



Splitting your Nitrogen Fertilizer:

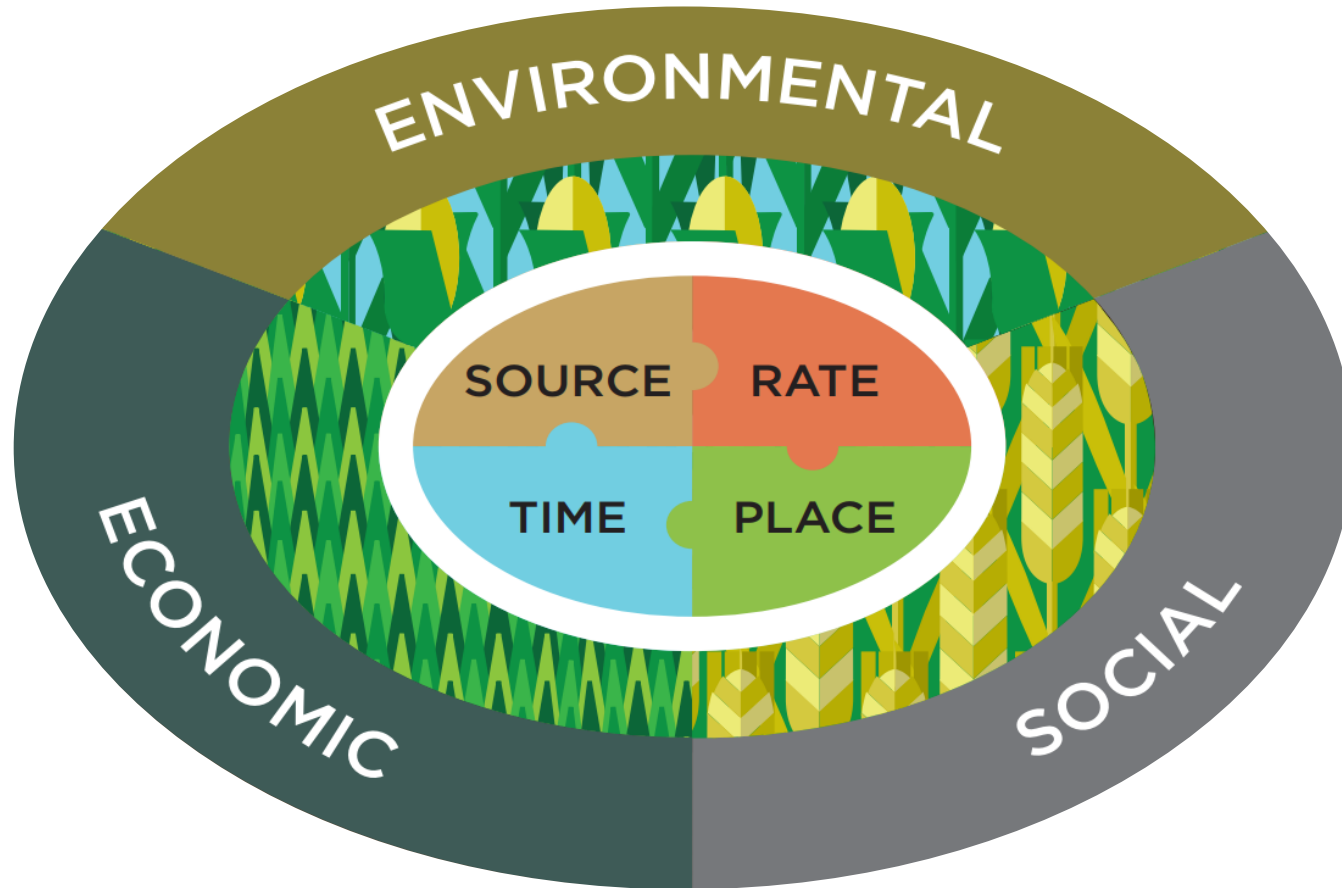
What the yield results tell us

Eric Rosenbaum

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Profit, Planet & People



“Agricultural sustainability practices look different in every region, every state, every watershed, every community & every farm. Yet, sustainability is uniquely simple – care for the land & care for the people.”

PA4R Recent Projects

2020-2024

National Fish & Wildlife Foundation (NFWF)

- 4R Benchmark Assessment, UDel Farmer Survey, Manure Transfer, Split Nitrogen Cost Share

2021

PA NRCS CIG

- Quantifying Fertility Contributions from Cover Crops
- Nitrogen Models vs Mass Balance Calculations

2023-2024

NFWF Most Effective Basin Grant

- Overlaying Advanced Nitrogen Management Practices on Manured Acres. Focus on Low Disturbance Manure Injection

MA4R SPLIT N PROJECT

Funding for this project was provided by National Fish & Wildlife Foundation and a PA WIP III Implementation Grant



Participant Criteria:

- **Corn Acres**
 - Minimum Enrollment – 40 Acres
 - Maximum Enrollment – 400 Acres
- **Current regulatory compliance** on enrolled acres
- **Willingness to:**
 - Optimize Split Applications of Nitrogen based on site-specific conditions and yield goals
 - Split apply nitrogen on enrolled corn acres to meet supplemental nutrient management criteria for nitrogen
 - Provide a comparison check strip where all N is applied up front
 - Share production information & yield data

A Summary of the Results

2021 Data

Farms Enrolled	Acres Enrolled	PA Average Yield Increase	DE/MD Average Yield Increase
• 16	• 3,595	• 17.6 bu/A	• 19.2 bu/A

2022 Data

Farms Enrolled	Acres Enrolled	PA Average Yield Increase	DE/MD Average Yield Increase
• 21	• 4,213	• 13.0 bu/A	• 4.3 bu/A

The impact of SPLIT N

A Case Study from 2021

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N APPLICATIONS

	Control	+ Split
pop-up fertilizer	0	0
2x2 starter	0	0
legume history	0	0
manure history	20	20
planned manure	0	0
pre-emerge	130	65
sidedress	0	68
Total	150	153

The impact of SPLIT N

A Case Study from 2021

ECONOMICS

	Control	+ Split
Total Revenue	\$972.80	\$1,179.52
Nitrogen Fertilizer Cost / A	\$80.17	\$91.27
Nitrogen Fertilizer Cost / bu	\$0.50	\$0.47
Increase in Revenue		18%
Decrease / bu in Fertilizer Costs		6%

Economic Assumptions:

- \$370 – UAN Pricing June 2021
- \$6.08 – Corn Price November 1, 2021

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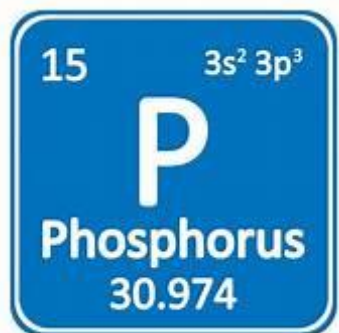
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Total	150	153
Yield	160	194
NUE	0.94	0.79
Increase in NUE		16%

The impact of SPLIT N

A Case Study from 2021

PHOSPHORUS IMPACT OF A NITROGEN PRACTICE

- Increased P removal by 8.8 lbs/A



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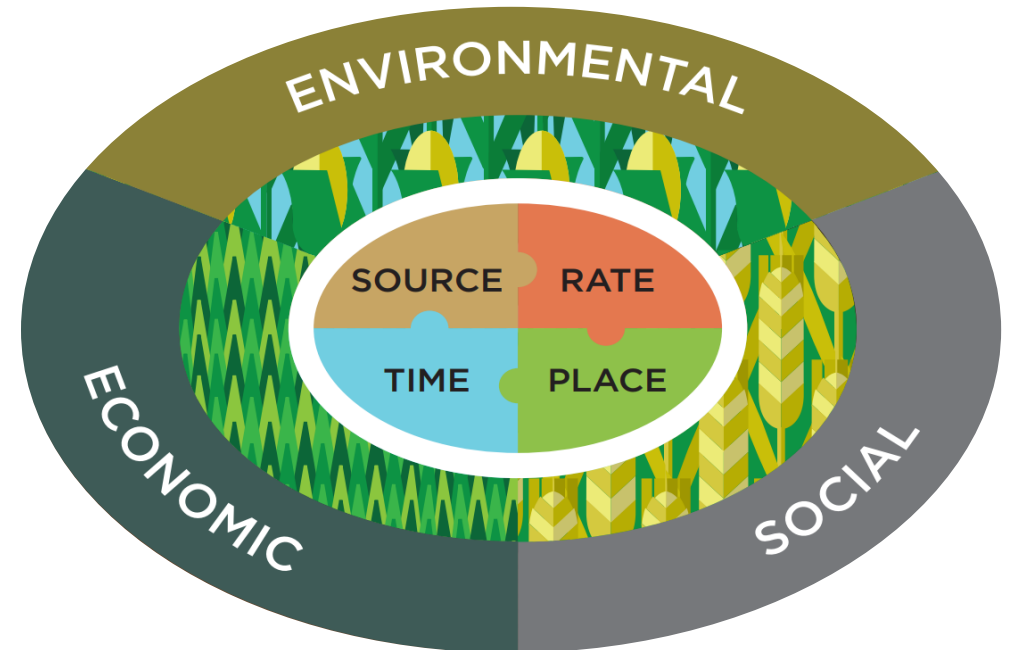
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Yield	160	194
NUE	0.94	0.79
Increase in NUE		16%

AGRONOMIC BMPS

MOVE THE NEEDLE ON WATER QUALITY

Adoption of Split Applications...

- Increases Yield
- Increases Nitrogen Use Efficiency
- Increases P removal





Questions & Conversation

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