

## **Lancaster Farms**

### FINDING SOLUTIONS TO NUTRIENT CHALLENGES

With commercial nitrogen prices going higher and water quality pressures growing more intense, finding ways to improve on-farm nutrient use efficiency is the smart thing to do — economically and environmentally.

Fortunately, there are very effective tools that can help producers apply nutrients more frugally. These tools can help producers achieve optimum crop yields, save on fertilizer bills, reclaim more of the nutrient value of manure/litter and reduce nutrient losses to water sources.

**These tools include:**

- **PSNT: The Pre-Sidedress Nitrate Test tells the farmer how much more, if any, nitrogen the crop needs.** Based on nitrate concentration in the top 12 inches of soil when corn is 6 to 12 inches tall, this test works well for a corn crop that has had an application of manure, a nitrogen-contributing cover crop, or has had a previous application of nitrogen.
- **Chlorophyll meter: The chlorophyll meter test — which is simple, straightforward and fast — correlates the nitrogen status of the plant to that of the soil.** The procedure is ideal for fields that receive annual manure applications. Like the PSNT, the chlorophyll meter tells the farmer if the corn needs more nitrogen, and if so, how much.
- **CSNT: The Corn Stalk Nitrate Test involves measuring nitrate concentrations in the lower portions of cornstalks at the end of the growing season.** It is a powerful management tool that enables corn producers to distinguish between optimal and excess applications of N. Combining the CSNT with either the PSNT or chlorophyll meter gives a complete picture of nitrogen needs and efficiency.
- **Variable Rate Nutrients: VRN is a system providing information on the different nutrient needs of a crop on a small, sub-field scale.** The GPS-based, variable rate nutrient application system maps out for the farmer how to vary N and P applications to be more efficient.

**Economic bottom line:** The PSNT and chlorophyll meter, combined with the CSNT, can enable farmers to reduce nitrogen applications by about 50 lbs/acre, which translates into a savings of \$17.50/acre at current nitrogen prices. Using VRN, farmers can reduce their N and P costs by 10%-25%.

**Getting these tools on your farm:** Currently based in Lancaster County, the **Lancaster Farms** project offers farmers technical and financial assistance to try out and use these nutrient use efficiency tools. Soon, this innovative, collaborative project will be expanding into neighboring counties as well.

**For more information** and to find out about enrolling, contact Brad Michael of NRCS at (717) 299-1563 x3, Chris Sigmund of TeamAg Inc at (717) 721-6795, or Axel Linde of Solanco Young Farmers, (717) 529-6963.