Yetter FARM EQUIPMENT

Leading Edge

APRIL 2014

Save Nitrogen With Side-Dressing

Efficiency is key in fertilizer management

Some good news for growers—fertilizer costs are likely to decrease by 19% to 27% this year.[1] However, with corn prices also projected to fall, farmers will be looking to save money wherever they can. Side-dressing fertilizer can help you make the most of the nitrogen (N) you put in your fields.

Side-dressing with tools like the Yetter Magnum allows growers to maintain a balance between supplying enough N when crops need it without supplying excess that could be lost due to weather conditions.

Manage your N application

Side-dressing allows growers to respond flexibly to weather conditions such as heavy rain that lead to N loss. In 2013, when heavy rains early in the growing season caused N loss across the Midwest, side-dressing allowed farmers to ensure their crops had nutrients during critical growth stages.[2]

Placing side-dress fertilizer is typically done between the V4-V6 stages, allowing the roots to grow into the band. When roots hit the fertilizer, there is a growth explosion. As more roots develop, they too encounter the fertilizer for an ongoing boost.

Because side-dressing adds fertilizer closer to when the plants actually need it, reducing N loss, overall N application can often be reduced. Gregg Anderson, agronomy manager at All Points Cooperative in Gothenburg, Nebraska, said he has been able to produce the same amount of corn with 10 percent less nitrogen in the co-op's fields by switching to split applications of fertilizer.[3]

Analyzing for effective side-dressing

To take full advantage of the N savings offered by side-dressing, proper planning is crucial. Knowing where and how much nitrogen to apply in-season, however, can be tricky.

Fortunately, there are many tools that can help you decide if side-dressing is needed or economically viable for your fields. A pre-side-dress soil nitrate test (PSNT), tissue testing, or chlorophyll meter can help determine the need for additional N to be applied in-season. The testing should be done after the spring wet period but before the period of major N demand by corn, which occurs during rapid vegetative growth around the V8 stage. If your goal is to side-dress between the V4-V6 stages, to provide yourself a comfortable time cushion before the V8 stage, testing should be done before the V4-V6 stages.[4]

These tests predict the amount of N that will be converted into crop-available forms—ammonium and nitrate—during the growing season. This powerful information should help you determine not only the amount of N to apply to your corn crop, but also which fields or sections to side-dress. You can also use a crop canopy sensor to analyze the leafy green parts of your crop. The canopy sensor will analyze the health of the plant based on the shade of green of the vegetation. It also measures the density of the vegetation. By keeping tabs on the health of your crop, you'll be able to tell when a side-dress application might be beneficial.

Managing nutrient application with the right tools

Several technological tools are available that can aid in side-dressing. Ag Leader's OptRx crop sensors measure data on your crops in real time as you drive through your field, detecting the reflected light shown onto the plants. This data is then logged, mapped, and analyzed, telling you when plants need more or less nitrogen. This product is for use in corn and wheat production.[5]

Trimble's Greenseeker is another crop sensor that

Ideal timing for side-dress fertilizer placement is between the V4-V6 growth stages, ensuring N is in place before the period of most rapid growth.

mounts to a sprayer, boom, or toolbar. It is also available in a handheld version for scouting purposes. Trimble's product, like Ag Leader's, measures the vigor of your crop to give fertilizer rate application suggestions.[6] There are many more options, including TopCon's CropSpec sensors.

With the right tools, you can create the most efficient, effective fertilizer plan for the rest of the growing season this April.

Endnotes

1 Winsor, Susan. "How to view nitrogen prices given tighter profits." *Corn and Soybean Digest.* February 7, 2014. <http://cornandsoybeandigest.com/fertilizer/how-view-nitrogen-prices-given-tighter-profits?page=1>, accessed April 14, 2014.

2 "Sidedressing makes N available at critical growth periods." *The Prairie Star.* March 28, 2014. <http://www.theprairiestar.com/news/crop/sidedressing-makes-n-available-at-critical-growth-periods/article_651f0358-b13e-11e3-ae78-001a4bcf887a.html>, accessed April 14, 2014.

3 "Sidedressing makes N available at critical growth periods."

4 Nitrogen Application Timing in Corn Production." Pioneer. <https://www.pioneer.com/CMRoot/Pioneer/Canada_en/agronomy/agronomy_research_summaries/pdfs/2011_Nitrogen_Timing_Canada_HQ.pdf>, accessed April 18, 2014.

5 OptRx Crop Sensor," Ag Leader Technology, <http://www.agleader.com/products/directcommand/optrx/>, accessed on April 17, 2013.

6 "GreenSeeker crop sensing system," Trimble, <http://www.trimble.com/agriculture/greenseeker.aspx>, accessed on April 17, 2013.

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