

V Precision Planting®  
Fluid Fertilizer Foundation

# Precision Seed and Fertilizer

PRESENTED BY

**Aaron Herrmann**  
Research Agronomist

## How do WE manage crop nutrients for the grower's peak profitability?

# Managing Phosphorous for Grower Profitability

Right Time

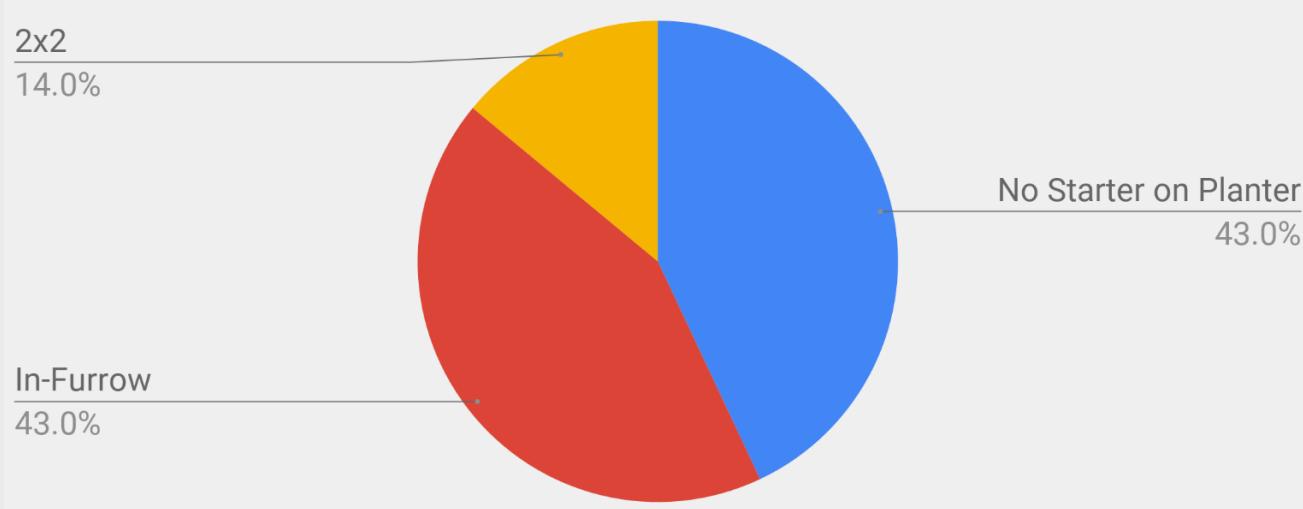
Right Place

Right Amount



Starter Fertilizer  
on the Planter

# Starter Adopters



Farm Journal - Text Survey - May 2015

# Where?



# Meet the Starter Skeptic

## Starter Skeptic's top reasons for not using starter?

“I've tried it and it didn't work”

“Starter costs too much”

“I've tried it and it didn't pay for itself”

“My soils test High/Very High in P & K so I don't need starter”

“I am not going to slow down planting”

“Too much hassle”



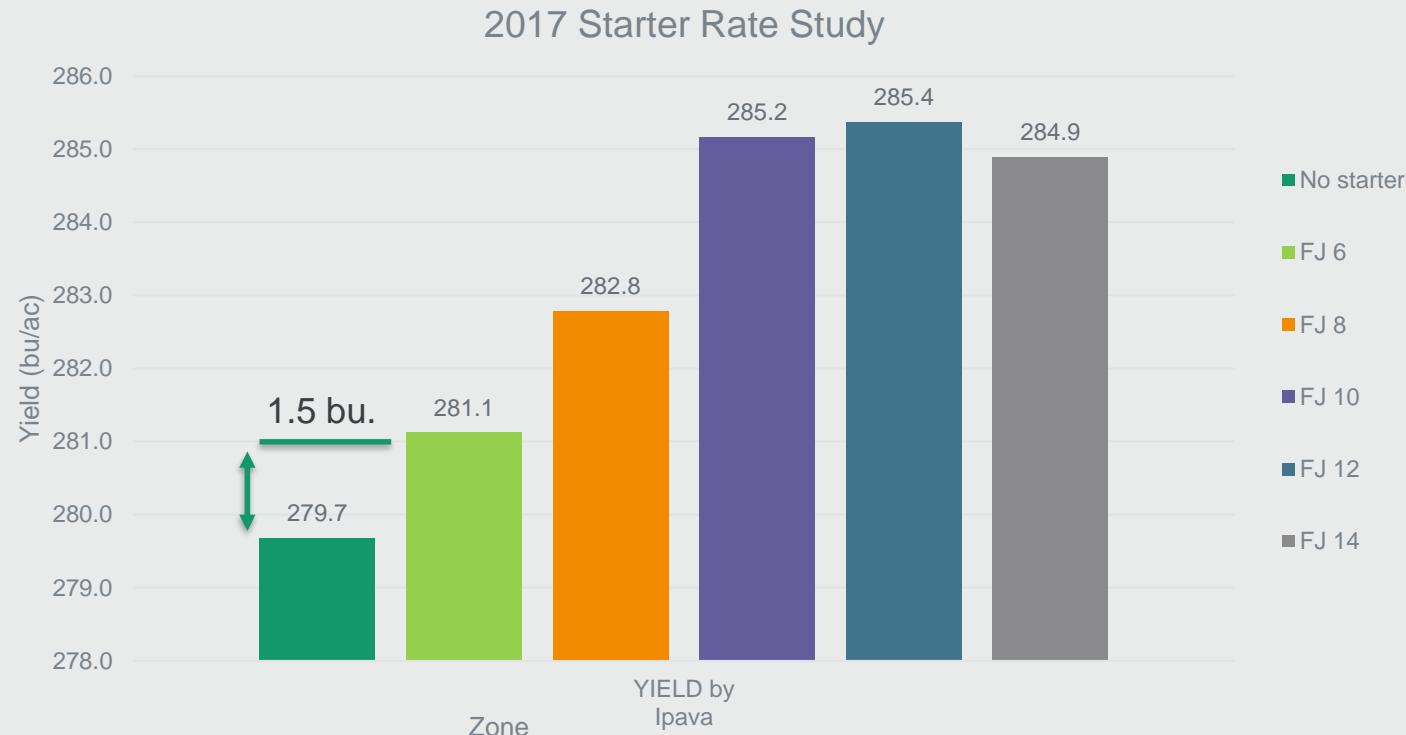
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## Starter Skeptic

**“I tried starter and it didn’t work”**

The Fine Print: He has put starter on at a in-furrow rate of 2-6 gallon and can't see it on the yield monitor.

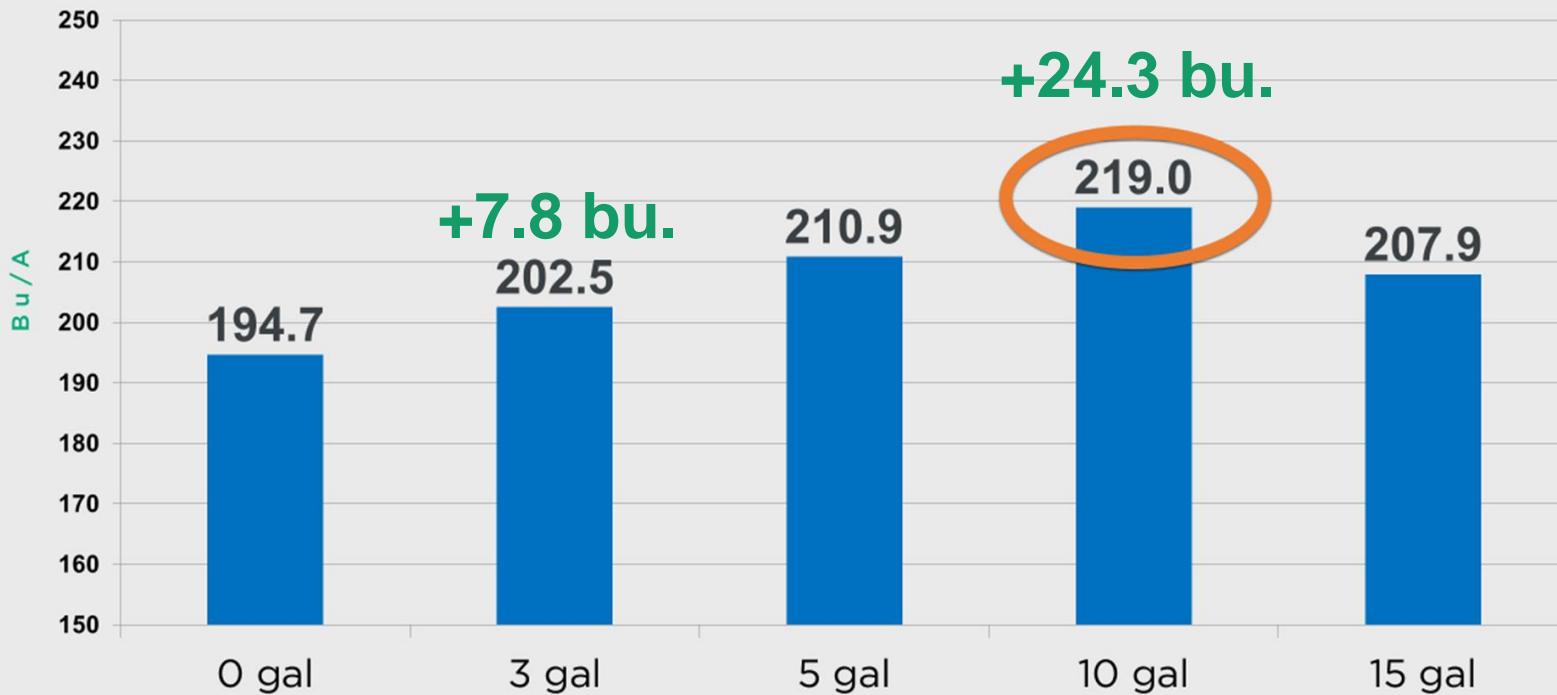
# “I tried it and it didn’t work”



# Starter Rate Comparison

7-23-5+1Zn, Avg all attachments

2015 Starter Plot, Roth 60  
10 Acre Ipava Soil Zone



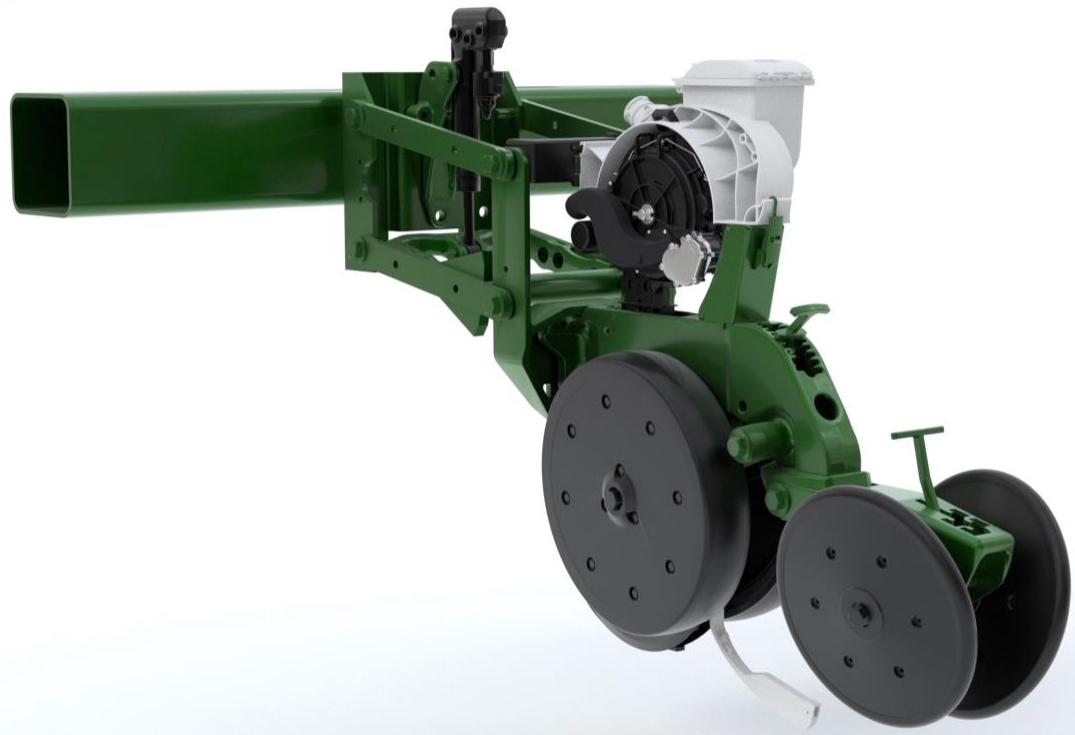
# 40%

of Starter Yield Response Captured

# FurrowJet



100%  
of Starter Yield  
Response Captured



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## Starter Skeptic

**“Starter costs too much”**

**“I tried it and it didn’t pay for itself”**

The Fine Print: He is admitting he gets extra bushels but <10 bu. Can’t pay for a \$30 starter cost.

# Fertilizer Program ROI

## Program Scenario

250 Bu. Corn

.35 lbs of P205 per bu removed

88 lbs of P205 for Maintenance

DAP: \$480 per ton

10-34-0: \$450 per ton

Starter Response	Gross \$/ac
5 bu/ac	\$18 /ac
10 bu/ac	\$35 /ac
15 bu/ac	\$53 /ac

## Fertilizer Program Assessment

Traditional Dry Program		P2O5	Fertilizer Investment
Fall Broadcast	190lbs of Dry DAP (18-46-0)	88 lbs	\$46 /acre

- No Opportunity for Starter Response

+ \$14/ac

No Reallocation		P2O5	Fertilizer Investment
Starter Fall Broadcast	8GPA of Liquid (10-34-0) 190lbs of Dry DAP (18-46-0)	32 lbs 88 lbs	\$21/ac \$46/ac = \$67 /acre + \$21 Cost

+ \$31/ac

Reallocation: Starter Credit		P2O5	Fertilizer Investment
Starter Fall Broadcast	8GPA of Liquid (10-34-0) 120lbs of Dry DAP (18-46-0)	32 lbs 56 lbs	\$21/ac \$29/ac = \$50 /acre + \$4 Cost

+ \$39/ac

Reallocation w/ Efficiency Factor (1.5x)		P2O5	Fertilizer Investment
Starter Fall Broadcast	8GPA of Liquid (10-34-0) 87lbs of Dry DAP (18-46-0)	32 lbs 40 lbs	\$21/ac \$21/ac = \$42 /acre - \$4 Cost

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## Starter Skeptic

**“My soils test High/Very High in P & K  
so I don’t need starter”**

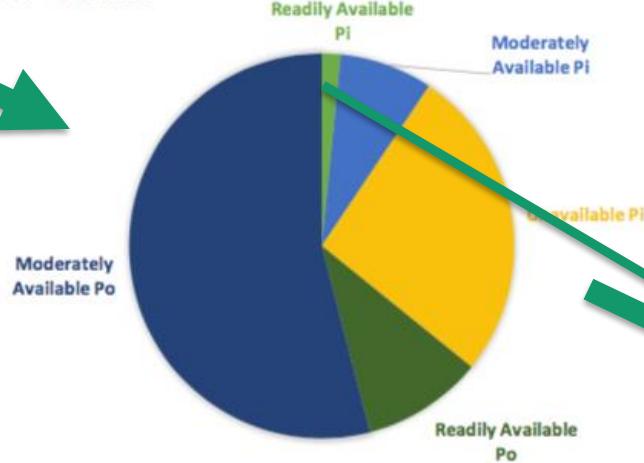
The Fine Print: He believes high soil test values equals high amount of phosphorous into the plant.

# How does fertilizer interact with the soil?

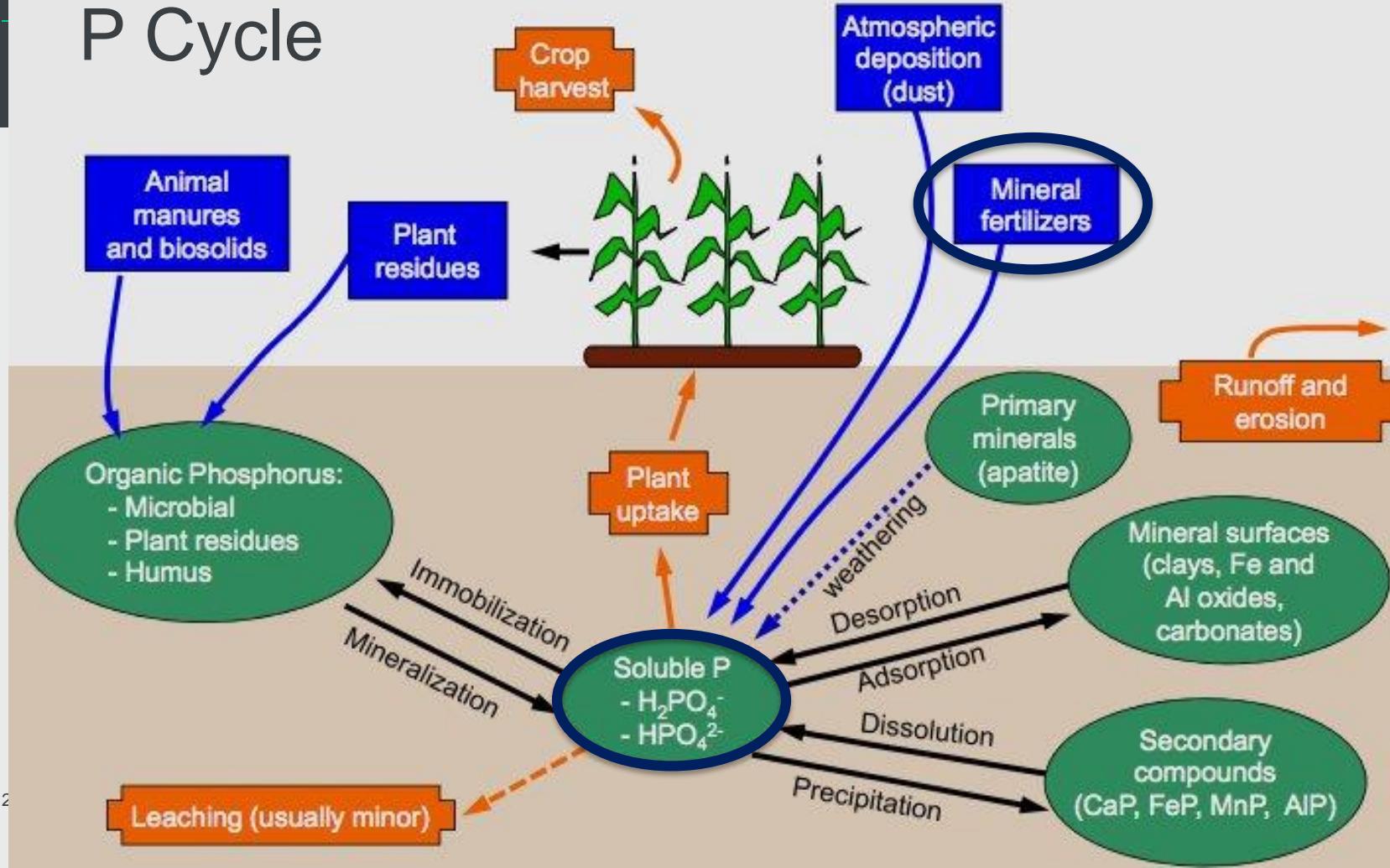


# 6,000 lbs of Phosphorous

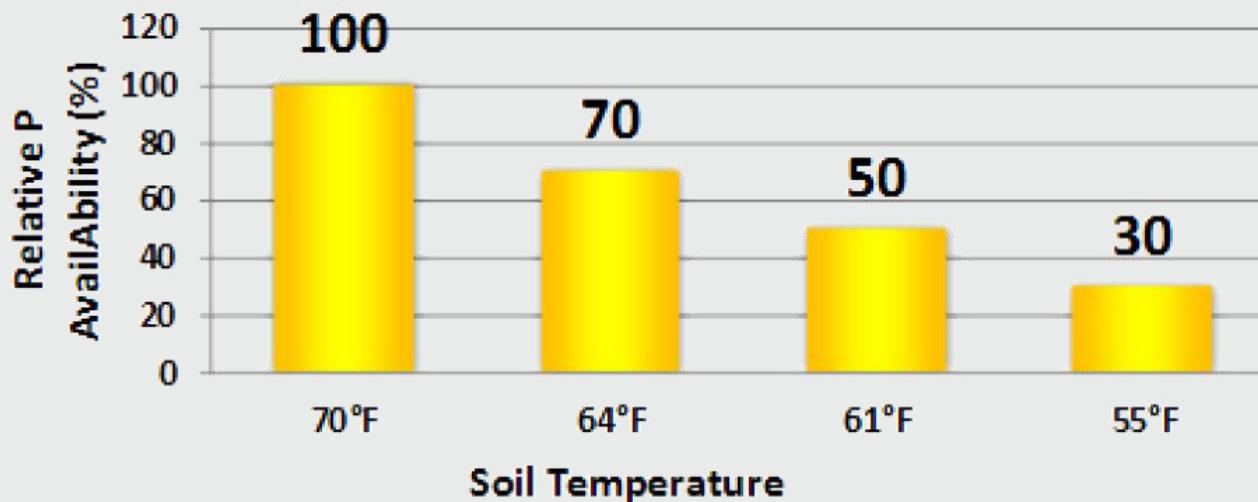
BECKER, MN  
TOTAL P - 329 PPM



# P Cycle

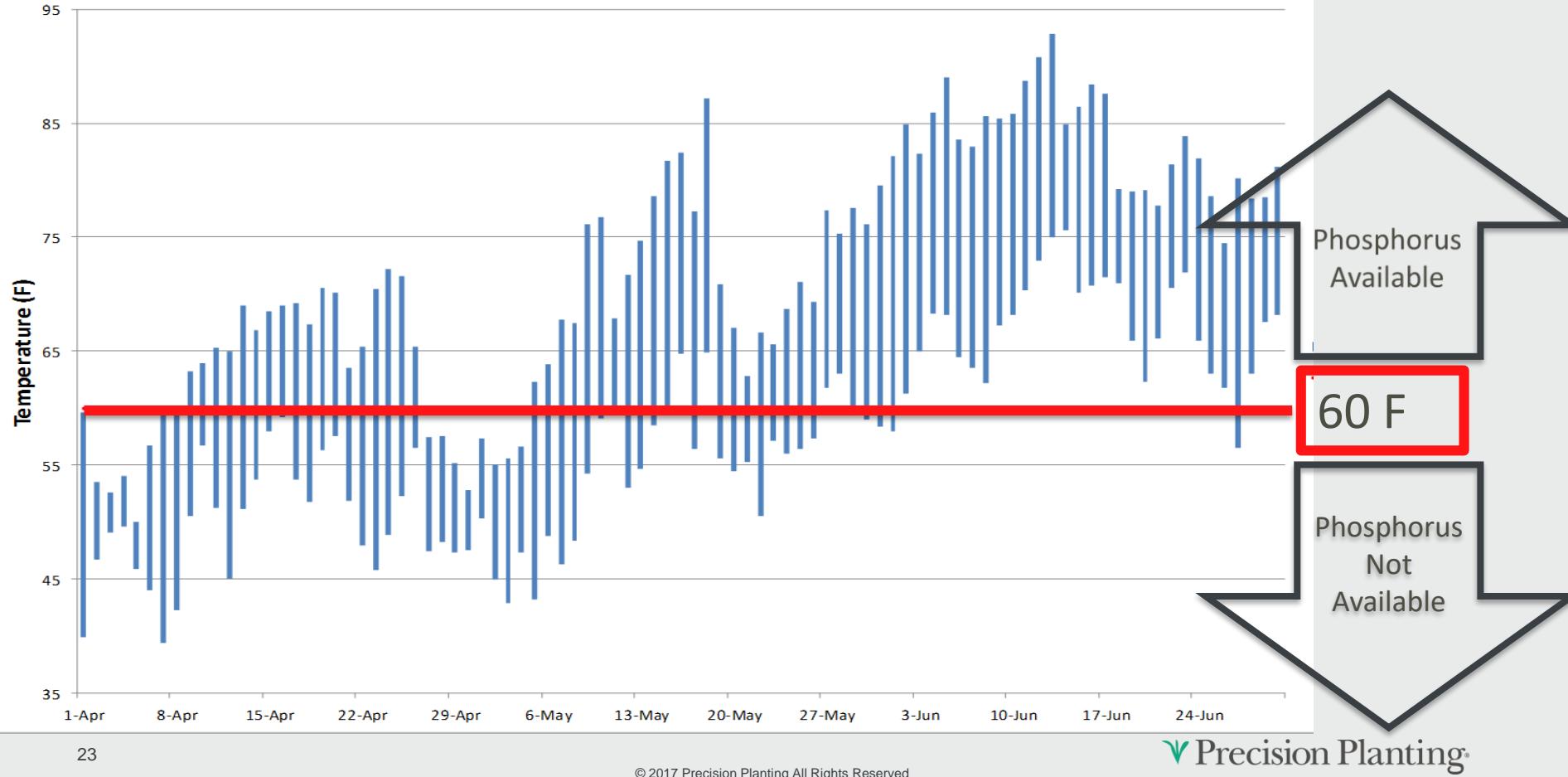


**Table 2: Effects of Soil Temperature on the Relative Availability of Phosphorus\***

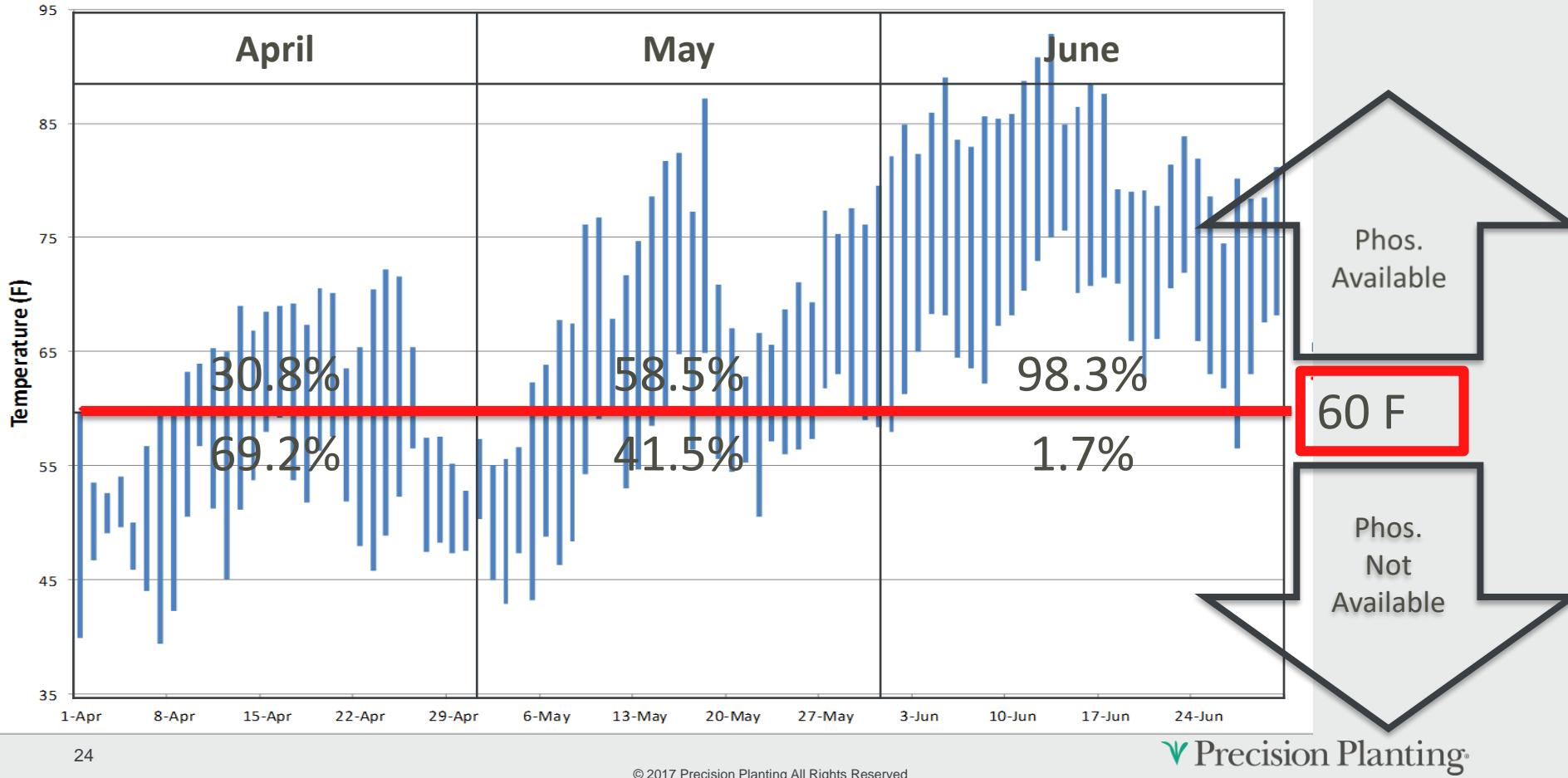


\* Soil Temperature Effects P Use: Using starter fertilizer for corn grain, sorghum, soybeans - Hergert and Wortmann - Extension Soils Specialists, University of Nebraska - Lincoln

## Temperature, 4" Bare Soil Central IL 2017



## Temperature, 4" Bare Soil Central IL 2017



# Band



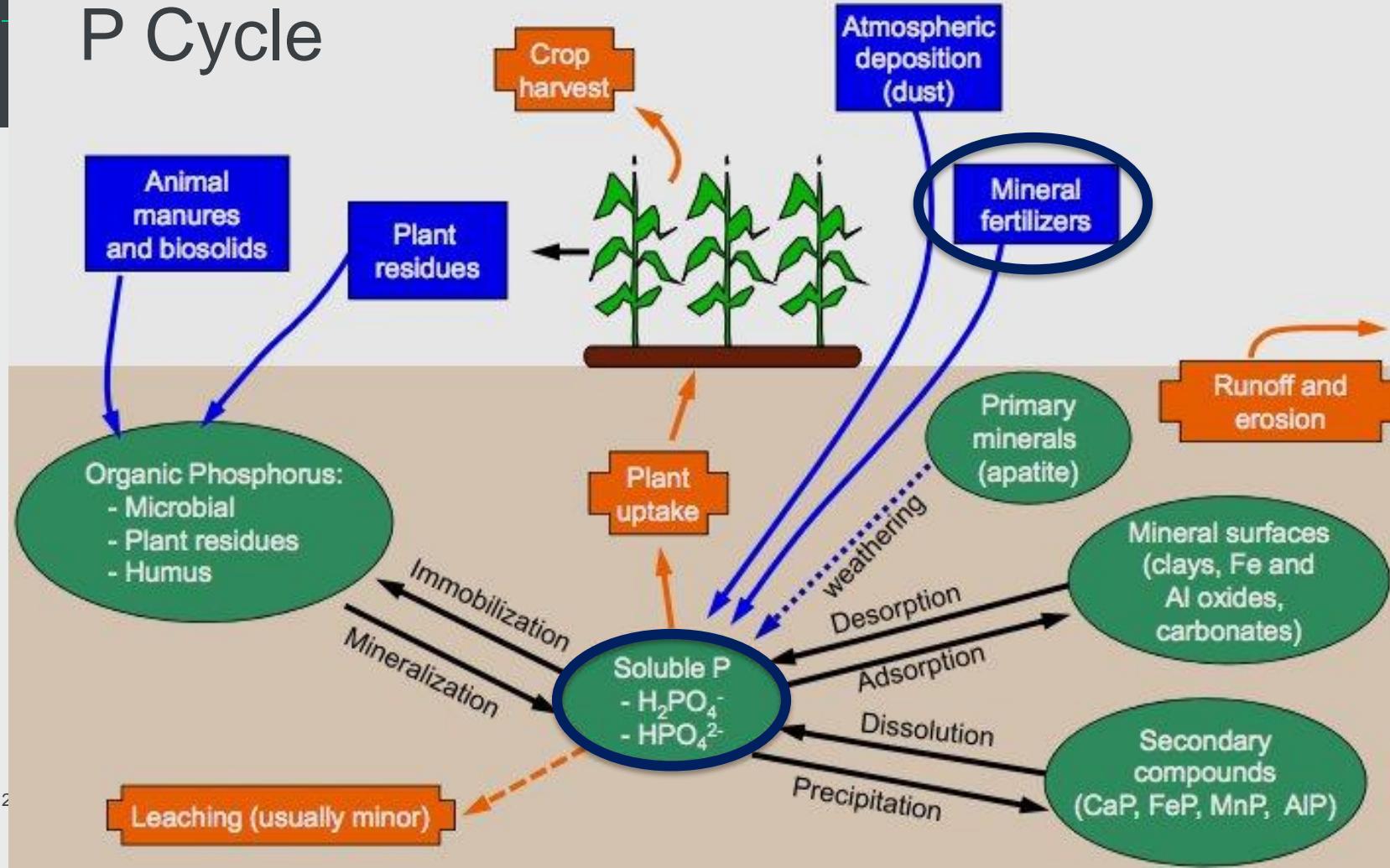
# Power of Surface Area

# Broadcast



Soil biology has the power  
to tie up readily available  
N, P, and K fertilizers

# P Cycle



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## Starter Skeptic

**“I am not going to slow down planting”**

**“Too much hassle”**

The Fine Print: He understands most of the value of starter but doesn't want the hassle.

# Reducing Hassle

## Trouble-Free Attachments



# Reducing Hassle

## System Installation and Setup



Premier  
Dealer



# Reducing Hassle

## Logistics and Delivery



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# Questions on Starter Fertilizer?

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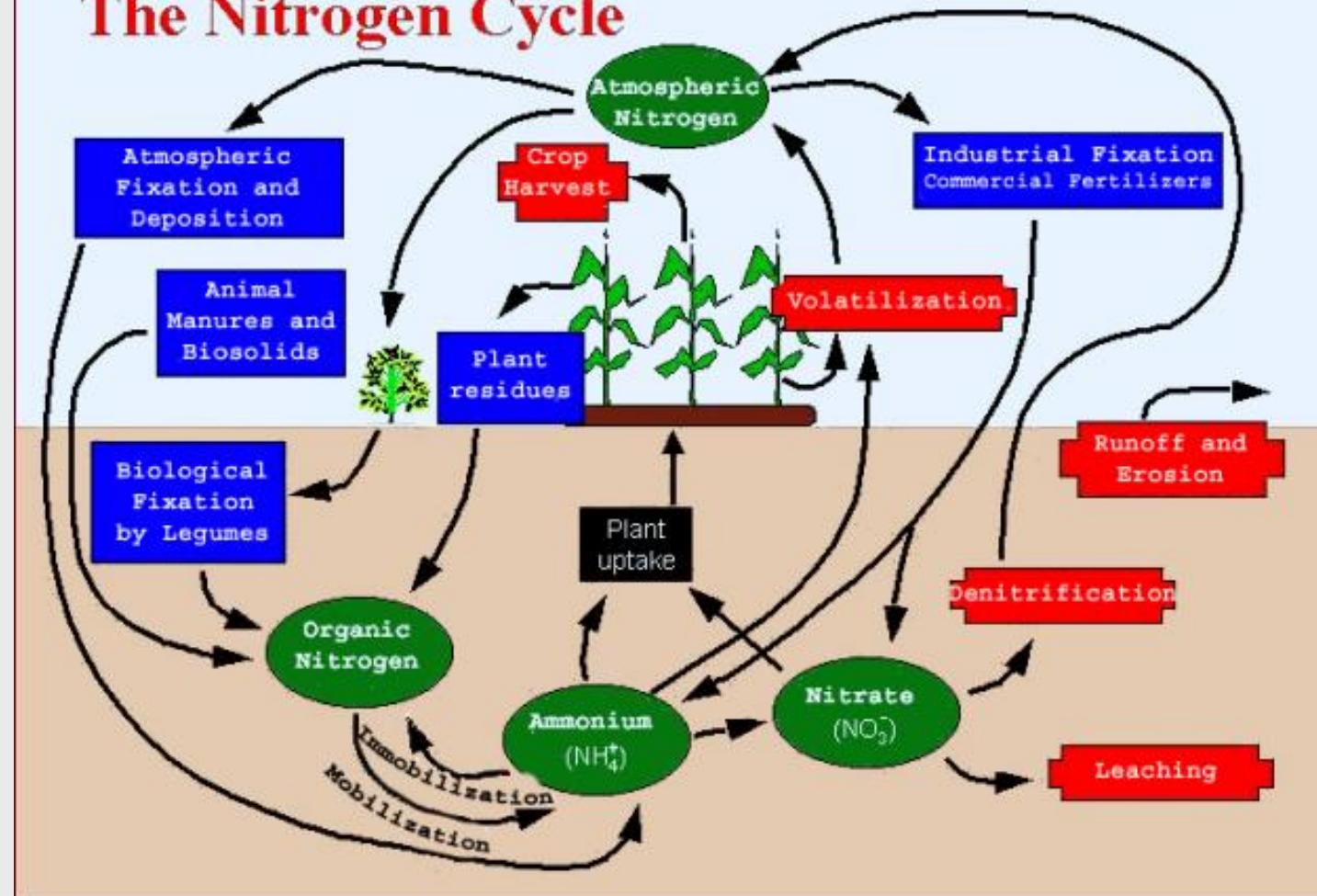
# Pursuit of Nitrogen Efficiency

PRESENTED BY

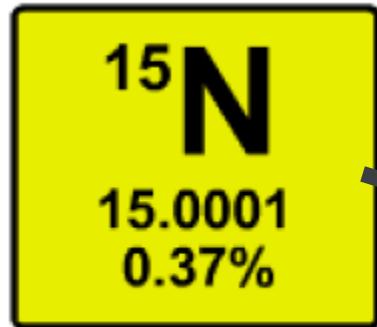
**Kyle Muhlbauer**

Regional Manager

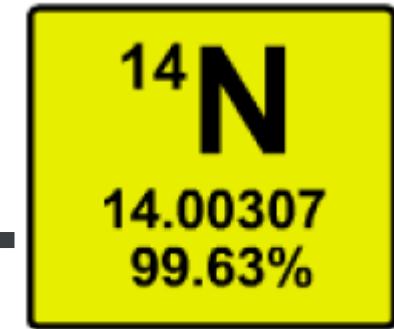
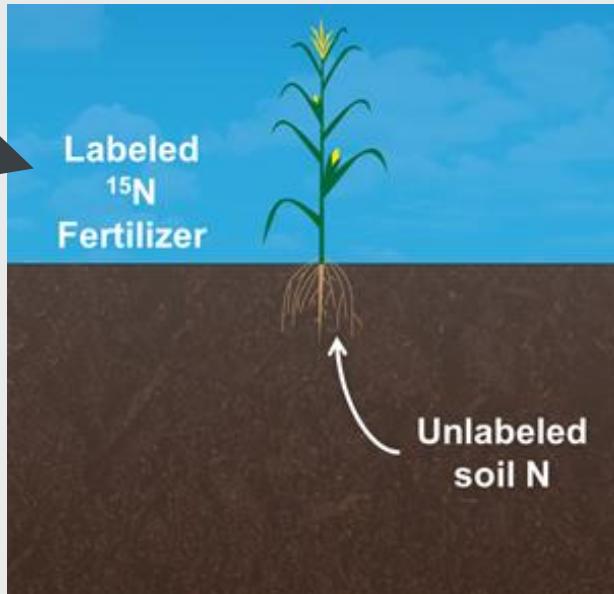
# The Nitrogen Cycle



# N15 Plots



Heavier



Lighter

Dr. Mulvaney

Kelsey Griesheim

University of Illinois

# N15 Plots

Broadcast



Banding



# N15 Plots, Harvest



Cropsmith Inc.  
38  
Tim Smith - owner

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# N15 Plots, Lab Analysis

## Mass Spectrometer



Dr. Mulvaney

Kelsey Griesheim

University of Illinois

15N Nitrogen Tracer Plots  
FNUE, Fertilizer Nitrogen Uptake Efficiency

60%

50%

40%

30%

20%

10%

0%

Double  
Uptake Efficiency

27.45%

43.70%

51.58%

Broadcast

Conceal Single

Conceal Dual

Dr. Mulvaney

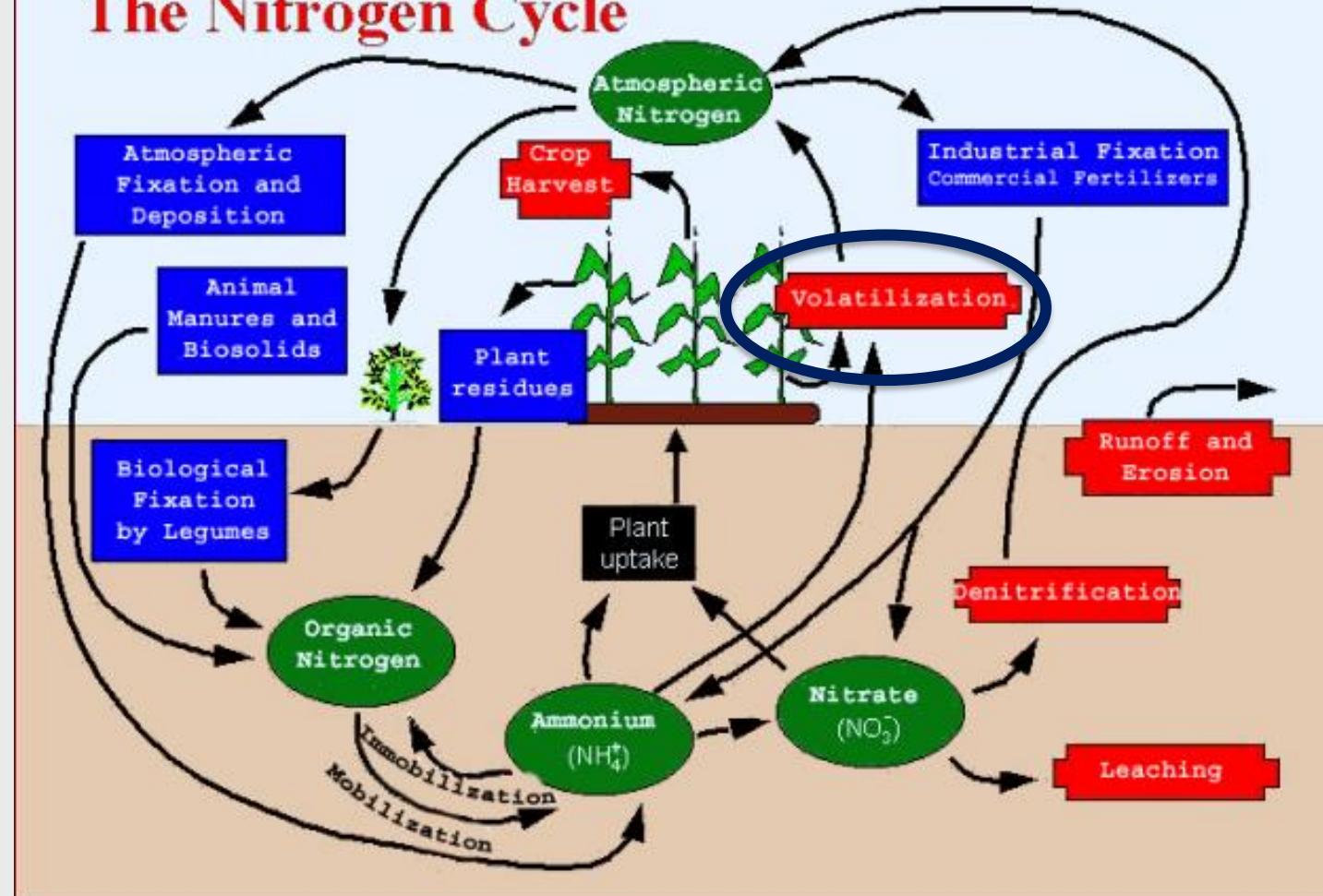
Kelsey Griesheim

University of Illinois

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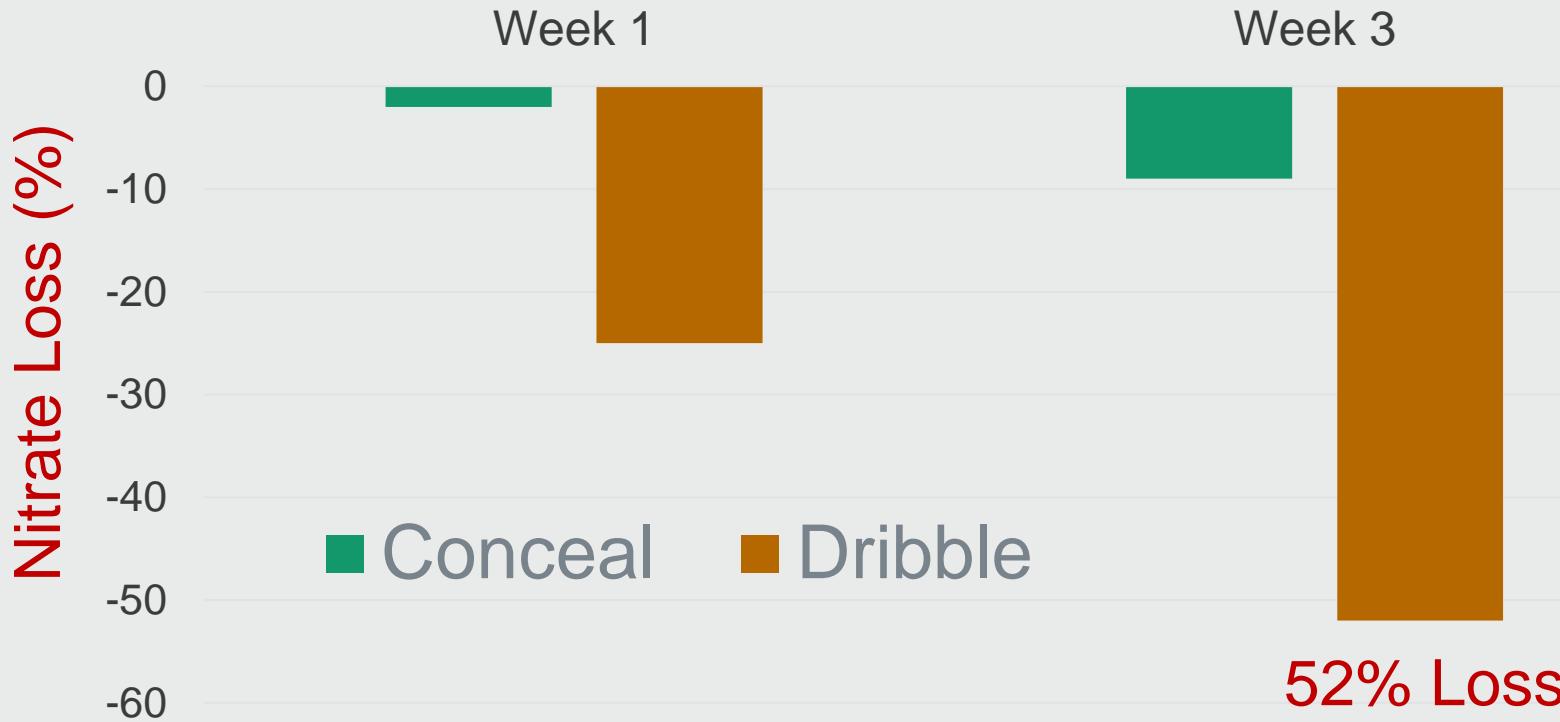
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# The Nitrogen Cycle



# Volatilization Study

## Conceal vs Dribble



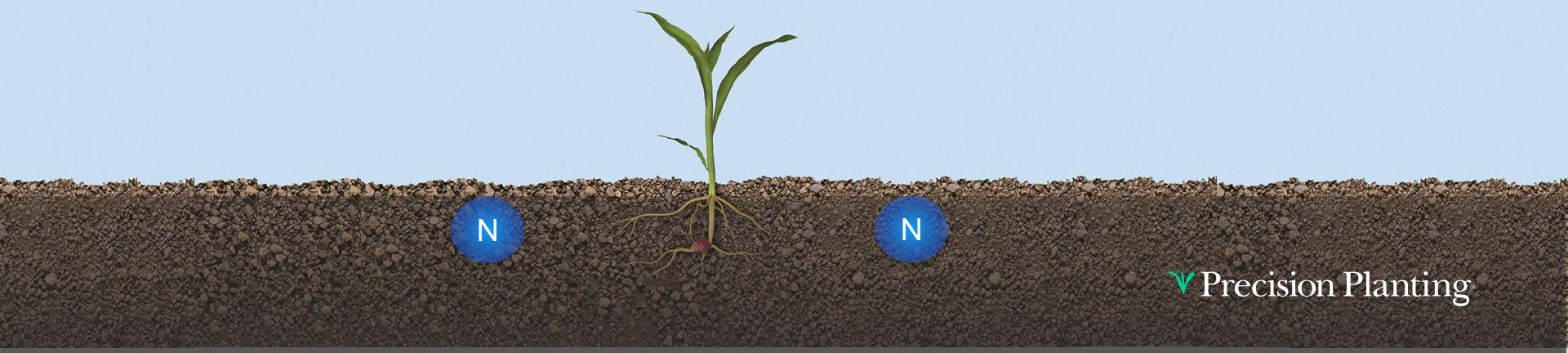
# Planter Nitrogen ROI

**R&D & PTI  
Multi-Year  
Plot Average**



Conceal  
Nitrogen on the Planter

**\$40/A**



 Precision Planting®

# Precision Planting Opportunities

## Equipment Rebate Programs

**NACHURS®**  
2019  
**PRECISION EQUIPMENT REBATE**  
• FOR NEW NACHURS & PRE

**MARCO**  
Liquid Fertility

**SMART START**  
Precision Planting®  
AGRO LIQUID

Team up with Precision Planting® and  
Perfectly calibrated planters and perfectly calibrated crop nutrient

**MONTY'S**  
PLANT & SOIL PRODUCTS

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**\$400\***  
REBATE PER ROW  
ACT NOW - LIMITED TIME ONLY

**Precision Planting®**  
**2020 Incentive Program for SmartBox®**  
Purchase SmartBox equipment from Precision Planting® for the 2020 season  
– Use AMVAC® product incentives to help offset the cost of your new system.

**AZTEC HC** SmartBox 4.6TG   **AZTEC** SmartBox 4.6TG   **SMARTCHOICE HC** SMARTBOX   **COUNTER 20G**   **Thimet 30-G**   **Force 3G** SmartBox   **Force 10G HL**   **DEFCON 4.67**

**IMPACT**   **IMPACT Z**

Choose the corn hybrids that best fit your needs, conventional or traits.

Earn 1/3 of total price paid for SmartBox per year with qualified product purchases:  
Greatly reduce the cost of your

**AZTEC HC** SmartBox 4.6TG

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# Precision Planting Opportunities



# Premier Dealer

# Precision Planting Opportunities

 **Tremont, IL** Jan. 21, 22, 23 or 24

 **Fargo, ND** Jan. 22 or 23

 **Burlington, CO** Jan. 22

 **Denton, TX** Jan. 22

 **Ames, IA** Jan. 22 or 23

 **Lincoln, NE** Jan. 22 or 23

 **Starkville, MS** Jan. 22

 **Fort Wayne, IN** Jan. 22

 **Harrisburg, PA** Jan. 22

 **Lewis Center, OH** Jan. 22

# Winter Conference 20|20

Sessions to help you maximize your farm

<https://precisionplanting.wistia.com/medias/fs1vp4c2xd>

# Precision Planting Opportunities

Tom Brubaker

Business Development Lead

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309 414 8702 cell

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# THANK YOU

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