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NEMATODES FEED ON CORN ROOTS

A farmer near Dorchester in 2009 was able to identify he was having corn yield losses on an 80 acre furrow irrigated farm as a result of corn nematodes. He worked with University of Nebraska Extension specialist Tamra Jackson and Syngenta with a strip trial using new products aimed at reducing corn nematode levels. Hitting the market place and recent introductions of seed treatment nematicides, such as Avicta and Votivo, has stirred interest.

Plant parasitic nematodes exist to some extent in every field, with injury ranging from none visible to severe with tremendous yield loss. In soybean, the soybean cyst nematode is well known and receiving a lot of attention in Nebraska but corn nematodes information has been lacking.

In contrast to soybeans, nematodes feeding on corn roots already occur in every field. These are usually referred to as corn nematodes, although some may feed on other hosts as well. There are many species of corn nematodes from at least 12 genera with common names such as sting, needle, lance, lesion, stunt, dagger, spiral, etc.

The level of crop injury and yield loss depends on which species are present and their population levels. The only way to determine that is by collecting and submitting samples to a laboratory for plant parasitic nematode analysis.

Unfortunately, strict guidelines for collecting samples for plant parasitic nematode analysis in corn have not been established, but there are some tips for collecting samples. June may be the best time to sample for nematodes in corn.

Corn nematodes are very diverse and are not all equally damaging. The bad guy on the block causing the most yield loss is needle and sting nematodes. They tend to be distributed in patches in a field and not across an entire field. Others, such as root-lesion (or lesion nematodes), are far more common, occurring in more than 93% of Nebraska fields. They may be present across an entire field. Lesion and other nematodes tend to cause less severe injury and symptoms than sting or needle nematodes, but the losses they cause additively are probably greater than any other nematodes, considering their wide distribution.

Nematodes can cause many types of symptoms, such as stunting, yellowing, root lesions and deformity, etc., all of which are often confused with symptoms caused by other common problems such as soil pH extremes, nutrient imbalances, and insect or herbicide injury, and are thus, frequently misdiagnosed.

Nematodes are another piece of the puzzle when diagnosing visual issues in corn. There is an outstanding article in CropWatch newsletter about how to sample for corn nematodes, pictures of Nematode damage, establishing baseline levels, what to look for, and how to set up your own farm trial, etc. Go to: <http://cropwatch.unl.edu/archive?articleID=4158175>



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