Reducing Nutrient Losses
The Fertilizer Industry’s Progress Report
IFCA’s Mission Statement: To assist and represent the crop production supply and service industry while promoting the sound stewardship and utilization of agricultural inputs

1,100+ members statewide including:

- Ag Retailers
- Fertilizer & Pesticide Manufacturers and Distributors
- Equipment Suppliers
- Input Transporters
Illinois’ Cropping System Makes Controlling Nutrient Losses Particularly Challenging
Illinois Nutrient Loss Reduction Strategy

Illinois’ Plan to Reduce Nitrogen and Phosphorus in Illinois Waters and Gulf of Mexico
Loss Reduction Goals for Ag:

- 225 million lbs of nitrogen (112,500 tons)
- 18 million lbs of phosphorus (9,000 tons)

Wastewater treatment plants must reduce N & P levels but will do so under new regulatory permits and increased costs passed on to water users.

Agriculture given opportunity to achieve reductions through voluntary practices.
Phosphorus

• In 1977, P2O5 sales peaked at 1,174,190,000 lbs

• P2O5 Sales in 2012 was 758,052,000 pounds (a 35% reduction in use from 1977)

• ILNRS Target Reduction is 18,000,000 pounds

• That’s 2% increase in efficiency needed in utilization compared to sales
Nitrogen

• N Sales in 2012 was 2,293,812,952 pounds
• Target Reduction is 225,000,000 pounds
• That’s a 10% increase in utilization needed
ILNRS Estimates to Move all Nitrogen to Spring is $18.00 per/acre

True Costs Much Higher!

2009 ISU Study: $1,994,777,682 for equipment and increased UAN storage.

Does not account for manufacturing costs, transportation (barge, rail, truck) and carrying product inventory for 10-11 months.

Does not account for human resources needed for transportation and application and the safety risks associated with a compressed season.
IFCA Estimates Moving all N to Spring Closer to $250 per acre

Supply & Demand Extremes: Illinois, Ohio, Indiana, Wisconsin, Missouri

Unintended Consequences of All Spring Application: Could Lead to More Nutrient Losses and then We Would Have Changed the Distribution System
Ag Retailers Must Lead Efforts to Help Farmers Manage Nitrogen to Reduce Nutrient Losses
4Rs of Nutrient Stewardship

CROPPING SYSTEM OBJECTIVES

Productivity
Profitability
Durability
Healthy environment

ENVIRONMENTAL

Nutrient loss
Soil productivity
Ecosystems services
Farm income

Nutrient balance
Yield
Net profit

ECONOMIC

Resource use efficiencies:
Energy, Labor, Nutrient, Water

Soil erosion

SOCIAL

Return on investment
Quality
Working conditions
Yield stability

Biodiversity

Water & air quality
Adoption
Illinois Nutrient Research & Education Council
NREC Funding – Owned by Agriculture

– Range of funding is 50 cents to $3.00 per ton.

– Private fund which cannot be swept.

– NREC set assessment at 75 cents per ton.

– Provides approximately $2.5 - $3 million per year

– 20% of NREC funds dedicated to on-farm research
NREC Members

**NREC Members – Voting (9)**

3 from Fertilizer Industry:
- Dr. Howard Brown, GROWMARK
- Ed Corrigan, Brandt Consolidated
- Matt Duncan, Crop Production Services

1 CCA Representative: Dave Creech

1 Specialty Fertilizer: Chris Matlock

IL Farm Bureau: Dale Hadden, Jacksonville IL

IL Corn Growers: Gary Hudson, Hindsboro, IL

IL Soybean Assoc: Matt Hughes, Shirley IL

IDA: Jim Larkin

**NREC Members – Non Voting (4)**

Environment: Jessica Dexter, ELPC, Chicago IL
- Cindy Skrukrud, Sierra Club, Chicago IL

University: Dr. German Bollero, UI

IEPA: Marcia Willhite, IEPA
2014 NREC Projects
Nutrients & Water Quality

• 3 Projects Studying N Losses Over Tile Drained Systems
• 3 Cover Crop Studies to Determine Agronomic, Water Quality and Economic Impact
• Studying Bioreactors and Wetlands on Farm Fields to Determine their Practicality
• Updating P & K Crop Removal Rates and Soil Productivity in Corn/Soy Rotations
• Looking at Nitrate Movement in Soil after Fall and Spring N applications and crop update of nitrate
Illinois Ag Retailers: Providing Leadership on Nutrient Stewardship
IFCA’s Nutrient Stewardship Team

Dan Schaefer
Director of Nutrient Stewardship

Jason Solberg
Asst. Director of Stewardship Programs
IFCA Keep it 4R Crop Approaches:

• **Managing Nitrogen as a System** instead of a Single Application

• **Using N-Calc** and working with your customers to introduce on-Farm Nitrogen Rate Trials to help UI develop Reliable, Defensible, N Rate in the Watersheds,

• **N\textsuperscript{WATCH}** soil testing program is a nitrogen education and management tool to track and assess nitrogen presence in the soil

• **Present solutions when faced with challenges!**
Ag Retailers, Farmers and Universities Using On-Farm Research to Build Reliable, Defensible Nutrient Management System
Released: 11/25/14
(comments due January 25, 2015)

Includes:

• MRTN
• Use of Nitrification Inhibitors
• Fall BMPs
• Split Application
• Switch to Spring
• Cover crops
• Soil Testing for P Levels
What Are the Next Steps to Assure Agriculture’s Success in Reducing Nutrient Losses?
IFCA 4R Code of Practice

- Stewardship on Fall Applied N – 50 degrees, nitrification inhibitor and consider lower rate
- Discourage applying majority of nutrient needs on frozen, snow covered soils – offer a 4R approach instead
- Use MRTN Calculator and Nitrogen Management Systems
- Soil Testing – P, K, pH
- Promote overall good crop production practices to optimize yield and nutrient utilization
Accountability

• Allow IFCA to Publish Names of Companies Committed to the 4R Code of Practice
• Raise Overall Awareness of the 4Rs with all Employees
• Seek Certification for 4R Specialty - Signage
• Provide Your Customers with 4R Options
• Participate in On-Farm research to support our universities and the ability to publish results and assure credibility of findings