

12-7-2011

A 10-Year Summary of Testing for Nematodes that Feed on Corn in Iowa

Gregory L. Tylka

Iowa State University, gltylka@iastate.edu

Follow this and additional works at: <http://lib.dr.iastate.edu/cropnews>



Part of the [Agricultural Science Commons](#), [Agriculture Commons](#), and the [Plant Pathology Commons](#)

Recommended Citation

Tylka, Gregory L., "A 10-Year Summary of Testing for Nematodes that Feed on Corn in Iowa" (2011). *Integrated Crop Management News*. Paper 236.

<http://lib.dr.iastate.edu/cropnews/236>

This Article is brought to you for free and open access by the Agriculture and Natural Resources at Digital Repository @ Iowa State University. It has been accepted for inclusion in Integrated Crop Management News by an authorized administrator of Digital Repository @ Iowa State University. For more information, please contact digirep@iastate.edu.

[ICM Home](#)[ISU Extension Calendar](#)[Publications](#)[Extension News](#)[County Offices](#)[Contact Us](#)
[Subscribe to Crop News](#)

Archives

[2014](#)[2013](#)[2012](#)[2011](#)[2010](#)[2009](#)[2008](#)[Previous Years](#)

ISU Crop Resources

[Extension Field Agronomists](#)[Crop & Soils Info](#)[Pesticide Applicator Training](#)[Agronomy Extension](#)[Entomology Extension](#)[Plant Pathology Extension](#)[Ag and Biosystems Engineering Extension](#)[Agribusiness Education Program](#)[Iowa Grain Quality Initiative](#)[College of Agriculture and Life Sciences](#)[ISU Extension](#)

Integrated Crop Management NEWS

-  PRINT STORY
-  EMAIL STORY
-  ADD TO DELICIOUS
-  ATOM FEED
-  FOLLOW ON TWITTER

A 10-Year Summary of Testing for Nematodes that Feed on Corn in Iowa

By Greg Tylka, Department of Plant Pathology and Microbiology

The Iowa State University (ISU) Plant and Insect Diagnostic Clinic is the only facility in Iowa that extracts and identifies plant-parasitic nematodes from soil and root samples submitted by farmers and those who advise them. The results of testing for nematodes that feed on corn in Iowa from 2000 to 2010 were summarized and published in an article this week titled "Testing for Plant-parasitic Nematodes that Feed on Corn in Iowa 2000-2010," by G.L. Tylka, A.J. Sisson, L.C. Jesse, J. Kennicker, and C.C. Marett in the online journal [Plant Health Progress](#).

The main findings of the summary give an overall sense of what is currently known about the extent of plant-parasitic nematodes affecting corn production in Iowa.

Sample numbers

- From 2000 through 2010, the ISU Plant and Insect Diagnostic Clinic analyzed 331 samples associated with corn for plant-parasitic nematodes.
- Soil cores and root samples are needed to thoroughly test for all possible nematode species that feed on corn. From 2000 through 2010, 124 samples had soil alone, 17 samples only had roots, and 190 samples had both soil cores and root samples.
- On average, only 15 samples were submitted annually for testing for nematodes on corn from 2000 through 2004. Annual sample numbers increased threefold beginning in 2005, but still averaged less than 50 per year through 2010.
- Samples were received from only 53 of the 99 Iowa counties, mostly from northern, central and eastern Iowa (Figure 1).

Nematodes found

- One or more species of plant-parasitic nematodes that feed on corn were found in 92 percent of the samples analyzed from 2000-2010.
- The nematodes most frequently found were spiral (present in 77 percent of samples submitted) and root-lesion nematodes (found in 51 percent of samples submitted).
- Most species of plant-parasitic nematodes cause damage to corn only when numbers exceed a damage threshold. Overall, 15 percent of the samples from 2000 through 2010 had nematodes present in numbers exceeding the damage threshold.
- No sample had more than one nematode species present at damaging levels.
- The nematode most commonly found at damaging levels was the needle nematode (eight percent of all samples submitted). Almost all of the samples with needle nematode were from Muscatine County (Figure 2).
- The dagger nematode was second most frequently present at

