

INTEGRATED CROP MANAGEMENT

Disease problems after soybean damping-off

With this wet planting season, soybean damping-off and poor emergence are prevalent in Iowa. Several fungi are contributing to the problems, especially *Phytophthora*, *Pythium*, and *Rhizoctonia*. After the seedling stage, soybean may or may not grow out of these disease problems, depending on the pathogens involved. This article discusses what may happen after damping-off.

Pythium mainly causes seed rot and seedling rot in very young plants. Soybean plants develop resistance to this fungus as the season progresses. Although you may find reduced root development caused by this pathogen in poorly drained areas, dead plants rarely occur. A rule of thumb is that plants older than the V2 growth stage (first trifoliolate) become resistant to this disease. Warmer temperatures after the seedling stage also retard the development of *Pythium*. This disease should not be a concern anymore this season.

Phytophthora can continue to develop after the damping-off phase. If plants continue to die or stands get thinner in fields where stand reduction occurred early in the season, *Phytophthora* is likely to be the cause of the problem. In fields where soybean does not have resistance or resistance is no longer effective, *Phytophthora* continues to develop on the stem and root, causing stem and root rot, especially if the weather does not become drier. Diseased plants may show up as dead plants scattered in a field or as yellow patches. Diseased plants have chocolate brown discoloration from the soil line up, a unique symptom of this disease.



Seedlings killed by *Phytophthora*.

[Enlarge](#) [1]

Rhizoctonia causes seedling damping-off but rarely kills plants after the seedling stage. After the seedling stage, disease symptoms may continue to be present. Typically, symptoms include reddish brown stem discoloration limited to the soil line. Root rot is visible on severely infected plants, which may be stunted. This problem is more likely to occur in fields with sandy soils. Mid-season cultivation helps plants grow new roots and grow out of the disease as the season progresses.

Check your fields following early season damping-off and make notes about what you find; such information can be helpful in preventing disease problems in the next soybean crop. This information is especially important for fields planted with *Phytophthora*-resistant soybean because it will indicate whether you have planted varieties that are effective in your fields.

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<http://www.ipm.iastate.edu/ipm/icm//ipm/icm/2001/6-18-2001/disprobs.html>

Links:

[1]
<http://www.ent.iastate.edu/imagegal/plantpath/soybean/rootrot/phytophthora/1303.72seedkillphytop.html>

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