

What to do about N

By TOM J. BECHMAN

FUTURE weather will determine how much N is lost if you didn't make fall or late-March applications. If you applied anhydrous ammonia during the one-week window in late March, you may have already experienced some loss, depending upon soil type and whether you applied an

N stabilizer.

That's how Jim Camberato sizes up the nitrogen situation. He's a Purdue University Extension agronomist. "What helped was that when soils were saturated in April and early May, it was cool," Camberato says. "The cool temperatures and lack of oxygen shortly after application means little ammonia changed over to nitrate, the form of N lost by leaching and denitrification."

The unknown at press time was what would happen as soils dry out and warm up, enabling nitrate to form. If soils become saturated again, N loss is more likely. If we could predict the weather, N management would be easier, Camberato observes.

Key Points

- Farmers who applied anhydrous ammonia in late March may have lost some N.
- Dow AgroSciences applied for 24c emergency label for Instinct N stabilizer.
- Purdue agronomist sees possible role for Instinct in reducing N lost to environment.

N options

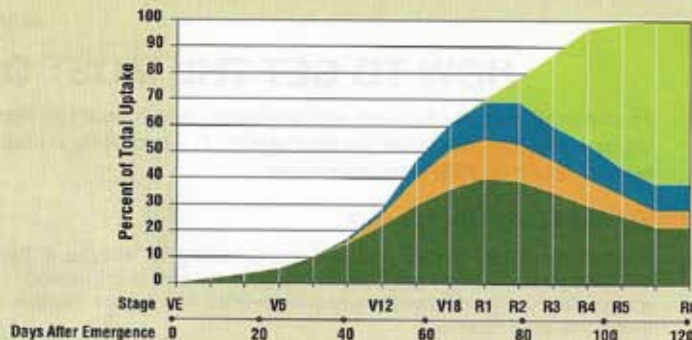
Plants take up the majority of N several weeks after planting. The primary reason for having N applied as a starter or available at emergence is to ensure plants get off to a good start.

Amir Faghili, product manager for nitrogen stabilizers with Dow AgroSciences, believes N already applied that was stabilized will be in better shape and less subject to loss when soils warm up.

"Corn plants don't take up much N from V1 to V7 [one to seven leaves]," he says. "But plants take up the majority of N from V12 to R2. They continue taking up nitrogen through the R5 reproductive stage. Make sure N is there when plants will take it up most."

Losses occur in two major ways — either through leaching or denitrification, which occurs through bacterial processes. The idea behind stabilizers is to keep nitrogen in a form that won't leach or denitrify for as long as possible, Faghili says.

Corn utilization of nitrogen and timing



Liquid nitrogen, even if sidedressed, is vulnerable, particularly in wet years, since a fourth of the nitrogen is already in a form that can be lost immediately. Dow AgroSciences offers N-Serve for anhydrous and Instinct for liquid N, manure or impregnated on urea.

However, at press time, Dow AgroSciences did not have a label in Indiana for adding Instinct to liquid N for sidedress applications. The company has applied for a Section 24c label. Ohio and Illinois authorities have already granted the 24c registration.

Extension results

"We don't have much data to show that on average, adding stabilizer to anhydrous for sidedressing pays," Camberato says. "That doesn't mean that there won't be a year when it does pay."

As for Instinct, Camberato has little research data, but favors 24c registration.

"It's difficult to tell if it would be economical at sidedressing," he says. "That depends upon several factors. But it certainly would make sense environmentally, because less N would be lost into the environment. The question is how much."