Careful Nutrient Management Helps Control Input Costs

FAYETTEVILLE, ARK.

Arkansas farmers are enjoying record high prices for rice, wheat, corn and soybeans, but parallel spikes in the costs of fertilizer and other agricultural inputs are tempering the boon.

"In light of current input costs, you have to ask yourself, 'Do I really need it,'" said Nathan Slaton, director of soil testing for the University of Arkansas System's Division of Agriculture. "The bottom line for producers is net profit. They have to do what works best for them."

A recently released Division of Agriculture publication, Soil Fertility Studies 2007, describes U of A soil fertility research for Arkansas agriculture.

Rick Thompson, staff chair for the Poinsett County Cooperative Extension Office, said urea, the most common source of nitrogen fertilizer, costs about $700 per ton in May, up from $450 a ton a year ago and a jump from $515 a ton in January.

"That's a huge jump just since the beginning of the year," Thompson said. "Right now, when it goes up, it goes up big."

The prices of triple superphosphate and diammonium phosphate (DAP), two common sources of phosphorus fertilizer, both cost more than $1,000 a ton, up from around $300 a ton a year ago, Thompson said. Potash, for potassium, has nearly tripled in price since 2006 and many micronutrients are seeing similar price hikes.

"A lot of farmers are asking, 'What's the minimum I can get away with,'" Thompson said.

Slaton said annual soil tests let producers know what nutrients are available and what they may need to add. "Soil tests are the backbone of nutrient management," he said.

The Division of Agriculture offers free soil tests, Slaton said. Division labs analyze the samples and issue soil test reports. Fertilizer recommendations based on years of soil fertility research are designed to help farmers make fertilizer decisions that will give them optimal yields.

"It's important to soil test," Slaton said, "but it's also important to understand how the recommendations were developed." He said there are two lines of reasoning behind the recommendations.

The first, and most traditional, is sufficiency, Slaton said. "The thought here is to put down enough fertilizer to make this year's crop."

The second approach, adopted a few years ago by the Division of Agriculture, is what Slaton calls build and maintain. It recommends higher rates of fertilizer and is designed to maintain soil fertility and sustain agricultural land for the long haul.

"If sufficiency is to fertilize the crop, then build and maintain is to fertilize the soil," Slaton said.

Crops may remove more nutrients than are added under sufficiency recommendations, Slaton said. The result is that soil nutrient levels decline and fields require increasing application rates in subsequent years. Producers who have been following this pattern are now faced with having to add more fertilizer now while prices are higher.

"Those who used higher application rates to build and maintain the soil may now be reaping the benefits," Slaton said. "They put in more nutrients when prices were lower and, because they have maintained soil fertility, they require lower fertilizer rates now, when prices are high."

Thompson said many Poinsett County growers are opting for crops that require less fertilizer. Many cotton growers, for example, are switching over to soybeans, legumes that provide their own nitrogen through a symbiotic process with bacteria in the soil. "If their soil phosphorus and potassium levels are high enough, they aren't using any fertilizer at all," he said.

The best course of action for saving fertilizer costs, Slaton said, is to ask questions. "The best place to start is to call your county extension agent and talk about soil fertility," he said. "You have to ask questions of county agents, crop consultants, coop dealers, whoever you trust, to seek advice."

Slaton said Division of Agriculture soil fertility research is conducted on research and extension centers at Fayetteville, Keiser, Pine Tree, Stuttgart, Rohwer and Monticello. In addition, research plots are located in cooperating growers' fields across the state.

"We have a wide geographic distribution of research sites in the state," Slaton said.

The publication, Soil Fertility Studies 2007, is available free from the U of A Division of Agriculture. Call 479-575-5670 or e-mail nkyle@uark.edu and ask for Research Series 558. Download it from the Web in PDF format: http://arkansasagnews.uark.edu/2341.htm .

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