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## A new take on soil sampling fields for SCN

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# A new take on soil sampling fields for SCN

## **Abstract**

Growers and those who advise them receive annual prompting to consider collecting soil samples from Iowa fields in the fall to test for the presence of the soybean cyst nematode (SCN). The nematode often causes no obvious aboveground symptoms for many years after being introduced, so many SCN-infested fields can go undiagnosed. The key to effective SCN management is discovering infestations when the nematode population densities are low.

## **Keywords**

Plant Pathology

## **Disciplines**

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## A new take on soil sampling fields for SCN

by Greg Tylka, Department of Plant Pathology

Growers and those who advise them receive annual prompting to consider collecting soil samples from Iowa fields in the fall to test for the presence of the soybean cyst nematode (SCN). The nematode often causes no obvious aboveground symptoms for many years after being introduced, so many SCN-infested fields can go undiagnosed. The key to effective SCN management is discovering infestations when the nematode population densities are low.

In recent years, another reason has emerged for collecting soil samples from SCN-infested fields: to monitor SCN populations in fields where SCN-resistant soybean varieties have been grown to determine if nematode numbers are building up.

SCN-resistant soybean varieties are an effective tool for long-term management of the nematode (see [Results of SCN-resistant soybean variety testing become available](#) in this issue). But resistant varieties allow some reproduction of the nematode; these varieties are not 100 percent immune. And, consequently, an SCN population that is able to reproduce well on resistant soybean varieties can be selected for if the same SCN-resistant soybean varieties and same sources of SCN resistance are grown every time soybeans are grown in an SCN-infested field.

Currently, many Iowa SCN populations are able to reproduce greater than 10 percent on PI 88788. In fact, the SCN populations in about half of the Iowa State University SCN-resistant Soybean Variety Trial Program locations in the past three growing seasons had greater than 10 percent reproduction on PI 88788. And although almost all of the SCN-resistant varieties evaluated in the Iowa State University SCN-resistant Soybean Variety Trial Program have SCN resistance derived from PI 88788, most of the resistant varieties usually yielded greater than the susceptible varieties at these locations. In other words, the resistant varieties are still yielding better and allowing less SCN reproduction than susceptible varieties. But the possibility of SCN numbers building up even when a resistant variety is grown seems to be increasing. And the only way to detect such an inadvertent buildup of SCN numbers is through collection and analysis of soil samples from SCN-infested fields.

Soil samples can be collected any time throughout the fall until a significant snowfall or a hard freeze occurs. Following are some guidelines for sampling fields for SCN:

- Ideally, fields should be sampled using a soil probe.
- Soil cores should be collected to a total depth of 6 to 8 inches.
- Collect soil cores from 15 to 20 places in a zigzag pattern in a sampling area.
- Collect a separate set of soil cores for each 20 acres or so.
- Combine and mix soil cores, and fill a sample bag with one cup or more of soil.
- Label the outside of each sample bag with a permanent marker.

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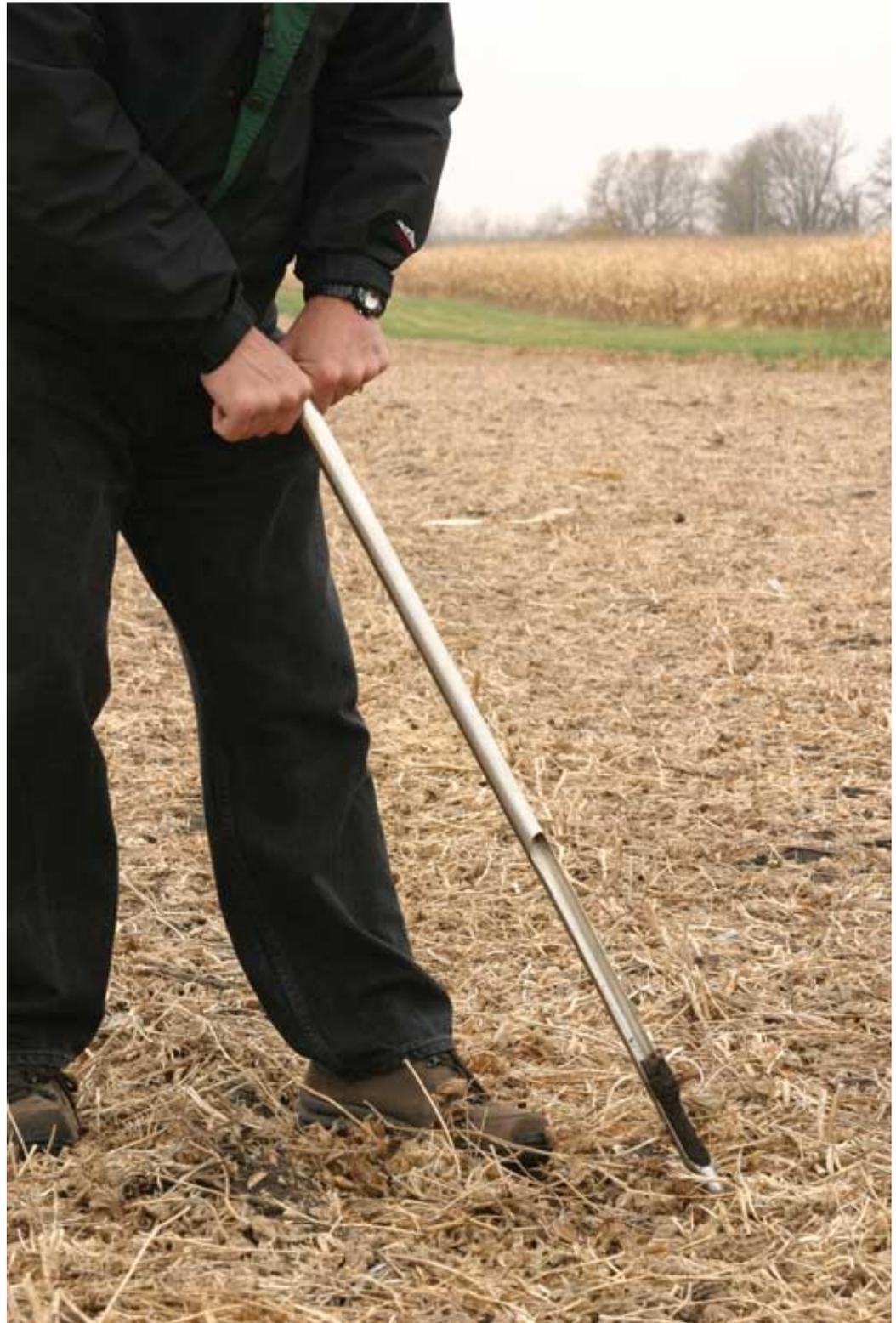
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Numerous private soil testing laboratories in Iowa offer SCN analysis of soil samples.

Additionally, the Iowa State University Plant and Insect Diagnostic Clinic tests soil samples for SCN. The mailing address of the clinic is 327 Bessey Hall, Department of Plant Pathology, Iowa State University, Ames, IA 50011-1020. The current fee for SCN analysis is \$15 per sample.

Several Iowa State University Extension publications on SCN can be obtained free of charge from any Iowa State University Extension county office or on the Internet at [www.soybeancyst.info](http://www.soybeancyst.info).



*Collecting a soil sample from an SCN-infested field to monitor SCN population densities after resistant soybeans have been grown. (Tom Schultz)*

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