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Soybean damping-off prevalent

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Abstract
The Department of Plant Pathology at ISU has received numerous reports of damping-off across Iowa. Both preemergence damping-off and postemergence damping-off have been found. The largest area having stand establishment problems is about 90 acres. We have identified *Phytophthora* or *Pythium* in some samples of diseased plants sent to the ISU Plant Disease Clinic.

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 [1] **Stand reduction by damping-off.**

Several factors contribute to the damping-off problem this year. The periodic rainfall in late spring is ideal for the occurrence of *Phytophthora* or Pythium damping-off. These fungi need at least two periods of rainy weather to produce spores: the first rain to stimulate fungal growth to allow the production of spores, and the second rain a few days later to allow the fungi to release the spores. Also the warm, humid conditions that were prevalent in May were conducive to *Phytophthora* infestation. Poor-quality seed or seed with cracked or discolored seed coats can cause emergence problems or produce seedlings with low vigor. Poor-quality seed can compound fungal disease problems already present.

If you spot damping-off symptoms in your field, check if the variety has resistance to *Phytophthora*. A major portion of the problems we have observed occurred in no-till fields, especially in southern Iowa. A regional research project at ISU has shown that no-till fields have a greater risk of *Phytophthora* damping-off than conventional-till fields.

One common question people ask is what is the cause of the damping-off, *Pythium* or *Phytophthora*? It is very difficult to determine the causal organism just by observing diseased plants. Isolation of the fungus must be done before the cause can be determined. The rule-of-thumb is that, if damping-off occurs in warm soil (70-80° F), it is more likely to be caused by *Phytophthora*. If it occurs in cool soil (50-60° F), it is more likely to be caused by *Pythium*.

Because the chemicals used as seed treatments to control both diseases are the same, it may not be important to determine the causal agent. However, if a variety with *Phytophthora* resistance genes (Rps1k) has *Phytophthora* damping-off, it indicates the possibility of the occurrence of new races in the field. If you want to determine the causal agent, send the sample to ISU Plant Disease Clinic. For more information on sending samples to the Plant Disease Clinic, call 515-294-0581.

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