THE LEADING EDGE

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A PUBLICATION DEDICATED TO MAXIMIZING YIELD POTENTIAL

Yes, Growers Do Have the Time To Address Nitrogen Deficiencies

Maybe April showers make May flowers, but what do April, May, and June showers bring? Producers know too well the answer to this question: yellow plants that are often a tell-tale sign of soggy roots and nutrient deficiency.

For the second year in a row, growers from across the United States have fought extremely wet spring conditions, which they find are leading to nitrogen deficiencies in their crops.

Auto steer, high clearance equipment, large capacity, and higher application speeds make side-dressing easier than ever before.

At this late stage in the game, some producers may be tempted to hope for the best. But don't give up! There is still time to address these deficiencies, but it must be done now.

Generally, there are three reasons why your soil may be nitrogen deficient. Perhaps a wet fall and spring or other time demands didn't allow you the time to apply nitrogen or to apply a sufficient amount. Or, you may have chosen not to apply as much because of your concern for the rising input costs. Finally, you may have applied a sufficient supply of nitrogen to the soil, but denitrification or leaching has robbed your plants of the necessary nutrients.

If your nitrogen deficiency is caused by either of the first two reasons, then you already know you need to apply more. But if it's because of denitrification or leaching, then deficiencies are just starting to show up and they may come as a surprise.

Denitrification happens when your crops have too much water. In wet years like this, the reason is generally too much rain, but the same thing could happen in fields with poor drainage, especially in low areas that frequently have standing water. Bacteria in the wet soil use oxygen from the nitrate instead of oxygen from the air. This means that the nitrate N is converted to

nitrogen gas, which can't be used by the plants and generally is lost into the atmosphere.

According to Penn State University researchers, it can take less than a week for wet fields to lose a significant amount of nitrogen through denitrification.

A wet season like many have had the past two springs also is the culprit for nitrogen losses by leaching. Essentially, the rain simply washes the nitrate away—a particular concern over winter and spring when nitrogen was applied the previous fall.

The good news is that help to rectify this situation is easier than ever before. But it is imperative that you take action now.

Side-dressing allows you to apply that essential fertilizer when it's needed most. And because of its placement, the fertilizer isn't in danger of burning the roots or leaves.

Very little ground disturbance has benefits piled on top of more benefits, such as: less moisture, lower horsepower requirements, faster application speeds, more acres covered and less risk of doing harm to growing corn plants.

Even so, some producers may question side-dressing in these late stages. Often three key questions come to mind: Does it pay off? Can it be done without hurting the crops? Do I have time to do it? Previous issues of Yetter Manufacturing's publication, The Leading Edge, have discussed many of these key questions.

First off, studies show that side-dressing can be profitable enough to justify the price of the fertilizer even if the fertilizer is applied up to shortly after silking. Issue 58 of The Leading Edge, addresses the many benefits producers can obtain by side-dressing.

Proper application, however, is key, in order to benefit your crops and be cost-efficient. Issue 45 of The Leading Edge also discusses the efficiencies of side dressing, mostly geared around using liquid fertilizer.

One option is use a simple coulter and liquid injection system. Unlike an applicator knife system, this won't flip chunks of soil onto the vulnerable small plants. Another option to consider is to attach toolbars equipped with an injection system to a high clearance sprayer. That kind of set-up should allow for proper side-dressing without hurting tender plants.

Anhydrous, too, can be effective at this stage. As pointed out in Issue 61 of The Leading Edge, there are many new items on the market that make applying anhydrous ammonia much easier, much faster, and more efficient

than what has historically been used.

By traveling 5 mph faster with newer application tools one can cover 250 or even 350 acres MORE per day.

For example, application equipment that makes use of angled coulters, rather than traditional knives, has very narrow application zone and creates less soil disturbance. Producers benefit because they are able to cover more acres in a shorter amount of time while saving fuel costs.

NH3 application tools also are becoming more accurate in metering, which help ensure proper application. Larger supply tanks and more sophisticated trailers with large-wheeled and four-wheel steer carts help producers be more efficient. At the same time, the improved tracking system reduces soil compaction.

Variable-rate technology also ensures that producers apply the NH3 only where it is needed, saving money while also benefiting the environment.

Finally, there is the question of time. It's not unusual for growers to wonder how they are ever going to find time to make another pass through their fields before the crops get too tall or before the demands of weed control or irrigation take all their time. In fact, time may be the number one reason why some producers are reluctant to side-dress nitrogen into their fields. However, whether you apply liquid or anhydrous fertilizer, new products out today will help you get through your fields faster.

Self-propelled sprayers equipped with coulters to apply liquid can travel up to 18 mph, a remarkable improvement over spraying operations in the past. Tractors with mounted toolbars equipped with liquid coulters can commonly travel 12 to 15 mph. And now, tractors applying anhydrous with single disc openers have been running up to 12 mph. These new operations create very little soil disturbance and have much lower horsepower requirements than traditional machines. Traveling faster, using less horsepower, and better placing fertilizer all boost efficiency which in turn boosts profits.

In years past, the difficulties associated with addressing nitrogen deficiencies postemergence led many producers to simply accept the situation. But today's improved application methods and equipment make side-dressing a realistic option when wet springs rob crops of vital nutrients.

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products that maximize your yield potential.

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