9-18-2006

Sudden death syndrome prevalent this summer

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Abstract
As the summer ended, sudden death syndrome (SDS) of soybean has been found in many fields in Iowa. Widespread infestation has been reported by producers and agronomists in eastern and central Iowa, and the disease also has been found in western Iowa. This year, the disease showed up in early July with many reports before the first week of July. Cooler temperatures this summer may have contributed to its occurrence. In central Iowa, the incidence of infested fields is high, but the severity is not. In most fields where SDS is spotted, the disease occurs in small areas with limited yield damage.

Keywords
Entomology

Disciplines
Agricultural Science | Agriculture | Plant Pathology

Plant Diseases

Sudden death syndrome prevalent this summer

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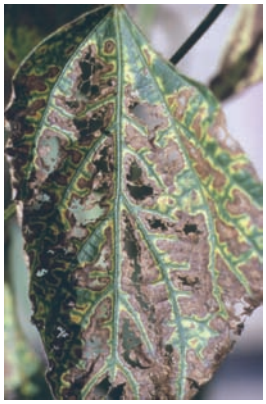

Sudden death syndrome

SDS can cause premature defoliation in the late summer. Premature dying has been found in soybeans infected by the SDS pathogen and there may be more in the next two weeks. 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, and 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.

Brown stem rot (BSR) also causes premature defoliation and produces SDS-like foliar symptoms. So far, in all the fields I have visited, the diseased plants were found to be SDS. The foliar symptom of BSR has been found in northern Iowa. There are two races of the BSR pathogen, and one race can cause foliar symptoms similar to SDS. It is important when scouting this fall to correctly differentiate BSR from SDS. One simple way to separate the two diseases is that SDS causes root rot, and the pith of the infected soybean stem remains white. For BSR, the pith is brown and there is no root rot. Plants with SDS are easily pulled out because of root rot.

Brown stem rot

When patches of plants with SDS are found, it would be wise not to use susceptible varieties. When SDS strikes, it may take several crops to make up the loss. Use resistant/tolerant varieties for the next soybean crop when the disease is found in your fields. Good varieties have been developed and are available from many seed companies in Iowa.

Soybean white mold is also prevalent in eastern Iowa this year, returning after the 2004 outbreaks. Infestation of the disease is low in central and western Iowa and is not reported in our sentinel plots. If your scouting covers eastern Iowa, pay attention to this disease too.

A typical sign of soybean white mold is white, cottony mycelium with black, irregularly shaped survival structures called sclerotia growing from a soybean stem.

X. B. Yang is professor of plant pathology at Iowa State University.