

Nematodes:

The overlooked yield robbers in corn and soybean



Have you noticed a reduction in corn or soybean yield that you can't get your hands around?

Have you considered that plant parasitic nematodes may be the reason?

Recognizing a nematode problem is difficult because above ground symptoms are nondescript; such as thin stands, uneven plant height, and stunted plants. These symptoms can be confused with weather stress, nutrient deficiencies, insect damage, herbicide injury, or soil compaction. The only sure way to confirm the presence of nematodes is by soil testing.

Nematodes that feed on corn roots are present in most fields. However, that does not necessarily make them a cause for concern because it's their population density that is important. However, in the case of soybean cyst nematode (SCN), it's simply a yes or no question. If SCN is confirmed by soil tests, resistant soybean varieties should be planted in the future. Unfortunately, nematode resistant corn hybrids are not currently available. So managing nematodes in corn will depend on crop rotation, proper soil fertility, and chemical soil or seed treatments.

Sampling soil for nematodes of corn and soybean can be done whenever it's convenient, often done at the same time as sampling soil for fertility. The best results, however, are obtained when samples are taken 4–8 weeks after planting. When sampling for corn nematodes during this timeframe, it is very important to take samples from the root zone area of corn plants. Late summer and fall samples are useful for predicting next year's problems. It is important to note that the time of year is critical for sampling if the corn needle nematode is suspected. Sampling should be done between V1 and V6 corn stages, because this nematode will move up and down the soil profile especially if the soil is moist from irrigation or rain.



Aerial view of soybean trials in East Troy, WI with high a soybean cyst nematode count.



Sampling Soil for Nematodes

- 1 Sample around plants that appear to have nutrient deficiencies, herbicide injury symptoms, or in weedy areas of the field. Submitting plants from the affected area is not required.
- 2 In severely affected areas, sample on the edge of the area, not the center.
- 3 Travel across the field in a zigzag pattern collecting 20–25 samples for every 10 to 20 acres. Use a soil probe to collect samples at a depth of 6–8 inches.
- 4 Mix the soil samples in a bucket and put 2 cups of the soil into a plastic bag. Soil sampling bags work well. Store soil samples in a cool, dark place until you're ready to ship them to the lab. Don't leave soil samples in a hot vehicle, on the dashboard, etc.
- 5 Do not send samples to the lab late in the week or over the weekend. They may sit in hot conditions over the weekend.
- 6 Make sure to provide your name, address, phone number, as well as the sampling date, number of acres the sample represents, crop history, location or field number with the sample, along with the appropriate fee (\$35.00/sample for nematode analysis and \$22/sample for soybean cyst nematode analysis). Send samples to the:

Plant Disease Diagnostics Clinic, Department of Plant Pathology, University of Wisconsin
1630 Linden Drive, Madison, WI 53706-1598.



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