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## It is Time to Sample for Corn Nematodes

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# It is Time to Sample for Corn Nematodes

## **Abstract**

There is much discussion about corn nematodes this season, and interest likely will continue or increase in the next few years. Many articles have been published in the agricultural press about changes in corn production practices that may increase the occurrence of these microscopic worms that live in the soil and can damage corn. Numerous quick facts about corn nematodes were reviewed in the Integrated Crop Management News, April 28, 2009.

## **Keywords**

Plant Pathology

## **Disciplines**

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# Integrated Crop Management NEWS

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## It is Time to Sample for Corn Nematodes

By Greg Tylka, Department of Plant Pathology

There is much discussion about corn nematodes this season, and interest likely will continue or increase in the next few years. Many articles have been published in the agricultural press about changes in corn production practices that may increase the occurrence of these microscopic worms that live in the soil and can damage corn. Numerous quick facts about corn nematodes were reviewed in the [Integrated Crop Management News, April 28, 2009](#).

Nematode feeding on corn can stunt plants and cause leaves to turn pale green or yellow and wilt. Damage is rarely field wide, more often occurring in patches that have non-discrete edges that fade into healthy-looking plants.

There are many production problems that stunt corn plants and affect the foliage. To determine if plant-parasitic nematodes are causing observed damage to corn, a soil sample must be collected from around damaged plants to identify the nematode species present and their population densities (numbers). A root sample also needs to be collected because two species of nematodes that can damage corn exist almost exclusively in roots during the growing season. These endoparasitic corn nematodes will be detected only in low numbers in the soil during the growing season and damage could be misdiagnosed if only a soil sample was collected.

### Sampling

Sampling mid season, when damage symptoms are apparent and nematode numbers are greatest, is necessary because corn nematode population densities increase through the growing season and the different nematode species vary in the number needed to cause damage.

To check for corn nematodes, collect 20 or more 12-inch-deep soil cores from plants showing symptoms that might be due to corn nematode feeding damage. The soil cores should be mixed well and placed in a moisture-proof bag and submitted for processing as soon as possible. Also collect root balls (see image) from 2 or 3 plants that have damage symptoms. The tops of the plants can be discarded. The root balls can be included in the bag with the soil or placed in a separate moisture-proof bag.



**Collect twenty 12-inch-deep soil cores from the root zone.**



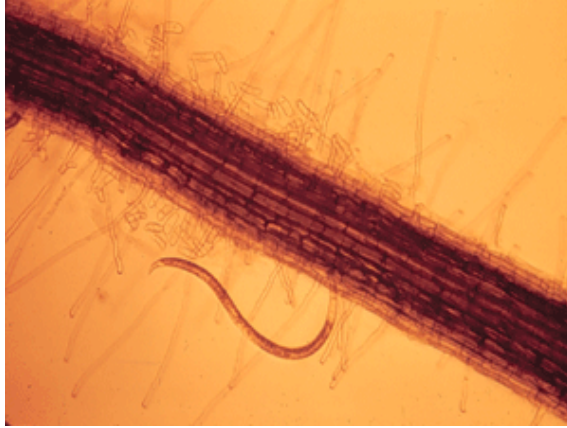
**Collect 2 or 3 root balls from plants with symptoms of damage.**

#### **Shipping and additional information**

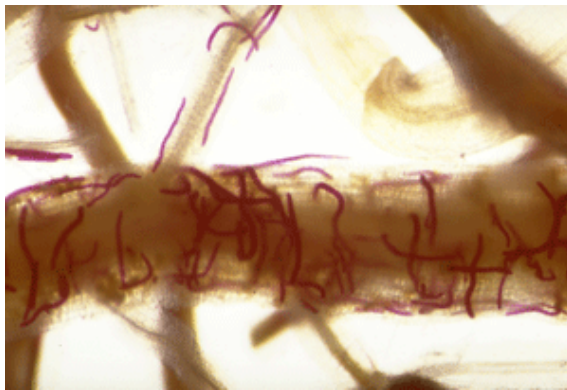
Avoid shipping samples near the end of the work week if hot temperatures are expected; this helps prevent having samples become overheated while in an uncooled delivery truck over the weekend. Excess heat will damage the nematodes within the sample and can affect the sample results, especially for the endoparasitic nematode species that exist in the roots.

Samples can be sent to the ISU Plant and Insect Diagnostic Clinic, 327 Bessey Hall, Iowa State University, Ames, IA 50011. The test for corn nematodes is called the complete nematode count. Samples should be accompanied by a completed [Plant Nematode Sample Submission Form, PD 32](#) and a check for the \$30 per sample processing fee.

The ISU Extension publication [Nematodes That Attack Corn in Iowa, PM1027](#), contains more information about corn nematodes and is also available for download from the [extension online store](#).



**Stunt nematode feeding from outside of a corn root.**



**Endoparasitic lance nematodes (stained purple) inside roots.**

*Greg Tylka is a professor of plant pathology with extension and research responsibilities in management of plant-parasitic nematodes. Tylka can be contacted at [gtylka@iastate.edu](mailto:gtylka@iastate.edu) or by calling (515) 294-3021.*

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