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Scouting for soybean seedling diseases in 2000

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Abstract
The relatively dry spring has provided good conditions for controlling postemergence damping-off. Seedling disease problems this season are lighter than usual after soybean emergence. However, the rain in past 2 weeks in some regions of Iowa has been followed with a few reports of seedling diseases. The ISU Plant Disease Clinic also has received samples of infected soybean seedlings. This article discusses some seedling diseases of soybeans that growers may see this season.

Keywords
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This year's seedling disease problems are different from those of normal-weather years. *Phytophthora* and *Rhizoctonia* are two pathogens that are most likely to be the causal disease agents with the current warm weather. Warm soil temperatures are not suitable for *Pythium* damping-off, a disease commonly observed in typical-weather growing seasons. Warm temperatures also are not suitable for *Fusarium* infections.

Symptoms of *Phytophthora*-infected plants may be visible on the ground with infected plants killed. Leaves of infected seedlings are initially gray-green and then turn brown. A few days later, the plants may die. Diseased plants are easily pulled from the soil because of rotted roots. *Phytophthora* damping-off has similar symptoms to those of *Pythium* damping-off.

However, *Pythium* is unlikely to be a problem this year. If soil is wet, *Phytophthora* may continue to develop on the soybean stem, resulting in chocolate brown discoloration from the soil line up, a unique symptom of this disease.

Soybean seedling disease caused by *Rhizoctonia* exhibits different symptoms from those caused by *Phytophthora*. Seedling blight by *Rhizoctonia* normally appears when the weather becomes warm. Unlike *Phytophthora* damping-off, stem discoloration by *Rhizoctonia* is usually limited to the cortical layer of the main root and hypocotyl. Infected stems remain firm and dry. Typical symptoms are localized brown-to-reddish brown lesions on the hypocotyl. Root rot is visible on severely infected plants.
Seedling disease by *Rhizoctonia*.

This season, replanting from severe damping-off may be rare. If replanting is needed, you can avoid disease damage in the replanted soybeans by considering seed treatment to reduce the risk of further damping-off. Use seed treatments that contain Apron because it is effective against *Phytophthora*, and Rival or Maxim because they are effective in controlling *Rhizoctonia*. See the April 10, 2000, ICM newsletter article [3] on the new chemical ApronMaxx. Also, take disease notes for future use. Consider seed treatment to reduce the likelihood of a disease problem in the next soybean crop. If Phytophthora damping-off occurs on a *Phytophthora*-resistant variety, resistance in your varieties has been defeated by the fungus. Consider using a variety with a better resistance gene for next soybean crop.

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