

Track cause of poor crop growth carefully

By **TOM J. BECHMAN**

EVERYBODY has them: Areas where a few corn rows are a paler green. Plants within the row don't grow as tall early on. What sampling tools will help determine why you see such spots?

"Are they in the same place every year?" asks Steve Gauck, Greensburg, district sales manager for Beck's Hybrids and a certified crops adviser. "If the answer is, 'Yes,' a soil test is needed in the areas that are yellow and in a good area to compare what is missing or wrong.

"If they're not, dig plants and look for sidewall compaction or a soil compaction layer. This will cause plants to grow slower, and they won't reach nutrients."

Look for clues that might lead in still other directions, Gauck advises. For example, check planting depth. If you used starter fertilizer, check to see if it was too close to the seed. Yellowing may also signal a nutrient deficiency, Gauck notes. Nitrogen shortages lead to paler, sometimes yellowish plants.

Root clues

Marty Park, a Pioneer accounts manager and certified crops adviser, Rensselaer, suggests digging up plants and comparing roots. If roots look normal, take soil samples in both areas. Pull tissue samples also from both areas.

Key Points

- Dig plants and take samples to zero in on some causes and to eliminate others.
- Sample both good and poor areas of a field for comparison.
- Submit samples to test for needle nematodes.

"If there are multiple spots in the field that affect a significant area, then I would pull samples in a couple of areas," he says. "Results will help you understand the nutritional and pH differences in the soil, as well as the difference in what plants actually took up."

Two years ago *Indiana Prairie Farmer* pulled samples from good and bad areas in a field. Nutrient levels were actually higher in the yellow areas than in the greener areas. Every possible scenario was considered, including a lab error. It went into the "cold case" file for lack of sufficient evidence.

Consider nematodes

If roots are stubby and short, it could be nematodes, Park says. He recommends taking a nematode sample from both good and poor areas. Send them to Purdue University for analysis.

That's why Bryan Overstreet, Jasper County Extension ag educator and also a certified crops adviser, recommends three sampling techniques: soils test,

tissue test and a nematode test in both good and poor areas.

"Nematodes have been a problem in soybeans for years, but more areas of Indiana are now seeing issues with needle nematode in corn," Overstreet says. "Work with your soils consultant or fertilizer dealer to take soil and tissue tests. Follow sampling directions in Purdue publication E-215, 'Needle Nematodes.'"

Now is actually the best time to sample. Collect at least a quart of soil directly from the root zone, Overstreet says. Pull soil 4 to 6 inches deep. Dig stunted plants and place adhering soil

and roots in a plastic bag. Provide identification, plus a history of the field.

Send samples to: Nematology Lab, Department of Entomology, 901 W. State St., Purdue University, West Lafayette, IN 47907-2089.

You won't find many needle nematodes between corn rows, Overstreet notes. They also don't like extreme heat. Make sure samples don't dry out.

■ **Learn more about needle nematodes in corn by going online to extension.entm.purdue.edu/publications/E-215.pdf or www.entm.purdue.edu/nematology.**



UP AND DOWN: The overall pattern over this field features some rows, or sections of rows, that are shorter and paler than others. A good crop sleuth would need to zero in on possible causes.

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