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Spring Sampling Not Recommended for Most Corn Nematodes

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Spring Sampling Not Recommended for Most Corn Nematodes

Abstract

Most Iowa crop producers and agronomists are familiar with the soybean cyst nematode (SCN), but plant-parasitic nematodes also can damage corn. Corn nematodes are not one organism, but rather are a collection of numerous different species that can feed upon and sometimes damage corn. Each year, several instances of nematode damage to corn are discovered in Iowa. Numerous quick facts about corn nematodes were recently reviewed in the Integrated Crop Management News, April 28, 2009.

Keywords

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Spring Sampling Not Recommended for Most Corn Nematodes

By Greg Tylka, Department of Plant Pathology

Most Iowa crop producers and agronomists are familiar with the soybean cyst nematode (SCN), but plant-parasitic nematodes also can damage corn. Corn nematodes are not one organism, but rather are a collection of numerous different species that can feed upon and sometimes damage corn. Each year, several instances of nematode damage to corn are discovered in Iowa. Numerous quick facts about corn nematodes were recently reviewed in the [Integrated Crop Management News, April 28, 2009](#).

The symptoms of nematode damage to corn are very general or nondescript – namely stunting of plants, yellowing of leaves, and poor ear and kernel development. So to determine if nematodes are damaging corn, one must find out what nematode species are present in a field and what their population densities (numbers) are when the numbers are at their highest.

The population densities of most corn nematodes increase during the first half of the growing season, so samples should be collected mid season. Sampling mid season allows for comparison of nematode numbers to damage thresholds established for corn. Spring sampling is not recommended for most corn nematode species because if numbers are low, there is no accurate way to know or predict if numbers will increase to damaging levels.

The information presented above does not apply to two corn nematode species – the needle nematode and the sting nematode. These two nematodes migrate down into the soil in the middle of summer, when soils are warmest, and they may be missed in mid-season soil samples.

Needle nematodes and sting nematodes only occur in sandy soils (70 percent or greater sand content). So if needle or sting nematode is suspected in a sandy field, collect 20 or more 12-inch-deep soil cores in the spring. Sampling can be done prior to planting or once seedlings begin to emerge from the soil. If sampling is done after crop emergence and damage to the young crop is seen, collect the soil cores from the root zone of corn plants within the area being damaged.

Soil cores should be mixed well and placed in a moisture-proof bag, then kept cool and submitted for processing as soon as possible.

Samples for nematode diagnosis can be sent to the ISU Plant and Insect Diagnostic Clinic, 327 Bessey Hall, Iowa State University, Ames, IA 50011. The test for all corn nematodes, including needle and sting nematodes, is called a complete nematode count.

Samples sent to ISU should be accompanied by a completed [Plant Nematode Sample Submission Form](#) - PD 32, available from the Extension online store at www.extension.iastate.edu/store, and a check for the \$30 per sample processing fee.

The Extension publication "[Nematodes That Attack Corn in Iowa](#)" – PM 1027 has more information about corn nematodes and is available from the Extension online store as a downloadable document.



Young corn crop damaged by nematodes.

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