Illinois Fertilizer & Chemical Association

Supply • Service • Stewardship

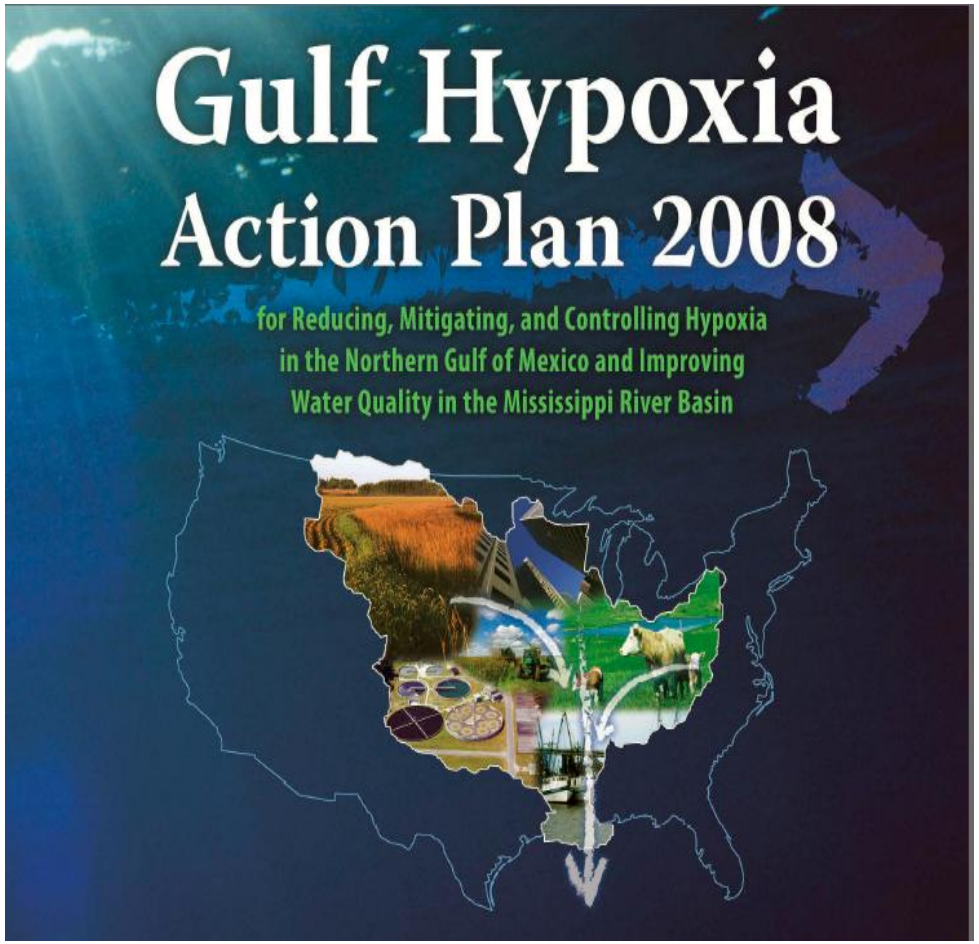
Est. 1965

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

Reducing Nutrient Loads to Gulf



The Science Advisory Board called for 45% reductions in both N and P with a goal of reducing the hypoxic zone to 2,000 square miles.

Target Dates:

By 2025 = 15% for N and 25% for P

By 2035 = 45% for N and 45% for P

Nutrient Loss Reduction Strategy

(Goal=To reduce N and P loss by 45%)

Northern 2/3rd of state
has a nitrate problem,

while southern 1/3rd
has a phosphorus problem.

Nutrient Non-point Sources
(Agricultural runoff from 23.5 million acres in IL)

- Nitrate
  - Tile drainage (predominant source)
  - Overland runoff
    - nitrate low in precipitation
- Phosphorus
  - Overland runoff (predominant source)
    - soil erosion
    - unincorporated P fertilizer
  - Tile drainage

Photo by Todd V. Royer and Lowell E. Gentry

Nutrient Loss Reduction Strategy Goal

Reduce N and P loading to Gulf by 45%

Target Dates:

By 2025 = 15% for N;

25% for P

By 2035 = 45% for N;

45% for P

ILLINOIS NUTRIENT LOSS REDUCTION STRATEGY

Improving our water resources with collaboration and innovation

Nutrient Research and Education Council

Funding comes from a fee of 75 cents per ton of product sold

Bioreactor Monitoring Equipment

Lifted from NREC website

Phosphorus Runoff from Surface and Subsurface Fertilizer Applications in No-till and Strip-till Fields with Minimal Slope Gradient in Central Illinois

Fabián G. Fernández (Principal Investigator), Dan Schaefer, Kristin Greer and Chris Rudisill.

Farmer cooperators with this project include: Eric Rund, David Schaefer, Denny Reifsteck, Jerry Christian

Tillage Vs Strip-till water infiltration

Tillage .5” Rain 20 min

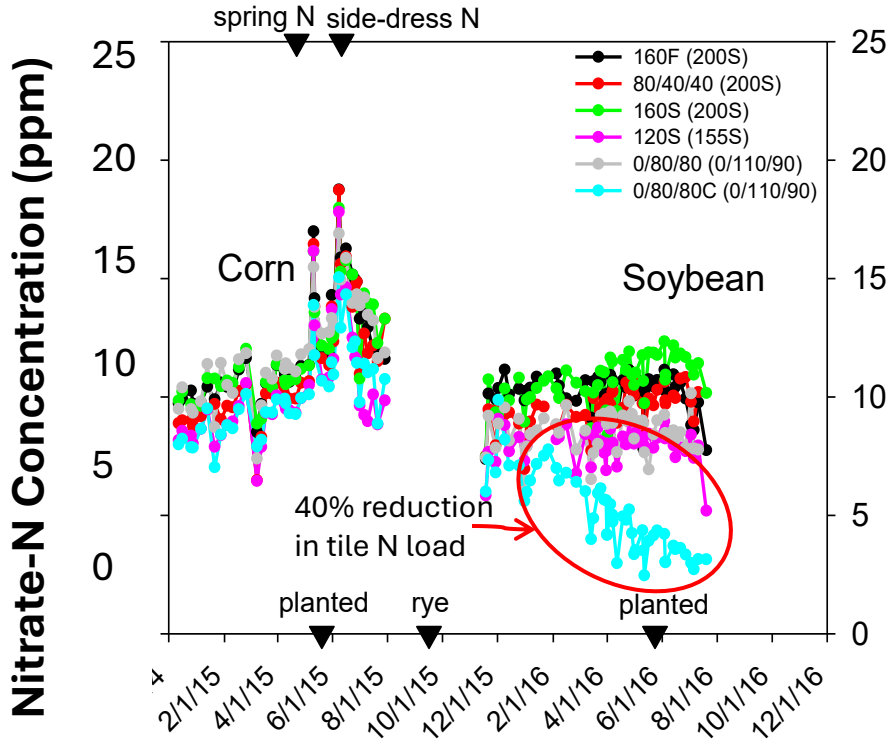
Strip-till .5” Rain 20 Min

Replicated tile drainage study (NREC Funded Project)

ILLINOIS

Tile nitrate concentrations following cereal rye after corn (ahead of soybean)

Cereal rye reduced tile nitrate by >40% during the warm winter of 2015-2016 compared with the other 15 tiles without cover in this study.




No-till
Conventional
Strip-till
Strip-till w/Cover
Corn/Soybean rotation
Average plot is 3 acres, with 4 replications of each treatment

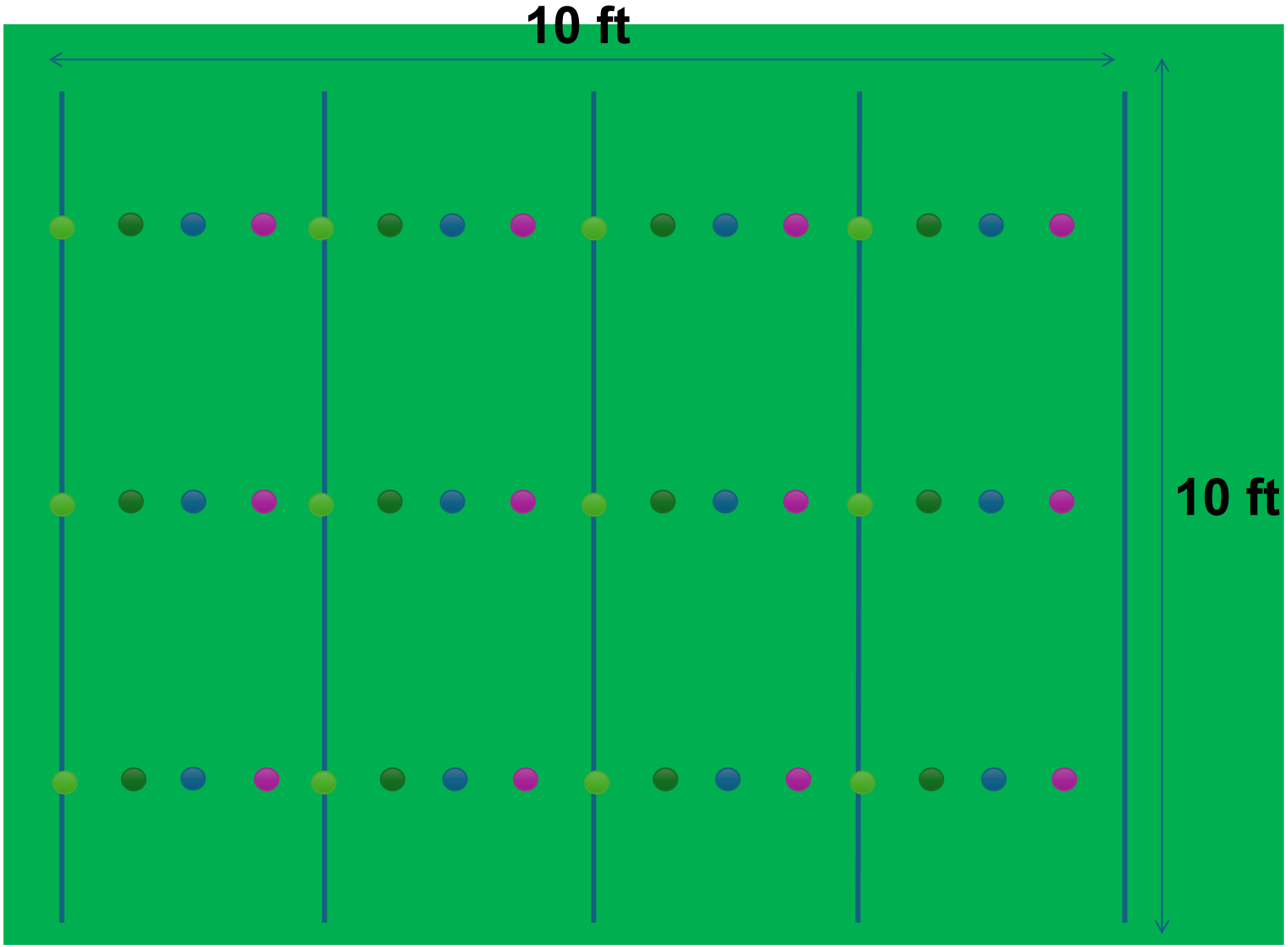
1.

*R*eplication

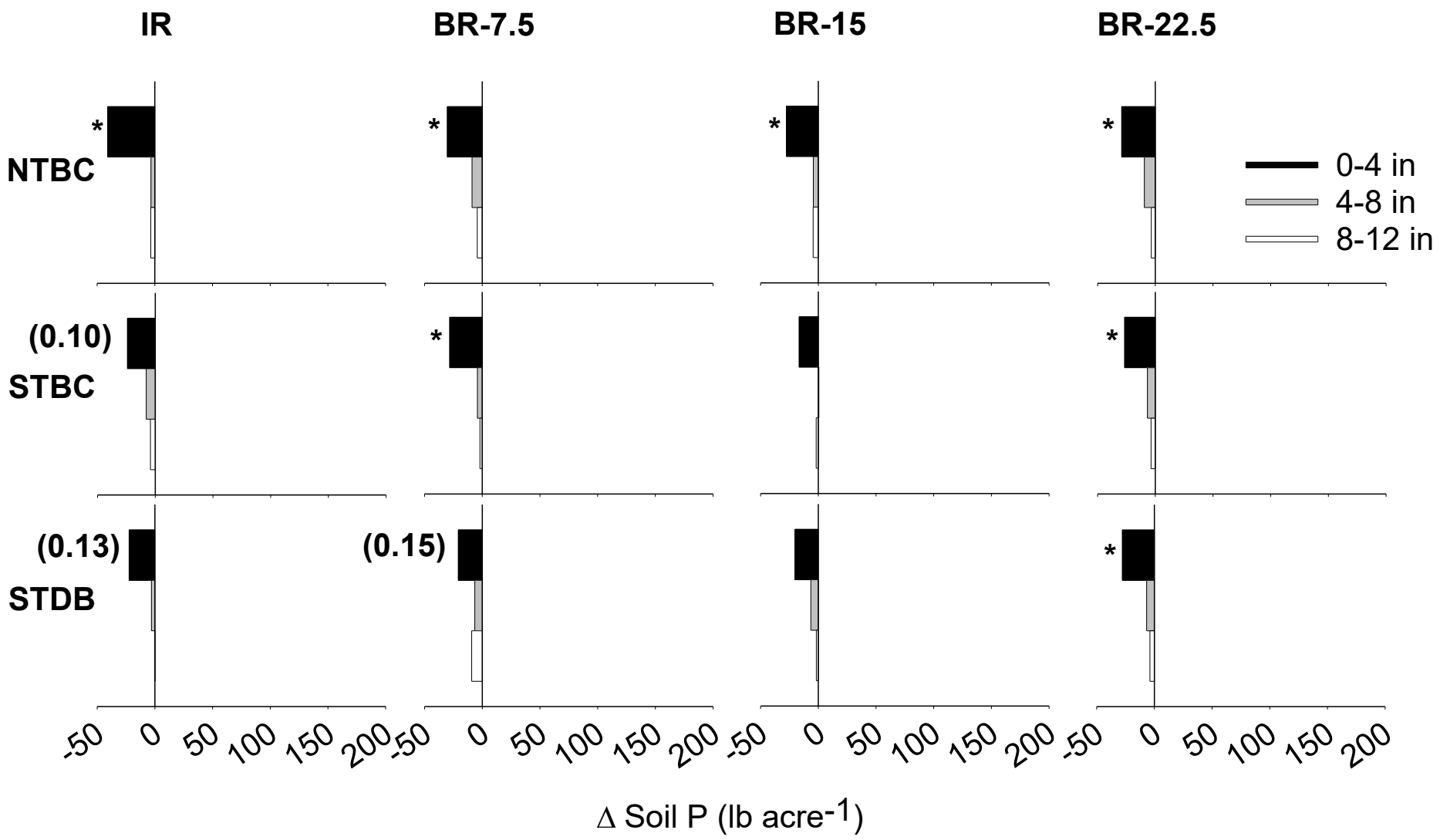
13 N Rate Trials

Range	Optimal N
1 (Low)	144 #'s
2	146
3	149
4	150
5	154
6	155
7	159
8	172
9	178
10	180
11	198
12 (High)	216
Average	167 lbs.

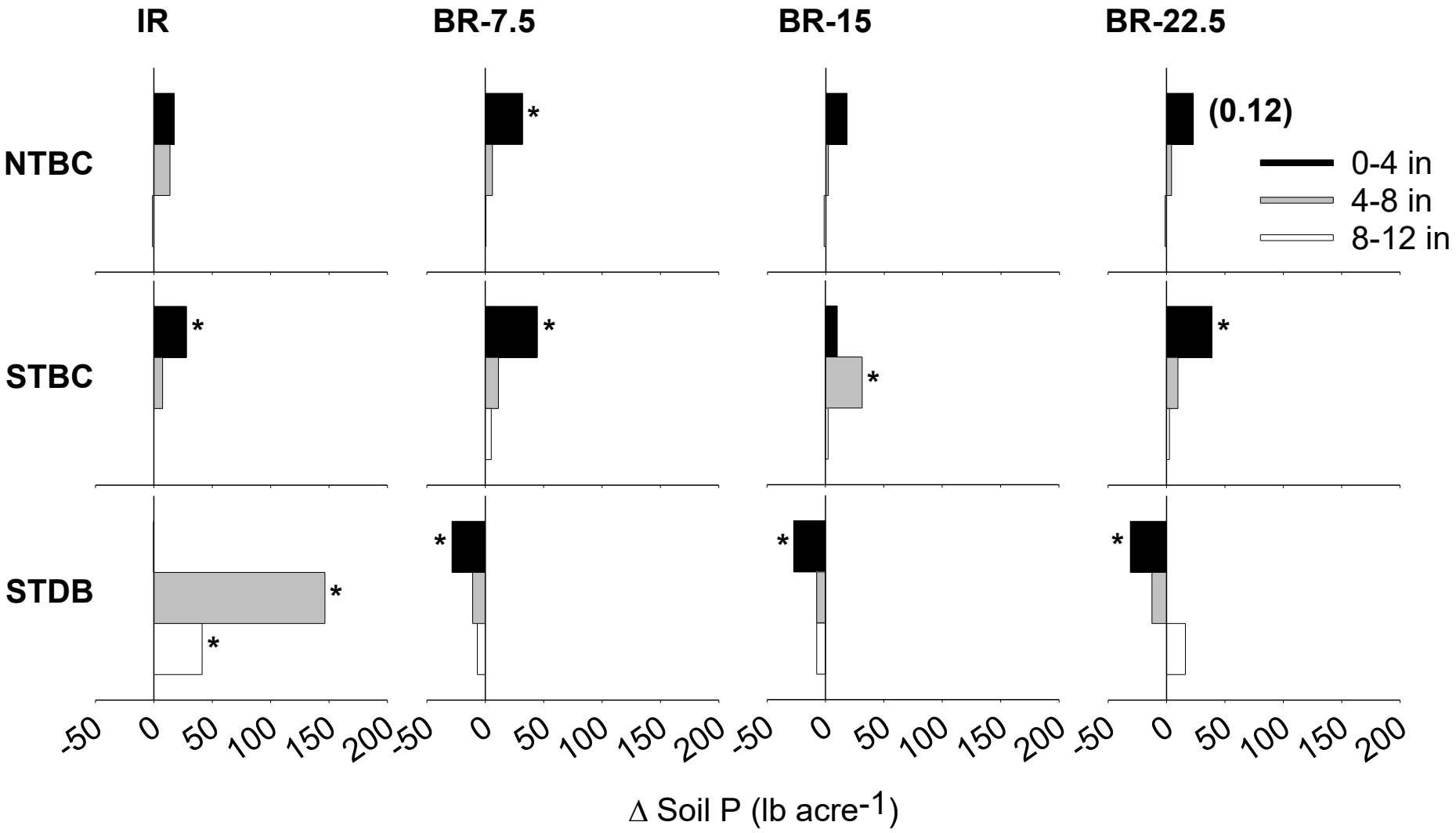

JOHN DEERE


10 ft
10 ft

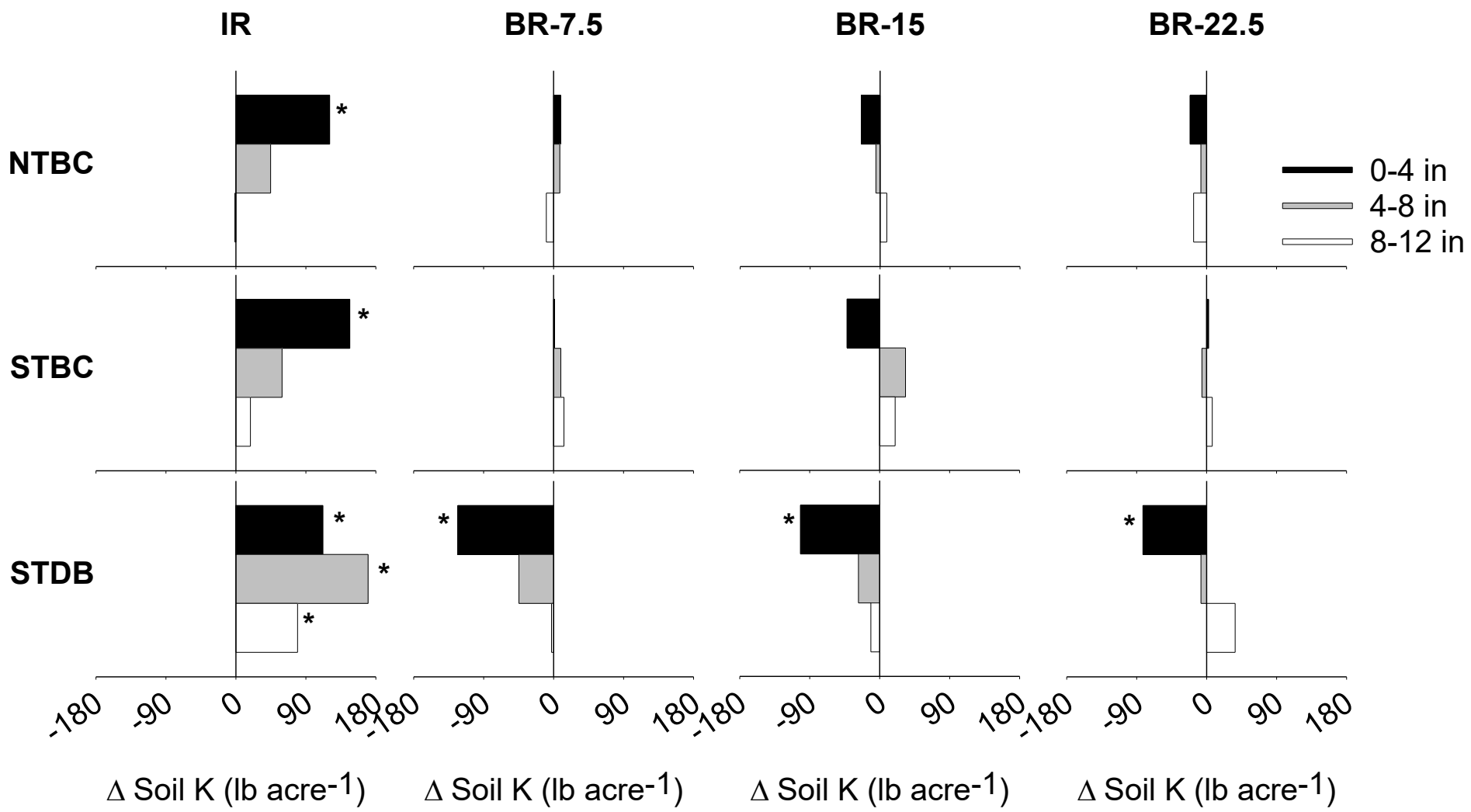
Check (0 lb P_2O_5)



Highest Rate (161 lb P_2O_5)



Highest Rate (161 lb K_2O)



Take Home Message

- Don’t take shortcuts when taking soil samples
- Adequate P and K levels are more important than fertilizer placement
- Tillage and not P and K placement had an important effect in corn and soybean yields in our studies. Also strip-till had a positive benefit in soil properties
- No evidence that P and K rates can be reduced when banding the fertilizer
- When P and K are banded, for each core taken in the fertilizer band, 2-3 cores need to be taken away from the band

Illinois Ag Retail Survey

Illinois Ag Retail Survey

Supports the Illinois Nutrient Loss Reduction Strategy (NLRS)

- Captures real-world nutrient management practices

Provide baseline for trend evaluation

Illinois Ag Retail Survey

Funding Sources: ICBMP & IL EPA

Conducted by IFCA, partnered with Iowa NREC and Iowa State University

C-BMP
Illinois Council on Best Management Practices

MISSION

Working to assist and encourage adoption of best management practices (BMPs) to protect and enhance natural resources and the sustainability of agriculture in Illinois.

Illinois Ag Retail Survey

- Document fertilizer rate and timing decisions
- Track soil testing and VRT use for P
- Measure conservation practices adoption

Survey Methodology Overview

- Designed by ISU CSSM for statistical strength
- 150 retail locations randomly selected statewide
- 10 customer fields selected per location
- Need 500 surveys completed for statistical relevancy
- Anonymous, statewide representative data

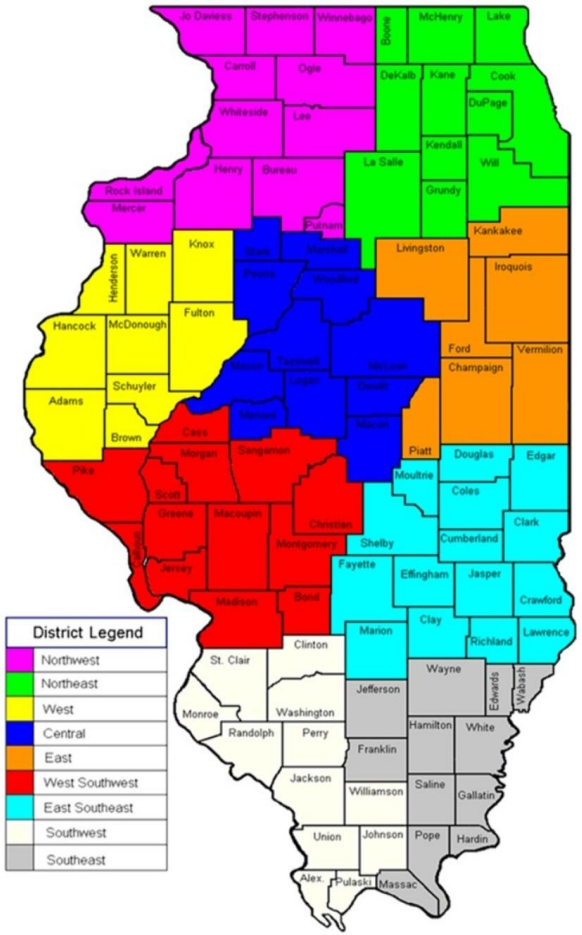


Figure 1. Illinois crop reporting

The randomly selected locations are stratified across the nine crop reporting districts based on each area's percentage of row crop acres

Data Collection

Regional liaisons to meet in person with the ag retailers and carry out the random selection protocols and collect survey information

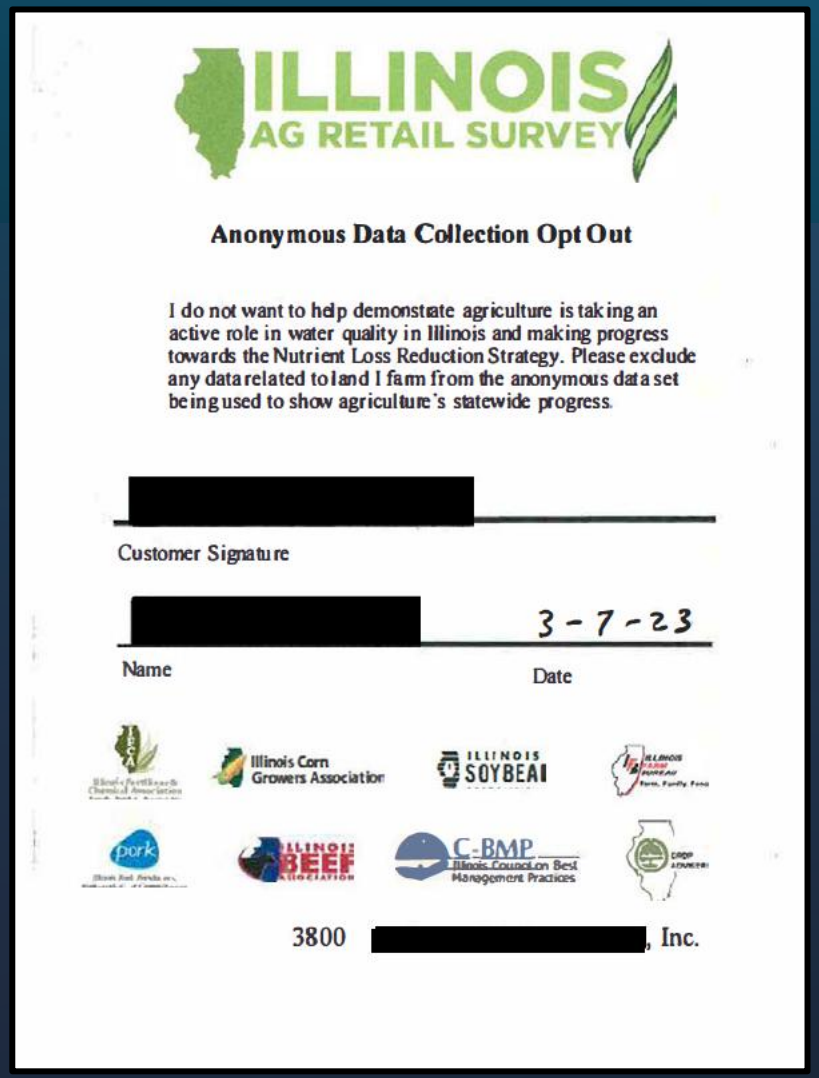
Survey info collected by inputting it into an online survey form maintained on a private, secure server by INREC

Data collection period runs from December through March

Data Security & Confidentiality

INREC has a private server and data security consultant

No personal information from farmers or retailers (name, location) is input into system, so even in event of a hack there would be no confidential information available



ILLINOIS AG RETAIL SURVEY

Anonymous Data Collection Opt Out

I do not want to help demonstrate agriculture is taking an active role in water quality in Illinois and making progress towards the Nutrient Loss Reduction Strategy. Please exclude any data related to land I farm from the anonymous data set being used to show agriculture's statewide progress.

[redacted]

Customer Signature

[redacted] 3-7-23

Name Date

Illinois Corn Growers Association

ILLINOIS SOYBEAN

C-BMP Illinois Council on Best Management Practices

3800 [redacted], Inc.

2024 State Survey Highlights

- 845 fields surveyed

(exceeded goal)

- Median field: 92 acres

Median farm operation: 1,763 acres

Crop Rotation

	Percentage	Acreage	
Crop Rotation	**2024**	**2024**	**Extrapolated Using**
Continuous Corn	4.5%	1,000,909	Row crop acres
Corn-Corn-Soy	7.8%	1,739,599	Row crop acres
Corn-Soy	81.4%	18,207,494	Row crop acres
Soy-Wheat-Corn	4.8%	1,077,513	Row crop acres
Other	1.5%	344,484	Row crop acres

Cover Crop Practices

	Percentage	Acreage	
Cover Crop Practices	**2024**	**2024**	**Extrapolated Using**
Cover crop planted	8.7%	1,952,286	Row crop acres
Winter hardy single species	64.0%	1,250,173	Cover crop acres
Winter hardy within a mix	31.9%	623,497	Cover crop acres
Winter kill	4.0%	78,617	Cover crop acres

True No-Till

	Percentage	Acreage	
No-Till	**2024**	**2024**	**Extrapolated Using**
Corn	22.9%	2,477,336	Corn acres
Soybean	37.1%	4,005,955	Soy acres

Nitrogen

- Corn fertilizer N rate averaged across the state was 198 lbs/A under a corn-soybean crop rotation (3-year average of 195 lbs/A)
- Corn fertilizer N rate for continuous corn increased to 219 lbs/A from 207 lbs/A in 2023.
- Entire application of fertilizer N occurring in the fall remained at 16%.
- Entire application of fertilizer N occurring in the spring preplant was 25%.

Nitrogen

- Split fertilizer N applied as Fall and spring preplant was 16%.
- Split fertilizer N applied as spring preplant and side-dress was 15%.
- Anhydrous ammonia application in the fall was 50% with 96% use of a nitrification inhibitor.

Phosphorus

- Soil sampling to determine P levels was 78% and commercial P applied was 86%.
- Variable Rate Technology (VRT) of fertilizer P was 35%.
- Fertilizer P application occurring annually was 62%.

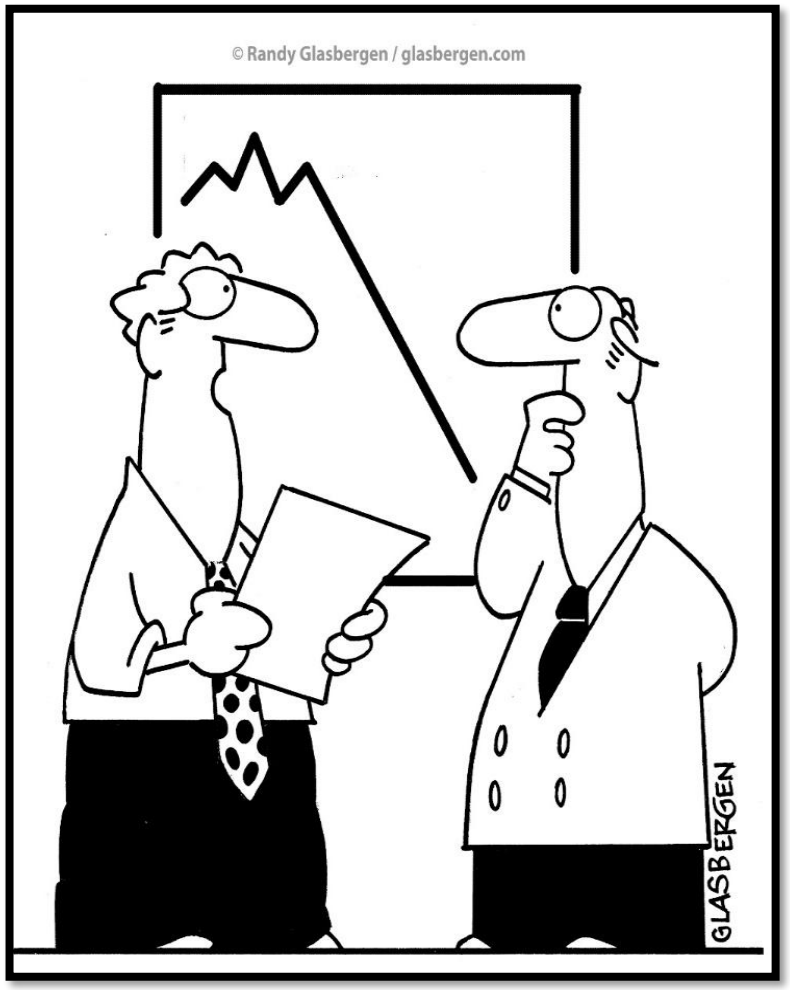
Phosphorus

- Fertilizer P rate for mono-ammonium phosphate (MAP) and di-ammonium phosphate (DAP) were 150 and 161 lbs/A (non-VRT acres).

- This year's survey results included the application of TSP, MESZ, and MES10 with fertilizer P rates of 147, 154, and 175 lbs/A, respectively (non-VRT acres).

Key Takeaways

- Fertilizer rates align with University of Illinois guidelines
- High inhibitor adoption improves N retention
- Conservation practices increasing gradually
- Survey provides actionable statewide benchmarks



Contact Information

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"We're seeing a significant drop in customer complaints since we stopped answering our phones."