

# Crop Talk

A column written by a Pioneer agronomist.

## Fields subject to loss of nitrogen

By Keith Diedrick

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**The wet spring in Indiana may have increased nitrogen losses.** Fields with fall-applied or early spring-applied nitrogen may be subject to N loss under saturated conditions.



Keith Diedrick

Denitrification, the conversion of nitrate to nitrogen gas, is more likely to occur in fine-textured and anaerobic (waterlogged) soils. Soils with better drainage probably have not lost much N, because it takes two to three days of saturation for the bacteria to begin the denitrification process. However, there can be some nitrate that is leached from these soils.

**Sidedressing** is an option for growers to consider if the weather and soil conditions promoted the loss of applied N in the spring.

**Some soybeans have emerged, and early-season pests are not far behind.** The predominant pests to attack soybeans soon after emergence are bean leaf beetles, seedcorn maggots and cutworms.

■ **Bean leaf beetles**

are the most common of the three insects and typically are more of a problem in the first-planted fields in a given area. These 1/4-inch-long beetles come in a wide range of colors but always have a black triangle located behind the head on the wing covers. Less than four beetles per plant may justify treatment on newly emerged soybeans.

■ **Seedcorn maggots**, despite their name, are more often a problem in soybeans than in corn. These pests cause the most severe damage in a cool, wet growing season. Larvae can damage either seeds or cotyledons by burrowing in and out, resulting in stand loss or a pathway for seedling diseases to invade.

■ **Cutworms** have been known to damage soybeans in rare instances. Sometimes this is relegated to feeding on foliage, which rarely affects yield, but cutworms are capable of cutting plants below the cotyledons, leading to stand loss. No thresholds have been developed for this pest in soybeans, but fields with cutworms should be monitored and treated only if it appears plant stands will be reduced significantly.

**Keep an eye on the underground environment.** Despite their microscopic size, nematodes can do significant

damage to plant roots. Now is the time to sample for problems.

■ Sample within six weeks of planting, but before soils become hot and dry. When soil temperatures begin to warm up, some nematode species move deeper into the soil profile where they cannot be detected by a soil sample.

■ Sample from within the row to a depth of at least 12 inches.

■ Be sure to include root tissue in the sample. Some species of nematodes (lesion and lance) are found in the roots.

■ Target the edges of suspected areas. Nematodes should be most active in these areas.

■ Treat samples gently, because nematodes are fragile.

■ Place the samples in a plastic bag and keep them cool until they are mailed to a laboratory.

■ Send to a respected lab, such as the Purdue University Nematology Laboratory. Ship samples to Nematology Laboratory, Purdue University, Department of Entomology, Smith Hall, 901 W. State St., West Lafayette, IN 47907-2089. The cost per sample is \$10.



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