

# Measuring *N* Needs

## *Better Results Reported When Nitrogen Is Applied To Wheat Following Greenseeker Tips*

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**T**echnology is fine tuning the application of nitrogen on wheat, according to Dr. Lloyd Murdock, University of Kentucky soil specialist who has been working on the Greenseeker for a number of years.

“The Greenseeker is a remote sensing device that allows you to go through a wheat field and sense the color and growth of the crop as you go; and at the very same time you can apply the amount of nitrogen to that crop that the remote sensing device says that you need,” he explained.

“We tested the Greenseeker for a number of years. Early in our testing we found that algorithms (formulas) we used to make the nitrogen recommendations just didn’t work. They were devised from other states quite a distance away and did not apply to this area.

“So we decided we either had to make one for ourselves or just give it up,” Murdock said. “Then we went through five years of work and developed algorithms for the state of Kentucky and for this part of the United States; then we field tested them over the last four years and found they did very well.

“In every field that we tested the Kentucky algorithms for the use of remote sensing to apply variable rate nitrogen, it outperformed the flat rate,” he noted. “The flat rate recommendation was made by wheat consultants that do this all the time and do a very good job, so we compared the variable rate nitrogen application against the best. The remote sensing and variable rate nitrogen application rate was a little bit higher in nitrogen in most cases. In some cases it was almost the same but it distributed the nitrogen easier or more evenly across the field and also some years in some fields we actually got a better recommendation from the Greenseeker than we did from the consultants.”

With those two gains combined, a four bushel gain was realized using variable rate nitrogen. By applying about 10 pounds more nitrogen and calculating the difference between those two it was a gain of about \$16 per acre. That’s using \$6 wheat.

“When we tested wheat grown after harvesting soybeans using variable rate nitrogen applied at

Feekes 6, we actually gained a lot more than the wheat planted after corn,” he said. “We gained about 17-18 bushels for using the variable rate nitrogen; and the gains were like \$90 per acre. I hate to talk about those numbers, it’s higher



**Dr. Lloyd Murdock, University of Kentucky soil specialist has been working on nitrogen application on wheat with the Greenseeker for a number of years.**

than I would expect to get and I’m reluctant to tell you, but that’s what we got. I don’t think everybody is going to get that by any means, but it does speak well for that method and for that technology.”

Murdock’s take home message from this is that farmers will have to embrace this high technology in the application of nitrogen eventually, especially on wheat.

“It’s going to be more difficult on corn although it was used on corn and was helpful; but on wheat it’s easy to do, it’s basically just applying your nitrogen with that new technology and we have more farmers using it all the time,” he said. Δ

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