



Our Mission: To promote and implement the 4Rs of nutrient stewardship (right source, right place, right time, right rate) to minimize environmental impact, optimize harvest yield and maximize nutrient utilization.

IN THIS EDITION:

- **Nutrient Utilization in 2017 Leads to Impressive Corn Yields**
- **Considerations for First Time Cover Crop Adopters—a New Guide!**
- **Fall Fertilizer Best Management Practices: We’ve Come a Long Way Baby.....**

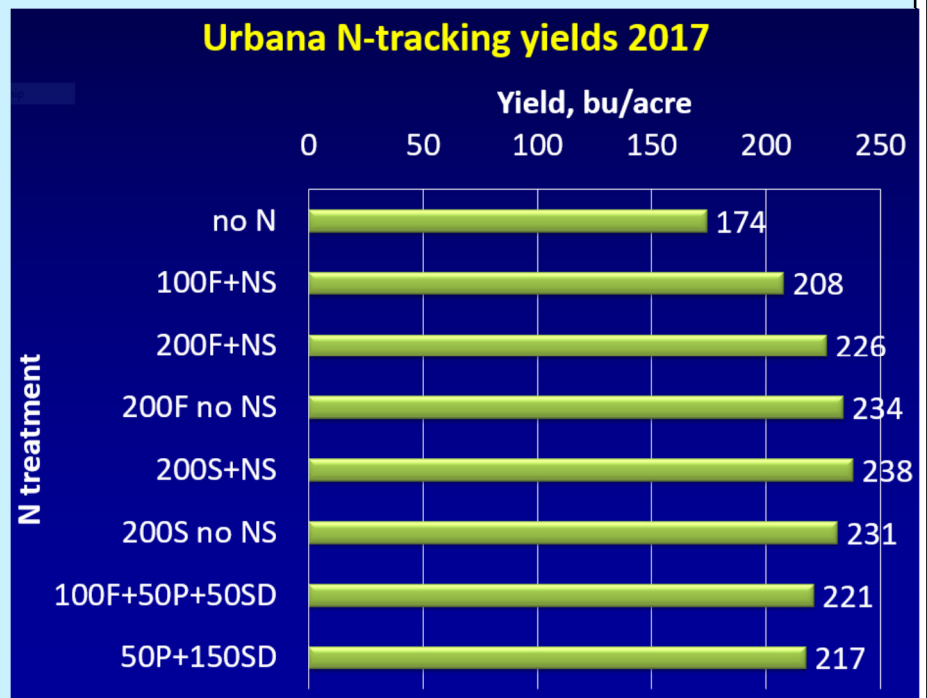
Research Influences Nitrogen Management in Illinois

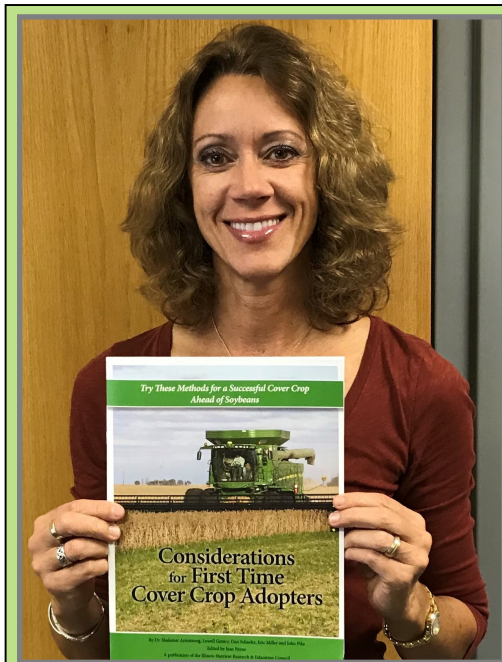
In a webinar to ag retailers and farmers on October 31, Dr. Emerson Nafziger at the University of Illinois gave an assessment of nitrogen utilization by the 2017 corn crop. Despite a very worrisome, wet spring (which we discussed in the Spring 4R newsletter), farmers and ag retailers once again payed close attention to what the research is showing, and most did not apply additional nitrogen to “replace” what some feared was lost due to excessive rain. Dr. Nafziger’s soil nitrogen tracking study showed in April and May that nitrate levels in soils that received fall or spring applications of nitrogen had sufficient levels of nitrogen for the crop. The frequent communication of these research findings has made a significant impact on nitrogen management in Illinois. Nitrate levels in the surface water supplies has been low all summer and fall, another testament to good nitrogen utilization and management.

Throughout the growing season, Dr. Nafziger published regular updates in the UI “Bulletin” advising retailers and farmers about the state of nitrogen and the corn crop. IFCA distributes these bulletins to ag retailers and crop advisers who further communicate them to their farmer customers. At harvest, corn yields for many Illinois farmers were quite impressive and were achieved with modest nitrogen application rates (130-190 lbs per acre). All of the nitrogen bulletins can be viewed at <https://ifca.com/4R/Updates>.

IFCA helps to identify retailers and farmers to participate in the on-farm nitrogen studies which include different N rates at different times. This slide from the webinar shows that both fall and spring applications of nitrogen provided very good yield results, and this year adding N-Serve to spring applied nitrogen showed one of the best yield responses.

The MRTN system was right on target with recommending optimum N rates; rates above the MRTN did not pay off. Illinois’ MRTN is based on NREC funded research and this year’s research will continue to feed the Illinois MRTN.





A “How To” Guide for Farmers Considering Cover Crops for the First Time

After five years of research funded by NREC, researchers were eager to share what they learned in order to help ease farmers into trying a cover crop for the first time. As Lowell Gentry of UI put it, *“We are taking the risks with cover crop trial and error so that farmers don’t have to.”*

In October 2017, NREC published a comprehensive, easy-to-read Guide outlining the steps that a farmer can take to ensure that their first foray into cover crops does not harm their cash crop. The best way to do this is by planting cover crops ahead of soybeans, not ahead of corn.

IFCA enjoyed working with NREC to develop this guide. The authors of the Guide, Dr. Shalamar Armstrong, Lowell Gentry, Dan Schaefer, Eric Miller (a farmer) and John Pike all worked together on projects and learned not just from their own research plots, but from each other’s experiences. The Guide is available at www.ifca.com or email jeanp@ifca.com.

A Look Back—And Forward—On Fertilizer Stewardship *By Jean Payne*

This is my 29th year working for the ag retailers in Illinois, and the years of experience I’ve been fortunate to accumulate allow me to share with you just how much has changed in the fertilizer industry. A Lot!

Fall Nitrogen: In the 1990’s and early 2000’s, nitrogen application was quite different from today. The guidance for applying nitrogen in the fall was to start in mid October and if the soil temperatures were at 60 degrees, then we recommended using a nitrification inhibitor (N-Serve). If the soil temps were 50 degrees, it was considered ok to not stabilize fall ammonia. The old slogan was *“Stabilize at 60 or wait until 50.”* How times have changed! And all because of research and voluntary adoption of best practices by our industry.



This fall, I didn’t receive a SINGLE PHONE CALL from someone concerned, complaining, or just plain mad about seeing ammonia being applied before the soil temperatures fell to 50 degrees. Because it didn’t happen. In fact, even now with air temps in the 40’s and nighttime temps close to freezing, we are far from being close to half way done with fall ammonia season—most retailers just got started. Fertilizer sales records show a 30% decline in fall anhydrous ammonia sales in Central Illinois, due to the industry dialing back N rates in the fall (splitting nitrogen) and delaying application until the soils get cool, and stay cool. Let me tell you, I do not miss those angry phone calls at all! However, I never regretted taking those calls because it meant people cared, and that people expected IFCA to positively influence the industry. And we have.

Nitrogen Rates: I’ll share another old nitrogen slogan from twenty years ago: *“1.2 is the most you should do.”* That meant use 1.2 pounds of nitrogen for each bushel of corn you expected to yield, based on your five year average plus a 5% expected yield increase. But research today has shown that our corn crop is using only about 0.7 lbs of N per bushel of yield. That is a nearly 50% increase in nitrogen efficiency! In looking at the slide on page 1, if we were still using “1.2” then we would have applied almost 285 lbs of nitrogen to get 238 bushels of corn instead of the 200 lbs it actually took on that particular field. The voluntary changes made to improve nitrogen efficiency are astounding.

The Take-Away: Just 10 years ago, some people reading this newsletter would probably have been in the camp that regulation is the only way to get agriculture to change. But we can change, and we do change. I work for an industry that manufacturers, distributes and sells fertilizer, and yet we are huge advocates of the judicious and proper use of fertilizer. What a terrific job I have, to see first-hand how research, combined with the “do the right thing” attitude of our industry leaders, has changed agriculture and our environment for the better. We’ve still got plenty of work to do but we are clearly making great progress!