Midsummer soybean diseases

X. B. Yang
Iowa State University, xbyang@iastate.edu

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Abstract
The unusual weather this year has resulted in a diversity of soybean diseases. Both insect-vectored viral and fungal diseases are prevalent in Iowa, similar to diseases typical of southern soybean production states. This article discusses the diseases that you are likely to find during summer disease scouting (see table on page 148).

Keywords
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Bean pod mottle virus

This disease is prevalent in Iowa, especially in western and parts of central Iowa. It is vectored by bean leaf beetles and the upper leaves of infected plants are mottled. Often, this disease is more severe in fields near woody areas where the beetles overwinter. Bean pod mottle virus is also likely to be more severe in earlier planted soybean fields. Observations indicate that soybean variety makes a difference in disease severity. If you want to confirm an infection, the ISU Plant Disease Clinic has test kits for diagnosis. In areas where severe disease is observed, take good notes for future management. Although there is not much that can be done this year, several studies on chemical control have shown promising signs.

Mottled leaves caused by viral infection.

Sudden death syndrome

This year sudden death syndrome has struck soybeans much earlier. This disease has been reported as prevalent in regions where sudden death syndrome has occurred in the past. Symptoms of this disease are characterized by interveinal necrosis. A major management measure is to use tolerant varieties and such varieties are available from some seed companies. Other management measures can be found in ISU Extension publication PM 1570, Soybean Sudden Death Syndrome [2].
Phytophthora rot

At planting, Phytophthora causes damping-off. In midsummer, this fungus can continue to infect soybeans, causing stem and root rot. More often, infected plants have chocolate brown discoloration on stems, especially in areas where the plant stand is thin as a result of damping-off. Check the July 17, 2000, ICM newsletter article Phytophthora race 25 and soybean 1k gene [4], page 137, for management options.

Frogeye leaf spot

This disease is caused by Cercospora sojina. Frogeye leaf spot is characterized by many circular lesions with dark reddish brown margins on upper leaves. The disease has been occasionally reported by agronomists of seed companies and by Iowa State University Extension field crop specialists this year. Frogeye leaf spot is a production problem in southern states. Its economic importance in the North Central region has not been documented. In Iowa, there was one reported defoliation by this disease in late summer of last year.

Other diseases

White mold, pod and stem blight, and Cercospora leaf spot also may be found this summer. The cool temperatures during flowering were ideal for the occurrence of soybean white mold. However, soil moisture was low in many areas while soybeans were flowering. If fields where white mold occurred in the past had good soil moisture during flowering, this disease may occur. After mid-August, pod and stem blight and Cercospora may show up. With Cercospora leaf spot, the upper surface of top leaves are purple. This disease is more severe in late season.

Scouting guide for summer soybean diseases.

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