

**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.

Welcome to the **IFCA Keep it 4R Crop** Newsletter! IFCA's members are ag input providers and advisers to Illinois farmers, with over 350 ag retail members and 1,300 Certified Crop Advisers capable of influencing nutrient application decisions on millions of Illinois acres working directly with their farmer customers. The Keep it 4R Crop program utilizes the 4R framework to **educate, implement, evaluate, track and report** the adoption of nutrient practices that can reduce nutrient losses. We partner with university researchers to help develop and deliver science based nutrient recommendations focused on increasing nutrient utilization to reduce nutrient losses to the environment and ensure progress toward the goals of the Illinois Nutrient Loss Reduction Strategy (INLRS).



**IFCA Staff:** Jason Solberg, Jean Payne, KJ Johnson, Dan Schaefer and Leslie Forrest. All IFCA staff play a role in the IFCA Keep it 4R Crop efforts!

Our 4R bulletins will highlight work that is underway in the fertilizer sector to assure the nutrient industry and our farmer customers will achieve our goals of improving nutrient utilization to reduce nutrient losses. Let's get started!

### The 4Rs: Improving Nutrient Utilization in Partnership with Ag Retailers & CCAs

After announcing this new program at the IFCA convention in January 2015, ag retailers have been holding meetings with our members and their farmer customers to reinforce the message of nutrient stewardship. At these meetings IFCA staff, ag retailers and the farmers discuss water quality challenges, the loss reduction targets in the INLRS, and what farmers can do to reduce losses in their operation by working closely with their crop adviser and implementing 4R practices on their acres. Dan, Jean, KJ and Jason recently presented at these retailer events:

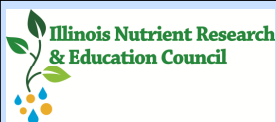
**Evergreen FS, Bloomington (20 crop advisers)**  
**United Prairie, Urbana (150 farmers)**  
**Crop Production Services (50 crop advisers)**  
**Good Hope Fertilizer, Good Hope (35 farmers)**  
**GROWMARK (200 crop advisers)**  
**Prairieland FS, Springfield (85 farmers & 20 advisers)**  
**Donovan Farmers Elevator, Donovan (25 farmers)**  
**Brimfield Ag, Brimfield (65 farmers)**  
**Dekalb/Asgrow, Danville (40 farmers)**  
**Canadian Ag Retailers Association (250 ag retailers)**  
**Goldstar FS, Coal Valley (70 farmers)**  
**IFCA Spring Safety Schools (850 retail employees)**



Jean Payne visits with Peoria County farmers at a meeting hosted by Dave Cox (CCA) owner of Brimfield Ag, in Feb 2015.



In addition to ag retailers, we also presented to members of the Vermilion County Farm Bureau, the IL Association of Wastewater Agencies, the Indian Creek CTIC partnership and the Lake Springfield partnership. We also educate future crop advisers and farmers; Dan Schaefer, IFCA Director of Nutrient Stewardship, is a guest instructor in Don Bergfield's Soils & Fertility class at Parkland Community College and he also taught a class on nutrient stewardship for Lincoln Land CC (see Dan and Parkland students (left) in February 2015. Dan's the one with gray hair. :)



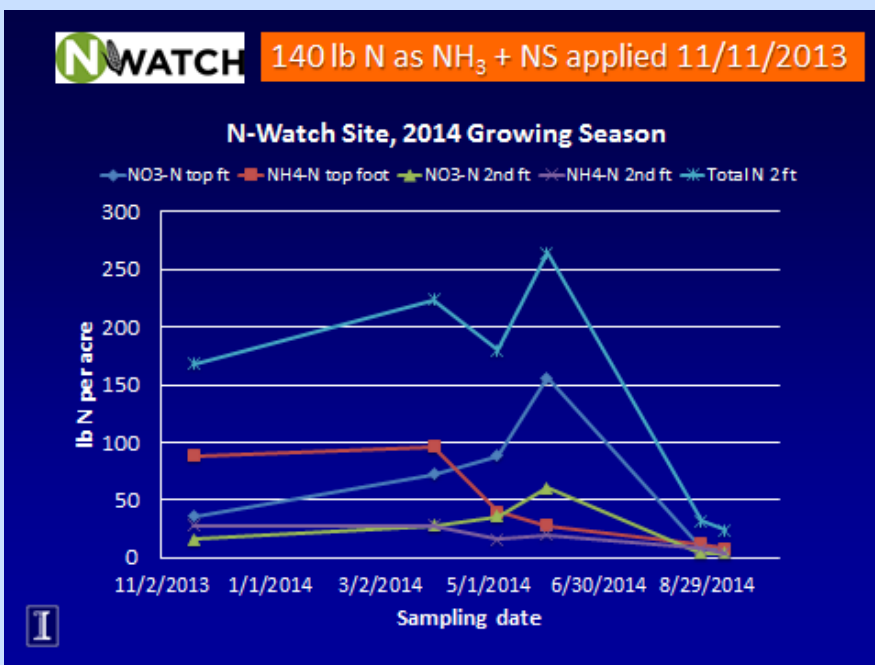
## Illinois Nutrient Research & Education Council Funds Research to Improve Nutrient Utilization

The Illinois Nutrient Research & Education Council (NREC) is in its 3rd year funding projects that seek to minimize environmental impact, optimize harvest yield and maximize nutrient utilization. It has also attracted new researchers to this effort and these researchers presented their NREC funded research to 350 certified crop advisers at the IFCA convention on January 21, 2015. You can listen to these presentations and see the slides by going to the NREC website at [www.illinoisnrec.org](http://www.illinoisnrec.org) then click on the “Research” tab.

Several of these presentations highlight findings of nitrogen work during the 2014 crop year; researchers informed crop advisers in the audience of management techniques that can reduce losses. Water quality in surface water drinking supplies was vastly improved in 2014 compared to 2013 due primarily to enhanced nutrient utilization by the crop—most water supplies were well below 5 ppm nitrate all year. However, Lake Danville struggled with higher levels of nitrates that required treatment to achieve levels below 10 ppm and we’ll be working closely with them in 2015. Of particular interest to the fertilizer industry is evaluation of on-farm research that shows how properly stabilized fall nitrogen can remain in the ammonium (non-leachable form) well into spring, and how split applications of nitrogen feed the crop throughout the season which can minimize nutrient losses and increase yields.

The slide below, presented by Dr. Emerson Nafziger (UI) at the conference, shows how fall applied ammonia with a nitrification inhibitor (N-Serv or NS) applied in November 2013 when soil temperatures fell to 50 degrees, stayed in the ammonium form as  $\text{NH}_4$  which is non-leachable. Observe how the ammonium converts to nitrate ( $\text{NO}_3$ ) in late spring and was then rapidly taken up by the corn crop. By the end of August, very little nitrate remained in the soil and thus very little applied nitrogen remains to be lost to water movement through the soil and tile drainage in the fall of 2014 or the early spring of 2015. Nitrogen management in the fall is a viable 4R option and fits perfectly into a split application system.

Dan Schaefer collaborates on several on-farm research projects being funded by NREC. There are two research major projects on nitrogen management systems over tile-drainage, a bioreactor study, a paired cover crop study and on-farm nitrogen rate trials to improve the Maximum Return to Nitrogen Calculator (MRTN). The MRTN, split nitrogen applications and use of nitrification inhibitors and enhanced nitrogen efficiency products are listed in the ILNRS as methods to reduce nutrient losses. These research projects will soon produce results that can feed future recommendations of the ILNRS.



### COMING SOON—THE IFCA 4R CODE OF PRACTICE!

The IFCA Agronomy Committee and Board of Directors has defined a 4R Code of Practice that we will release in Spring 2015. The Code lays out principles of nutrient stewardship including proper fall application, use of nitrification inhibitors, discouraging the application of nutrients on frozen, snow covered ground and promoting overall plant health in all aspects to increase nutrient utilization to protect water quality. It also asks IFCA members to report acres operating under a 4R system so that we can track progress and report our findings to the ag industry and our fellow nutrient stakeholders. For more information contact IFCA.