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Early Season Corn Nematode Scouting

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Early Season Corn Nematode Scouting

Abstract

Plant-parasitic nematodes can be a pest concern for corn. Current corn nematode management options include seed-treatment and soil-applied nematicides; both are implemented at the time of planting. There are no effective management strategies to use after the corn crop has been planted, however effective scouting is the foundation to a successful, integrated nematode management program.

Keywords

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Early Season Corn Nematode Scouting

By Greg Tylka, Department of Plant Pathology

Plant-parasitic nematodes can be a pest concern for corn. Current corn nematode management options include seed-treatment and soil-applied nematicides; both are implemented at the time of planting. There are no effective management strategies to use after the corn crop has been planted, however effective scouting is the foundation to a successful, integrated nematode management program.

It is common to find low numbers of many species of plant-parasitic nematodes in soil of most any Iowa corn field. But damage only occurs when nematode numbers increase to high levels.

Symptoms of nematode damage to corn include stunting, yellowing of foliage and mid-day wilting; some nematode species also cause swollen and stubby roots. Symptoms will be apparent if nematode feeding is causing damage to the corn plants. But the symptoms of nematode damage are not unique and could be caused by many other factors. To determine if nematodes are damaging a corn crop, a soil and root sample should be collected from areas of a field where symptoms are observed.



Stubby root symptom caused by needle nematode feeding on corn near Muscatine, Iowa (Photo Tom Hillyer).

Fields with sandy soils can be infested with the two most damaging species of plant-parasitic nematodes that feed on corn – the needle nematode and the sting nematode. These two nematodes can exist only in soils with at least 70 percent sand content. The number of needle and sting nematodes needed to damage corn is as few as one nematode per half-cup of soil.

The needle and sting nematodes are found in soil samples in the spring and fall of each growing season, but are often not detected in samples collected in

Summary

- Nematode damaged corn plants will have obvious above ground symptoms.
- Soil and root samples should be collected when symptoms are observed.
- Needle and sting nematode damage to corn can appear the first weeks of growing season.
- ISU Plant and Insect Diagnostic Clinic tests samples for plant-parasitic nematodes.

the middle of the growing season. Because these two nematodes are damaging at such low numbers, sandy fields may exhibit symptoms of needle and sting nematode damage in the first few weeks of the growing season and samples should be collected at that time.

Samples should consist of 10 to 20 12-inch-deep soil cores taken from around corn seedlings showing symptoms of damage. Also collect a few corn seedlings that are exhibiting symptoms. The soil and seedling samples can be sent to the Iowa State University Plant and Insect Diagnostic Clinic for processing; the test is called a complete nematode count. A past [ICM News article](#) has more information about collecting spring samples for needle and sting nematodes on corn.

For all other plant-parasitic nematodes that feed on corn, symptoms of damage are more likely to show up in the field through the middle part of the growing season. Soil and root [samples should be collected when symptoms are observed](#) in the middle of the growing season.

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

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