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Soybean Phytophthora in August

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Abstract
The prevalence of Phytophthora rot this year has been higher than in past years, perhaps due to more races that can infect soybean cultivars with the Rps-1k gene. Reports indicate that occurrence of this disease was still high in late July. So, how much damage will this disease cause for the rest of the growing season? In Iowa, major documented damage by this disease occurs in seedlings as stand reduction caused by damping-off. Stand reduction by root rot and stem rot in advanced growth stages is minor, thus damage by this disease in the rest of the season should be minimal.

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The prevalence of *Phytophthora* rot this year has been higher than in past years, perhaps due to more races that can infect soybean cultivars with the Rps-1k gene. Reports indicate that occurrence of this disease was still high in late July. So, how much damage will this disease cause for the rest of the growing season? In Iowa, major documented damage by this disease occurs in seedlings as stand reduction caused by damping-off. Stand reduction by root rot and stem rot in advanced growth stages is minor, thus damage by this disease in the rest of the season should be minimal.

![Stem canker-like Phytophthora stem rot.](image)

However, to manage the risk to subsequent crops, it is important to scout for stem rot if *Phytophthora* is a concern and you did not experience damping-off early in the season. Populations of this fungal pathogen build up through the root and stem rot phases, and patches of diseased plants are a warning sign for potential infection in your next soybean crop. Currently, diseased plants are easy to spot.

For disease scouting, you are more likely to find the disease in the following places:

1. low and wet spots in a field,
2. fields with high clay content, and
3. fields that have been in no-till for a few years.

Another good indication of this disease is weedy areas of the field. Weedy areas indicate thin soybean stand that resulted from stand reduction earlier in the season, which may have been caused by *Phytophthora*. If the poor stands are caused by *Phytophthora*, stem rot symptoms are often found in plants around the patches. The weedy patches also indicate that good management of seedling diseases is important for weed control.

For *Phytophthora* disease identification, check previous issues of the ICM newsletter for symptom descriptions. Stem canker symptoms are similar to stem rot symptoms of *Phytophthora*. One way to separate stem canker and *Phytophthora* rot is to check whether
diseased plants have root rot because stem canker does not cause root rot. Research indicates that the majority of *Phytophthora*-infected plants sampled in Iowa in late August only had stem rot symptoms (no root rot), and laboratory tests indicated that most plant samples with stem canker-like symptoms found in late August were caused by the *Phytophthora* fungus.

This spring *Rhizoctonia* damping-off also was prevalent. *Rhizoctonia* damping-off can sometimes be difficult to separate from *Phytophthora* damping-off, especially when the diseased plants are found in fields with high sand texture where *Rhizoctonia* is more likely to occur. We have tested several damping-off samples in which involvement of *Rhizoctonia* was initially suspected. Tests show infections of these samples were caused by *Phytophthora*, further indicating the risk for this disease in the next soybean crop.

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