, humid conditions. In a normal season, severe occurrence of frog-eye leaf spot appears in fields in or near a river valley.

In Iowa, these diseases are managed through crop rotation and tillage. There are several different responses to these diseases. If the *Cercospora* leaf spot is severe, check quality of soybeans grown for seed and change to a non-susceptible variety in future plantings.

Chemical spray has been an effective control measure in areas where these diseases are major production problems such as in Argentina. Although we have no knowledge of chemical control for this disease in farm production, we did test the chemical application in previous years and found good control in northern Iowa.

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<http://www.ipm.iastate.edu/ipm/icm//ipm/icm/2004/7-26-2004/cercospora.html>

### Links:

[1] <http://www.ent.iastate.edu/imagegal/plantpath/soybean/frogeyels/frogeye3xb.html>

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