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Comparing Nematode Management Products on Corn in Strip Trials

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Abstract
Plant-parasitic nematodes that feed on corn occur commonly in fields in Iowa and throughout the Midwest. Most nematodes do not reduce corn yields until population densities (numbers) increase to damaging levels and/or other stressful conditions occur in the growing season, like high heat and low moisture.

Keywords
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Comparing Nematode Management Products on Corn in Strip Trials

By Greg Tylka, Department of Plant Pathology and Microbiology

Plant-parasitic nematodes that feed on corn occur commonly in fields in Iowa and throughout the Midwest. Most nematodes do not reduce corn yields until population densities (numbers) increase to damaging levels and/or other stressful conditions occur in the growing season, like high heat and low moisture.

There are seed-treatment protectants (Avicta® and Votivo™) and a soil-applied nematicide (Counter®) available to manage nematodes that feed on corn. Many growers and agribusiness agronomists are currently testing the effects of these nematode management products on corn yields in strip trials, and some people have inquired about also collecting information on the effects of these management products on nematode population densities.

Collecting nematode data from strip trials is problematic because of the natural variability of nematode populations and their densities in the field. And the effects of management products on nematode numbers will not be season long. As a consequence of limited, early season activity against nematodes, end-of-season nematode numbers on plants treated with management products often are as great as or greater than numbers on untreated plants because nematode populations flourish on healthier, treated plants in the middle and latter parts of the growing season.

Although yield data will be collected from corn strip trials in the upcoming weeks, September is too late in the season for collecting meaningful nematode samples this year.

Tips for comparing nematode management products in strip trials

ISU nematologist Greg Tylka and university nematologist colleagues from Nebraska, Kansas, Wisconsin and Ohio recently published tips on how to design and collect samples from corn strip trials to assess the effects of seed-treatments and soil-applied nematicides on population densities of nematodes that feed on corn. The information will be useful for anyone planning strip trials of nematode management products in the 2012 growing season. The article is titled “Sampling for Plant-parasitic Nematodes in Corn Strip Trials Comparing Nematode Management Products” and is in the online journal Plant Health Progress.

The Plant Management Network – a great resource for crop producers and advisers

Plant Health Progress is one of four online journals that are part of the online Plant Management Network (PMN). PMN’s Plant Health Progress, and the journal Crop Management contain applied university research articles and diagnostic guides plus industry news and research reviews and briefs related to the production of corn, soybean and other plants. There are special commodity-focused areas in Plant Health Progress, including Focus on Corn and Focus on Soybean, that have narrated webcasts on crop production topics by university faculty. PMN also has journals focused on forages (Forage and Grazinglands) and turf (Applied Turfgrass Science), a searchable database of university extension publications, a searchable image database and much more information related to crop production and protection. A great deal of the content on PMN would be useful to ISU Extension Integrated Crop Management News readers.

The searchable database of university extension publications on PMN is
nematode strip trials

open to the public, the Focus on Soybean webcasts are available to the public for the first 60 days after publication, and the “Sampling for Plant-parasitic Nematodes in Corn Strip Trials Comparing Nematode Management Products” article will be available to the public through February 2012. Other PMN content is available through subscription.

Many universities and agribusiness companies are “partners” of PMN and their partnership support allows employees of the organizations access to all content to PMN. Individuals also can purchase subscriptions to PMN. And at the moment, soybean growers and crop advisers can sign up for free, individual one-year subscriptions sponsored by the United Soybean Board by filling out this online form.

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

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