

No blanket answer for nitrogen rates

By TOM J. BECHMAN

SO many factors affect nitrogen rate that you may feel like you're shooting in the dark. Yet nitrogen is one of the most expensive inputs for corn that you'll buy this year. How can you narrow down the range so you don't feel like you're flying blind by the seat of your pants when adjusting rates?

The Indiana Certified Crop Advisers panel tackles a question similar to that one this month. Hopefully, their answers will spur your thinking about where you should set the applicator on your fields.

We applied 35 pounds per acre of nitrogen at planting in corn after beans. It's 180-bushel, above-average ground. I was going to sidedress another 110 pounds per acre. If it rains in between and the soil gets saturated, should I up the sidedress rate? If so, how much?

Greg Kneubuhler, G & K Concepts, Harlan: Nitrogen is extremely difficult to predict over a growing season. First of all, N rates are not on a per-bushel basis, contrary to textbook values. Instead, N rates depend upon the recoverability of that par-

ticular soil in relationship to yield. What we find is that better balanced, better drained, better fertility soils require less N because of the plant's ability to recover more of it. They'll have more root mass to harness that N as well.

Poor soils, on the other hand, such as a saturated soil, actually require more N because of restricted root growth. To compound things, any time soils lay saturated, you're at risk of denitrification, which means more N loss. As to your question, if you're confident you may have saturated soils, additional N more than likely will be necessary. In summary, we actually see high-yielding soils require less N than low-yielding soils.

Jesse Grogan, LG Seeds, Lafayette: Use the recent research on N rates for Indiana with the Nitrogen Rate Calculator published at extension.agron.iastate.edu/soilfertility/nrate.aspx. Purdue University Extension specialists Bob Nielsen and Jim

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EASY CALL: If corn looks like this coming out of a wet spell, kick up the sidedress rate and spray the field. Sometimes N deficiency symptoms aren't so obvious.

Camberato have just developed an N-rate calculator just for Indiana. Check the Chat 'n' Chew café website for more details.

Nitrogen losses at a soil temperature of 55 to 60 degrees F in saturated soils can be 10% loss at five days and 25% loss at 10 days of the original 35 pounds per acre. When temperatures are 75 to 80 degrees for three days, as much as 60% of the original N could be lost through denitrification. Increasing N rates to adjust for these losses is helpful, but most important is getting the correct total N rate for expected yield

performance with sidedress application.

Dennis Shemwell, Posey County Co-op, Poseyville: You applied 35 pounds per acre of N into a field in soybeans last year and intend on sidedressing 110 pounds. If you've had a saturated period, you've probably lost a great deal of N applied early and part of the N credit from the soy residue. We don't give much credit to the previous bean crop in southern Indiana anyway because of warmer weather. If I expected a 180-bushel corn crop, I would sidedress with 140-150 pounds of N per acre.