

THE LEADING EDGE

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A PUBLICATION DEDICATED TO MAXIMIZING YIELD POTENTIAL

Fertilizing: Make Sure You Get the Most Out of Your Investment

In retrospect, 2008 proved to be a challenging year for producers, starting with a wet spring. The heavy rains couldn't have come at a worse time for many, causing them to delay and delay again their spring planting plans. That late start, combined with a wet fall, meant a late harvest for many.

Looking ahead, producers are now faced with the question of when to fertilize. The late harvest has forced many to decide already to put off their fertilizing until spring. And that may not be a bad thing. Studies have revealed that liberal fall applications result in the loss of significant portions of the nitrogen by the spring planting season.

However, it's anyone's guess what fertilizer prices will do in the spring. Volatility in the crude oil and grain markets makes predicting the price of fertilizer, which traditionally follows these indicators, an educated guess.

Following traditional indicators, producers may choose to wait until spring to buy fertilizer, in hopes that the global economic slowdown, suffering oil and grain markets, the rising value of the U.S. dollar, will drive prices down.

Further blurring the pricing picture are non-domestic fertilizer suppliers, who now meet 55 percent of U.S. producers' fertilizer needs.¹

And, currently, fertilizer markets more closely follow global demand, and that increased in 2008. Fertilizer prices, especially for nitrogen, may not drop as much as producers hope by the spring. Global dynamics, says Dave Coppess of Heartland Co-op in Des Moines, "are very hard to predict."²



Due to late harvest some growers may choose to side-dress nitrogen next spring. High speed and high capacity tools allow them to start early and cover a lot of acres very quickly.

Regardless of how market conditions play out, producers can be sure of one thing: it will pay to be smart about how fertilizer dollars are spent in 2009. Using all the tools and tips available is the best way to make sure the most impact is achieved and the right amount of fertilizer is purchased and applied.

Planting and Fertilizing: Use Correct Tools to Ensure Correct Placement

Many planting operations use "2x2" starter placement, meaning 2 inches off the row and 2 inches below the seed. No two farming operations are the same, so producers will want to ensure they use the correct fertilizer opener models to fit their particular growing situations. A combination of the correct planter and fertilizer application attachments ensure correct placement. When the injector and trench are properly aligned, the fertilizer will be placed in a consistent band next to the row and the fertilizer splash will be minimized.

Some producers favor split applications to obtain the best yields. Applying a small amount of nitrogen pre-plant, during planting, or side-dressing after planting is an option to be considered.

Side-dressing: Getting the Fertilizer Where It Needs to Be

To ensure that the fertilizer makes the biggest impact possible, many producers have turned to the tried and true practice of side-dressing.

When done correctly, side-dressing encourages more even corn growth and increases the potential for better yields. While nitrogen sometimes leaches down through the soil and away from the roots, side-dressing remedies this by replenishing the nutrients for enhanced growth.

Applications after the plant has emerged puts the nutrients where the crops—especially corn—need it most. Placing fertilizer beside the row where roots can grow into the band allows plants to feed throughout the growing season.

When roots hit the fertilizer zone, there is a growth explosion. As more roots develop, they too encounter the fertilizer for an ongoing boost during critical growth stages— almost half of a corn plant's roots are within 12 inches of the soil surface during tasseling.

Side-dressing also enables producers to apply essential fertilizer without damaging or burning the roots or leaves—something that is always possible if



All Steer used for side-dressing applications

the fertilizer were applied too near to the plant.

Vary Your Application Rate

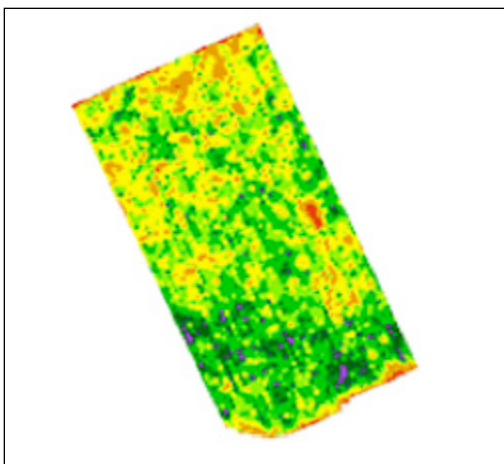
Whether or not producers side-dress, smart producers are cautious about over-application. Besides being an environmental concern, over-application simply throws dollars away. Because of variations in the weather and soil composition throughout fields, the fields have different needs that not only vary from field to field but also from year to year. Simply applying the same amount of nitrogen year after year is not the most efficient, cost-effective or environmentally conscious option.



New fertilizer metering and application tools cut down on waste and over application saving money.

Compared to the costs of the fertilizer, soil sampling makes good economic sense and represents a good return on investment.

As an alternative, many producers have invested in sensors that help determine the amount of nitrogen necessary to maximize yield and minimize cost and impact on the environment. The sensors use light reflected from the crop to determine the amount of nitrogen necessary to bring the tested area up to the level of the lowest-rate strip sufficient in nitrogen. On applicator-mounted models, the sensor communicates with software that adjusts the amount of nitrogen applied during real-time application. This accurate data will make money by giving producers the confidence to cut rates where indicated.



Mapping and variable rate application of Nitrogen can be used to decrease fertilizer costs while not sacrificing yield.

Another option to determine the right amount of nitrogen for different areas is to combine the use of previous crop, yield history, soil fertility, drainage, and late spring soil tests. Satellite imagery can enhance this data. Map out a nitrogen-management plan by compiling and comparing results and dividing fields into corresponding zones.

Apply nitrogen with a system that allows for rate adjustment mid-application. Some producers use hydraulically driven centrifugal pumps on their side-dress machines. Oil flow

to the pump can be controlled from the cab, and the changes in pressure vary the rate of application as needed.

Both methods save producers from over-applying nitrogen in areas that already have low yield potential or satisfactory amounts available, and ensure nitrogen is being fed to the crops that will put it to best use.

Get Your Best Return on Investment

Reducing your input costs—especially in volatile markets—is critical. Producers who are considering investing in technology such as auto-guidance systems, sprayer boom control, or variable-rate technology will welcome the aid these systems provide in reducing input costs. But all producers, regardless of their situations, will want to be on the lookout for ways to reduce their inputs. A serious look at fertilizer application methods is an essential part of this.

Pull-out Suggestion

The USDA offers an Energy Estimator to help producers calculate costs, such as the cost of nitrogen. Visit <http://nfat.sc.egov.usda.gov/> to determine your fertilizer costs.

- 1 Corn and Soybean Digest, late November 2008.
- 2 Ibid.

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