Managing Soil Nutrients and Fertility

The Situation

Fertilizer is a primary input for crop production. Optimum yields require an adequate, balanced supply of nutrients; however, excessive nutrient levels increase the risk of groundwater and surface water contamination. Adequate nutrient management is essential for economical and environmentally sound crop production. Applied research and extension programs on soil fertility and nutrient management help achieve optimum crop production while minimizing the potentially negative environmental effects.

What We Did

K-State Research and Extension offered soil fertility schools in multiple counties during 2012 and 2013. The programs focused on the cost-effective and environmentally sound use of fertilizers and by-products for crop production. Demonstration plots provided comparisons of traditional practice versus the use of sensors and slow-release nitrogen sources for improved nitrogen use efficiency. We distributed information through newsletter and magazine articles, publications, and press releases.

Outcomes

- Improved nutrient use efficiency by increase in yields while minimizing environmental impact.
- Increased number of producers implementing nutrient management plans.
- Increase in the number of producers and acres involved in soil-testing programs.

Success Story

In a survey given after a Soil Fertility School in Smith Center, Kan., participants said they intended to take these actions as a result of the program:

"More emphasis on soil testing — especially in these drier years."

"Increase soil testing."

"Adjust fertilizer placement."

"Watch soil pH."

"Understand the intent/proper use of urease inhibitors for N."

"Monitor soil test more closely."

"Balanced fertility."

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