

Integrated Pest & Crop Management

Fall Nematode Sampling - Especially for Soybean Cyst Nematode

By Laura Sweets

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Although root-knot nematode is becoming a more serious problem on both soybean and corn in areas of Missouri, particularly southeast Missouri, and there are other nematodes that can cause losses on corn in Missouri, fall is not the best time to sample for the "worm" or vermiform stage of these nematodes. Cold soil temperatures will reduce the numbers of vermiform nematodes so samples taken after soil temperatures have decreased in the fall/winter may not give accurate information on the levels of vermiform nematodes in a field. However, fall can be a very good time to sample for soybean cyst nematode (SCN) because the cyst protects the eggs and fairly accurate counts can be obtained even after soil temperatures drop.

Soybean cyst nematode continues to be the most serious disease of soybean in Missouri as well as much of the rest of the United States. Although Missouri soybean producers can help protect their crop against SCN by planting soybean varieties that have some resistance to SCN and by rotating soybean with corn, grain sorghum, wheat and other non-host crops, the first step toward protecting against SCN is to test the soil in a field for the presence of SCN.

Although soil samples for SCN may be collected at any time, a convenient time to sample is immediately after soybean harvest. SCN numbers tend to be highest when the plants are almost mature to shortly after harvest. Sampling after harvest is easier to do because the plants have been removed making it easier to move through the field. And sampling in the fall allows sufficient time for the University of Missouri Plant Nematology Laboratory to process samples and provide results so that information can be used in making variety selections for the coming season, planning field rotations or deciding which crop to plant in which field.

The University of Missouri Plant Nematology Laboratory provides nematode identification, population levels and management information on samples submitted. The SCN egg count test is the test

that most soybean producers need. Because SCN egg counts are only as good as the sample taken, here are some suggestions to improve sampling for SCN:

1. Limit the size of the area being sampled: 10 acres is a good target.
2. With your bucket and probe or shovel, walk the area in a W or Z pattern, sampling between the rows. Take about 20 cores (each core should be about 8 inches deep). When using a shovel take about ¼ cup of soil from near the shovel tip. Mix the cores well into a composite sample, and place about a pint of the soil into a plastic bag for submission.
3. Label the plastic bag, avoid storing the bag in the sun and ship it as soon as possible.
4. Fill out a submission form available from the Web site <http://soilplantlab.missouri.edu/nematode/> or your local county extension office.
5. Please be sure to include your name, address,

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phone number and e-mail address if you have one. Also include county and cropping history.

6. Mail samples early in the week. Always use at least first-class mail.
7. There is a \$15.00 fee for the SCN egg count test to determine the SCN population level in a sample.
8. Mail samples to the Extension Nematology Lab, 23 Mumford Hall, University of Missouri, Columbia, MO 65211.

The Extension Nematology Laboratory Web site gives more information of how to sample, the tests available, and how samples are actually run in the lab. A submission form can also be downloaded from the site <http://soilplantlab.missouri.edu/nematode/>. Questions may also be sent to Bob Heinz at e-mail: heinzr@missouri.edu, phone number 573-884-9118 or fax number 573-884-4288.

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