Fall is Ideal Time to Check for Presence of SCN

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Abstract
The soybean cyst nematode (SCN) continues to be a serious yield-reducing pest of soybean in Iowa and throughout the Midwest. But damage from SCN is almost always less noticeable in growing seasons with adequate to excess moisture, which much of Iowa experienced in 2008. There can be 30 percent yield loss or more without the soybean crop looking noticeably damaged during the growing season. Very serious soybean yield losses due to SCN are expected the next time Iowa experiences a very dry growing season.

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Fall is Ideal Time to Check for Presence of SCN

by Greg Tylka, Department of Plant Pathology

The soybean cyst nematode (SCN) continues to be a serious yield-reducing pest of soybean in Iowa and throughout the Midwest. But damage from SCN is almost always less noticeable in growing seasons with adequate to excess moisture, which much of Iowa experienced in 2008. There can be 30 percent yield loss or more without the soybean crop looking noticeably damaged during the growing season. Very serious soybean yield losses due to SCN are expected the next time Iowa experiences a very dry growing season.

Scouting fields to check for SCN is essential because it allows infestations to be discovered when SCN population densities are still low. Fall is an ideal time to collect soil samples from fields to check for SCN. It often makes most sense in the fall to sample fields in which soybeans will be grown the following growing season. However, sampling fields in which soybeans were grown this year also makes sense, especially if the soybean yields were lower than expected with no apparent cause.

To effectively check fields for the presence of SCN, soil must be collected from many different places within the area being sampled. Entire fields can be sampled or samples can be collected from “high risk” areas that often are the first places that SCN infestations are discovered.

If sampling entire fields, limit the area represented by a single composite soil sample, ideally, to no more than 20 acres. That is, collect at least 20 soil cores from each 20-acre section of the field and combine those soil cores to represent the 20 acres. With this approach, more than one composite 20-core soil sample will need to be collected from fields larger than 20 acres.

If sampling “high risk” areas, collect 5 to 10 soil cores from each “high risk” area and combine those soil cores into one sample. With this approach, the more cores collected from the smaller the area, the less the chance of missing SCN in the sample if it is present in the field.

“High risk” areas include the area near the field entryway (where soil from other fields may be introduced), along fence lines (where wind-blowen soil from other fields may accumulate), in low spots and areas that have flooded (and had soil introduced from other fields), and in areas of the field where soil pH is 7.0 or greater. Low-yielding areas of the field and areas where weed infestations are difficult to control are other places where SCN are highly likely to be found.
Areas of a field where SCN is more likely to be first discovered.

Other general guidelines for fall soil sampling for SCN include:
• Soil cores should be from the top 8 inches of soil.
• Mix multiple soil cores very well before placing mixed soil into a bag.
• Keep soil samples at room temperature or cooler until shipped.
• Send samples to a private soil testing laboratory for analysis or send to:
  Iowa State University
  Plant and Insect Diagnostic Clinic
  327 Bessey Hall
  Ames, IA 50011

The current fee for SCN analysis at the ISU Plant and Insect Diagnostic Clinic is $15 per sample for samples from Iowa. Samples sent to the Plant and Insect Diagnostic Clinic should be accompanied by a completed Plant Nematode Sample Submission Form.

View a video in the CSDLive section of the Corn and Soybean Digest Web site to see how to collect fall soil samples to detect SCN. Also, available in the CSDLive section of the Corn and Soybean Digest Web site is a video showing how to check fields for the presence of SCN during the growing season.

Greg Tylka is a professor of plant pathology with extension and research responsibilities in management of plant-parasitic nematodes.