

7-19-2010

Nematodes Damaging Corn This Year?

Gregory L. Tylka

Iowa State University, gltylka@iastate.edu

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Recommended Citation

Tylka, Gregory L., "Nematodes Damaging Corn This Year?" (2010). *Integrated Crop Management News*. 396.
<http://lib.dr.iastate.edu/cropnews/396>

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Nematodes Damaging Corn This Year?

Abstract

Currently, there is considerable interest and continued discussion among growers, agronomists and university researchers about plant-parasitic nematodes that feed on corn. To find out if these microscopic worms are damaging a corn crop, soil and roots must be collected and sent to a qualified laboratory to determine which specific nematodes are present and at what population densities (numbers).

Keywords

Plant Pathology

Disciplines

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Nematodes Damaging Corn This Year?

By Greg Tylka, Department of Plant Pathology

Currently, there is considerable interest and continued discussion among growers, agronomists and university researchers about plant-parasitic nematodes that feed on corn. To find out if these microscopic worms are damaging a corn crop, soil and roots must be collected and sent to a qualified laboratory to determine which specific nematodes are present and at what population densities (numbers).

Samples should be collected only from fields that are showing obvious symptom of possible nematode damage, such as yellow leaves, stunting or mid-day wilting, because there is no evidence presently to indicate that nematodes can damage corn plants and reduce corn yields without obvious symptoms of that damage appearing during the growing season.

Collecting a sample

Following are some guidelines on how to collect a sample to determine if symptoms being observed in a field are being caused by plant-parasitic nematodes feeding:

- Collect 15 to 20 12-inch-deep soil cores from the root zone of plants showing symptoms.
- Collect four root masses; stalks can be cut off and discarded, as well as soil adhering to roots.
- Place soil cores in a sealed plastic bag; roots can be placed in a separate plastic bag.
- Protect the samples from temperatures above 80 degrees, and do not be physically rough with the samples (by throwing them, for example).
- Deliver or send the samples to a laboratory for processing as quickly as possible. Avoid sending samples on Thursdays and Fridays so that samples do not sit in delivery trucks over the weekend.



Collect 20 12-inch-deep soil cores from the root zone of plants showing

possible symptoms of nematode damage.



Collect four root masses; stalks can be cut off and discarded, soil can be carefully shaken from roots and discarded.

The guidelines above are for all situations except when nematode damage is suspected on soils with at least 70 percent sand. Sandy soils may be infested with the needle nematode or the sting nematode, and both nematodes are difficult to find in samples collected in the middle of the growing season. Spring and fall sampling are recommended for these nematodes. Additional details about sampling sandy soils for plant-parasitic nematodes that can feed on corn are found in the [May 18, 2010](#) Integrated Crop Management News.

Several private laboratories and most land-grant university plant diagnostic laboratories can process samples and determine the identities and numbers of plant-parasitic nematodes present. The Iowa State University facility is:

**Plant and Insect Diagnostic Clinic
Room 327 Bessey Hall, Iowa State University
Ames, IA 50011**

The test for corn nematodes from the ISU Plant and Insect Diagnostic Clinic 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 (\$60 per sample if from outside of Iowa).

For more information about corn nematodes, see the ISU Extension publication titled "[Nematodes That Attack Corn in Iowa.](#)"

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

This article was published originally on 7/19/2010. The information contained within the article may or may not be up to date depending on when you are accessing the information.

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