



# NANO-YIELD™ DATA BOOK

2025 EDITION



[WWW.NANO-YIELD.COM](http://WWW.NANO-YIELD.COM)

## OUR CORE PRODUCTS

# NanoPro®

NanoPro® carrier adjuvant increases uptake of herbicides, insecticides, fungicides, and PGR products using a unique mode of action.

PER PROVEN

# NanoN+®

NanoN+® is designed to protect and carry nutrients in liquid solution to improve efficiency and reduce waste. NanoN+® enhances plant nutrient uptake and availability for liquid nutrient formulations including macro and micronutrient products.

PER PROVEN

# nanocoTE™ CORE

NanoCote™ Core can be applied to your nitrogen, phosphorus, or dry potash fertilizer blends to improve nutrient uptake and efficiency.

## OUR NUTRITIONAL PRODUCTS

Looking to add an additional boost of macro or micronutrients? These products come preloaded with additional nutrition to drive directly into the plant!

### NANOLIQUID MACRONUTRIENTS

**NanoCS®** // 1-2-1-3Zn

The nanoliquid crop starter enhancer

**NanoPhos®** // 0-47-0

Nanoliquid technology for improved phosphorus efficiency

**NanoK®** // 0-0-21

Nanoliquid technology for improved potassium efficiency

**NanoStress®** // 0-17-21

Nanoliquid delivery of phosphorus and potassium at critical growth stages

### NANOLIQUID MICRONUTRIENTS

**NanoCaSI®** // 6Ca

Nanoliquid technology for improved calcium use efficiency

**NanoPack®** // 0.5Cu-2Fe-1Mn-1Zn

Nanoliquid technology delivering a blend of essential micronutrients

**NanoZn®** // 9Zn EDTA

Nanoliquid technology for improved zinc use efficiency



## EASY MIXING GUIDELINES

**1** Add water and water conditioners



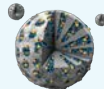
+

**2** Add crop input



+

**3** Add nanoliquid product



+

**4** Add surfactant (if needed)



# Table of Contents

## NANOLIQUID® TECHNOLOGY

PAGES 6-61

### ROW CROPS

Alfalfa .....	7-9
Corn .....	10-30
In-furrow .....	10-13
Banded .....	15-20
Sidedress .....	21-25
Foliar .....	26-30
Precision Planting .....	11, 18, 19, 26-29
Beck's PFR .....	16-17
Corn Silage .....	31
Potato .....	32-35
Soybean .....	36-44
Beck's PFR .....	36-37, 40-41
Precision Planting .....	42
Wheat .....	46-50

### VEGETABLES

Onion .....	53
Tomato .....	54-57

### NURSERY

58-59

### HERBICIDES

60-63

## NANO-COATING TECHNOLOGY

PAGES 64-81

Nitrogen Volatility Trial .....	65, 70
Phosphorous Availability Trial .....	66
Alfalfa .....	67
Corn .....	68-74
Beck's PFR .....	68
Precision Planting .....	69
Potato .....	75-77
Sod .....	78
Soybean .....	79-81



# DELIVER MORE

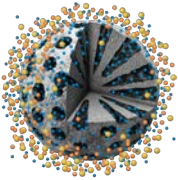
with nanotechnology by Nano-Yield™

Nanoliquid® technology is a cutting edge technology that brings efficient delivery of nutrients or crop protection into the plant either through root or foliar uptake. Nano-Yield offers specific types of patented nanoparticle technology engineered for driving chemistry and nutrition.

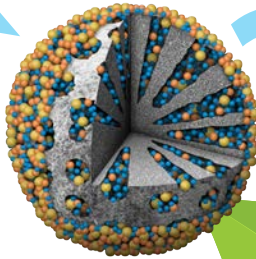


▲  
SCAN THE CODE TO  
WATCH A BRIEF OVERVIEW  
OF OUR TECHNOLOGY

## MIX



## LOAD



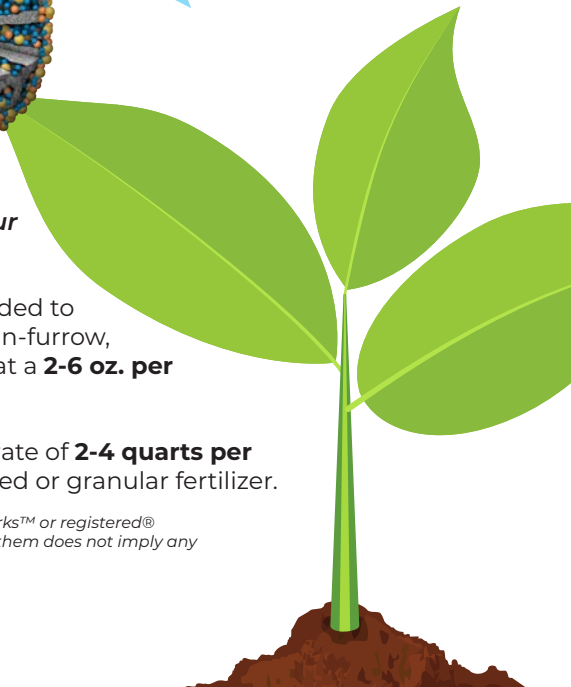
## DELIVER

*Nano-Yield products are easy to use and incorporate into your crop programs.*

Aqua-Yield® products can be added to any boom spray, drip irrigation, in-furrow, fertigation or aerial application at a **2-6 oz. per acre rate.**

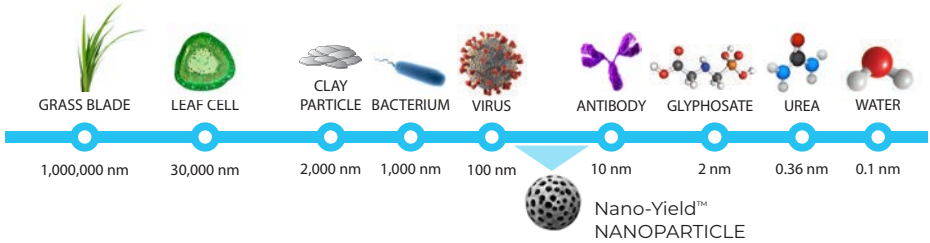
NanoCote™ can be applied at a rate of **2-4 quarts per ton** of macro/micronutrient prilled or granular fertilizer.

All product and company names are trademarks™ or registered® trademarks of their respective holders. Use of them does not imply any affiliation with or endorsement by them.



## What is a nanoparticle?

A nanoparticle is usually defined as a particle that is between 1 and 100 nanometers in diameter. Nano-Yield™ nanoliquid® particles are between **10 and 100 nanometers**.

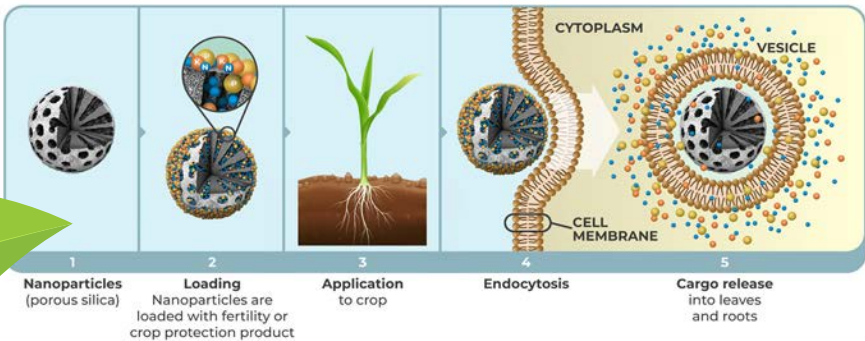


## Why are nanoliquid particles special?

Each Nano-Yield nanoparticle carries thousands of fertilizer ions or active ingredient molecules rapidly into the plant cell by a plant mechanism called endocytosis. While conventional products are only absorbed through diffusion and active transport, **only nanoparticles are taken up via endocytosis**.

## Loading and unloading nanoparticles

Nano-Yield nanoparticles are designed to be loaded with any common fertilizer ion or active ingredient. The particles carry these materials into the plant and release them once inside.



## Improves foliar and soil applications

When soil applied, Nano-Yield nanoparticles stay in solution or loosely cling to soil colloids making them able to deliver more nutrients to the plant. When applied by foliar application, Nano-Yield nanoparticles adhere to plant surfaces enhancing penetration through the cuticle. Both root and foliar applications will benefit from endocytosis.



# NanoPro® Increases Active Ingredient Uptake for Herbicides, Fungicides, and Insecticides



<b>Year:</b>	2018-2024
<b>Collaborator:</b>	US Grower Trials
<b>Location:</b>	United States

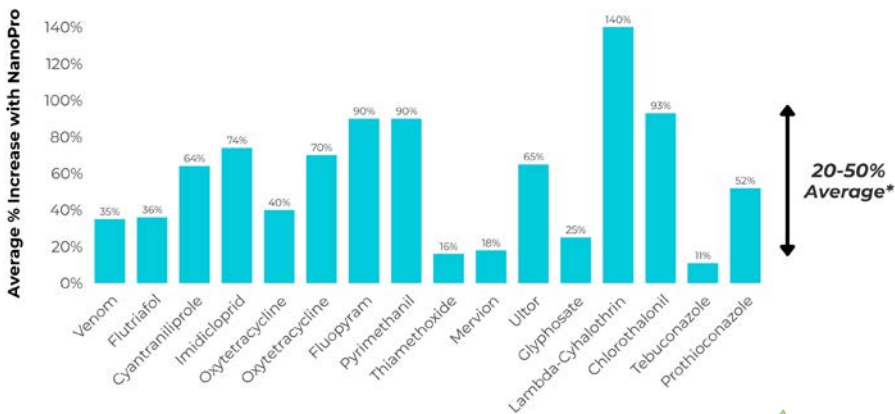
<b>Application Type:</b>	Crop Nutrition
<b>Nano-Yield Product:</b>	4 oz/ac NanoPro®

## Summary:

With NanoPro, every application works harder for you! This game-changing technology boosts active ingredient uptake for herbicides, fungicides, and insecticides by an average of 20-50%.

These multi-year U.S. grower trials prove that NanoPro maximizes efficiency, ensuring you get the most out of every tank and every pass.

Multi-Year Summary · U.S. Grower Trials · Leaf Tissue Analysis



\*Actual values will vary depending on crop, chemistry, and field conditions



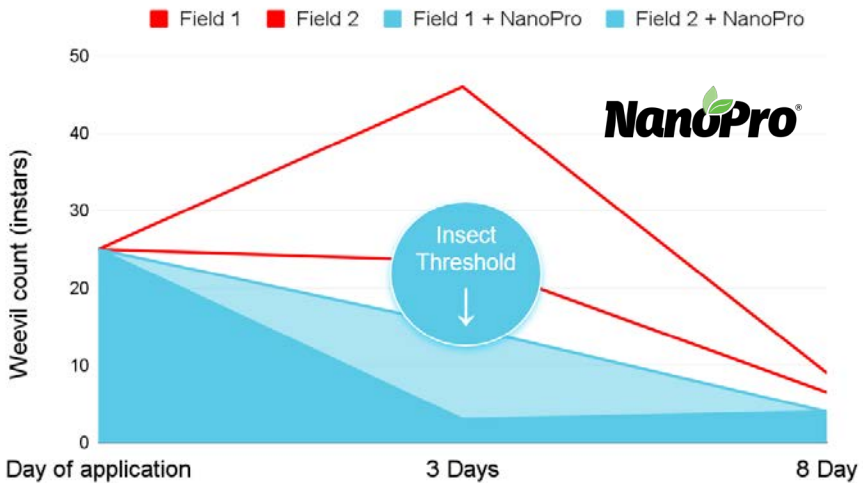
## NanoPro® Speeds Up Insecticide Activity for Steward® EC Insecticide

<b>Year:</b>	2023
<b>Collaborator:</b>	Grower
<b>Location:</b>	Washington

<b>Application Type:</b>	Foliar, Crop Protection
<b>Nano-Yield Product:</b>	4 oz/ac NanoPro®
<b>Additional Product:</b>	Steward® EC (Indoxacarb)

### Summary:

The addition of NanoPro to Steward insecticide sped up the kill of alfalfa weevil below threshold levels in under one week.



# ALFALFA

## NanoStress® Improves Alfalfa Yield and Relative Feed Value (RFV)

ROI 7:1

<b>Year:</b>	2018
<b>Collaborator:</b>	Utah State University
<b>Location:</b>	Utah
<b>Application Type:</b>	Foliar, Crop Nutrition
<b>Nano-Yield Product:</b>	4 oz/ac NanoStress®

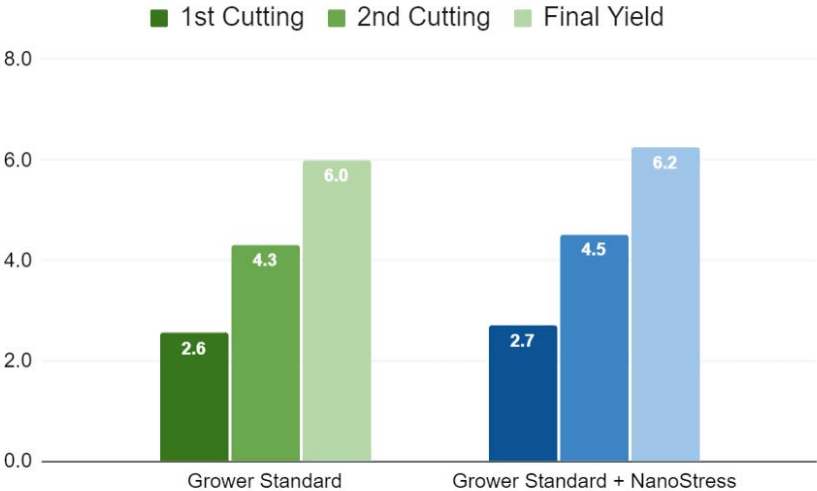
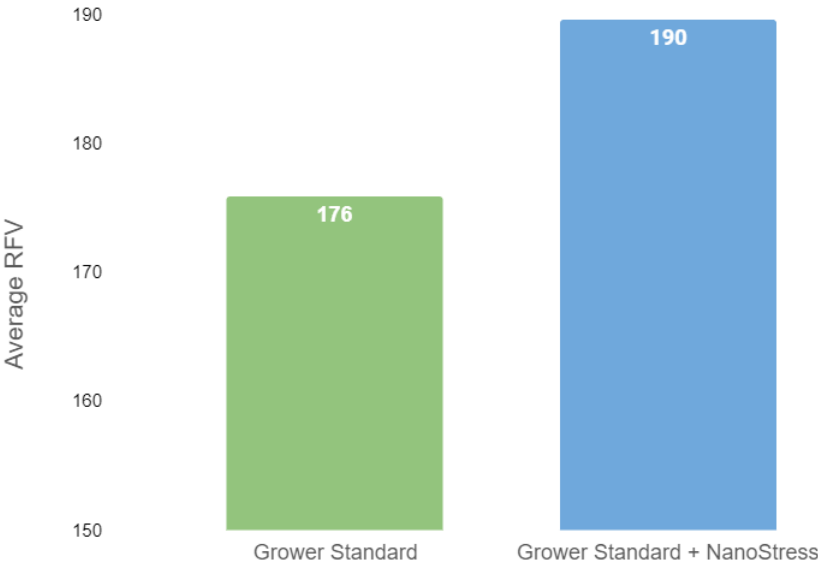
### Summary:

Applying NanoStress three times per season (one application per cutting) increased alfalfa yield 0.2 tons/ac, and increased relative feed value by 8%.





Average Relative Feed Value (RFV) for 3 Alfalfa Cuttings



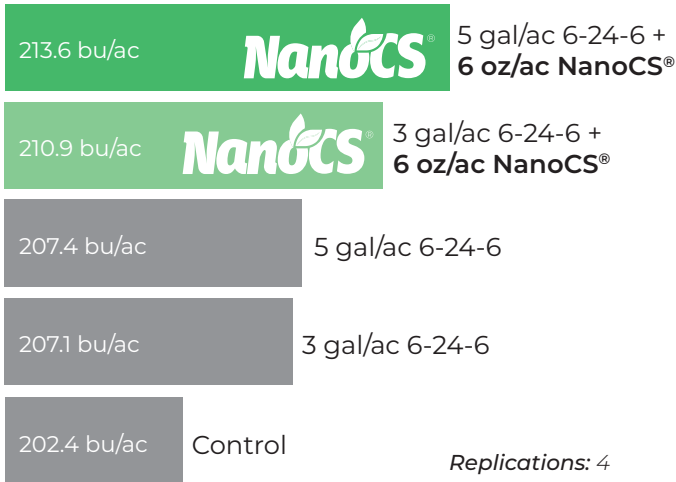
# CORN

## NanoCS® Increases Corn Starter Efficiency

<b>Year:</b>	2021
<b>Collaborator:</b>	Agri-Tech Consulting
<b>Location:</b>	Whitewater, Wisconsin
<b>Application Type:</b>	In-furrow, Crop Nutrition
<b>Nano-Yield Product:</b>	6 oz/ac NanoCS®
<b>Additional Product:</b>	6-24-6

### Summary:

In this trial by Agri-Tech Consulting, various rates of 6-24-6 and NanoCS were trialed in-furrow. Adding NanoCS helped increase the bushels per acre at both the half (3.8 bu/ac) and full rates (6.2 bu/ac) of 6-24-6.



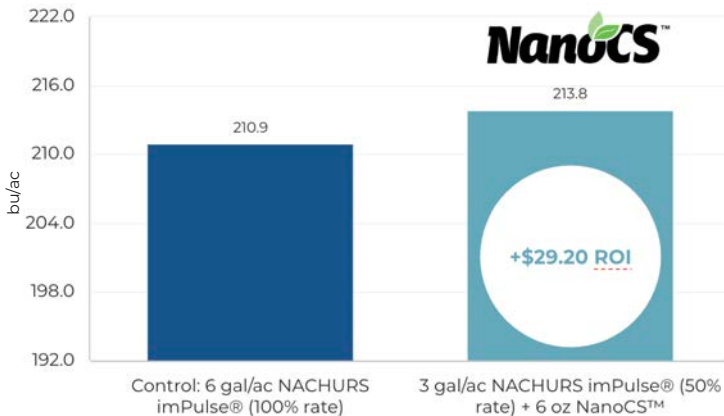
## NanoCS® Improves Corn Yield with NACHURS imPulse® at a 50% Reduced Rate

ROI: \$29.20 per acre

<b>Year:</b>	2022
<b>Collaborator:</b>	Precision Planting
<b>Location:</b>	Pontiac, Illinois
<b>Application Type:</b>	In-furrow, Crop Nutrition
<b>Nano-Yield Product:</b>	6 oz/ac NanoCS®
<b>Additional Products:</b>	NACHURS imPulse® (10-18-4) FurrowJet®

### Summary:

Adding NanoCS to a reduced rate of NACHURS imPulse resulted in a 2.9 bu/a increase in corn yield, and a \$29.20 ROI per acre.



*PURPOSE: To evaluate yield and the economics of NanoCS® in tandem with NACHURS imPulse® 10-18-4, then compared to 50% rate reduction of NACHURS imPulse®. NanoCS® was applied in-furrow at planting in a FurrowJet® center only application. PAGE 94-95 of Precision Planting® 2022 PTI Results.*



# CORN

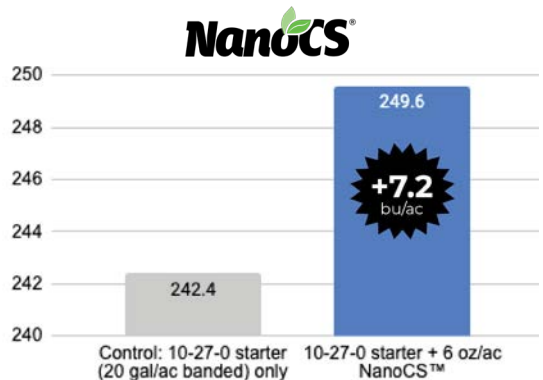
## NC State Demonstrates How NanoN+® and NanoCS® Increase Corn Yield

<b>Year:</b>	2023
<b>Collaborator:</b>	NC State University
<b>Location:</b>	Plymouth, North Carolina

<b>Application Type:</b>	In-furrow, Crop Nutrition
<b>Nano-Yield Products:</b>	4 oz/ac NanoN+® 6 oz/ac NanoCS®
<b>Additional Product:</b>	20 gal/ac 10-27-0

### Summary:

Applying NanoCS and NanoN+ in-furrow alongside a standard starter product (10-27-0) both resulted in higher yield. Applying NanoN+ resulted in 12.4 more bu/ac and NanoCS 7.2 bu/ac.

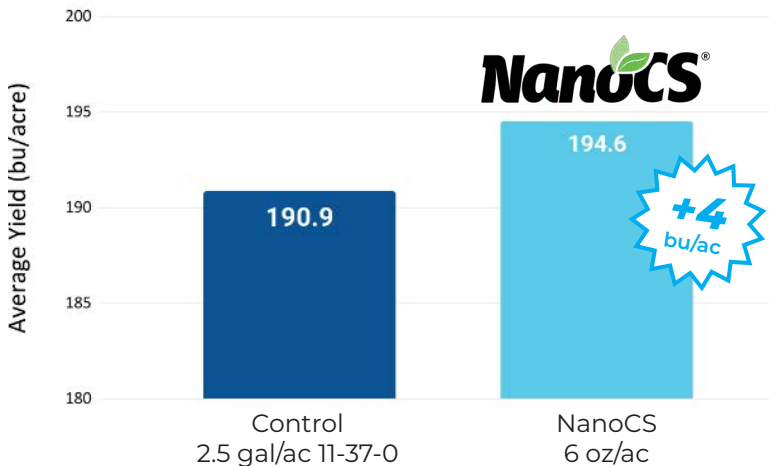


## NanoCS® Improves Corn Yield More than Standard Starter

<b>Year:</b>	2022
<b>Collaborator:</b>	TSM Services
<b>Location:</b>	Catlin, Illinois
<b>Application Type:</b>	In-furrow, Crop Nutrition
<b>Nano-Yield Product:</b>	6 oz/ac NanoCS®
<b>Additional Product:</b>	2.5 gal/ac 11-37-0

### Summary:

This study compared NanoCS to a standard in-furrow starter. 6 oz/acre of NanoCS resulted in 4 bu/ac higher corn yield than 2.5 gal/ac of 11-37-0.



# CORN

## University of Wisconsin: Nitrogen Leaching Trial



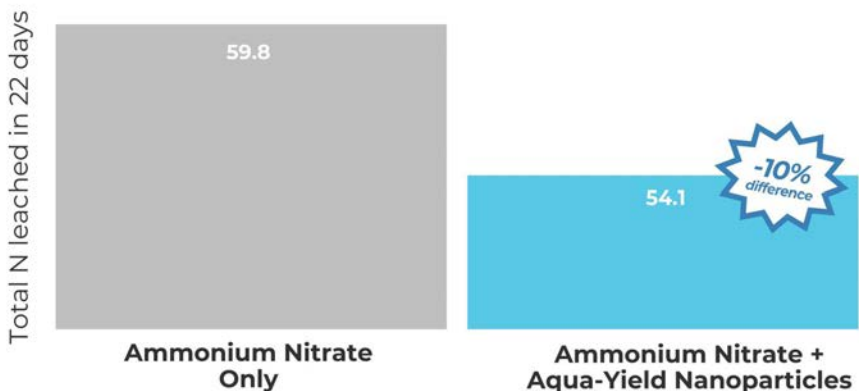
<b>Year:</b>	2022
<b>Collaborator:</b>	University of Wisconsin
<b>Location:</b>	Wisconsin

<b>Application Type:</b>	Lab Trial
<b>Nano-Yield Product:</b>	Aqua-Yield® nanoliquid®
<b>Additional Product:</b>	$\text{NH}_4\text{NO}_3$

### Summary:

In this University run replicated trial in Wisconsin, we looked at how nanoparticles affect nitrogen leaching. The study was done on dent corn in sandy/peat type soils. After 22 days there was a 10% decrease in leaching of ammonium nitrate where nanoliquid was added vs the check.

*Dent corn in sand/peat soil with  $\text{NH}_4\text{NO}_3$ .*



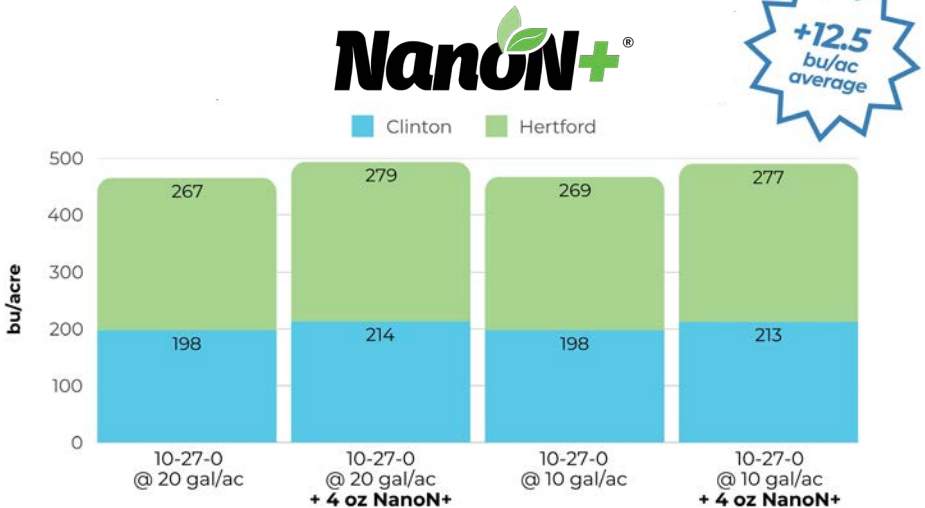
## NanoN+ Improves Corn Yield with 2x2 Starter



<b>Year:</b>	2024
<b>Collaborator:</b>	NC State University
<b>Location:</b>	Plymouth, North Carolina
<b>Application Type:</b>	Starter, Crop Nutrition
<b>Nano-Yield Product:</b>	4 oz/ac NanoN+®
<b>Additional Product:</b>	60 units UAN

### Summary:

A second year trial with North Carolina State University showed starter treatments with NanoN+ added had 12.5 bu/acre higher yield on average. The starter (10-27-0) was applied 2x2 at two standard rates and at two different farm sites.



# CORN

## Beck's PFR Proven: NanoN+® 3-Year Replicated 2x2x2 Starter Trial

ROI: \$17.54 per acre average



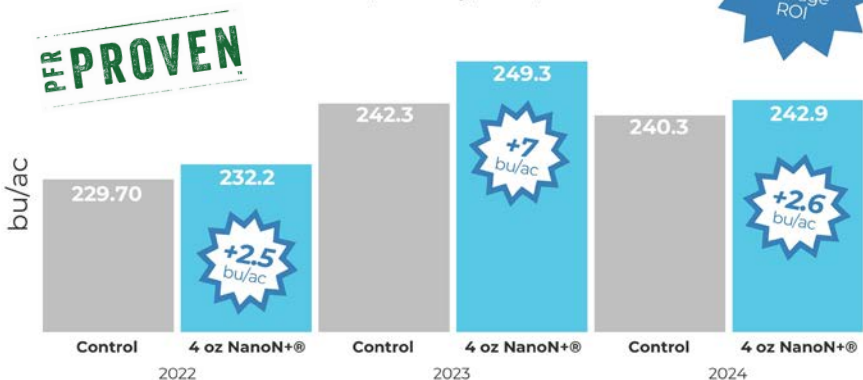
<b>Year:</b>	2022-2024
<b>Collaborator:</b>	Beck's PFR
<b>Location:</b>	Indiana, Kentucky, Illinois, Iowa
<b>Application Type:</b>	Banded at Planting, Crop Nutrition
<b>Nano-Yield Product:</b>	4 oz/ac NanoN+®
<b>Additional Product:</b>	60 units UAN

### Summary:

For the third year in a row nanoliquid products increased corn yield for Beck's PFR trials. A single application of NanoN+ applied at planting with 60 units of UAN resulted in an average increase in 4 bu/acre and an average ROI of \$17.54 per acre. This average was calculated with replicated third party data across multiple states. **NanoN+ is now PFR PROVEN!**

2024 Beck's PFR Book, pg 104

60 units of UAN vs. 60 units of UAN + 4 oz. NanoN+®  
Indiana, Kentucky, Illinois, Iowa



## Beck's PFR Proven: NanoN+® 2024 Replicated 2x2x2 Starter Trial



ROI: \$7.92 per acre

<b>Year:</b>	2024
<b>Collaborator:</b>	Beck's PFR
<b>Location:</b>	Indiana, Kentucky, Illinois, Iowa
<b>Application Type:</b>	Banded at Planting, Crop Nutrition
<b>Nano-Yield Product:</b>	4 oz/ac NanoN+®
<b>Additional Product:</b>	60 units UAN

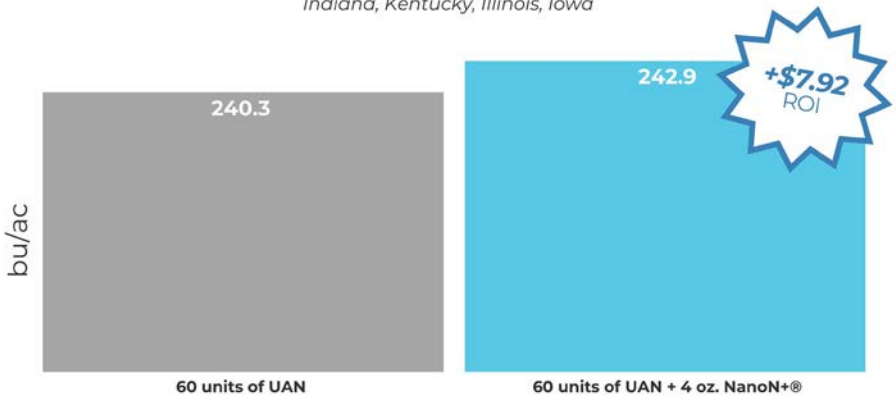
### Summary:

In this third year of adding NanoN+ with 60 units of UAN at planting, corn yield increased by 2.6 bu/ac and provided a \$7.92 ROI per acre. **NanoN+ is now PFR PROVEN!**



2024 Beck's PFR Book, pg 104

Indiana, Kentucky, Illinois, Iowa



# CORN

## NanoN+® Increases Corn Yield with UAN Nitrogen

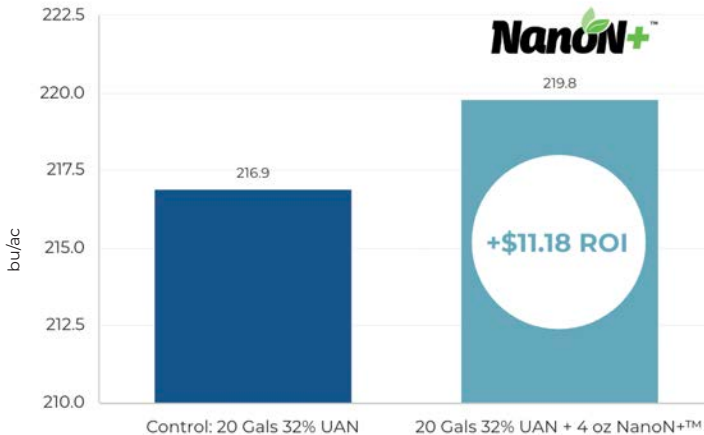
ROI: \$11.18 per acre

<b>Year:</b>	2022
<b>Collaborator:</b>	Precision Planting
<b>Location:</b>	Pontiac, Illinois

<b>Application Type:</b>	Banded at Planting, Crop Nutrition
<b>Nano-Yield Product:</b>	4 oz/ac NanoN+®
<b>Additional Products:</b>	20 gal/ac 32-0-0 UAN Conceal®

### Summary:

Adding NanoN+ with UAN nitrogen fertilizer resulted in a 2.9 bu/a increase in corn yield, and an \$11.18 ROI per acre.



*PURPOSE:* To evaluate yield and the economics of NanoN® in tandem with 32% UAN nitrogen fertilizer. NanoN+® was applied at planting in a dual band Conceal® application. PAGE 125-126 of Precision Planting® 2022 PTI Results.

## NanoN+® Increases Corn Yield with Precision Planting

ROI: \$53.01 per acre

<b>Year:</b>	2023
<b>Collaborator:</b>	Precision Planting
<b>Location:</b>	Pontiac, Illinois
<b>Application Type:</b>	Banded at Planting, Crop Nutrition
<b>Nano-Yield Product:</b>	4 oz/ac NanoN+®
<b>Additional Product:</b>	20 gal/ac 32-0-0 UAN Conceal®

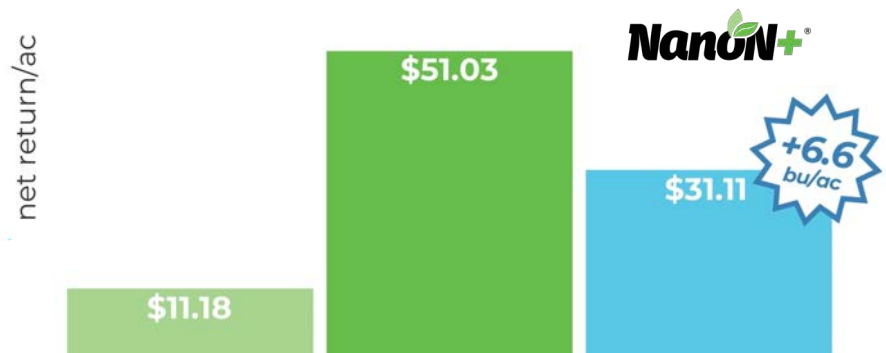
### Summary:

For the second year in a row nanoliquid product increased corn yield for Precision Planting trials. A single application of NanoN+ applied at planting with 20 gal/ac of UAN resulted in an increase of 10.4 bu/acre and a ROI of \$51.03 per acre.

page 137 of 2023 PTI Farm Research Summary

4 oz/ac NanoN+ was tank-mixed with 20 gal/ac of 32% UAN

■ 2022 ■ 2023 ■ 2-year trial average



# CORN

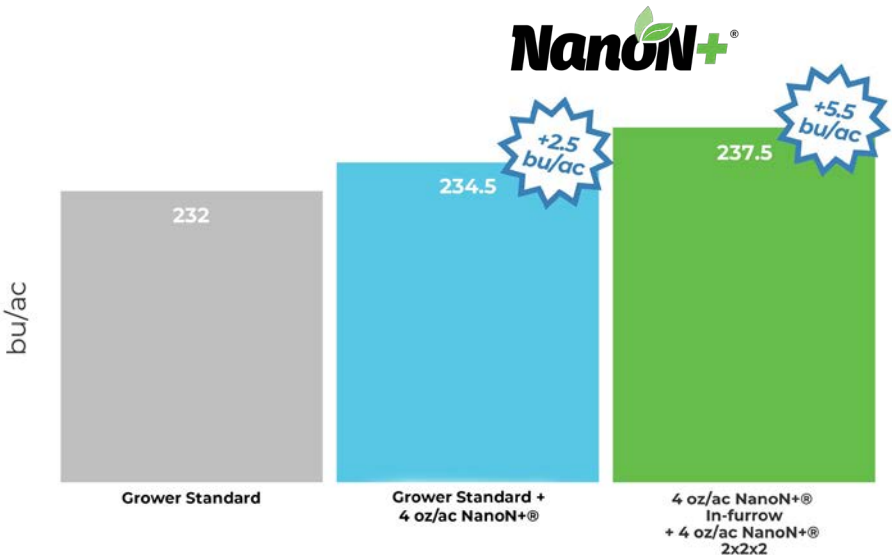
## NanoN+ Boosts Yield in Corn Starter Trial



<b>Year:</b>	2024
<b>Collaborator:</b>	Grower
<b>Location:</b>	LaPorte, Indiana
<b>Application Type:</b>	2x2x2, Crop Nutrition
<b>Nano-Yield Product:</b>	4 oz/ac NanoN+®

### Summary:

In this corn starter trial from Indiana, the grower added NanoN+ with the in-furrow and 2x2x2 applications and saw an increase of 5.5 bu/ac over the grower standard. When only applying NanoN+ with the 2x2x2 application he reported an increase of 2.5 bu/ac.



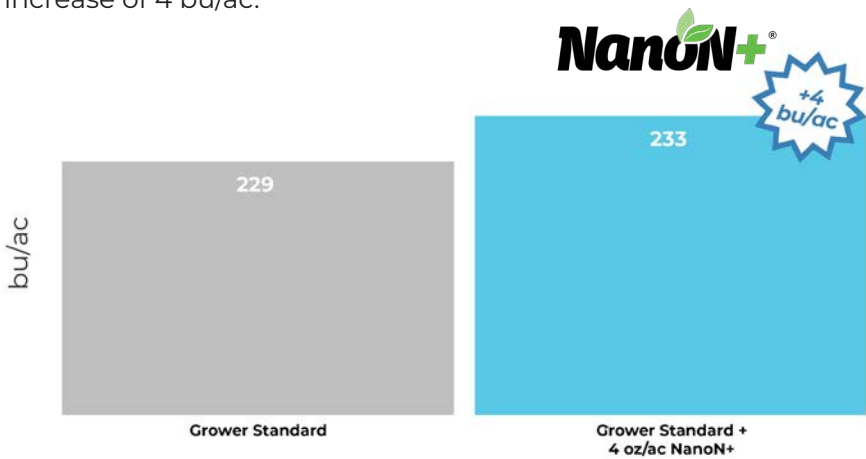
## NanoN+ Boosts Yield in Corn Sidedress Trial



<b>Year:</b>	2024
<b>Collaborator:</b>	Grower
<b>Location:</b>	LaPorte, Indiana
<b>Application Type:</b>	Sidedress, Crop Nutrition
<b>Nano-Yield Product:</b>	4 oz/ac NanoN+®

### Summary:

In this corn trial from La Porte, Indiana, the grower added 4 oz NanoN+ with the side dress application and reported an increase of 4 bu/ac.



# CORN

## NanoN+ Boosts Yield in Corn Sidedress Trial



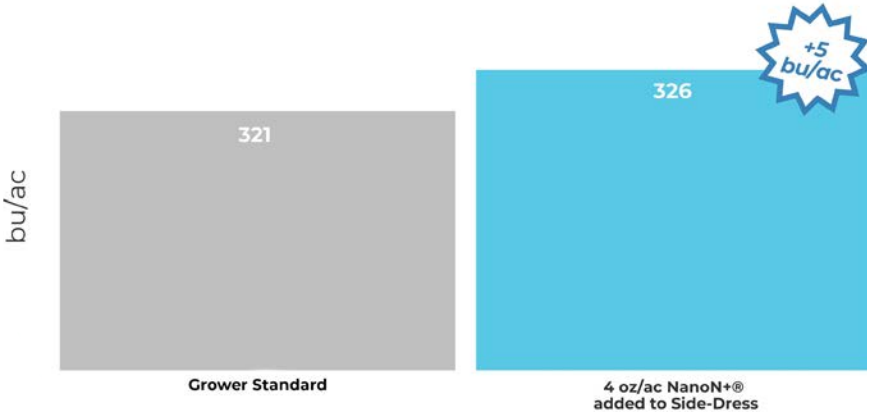
<b>Year:</b>	2024
<b>Collaborator:</b>	Grower
<b>Location:</b>	Salem, Indiana

<b>Application Type:</b>	2x2x2, Crop Nutrition
<b>Nano-Yield Product:</b>	4 oz/ac NanoN+®
<b>Additional Product:</b>	32% UAN

### Summary:

In this corn trial from Salem, Indiana, the grower added 4 oz NanoN+ with the sidedress application and reported an increase of 5 bu/ac.

*AgriGold A644-64VT2, 32% UAN*



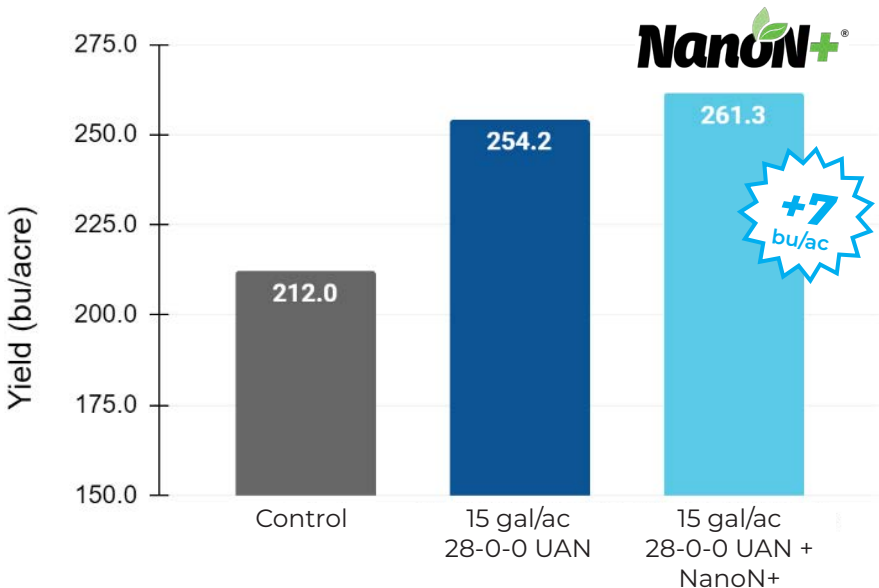
## NanoN+® Boosts Corn Yield with 15 gal/ac Sidedress UAN

<b>Year:</b>	2020
<b>Collaborator:</b>	Agri-Tech
<b>Location:</b>	Garden City, Missouri

<b>Application Type:</b>	Sidedress, Crop Nutrition
<b>Nano-Yield Product:</b>	4 oz/ac NanoN+®
<b>Additional Product:</b>	15 gal/ac 28-0-0 UAN

### Summary:

Adding NanoN+ to UAN for sidedressing nitrogen on corn resulted in a 7 bu/ac increase compared to UAN alone.



# CORN

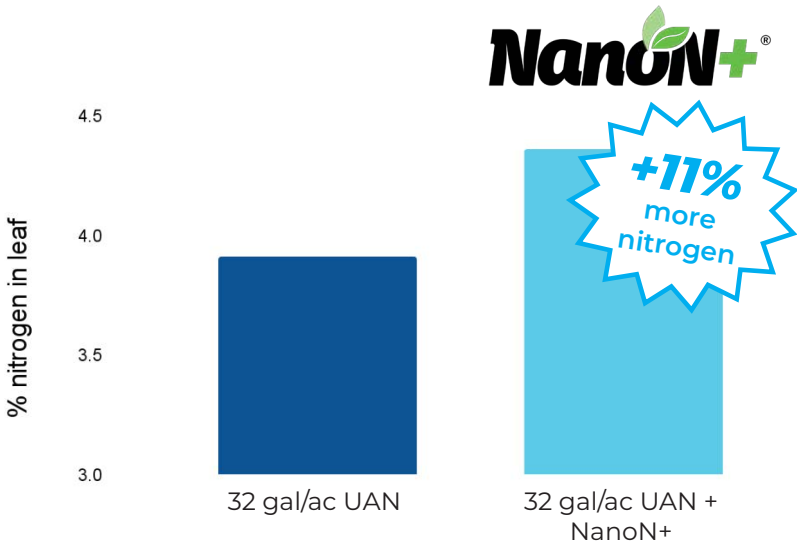
## NanoN+® Improves Foliar Nitrogen Uptake on Corn

<b>Year:</b>	2023
<b>Collaborator:</b>	Sunbelt Expo
<b>Location:</b>	Moultrie, Georgia

<b>Application Type:</b>	Sidedress, Crop Nutrition
<b>Nano-Yield Product:</b>	4 oz/ac NanoN+®
<b>Additional Product:</b>	32 gal/ac UAN

### Summary:

In season tissue testing revealed that plots treated with NanoN+ had consistently higher nitrogen content (+11% average). Replicated data was produced by collecting 5 samples per field, taken 5 days post application.

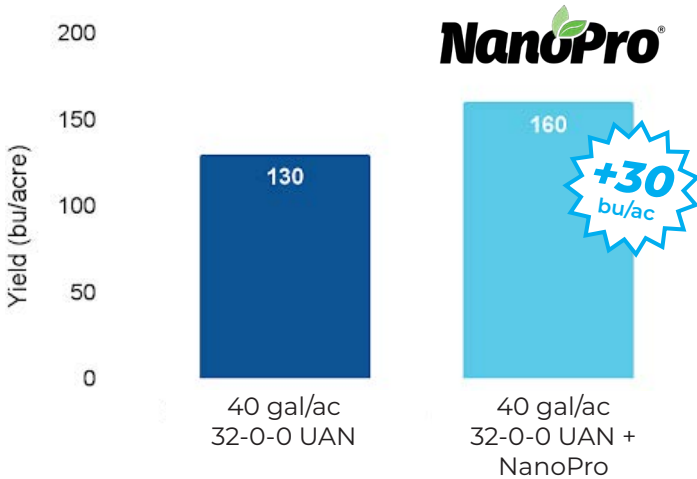


## NanoPro® Boosts Corn Yield with 40 gal/ac Sidedress UAN

<b>Year:</b>	2023
<b>Collaborator:</b>	Grower
<b>Location:</b>	Beargrass, North Carolina
<b>Application Type:</b>	Sidedress, Crop Nutrition
<b>Nano-Yield Product:</b>	4 oz/ac NanoPro®
<b>Additional Product:</b>	40 gal/ac 32-0-0 UAN

### Summary:

Adding NanoPro to UAN for sidedressing nitrogen on corn resulted in a 23% yield increase (30 bu/ac) compared to UAN alone. Corn variety was Dekalb® 6744.



# CORN

## NanoK® Corn Foliar Potassium Study by Precision Planting

ROI: \$19.74 per acre

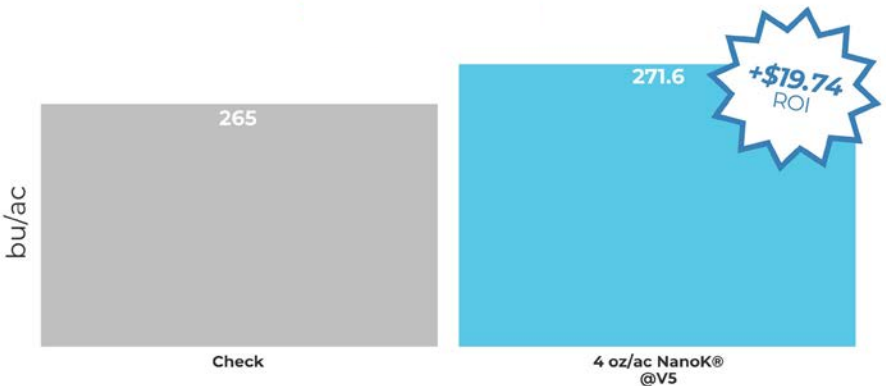


<b>Year:</b>	2024
<b>Collaborator:</b>	Precision Planting
<b>Location:</b>	Pontiac, Illinois
<b>Application Type:</b>	Foliar, Crop Nutrition
<b>Nano-Yield Product:</b>	4 oz/ac NanoK®

### Summary:

NanoK increases corn yield when applied foliar to corn. A single application of NanoK applied at the V5 growth stage resulted in an increase of 6.6 bu/acre and a ROI of \$19.74 per acre.

2024 PTI Results Book, pg 159-160



## NanoK® Corn Foliar Potassium Study by Precision Planting 2022-2024

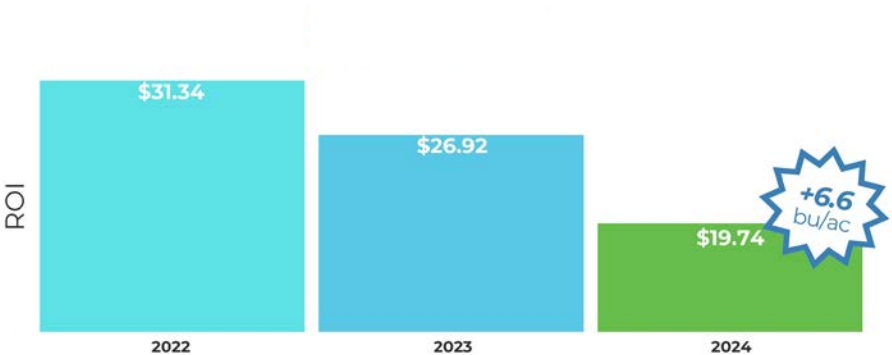


<b>Year:</b>	2022-2024
<b>Collaborator:</b>	Precision Planting
<b>Location:</b>	Pontiac, Illinois
<b>Application Type:</b>	Foliar, Crop Nutrition
<b>Nano-Yield Product:</b>	4 oz/ac NanoK®

### Summary:

For a third year in a row nanoliquid product increased corn yield for Precision Planting trials. A single application of NanoK applied at V5 resulted in an average ROI of \$26.00.

2022 pg 157, 2023 pg 159, 2024 pg 159-160  
4 oz/ac NanoK® @V5



# CORN

## NanoPro<sup>®</sup> Improves Activity of Miravis<sup>®</sup> Neo Fungicide on Corn

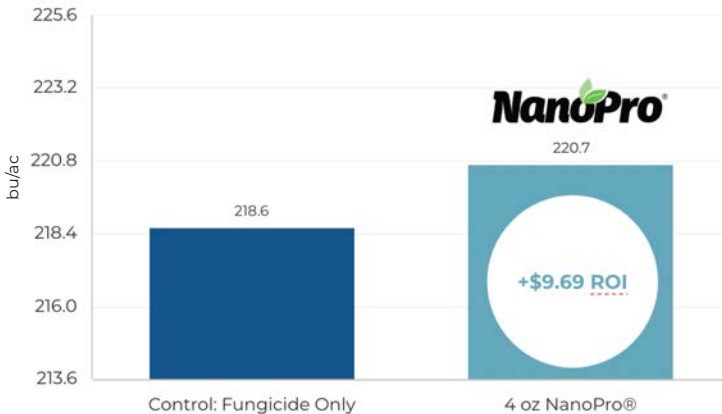
ROI: \$9.69

<b>Year:</b>	2022
<b>Collaborator:</b>	Precision Planting
<b>Location:</b>	Pontiac, Illinois

<b>Application Type:</b>	Foliar, Crop Protection
<b>Nano-Yield Product:</b>	4 oz/ac NanoPro <sup>®</sup>
<b>Additional Product:</b>	13.7 oz/ac Miravis <sup>®</sup> Neo

### Summary:

Adding NanoPro increased the activity of Miravis Neo fungicide to provide higher corn yield (2.1 bu/ac) and a \$9.69 ROI per acre.



*PURPOSE: To evaluate yield and the economics of NanoPro<sup>®</sup> as a carrier adjuvant that enhances the uptake of crop protection products. NanoPro<sup>®</sup> was applied at 4 oz/ac at the VT growth stage with 13.7 oz/a Miravis<sup>®</sup> Neo. PAGE 158-159 of Precision Planting<sup>®</sup> 2022 PTI Results.*

## NanoPro® added with Fungicide Increases Corn Yield for Second Year

ROI: \$8.24 per acre

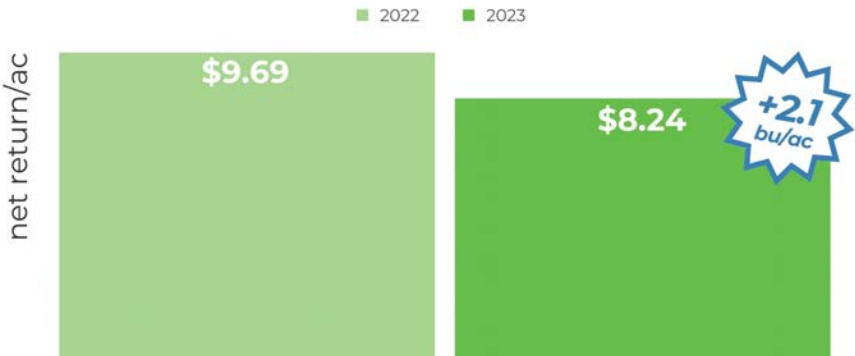
<b>Year:</b>	2022-2023
<b>Collaborator:</b>	Precision Planting
<b>Location:</b>	Pontiac, Illinois
<b>Application Type:</b>	Foliar, Crop Protection
<b>Nano-Yield Product:</b>	4 oz/ac NanoPro®
<b>Additional Product:</b>	13.7 oz/ac Miravis® Neo

### Summary:

For a second, year nanoliquid product increased corn yield for Precision Planting trials. A single application of NanoPro applied with Miravis Neo fungicide at the VT stage resulted in an increase of 2.1 bu/acre and a ROI of \$8.24 per acre.

page 158 of 2022 & page 137 of 2023, PTI Farm Research Summary

4 oz/ac of NanoPro® was tank-mixed with a corn fungicide applied at the VT growth stage (13.7 oz/ac Miravis® Neo).



**NanoPro**



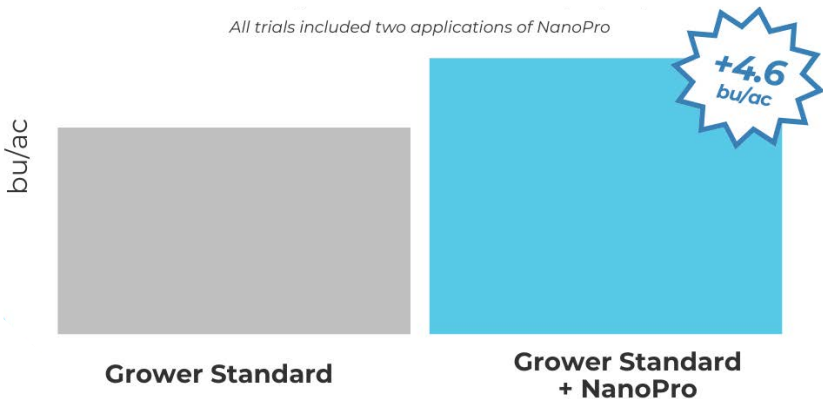
# CORN

## NanoPro® Increases Corn Yield with Both Nutrients and Crop Protection

<b>Year:</b>	2023
<b>Collaborator:</b>	Third Party
<b>Location:</b>	Indiana, Kansas, Minnesota, Iowa
<b>Application Type:</b>	Foliar, Crop Nutrition & Protection
<b>Nano-Yield Product:</b>	4 oz/ac NanoPro®

### Summary:

NanoPro was evaluated as a flexible carrier adjuvant for tank mixes containing both nutrients and fungicide products. When NanoPro was added in two foliar applications to corn throughout the season, yield increased by 4.6 bu/acre on average. This average was calculated with replicated third party data across four states.



**NanoPro®**

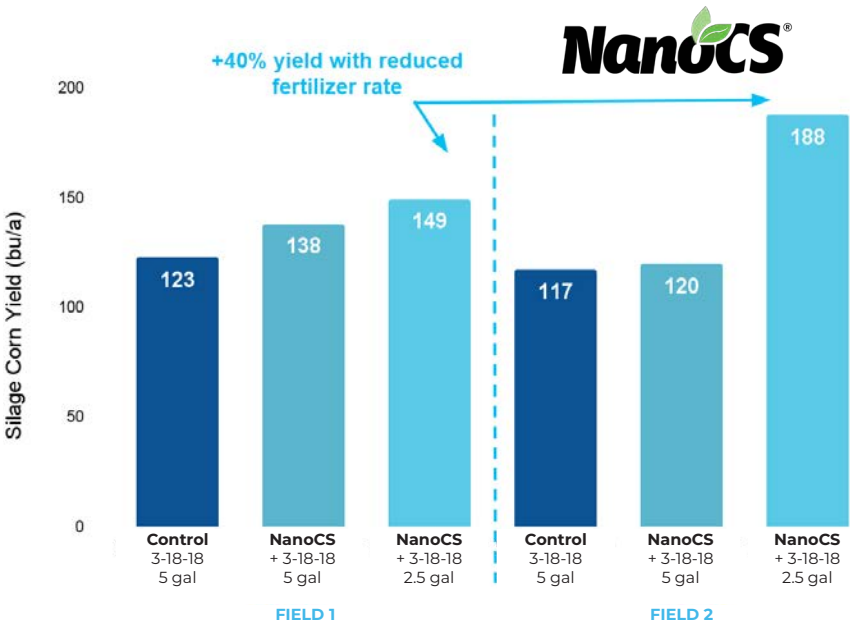
## NanoCS® Improves Silage Yield During Drought Years

<b>Year:</b>	2020
<b>Collaborator:</b>	Agri-Tech
<b>Location:</b>	Garden City, Missouri

<b>Application Type:</b>	In-furrow, Crop Nutrition
<b>Nano-Yield Product:</b>	6 oz/ac NanoCS®
<b>Additional Product:</b>	3-18-18

### Summary:

NanoCS provided improved corn growth and yield during extreme drought conditions. Two years of data were collected and plots treated with NanoCS had 9 bu/acre higher yield on average (8%).



# POTATO

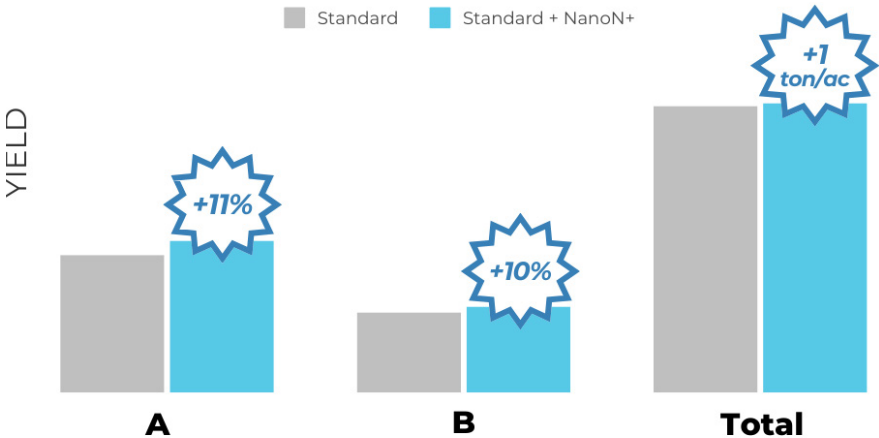
## NanoN+® Increases Potato Yield and Quality

<b>Year:</b>	2024
<b>Collaborator:</b>	Grower
<b>Location:</b>	Western Washington

<b>Application Type:</b>	In-furrow, Crop Nutrition
<b>Nano-Yield Product:</b>	NanoN+

### Summary:

Potato yield and quality is increased when NanoN+ is added with a grower standard in-furrow fertilizer program. This grower experienced a 10%+ increase in A and B quality potatoes in addition to a 1 ton/acre increase in yield.



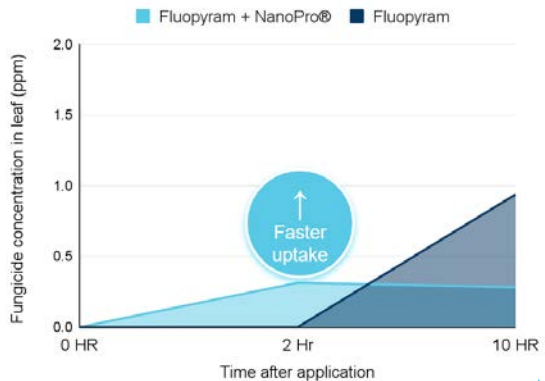
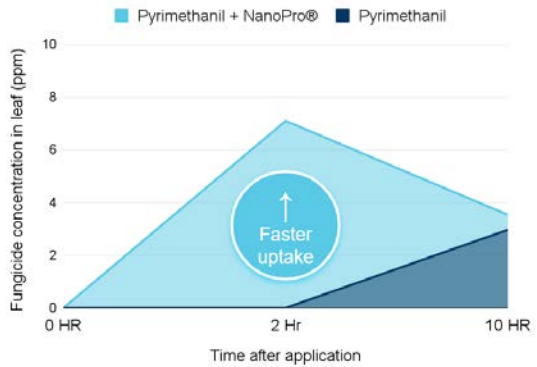
## NanoPro® Speeds Up Fungicide Absorption in Potato

<b>Year:</b>	2022
<b>Collaborator:</b>	Grower
<b>Location:</b>	Florida

<b>Application Type:</b>	Foliar, Crop Protection
<b>Nano-Yield Product:</b>	4 oz/ac NanoPro®
<b>Additional Product:</b>	Pyrimethanil Fluopyram

### Summary:

Potato tissue samples were collected and sent for laboratory analysis to measure the absorption of fungicide with and without NanoPro at 2 and 10 hours after application. The analysis showed faster absorption of Fluopyram fungicide at 2 hours when NanoPro was added.



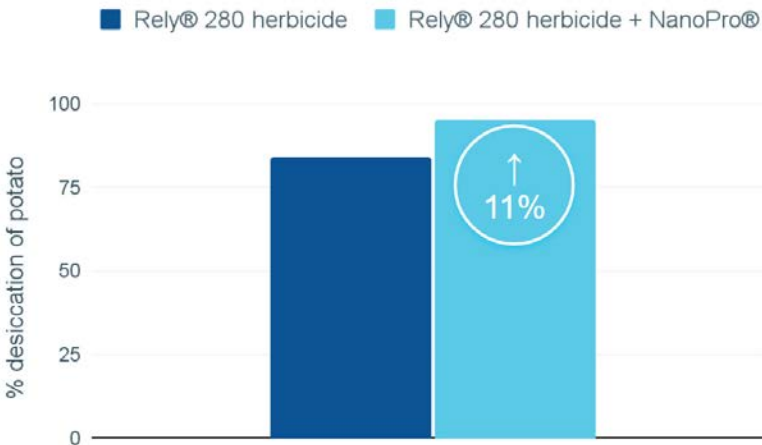
# POTATO

## NanoPro® Improves Potato Desiccation with Rely® 280 Herbicide

<b>Year:</b>	2022
<b>Collaborator:</b>	Washington State University
<b>Location:</b>	Washington
<b>Application Type:</b>	Foliar, Crop Protection
<b>Nano-Yield Product:</b>	4 oz/ac NanoPro®
<b>Additional Product:</b>	Rely® 280

### Summary:

NanoPro has been shown to improve desiccation activity of many products. This study at Washington State University demonstrated that adding NanoPro with Rely herbicide increased potato desiccation by 11% compared to Rely alone.



**NanoPro®**

## NanoPro® Provides Increased Blight Control on Potato Crop

<b>Year:</b>	2019
<b>Collaborator:</b>	University of Wisconsin
<b>Location:</b>	Hancock, Wisconsin

<b>Application Type:</b>	Foliar, Crop Protection
<b>Nano-Yield Product:</b>	4 oz/ac NanoPro®
<b>Additional Product:</b>	Bravo® WS 720C Priaxor® Endura® Dithane® DF Super Tin®

### Summary:

To verify customer success, collaborators at the University of Wisconsin evaluated NanoPro to improve early and late blight control on potato crops. Treatments with NanoPro added with a grower standard product blend showed significantly less blight and healthier foliage.

▼ Grower Standard ONLY (1.5 pt Bravo WS 720SC, 4.5 oz Priaxor + 1.5 pt Bravo WS, 3.5 oz Endura + 1.5 pt Bravo WS, 2 lb Dithane DF + 2.5 oz. Super Tin)



▼ Grower Standard + NanoPro®: **INCREASED BLIGHT CONTROL**



# NanoPro®



# SOYBEAN

## NanoK® Increases Indiana Soybean Yield

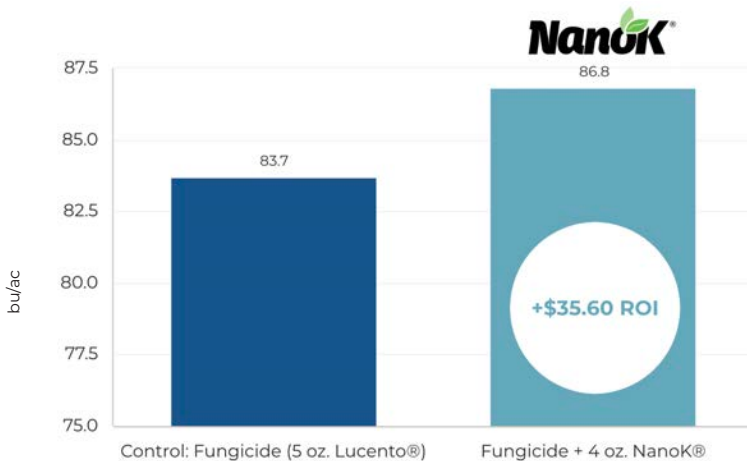
ROI: \$30.60 per acre

<b>Year:</b>	2022
<b>Collaborator:</b>	Beck's PFR
<b>Location:</b>	Indiana

<b>Application Type:</b>	Foliar, Crop Nutrition
<b>Nano-Yield Product:</b>	4 oz/ac NanoK®
<b>Additional Product:</b>	5 oz/ac Lucento®

### Summary:

Adding NanoK to Lucento fungicide at R3 increased soybean yield, providing a \$35.60 ROI per acre (soybean price \$13.76).



*PURPOSE:* To evaluate the use of various additives applied with a fungicide at the R3 growth stage in an attempt to increase plant health, yield, and profitability.  
*Participating Site:* IN. PAGE 157 of Beck's 2022 PFR Book.

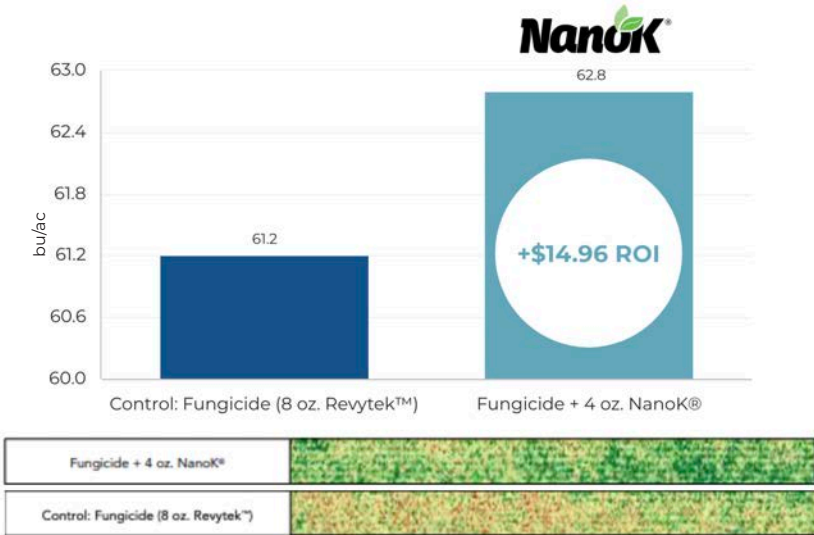
## NanoK® Increases Soybean Yield applied at R3 ROI: \$14.96 per acre

<b>Year:</b>	2022
<b>Collaborator:</b>	Beck's PFR
<b>Location:</b>	Delta PFR

<b>Application Type:</b>	Foliar, Crop Nutrition
<b>Nano-Yield Product:</b>	4 oz/ac NanoK®
<b>Additional Product:</b>	8 oz/ac Revytek®

### Summary:

Adding NanoK to Revytek fungicide at R3 increased soybean yield, providing a \$14.96 ROI per acre (soybean price \$13.76).



*PURPOSE:* To evaluate the use of various additives applied with a fungicide at the R3 growth stage in an attempt to increase plant health, yield, and profitability.  
*Participating Site:* Delta PFR. PAGE 279 of Beck's 2022 PFR Book.



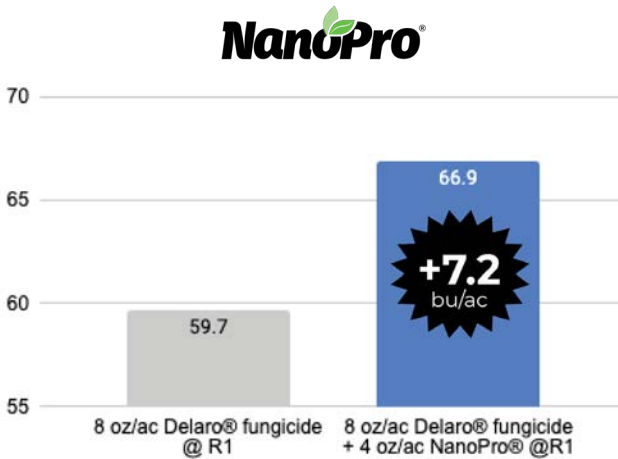
# SOYBEAN

## NanoPro® Increases Soybean Yield with Foliar Application

<b>Year:</b>	2023
<b>Collaborator:</b>	North Carolina State University
<b>Location:</b>	Plymouth, North Carolina
<b>Application Type:</b>	Foliar, Crop Protection
<b>Nano-Yield Product:</b>	4 oz/ac NanoPro®
<b>Additional Product:</b>	8 oz/ac Delaro®

### Summary:

NanoPro was evaluated to increase soybean yield in the southwest region. NanoPro was applied in a single foliar application with Delaro fungicide at R1. Disease pressure was low, however NanoPro increased yield significantly by 7.2 bu/acre.



## Nanoliquid® Products Improve Pesticide Uptake in Soybeans

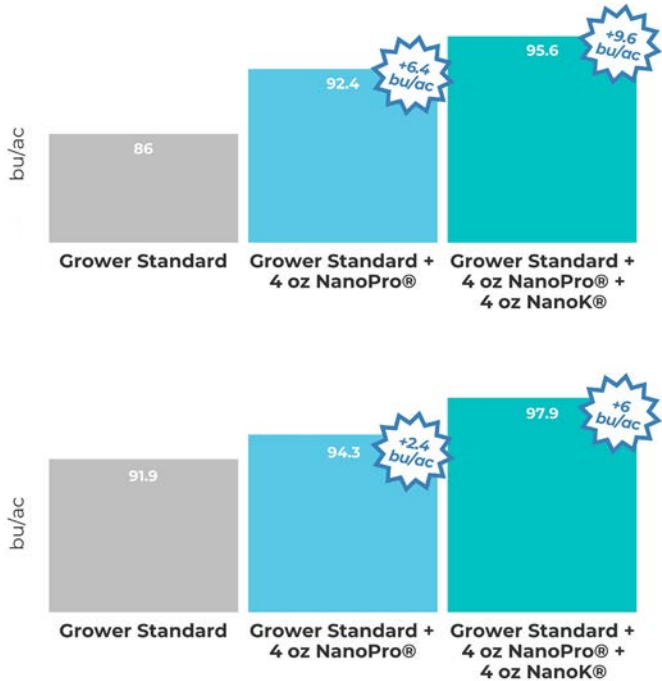


<b>Year:</b>	2024
<b>Collaborator:</b>	Stoelting Ag Services
<b>Location:</b>	Indiana
<b>Application Type:</b>	Foliar, Crop Protection
<b>Nano-Yield Product:</b>	4 oz/ac NanoPro®
<b>Additional Product:</b>	Approach® Prima Fungicide Sultrus™ Insecticide

### Summary:

In this Indiana replicated trial on soybeans, 4 oz/ac NanoPro and 4 oz/ac NanoK were applied with Approach Prima fungicide and Sultrus insecticide. Adding NanoPro alone added an average +4.4 bu/ac over the grower standard, while adding NanoPro and NanoK added an average +7.8 bu/ac over the grower standard.

Planted 4/26/24 · 15" Rows · Beck's 3140E3 · Sprayed 7/1/24  
Grower Standard: Approach Prima Fungicide and Sultrus Insecticide



# SOYBEAN

## Beck's PFR Proven: NanoPro® 3-Year Replicated Fungicide Trial



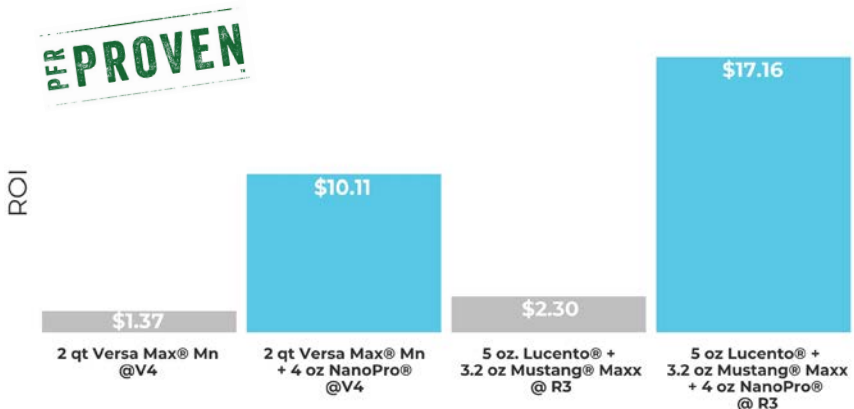
<b>Year:</b>	2022-2024
<b>Collaborator:</b>	Beck's PFR
<b>Location:</b>	Indiana, Ohio, Iowa, Nebraska, Minnesota
<b>Application Type:</b>	Foliar, Crop Protection
<b>Nano-Yield Product:</b>	4 oz/ac NanoPro®
<b>Additional Product:</b>	Versa Max® Mn Lucento® Mustang® Maxx

### Summary:

For the third year in a row nanoliquid products increased soybean yield for Beck's PFR trials. Incorporating NanoPro in the fungicide trial resulted in a return on investment of \$10.11 and \$17.16 per acre. This average was calculated with replicated third party data across multiple states. **NanoPro is now PFR PROVEN!**

2024 Beck's PFR Book, pg 212

Indiana, Ohio, Iowa, Nebraska, Minnesota



## Beck's PFR Proven: NanoPro® 2024 Replicated Fungicide Trial



ROI: \$19.20 per acre

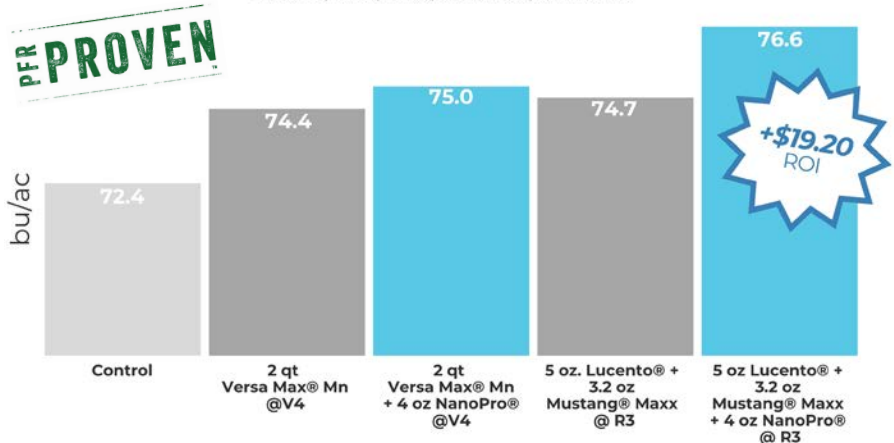
<b>Year:</b>	2024
<b>Collaborator:</b>	Beck's PFR
<b>Location:</b>	Indiana, Ohio, Iowa, Nebraska, Minnesota
<b>Application Type:</b>	Foliar, Crop Protection
<b>Nano-Yield Product:</b>	4 oz/ac NanoPro®
<b>Additional Product:</b>	Versa Max® Mn Lucento® Mustang® Maxx

### Summary:

Adding NanoPro to fungicide and insecticide products increased soybean yield, providing \$19.20 ROI per acre. **NanoPro is now PFR PROVEN!**

2024 Beck's PFR Book, pg 212

Indiana, Ohio, Iowa, Nebraska, Minnesota



# SOYBEAN

## NanoPro® Soybean Foliar Fungicide Study by Precision Planting



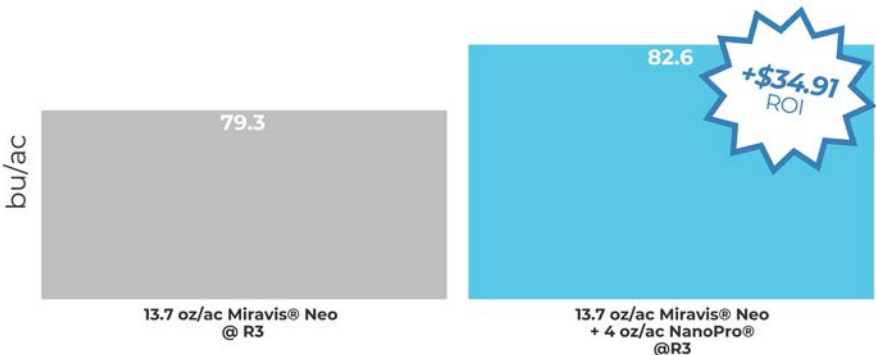
ROI: \$34.91 per acre

<b>Year:</b>	2024
<b>Collaborator:</b>	Precision Planting
<b>Location:</b>	Pontiac, Illinois
<b>Application Type:</b>	Foliar, Crop Protection
<b>Nano-Yield Product:</b>	4 oz/ac NanoPro®
<b>Additional Product:</b>	13.7 oz/ac Miravis® Neo

### Summary:

In this trial by Precision Planting, 4 oz/ac NanoPro was tested with a foliar application of 13.7 oz/ac Miravis Neo, resulting in an additional +3.3 bu/ac at a \$34.91 ROI.

2024 PTI Results Book, pg 260



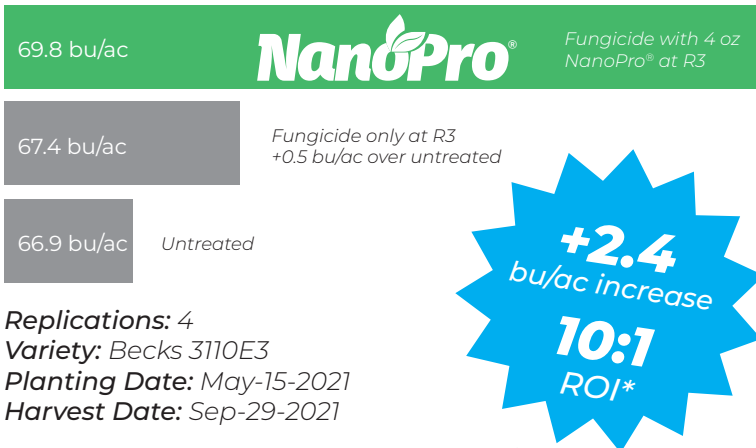
## NanoPro® Increases Efficiency of Fungicides

ROI: 10:1

<b>Year:</b>	2021
<b>Collaborator:</b>	ABG Ag Services
<b>Location:</b>	Sheriden, Indiana
<b>Application Type:</b>	Foliar, Crop Protection
<b>Nano-Yield Product:</b>	4 oz/ac NanoPro®

### Summary:

In this trial with ABG Ag Services, NanoPro increased the efficiency of fungicide at the R3 growth stage, yielding an additional 2.4 bu/ac at a 10:1 ROI.



**Replications:** 4

**Variety:** Becks 3110E3

**Planting Date:** May-15-2021

**Harvest Date:** Sep-29-2021

\*ROI based on October 2021 pricing of NanoPro® at \$2.84/ac and CBOT Futures on the day we received harvest data



# SOYBEAN

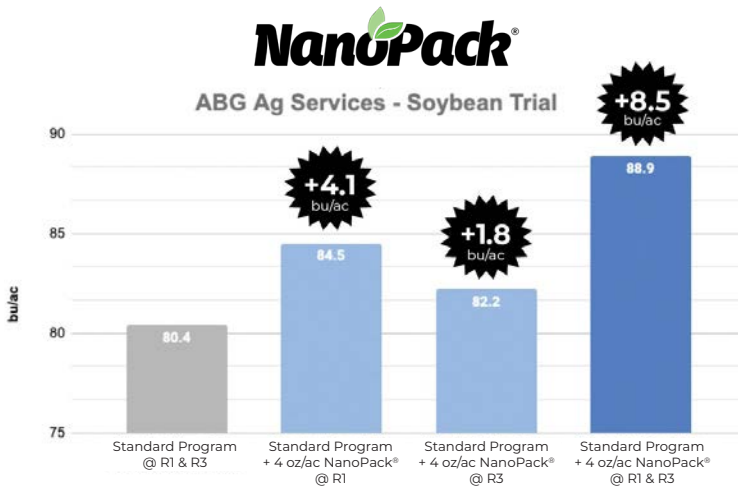
## NanoPack® Demonstrates Success with Soybean Crops

<b>Year:</b>	2023
<b>Collaborator:</b>	ABG Ag Services
<b>Location:</b>	Sheriden, Indiana

<b>Application Type:</b>	Foliar, Crop Nutrition
<b>Nano-Yield Product:</b>	4 oz/ac NanoPack®
<b>Additional Product:</b>	13.7 oz/ac Miravis® Neo

### Summary:

NanoPack demonstrated success in improving soybean yield when applied in-season with grower standard products. Application timing was evaluated to compare applying at R1, R3, and both timings. Applying at R1 resulted in the highest yield for a single application, increasing yield by 4.1 bu/acre. Applying NanoPack at R1 and R3 resulted in an incredible 8.5 bu/acre increase in yield.





# WHEAT

## NanoN+® on Winter Wheat in North Central Kansas



<b>Year:</b>	2024
<b>Collaborator:</b>	Grower
<b>Location:</b>	Kansas
<b>Application Type:</b>	Starter, Crop Nutrition
<b>Nano-Yield Product:</b>	NanoN+®

### Summary:

In this grower trial from North Central Kansas, we can see the visual impact of adding NanoN+ at planting (pictures taken November 19, 2024).



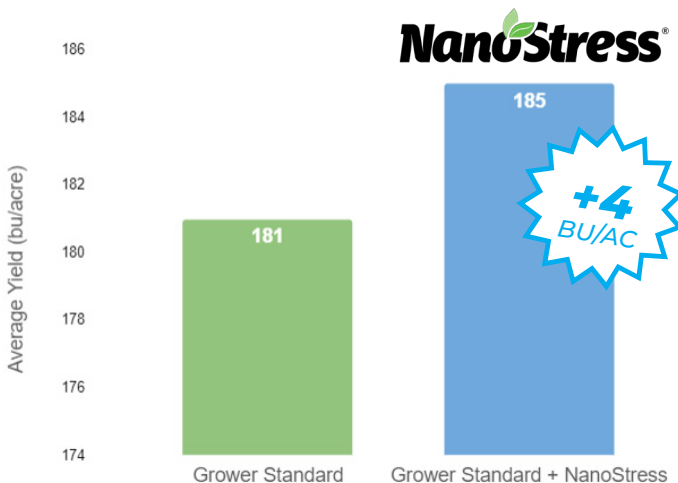
## NanoStress® Improves Wheat Yield

<b>Year:</b>	2018
<b>Collaborator:</b>	Utah State University
<b>Location:</b>	Utah

<b>Application Type:</b>	Foliar, Crop Nutrition
<b>Nano-Yield Product:</b>	4 oz/ac NanoStress®
<b>Additional Products:</b>	11-52-0 0-0-60 Ammonium Sulfate

### Summary:

NanoStress was evaluated as a liquid fertility supplement for winter wheat production in a replicated trial conducted by Dr. Earl Creech, Agronomy Professor at Utah State University in collaboration with Nano-Yield. The variety grown was SY Ovation, a soft white winter wheat. Wheat received 3 applications of NanoStress at the rate of 4 oz/acre. The result was 4 bu/acre higher yield when NanoStress was applied.



# WHEAT

## Nanoliquid® Products Increase Spring Wheat Yield in Montana

<b>Year:</b>	2023
<b>Collaborator:</b>	Ed Davis Independent Research
<b>Location:</b>	Belgrade, Montana

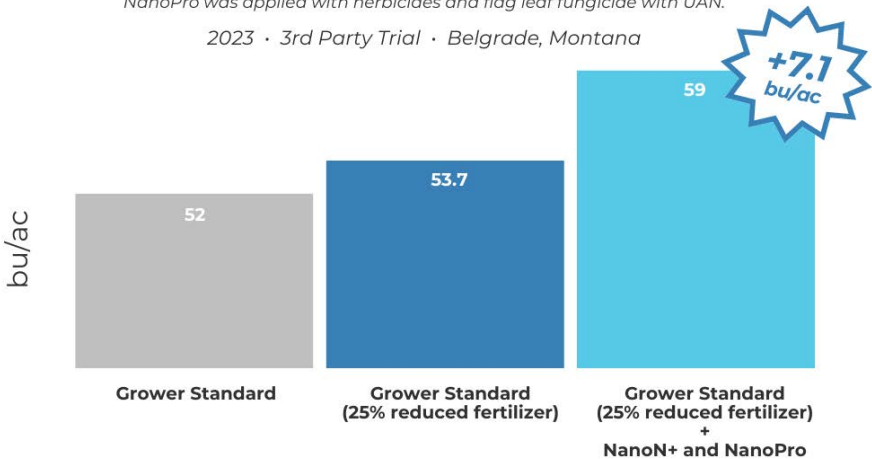
<b>Application Type:</b>	Multiple, Crop Nutrition & Protection
<b>Nano-Yield Product:</b>	4 oz/ac NanoN+® 4 oz/ac NanoPro®
<b>Additional Products:</b>	100 lb/ac DAP 28 lb/ac Urea 72 lb P <sub>2</sub> O <sub>5</sub> Tilt®

### Summary:

A replicated trial in Belgrade, Montana in 2023 showed that adding 5 nanoliquid applications while reducing dry fertilizer rate 25% resulted in a 7.1 bu/acre (13%) increase in wheat yield compared to the grower standard.

*NanoN+ was applied in-furrow and with broadcast post-emergence nitrogen.  
NanoPro was applied with herbicides and flag leaf fungicide with UAN.*

2023 · 3rd Party Trial · Belgrade, Montana



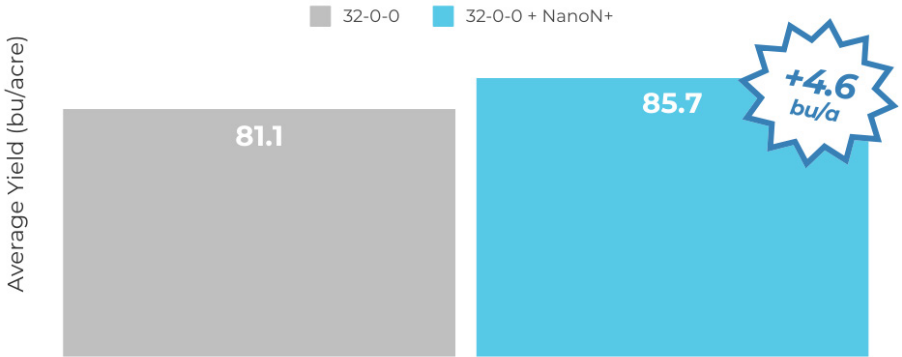
## NanoN+® Increases Wheat Yield with Nitrogen Applications

<b>Year:</b>	2024
<b>Collaborator:</b>	Grower
<b>Location:</b>	Kentucky

<b>Application Type:</b>	Foliar, Crop Nutrition
<b>Nano-Yield Product:</b>	NanoN+®
<b>Additional Products:</b>	UAN 32-0-0

### Summary:

NanoN+ was added with a second spring application of 32-0-0 on red winter wheat for seven different grower fields. The result was an average increase of 4.6 bu/acre, with a maximum increase of 16 bu/acre.



# WHEAT

## NanoK® Increases Wheat Test Weight

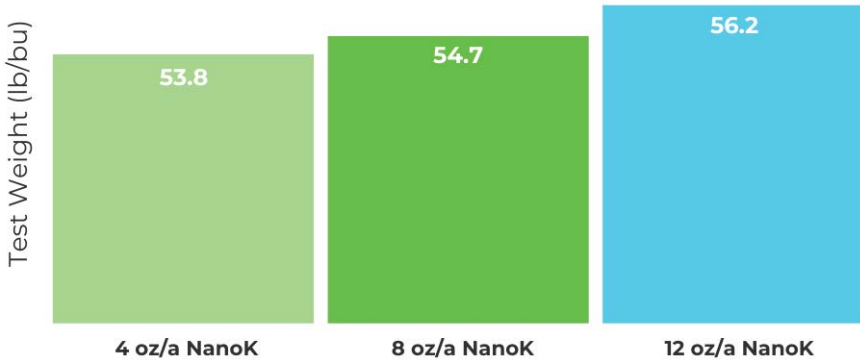
<b>Year:</b>	2024
<b>Collaborator:</b>	Onward Ag
<b>Location:</b>	Washburn, ND

<b>Application Type:</b>	Foliar, Crop Nutrition
<b>Nano-Yield Product:</b>	NanoK®

### Summary:

In this trial on reclamation ground, the grower tested out different rates of NanoK® applied at flower on wheat and its effect on final test weight. The results show a correlation of increasing rates of NanoK® with increased test weight.

*2024 · Applied at flower · Reclamation ground - Washburn, ND*





*Above: Multiple applications of nanoliquid® technology applied.*



*Above: Before (left) and after (right) a drone application of 4 oz/ac NanoPro + Roundup® on corn.*



A cabbage grower decided to give Aqua-Yield a try on his cabbage crop specifically grown for sauerkraut. NanoCS was used in the transplant mix followed by NanoPro in every sprayer pass, yielding up to 40 pound heads!

-Skagit Farm Supply · Washington

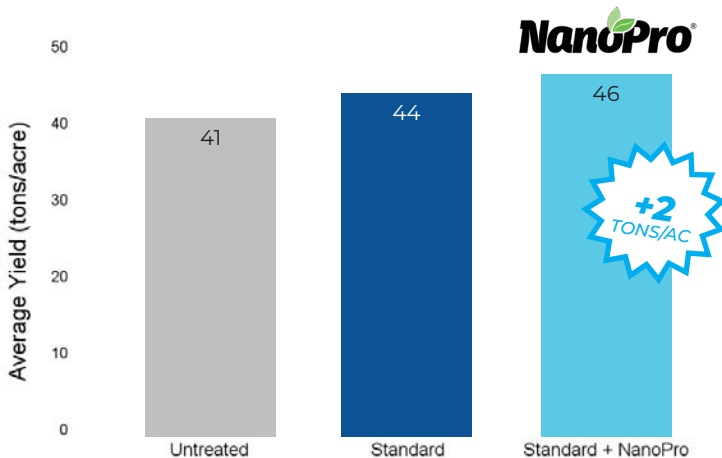


## NanoPro® Improves Thrip Control and Yield of Onion

<b>Year:</b>	2022
<b>Collaborator:</b>	Washington State University
<b>Location:</b>	Washington
<b>Application Type:</b>	Foliar, Crop Protection
<b>Nano-Yield Product:</b>	4 oz/ac NanoPro®
<b>Additional Product:</b>	Movento®, Agri-Mek® SC Radiant® SC, Lannate® SP

### Summary:

Adding NanoPro with grower standard products improved the activity of crop protection for thrip control, resulting in 2 tons per acre higher yield on average. This replicated trial was conducted by Washington State University. NanoPro was included in 8 separate applications. Grower standard products included Movento, Agri-Mek, Radiant, and Lannate products along with a non-ionic surfactant.



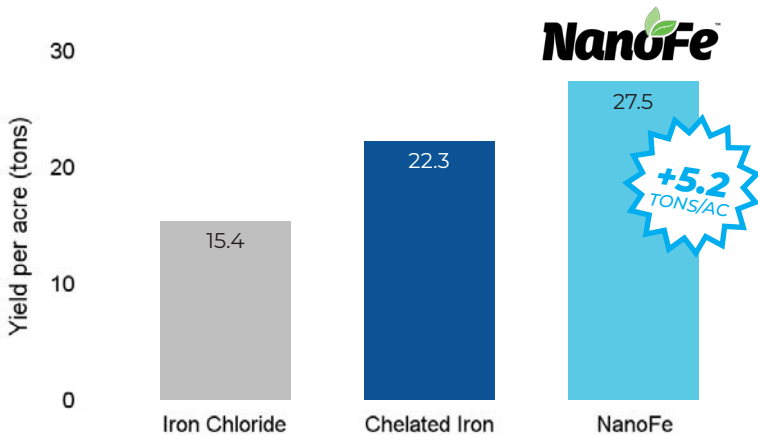
# TOMATO

## NanoFe® Offers Superior Performance for Tomato

<b>Year:</b>	2021
<b>Collaborator:</b>	The Ohio State University
<b>Location:</b>	Ohio
<b>Application Type:</b>	Drip Injection, Crop Nutrition
<b>Nano-Yield Product:</b>	24 oz/ac NanoFe®
<b>Additional Product:</b>	Iron Chloride Chelated Iron (EDDHA)

### Summary:

Two applications via drip of NanoFe was applied at the early vegetative stage and again in the early flowering stage at 24 oz/acre as a primary fertilizer application. NanoFe drastically improved yield compared to equivalent iron concentrations of iron chloride and chelated iron (EDDHA), including 18% larger fruits. NanoFe increased yield 2x more than chelated iron when compared to iron chloride. Yield was 5.2 tons higher compared to the chelated iron treatment.



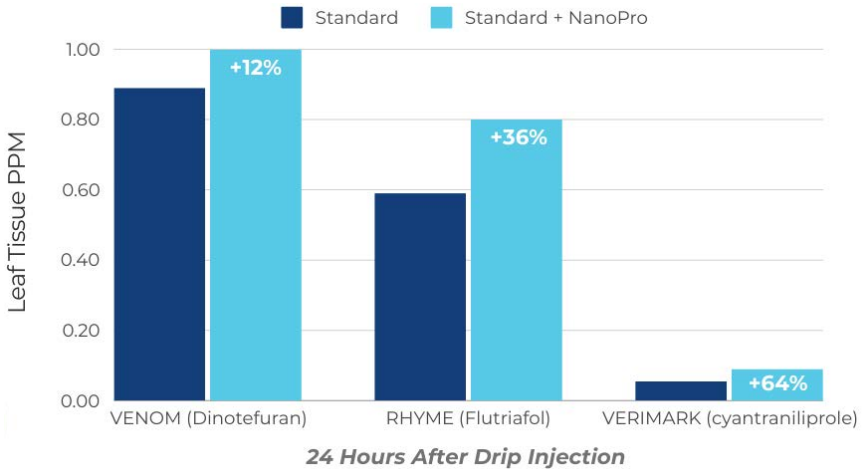
## NanoPro® Increases AI Uptake for Tomato

<b>Year:</b>	2024
<b>Collaborator:</b>	Grower
<b>Location:</b>	Florida

<b>Application Type:</b>	Drip Injection, Crop Protection
<b>Nano-Yield Product:</b>	4 oz/ac NanoPro®
<b>Additional Product:</b>	Venom®, Rhyme®, Verimark®

### Summary:

Replicated lab sampling from leaves collected 24 hours after drip injection revealed increased systemic translocation of three different products when NanoPro was added. Fast and efficient plant uptake with NanoPro improves crop protection for both fungicides (Rhyme) and insecticides (Venom and Verimark).



# TOMATO

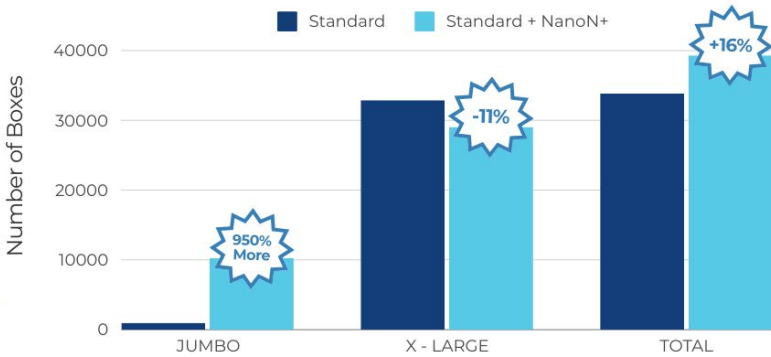
## NanoN+® Improves Yield and Quality of Tomato

<b>Year:</b>	2023
<b>Collaborator:</b>	Grower
<b>Location:</b>	Baja, Mexico

<b>Application Type:</b>	Drip Injection, Crop Nutrition
<b>Nano-Yield Product:</b>	8 ml NanoN+® per kg fertilizer

### Summary:

NanoN+, delivered full-season via fertigation with a standard fertilizer blend, resulted in a drastic increase in the number of premium jumbo size fruit, and produced an overall yield increase of 16%. The rate of NanoN+ used was 8 ml per kg of water soluble fertilizer.



\*Rate: 8 ml NanoN+ per kg of water soluble fertilizer



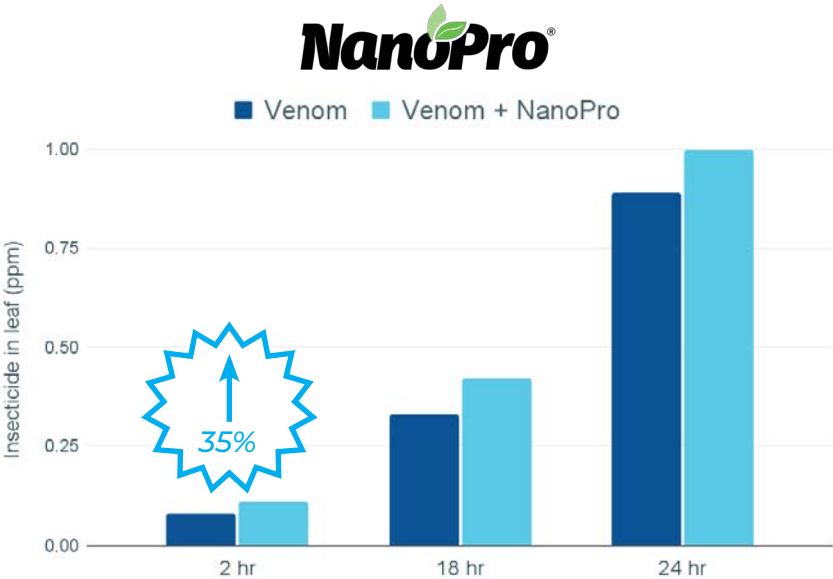
## NanoPro® Speeds Up Insecticide Uptake in Tomato

<b>Year:</b>	2022
<b>Collaborator:</b>	National Grower
<b>Location:</b>	Florida

<b>Application Type:</b>	Drip Injection, Crop Protection
<b>Nano-Yield Product:</b>	4 oz/ac NanoPro®
<b>Additional Product:</b>	Venom®

### Summary:

In this grower demo, leaf tissue tests revealed 35% higher concentration of Venom insecticide with NanoPro starting 2 hours after drip injection. Improved plant absorption speed is advantageous to reduce pest populations more quickly.



# NanoGro® for Nursery Production

<b>Year:</b>	2018
<b>Collaborator:</b>	River View Flower Farm
<b>Location:</b>	Florida

<b>Application Type:</b>	Soil, Crop Nutrition
<b>Nano-Yield Product:</b>	4 oz/100 gal NanoGro®

## Summary:

River View Flower Farm, reported plants 3 weeks ahead after receiving 2 soil drenches of NanoGro at 4 oz per 100 gallons. This was a huge advantage in getting plants ready to market sooner.



## NanoPhos® Improves Root Development at Low Rates

<b>Year:</b>	2018
<b>Collaborator:</b>	Tropical Star Farm
<b>Location:</b>	Alamo, Texas

<b>Application Type:</b>	Soil, Crop Nutrition
<b>Nano-Yield Product:</b>	4 oz/100 gal NanoPhos®

### Summary:

Tropical Star Farm reported being able to reduce phosphorus inputs by 10x when using NanoPhos with their standard program. Tropical Star Farm produces millions of vegetable transplants yearly in the Rio Grande Valley.



“The usage of the Aqua-Yield product is paramount. I believe it is a revelation for the farmer.”

-Tropical Star Farm · Texas

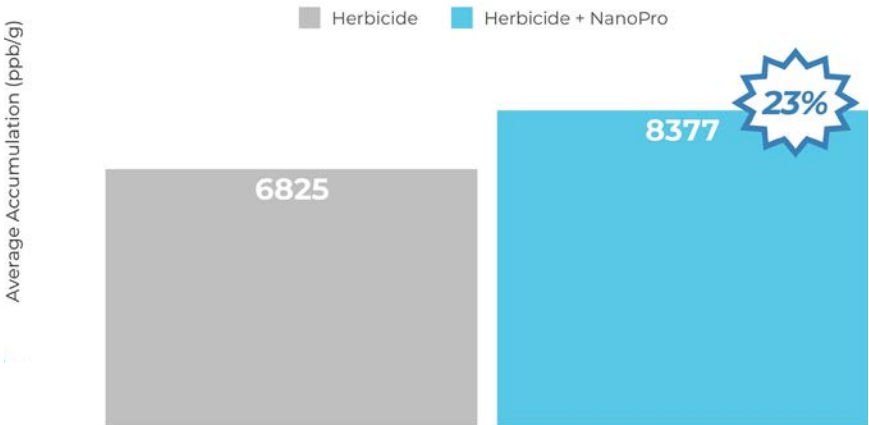


# NanoPro<sup>®</sup> Improves Uptake of Dicamba and 2,4-D on Kochia

<b>Year:</b>	2024
<b>Collaborator:</b>	University of Nebraska
<b>Location:</b>	Scottsbluff, Nebraska
<b>Application Type:</b>	Foliar, Crop Protection
<b>Nano-Yield Product:</b>	4 oz/ac NanoPro <sup>®</sup>
<b>Additional Product:</b>	2,4-D

## Summary:

A replicated trial at the University of Nebraska showed an increase in 2,4-D accumulation when NanoPro was added to an application on Kochia weeds.



## NanoPro® Improves Herbicide Uptake and Weed Control

<b>Year:</b>	2018
<b>Collaborator:</b>	Grower
<b>Location:</b>	Texas
<b>Application Type:</b>	Foliar, Crop Protection
<b>Nano-Yield Product:</b>	4 oz/ac NanoPro®
<b>Additional Product:</b>	Glyphosate

### Summary:

A grower demo resulted in a clearly visible difference in weed control when NanoPro was added with glyphosate herbicide. Tissue tests submitted after application showed roughly 25% better uptake of glyphosate, demonstrating the power of NanoPro to improve herbicide delivery.



**Glyphosate Only**

**Glyphosate +  
NanoPro**

# NanoPro<sup>®</sup> Improves Weed Control with Escalade<sup>®</sup> Herbicide

<b>Year:</b>	2018
<b>Collaborator:</b>	University of Tennessee Martin
<b>Location:</b>	Tennessee
<b>Application Type:</b>	Foliar, Crop Protection
<b>Nano-Yield Product:</b>	4 oz/ac NanoPro <sup>®</sup>
<b>Additional Product:</b>	Escalade <sup>®</sup> 2

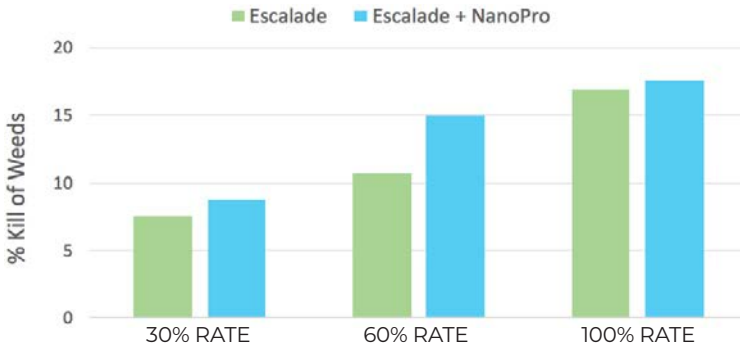
## Summary:

NanoPro has been successfully utilized by growers throughout the U.S. to improve the efficacy of various herbicide products in agricultural fields. In 2017, a replicated study was sponsored by Nano-Yield in collaboration with the University of Tennessee Martin to quantify the effect of incorporating nanotechnology in herbicide sprays.

## Results and Discussion

All Escalade treatments with added NanoPro had a higher percent kill of weeds than Escalade alone. The increased herbicide efficiency with NanoPro added is particularly apparent when the application rate was reduced to 60%.

This data shows NanoPro can improve the efficacy of Escalade herbicide up to 30%. The data also corresponds with the improved efficacy consistently noted by Nano-Yield customers throughout the United States.

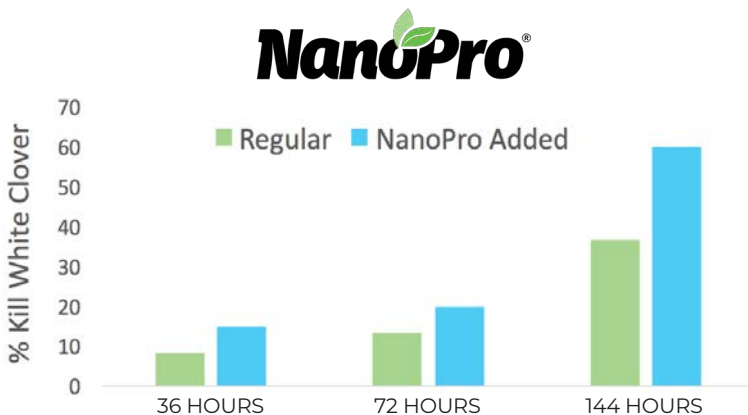


## NanoPro® Speeds Up and Improves Weed Control with Glyphosate

<b>Year:</b>	2018
<b>Collaborator:</b>	University of Tennessee Martin
<b>Location:</b>	Tennessee
<b>Application Type:</b>	Foliar, Crop Protection
<b>Nano-Yield Product:</b>	4 oz/ac NanoPro®
<b>Additional Product:</b>	Glyphosate

### Summary:

Collaborators at the University of Tennessee Martin showed 60% improved weed control of white clover with glyphosate herbicide compared to glyphosate alone. The effects were seen starting 36 hours after treatment.





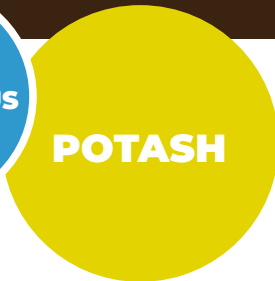
# GET COATED.



## ONE product to treat your entire dry fertilizer blend



PHOSPHORUS



nanoCOTE™



▲  
 Want to see NanoCote Core in action? Scan this QR Code to learn more.



Evenly coats every particle with nutrient enhancing nanoparticles



Reduces up to 99% of dust and material build up on equipment



Increases nutrient uptake and crop yields



Designed for regenerative agriculture

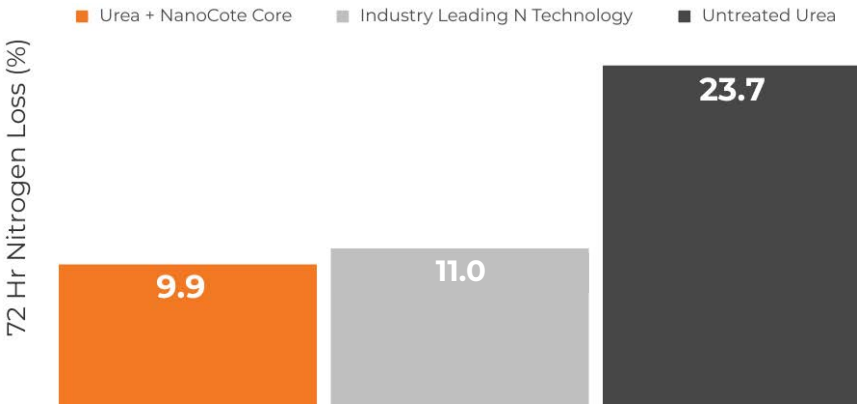
# NanoCote™ Core Prevents Nitrogen Losses

<b>Year:</b>	2023
<b>Collaborator:</b>	Penn State University
<b>Location:</b>	Pennsylvania

<b>Application Type:</b>	Crop Nutrition
<b>Nano-Yield Product:</b>	108 fl oz/ton NanoCote™ Core
<b>Additional Product:</b>	0.9 lb/1000 ft <sup>2</sup> 46-0-0 Urea

## Summary:

NanoCote Core was evaluated by our partners at Penn State University to measure reduced nitrogen volatility after application using specialized chambers. The nitrogen rate was 0.9 lb per 1000 ft<sup>2</sup> of 46-0-0 urea. NanoCote Core was shown to reduce volatile losses by over 50% compared to urea alone. This result was similar to a leading nitrogen stabilizing product. However, NanoCote Core is different from other leading technologies because it can be used with any dry fertilizer product.



# NanoCote™ Core Increases Phosphorous Availability

<b>Year:</b>	2024
<b>Collaborator:</b>	BYU Idaho
<b>Location:</b>	Rexburg, Idaho

<b>Application Type:</b>	Crop Nutrition
<b>Nano-Yield Product:</b>	NanoCote™ Core
<b>Additional Product:</b>	MAP

## Summary:

Phosphorous fertilizers tend to bind tightly to soils before they can be utilized by crop plants. Collaborators at Brigham Young University confirmed that NanoCote Core significantly increases phosphorous availability when applied as a coating on a common nutrient blend such as Monoammonium phosphate (MAP). The result is less waste and better nutrient efficiency.



## NanoCote™ Core Increases Alfalfa Yield and Quality

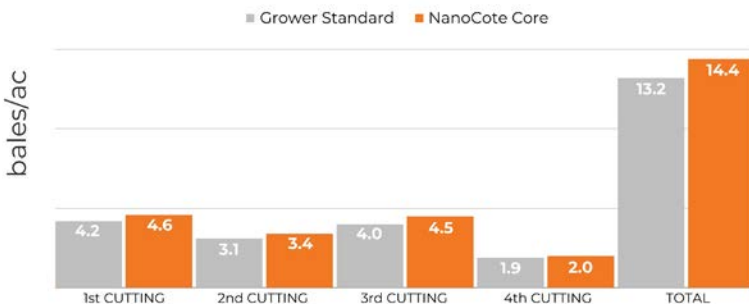
<b>Year:</b>	2023
<b>Collaborator:</b>	Grower
<b>Location:</b>	Mt. Vernon, Washington

<b>Application Type:</b>	Crop Nutrition
<b>Nano-Yield Product:</b>	108 fl oz/ton NanoCote™ Core
<b>Additional Product:</b>	150 lb/ac 0-0-60 Potash 75 lb/ac 11-52-0 MAP 65 lb/ac SOP 10 lb/ac Boron 15%

### Summary:

Two alfalfa fields side by side were used with the same soil types and management practices. They were fertilized and cut on the same days throughout the season. The grower cut 5 cuttings; all silage bales. No other fertilizer was applied to the field throughout the year. The field received rainfall prior to first cutting and then had no measurable rainfall for the rest of the season.

**Results:** Over the year there was an average increase in yield of 8% per cutting. The total yield increase with NanoCote Core was 1.2 bales and 0.9 tons per acre. Protein content was also increased by 17% in the NanoCote treated field. This result represents a significant gain for the grower and a return on investment of approximately \$144/acre or 11:1.



## Beck's PFR: NanoCote™ Core Nitrogen Coating Study



<b>Year:</b>	2024
<b>Collaborator:</b>	Beck's PFR
<b>Location:</b>	Indiana, Kentucky

<b>Application Type:</b>	Crop Nutrition
<b>Nano-Yield Product:</b>	NanoCote™ Core
<b>Additional Product:</b>	Urea

### Summary:

In this first year, third party trial by Beck's PFR, different rates of fertilizer were tested with urea and NanoCote Core. The lower application rates of urea and NanoCote Core achieved a higher ROI of \$28.22.

*2024 Beck's PFR Book, pg 112  
Indiana and Kentucky*



# CORN

## NanoCote™ Urea Treatment Study by Precision Planting

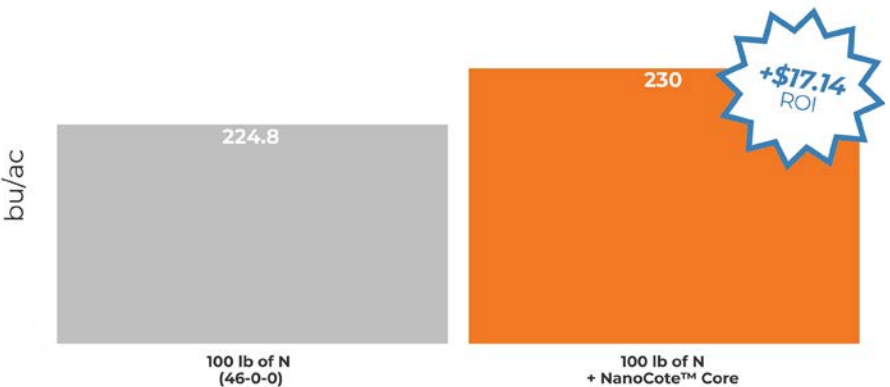


<b>Year:</b>	2024
<b>Collaborator:</b>	Precision Planting
<b>Location:</b>	Pontiac, Illinois
<b>Application Type:</b>	Crop Nutrition
<b>Nano-Yield Product:</b>	NanoCote™ Core
<b>Additional Product:</b>	Urea

### Summary:

This is a first year NanoCote urea treatment trial with Precision Planting. 100 lbs of 46-0-0 urea nitrogen was tested with NanoCote Core, resulting in a 5.2 bu/ac increase and a \$17.14 ROI per acre.

*2024 PTI Results Book, pg 110-111*



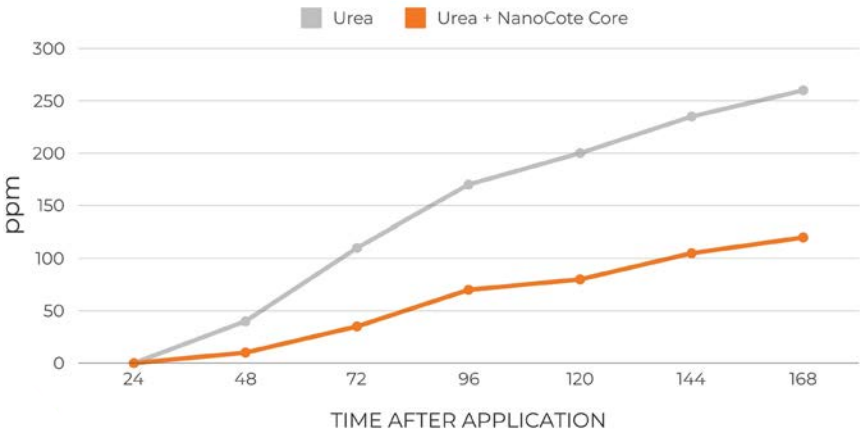
## Nitrogen Volatility Trial



<b>Year:</b>	2024
<b>Collaborator:</b>	Skagit Farmers Supply
<b>Location:</b>	Washington
<b>Application Type:</b>	Crop Nutrition
<b>Nano-Yield Product:</b>	NanoCote™ Core
<b>Additional Product:</b>	Urea

### Summary:

Skagit Farmers Supply in Mount Vernon, WA recently started offering products treated with NanoCote Core. A field test was performed in a customer field to measure the effect of NanoCote Core on nitrogen volatility of urea. In this test, NanoCote Core reduced volatility approximately 50%.



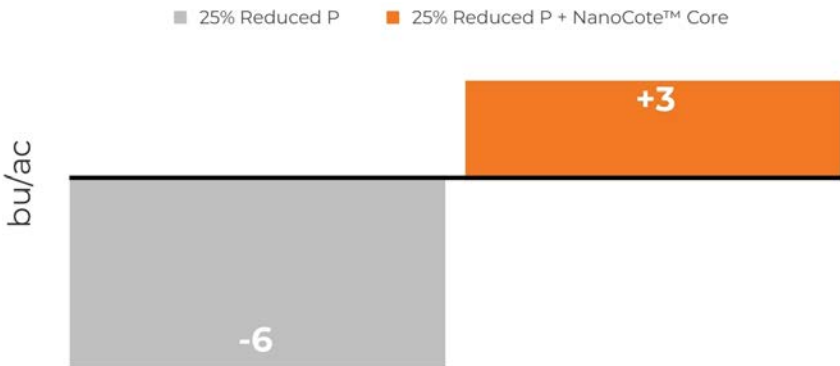
## NanoCote™ Core helps Increase Corn Yield Despite Severe Drought

<b>Year:</b>	2023
<b>Collaborator:</b>	INTENT
<b>Location:</b>	Vernon, Missouri

<b>Application Type:</b>	Crop Nutrition
<b>Nano-Yield Product:</b>	NanoCote™ Core
<b>Additional Product:</b>	18-46-0 DAP

### Summary:

Third party research collaborators evaluated NanoCote Core for enhancing nutrient efficiency of DAP fertilizer applied as a spring application for corn production. A grower standard rate of DAP (150 lb/ac) was compared side by side with a 25% reduced rate of DAP (112 lb/ac) treated with NanoCote Core. Extreme drought significantly impacted the yield in this trial. The field with NanoCote and a reduced rate had a yield 3 bu/acre higher than the average. Without NanoCote, yield was 6 bu/acre lower than average.



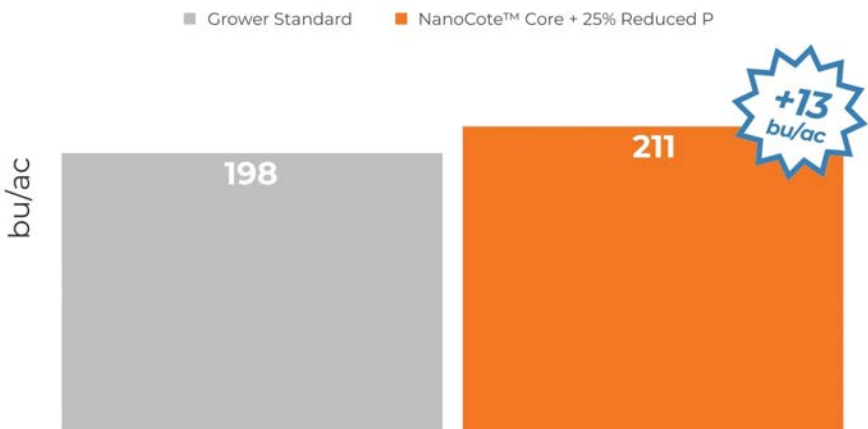
## NanoCote™ Core Increases Corn Yield

<b>Year:</b>	2023
<b>Collaborator:</b>	INTENT
<b>Location:</b>	Carroll, Iowa

<b>Application Type:</b>	Crop Nutrition
<b>Nano-Yield Product:</b>	NanoCote™ Core
<b>Additional Product:</b>	11-52-0 MAP

### Summary:

Third party research collaborators evaluated NanoCote Core for enhancing nutrient efficiency of MAP fertilizer applied as a spring application for corn production. A grower standard rate of MAP (200 lb/ac) was compared side by side with a 25% reduced rate of MAP (150 lb/ac) treated with NanoCote Core. The field with NanoCote and a reduced rate had an increased yield of 13 bu/acre compared to the grower standard without NanoCote.



# CORN

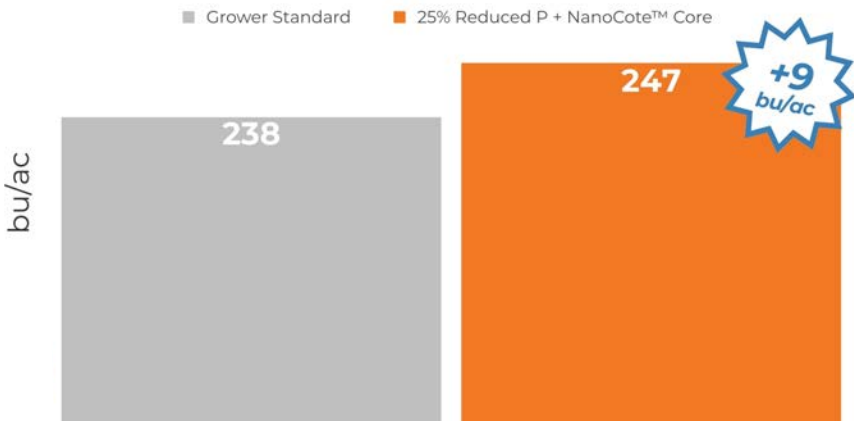
## NanoCote™ Core Increases Corn Yield in Ohio with Phosphorous Application

<b>Year:</b>	2023
<b>Collaborator:</b>	INTENT
<b>Location:</b>	Brown, Ohio

<b>Application Type:</b>	Crop Nutrition
<b>Nano-Yield Product:</b>	NanoCote™ Core
<b>Additional Product:</b>	18-46-0 DAP

### Summary:

Third party research collaborators evaluated NanoCote Core for enhancing nutrient efficiency of DAP fertilizer applied as a spring application for corn production. A grower standard rate of DAP (100 lb/ac) was compared side by side with a 25% reduced rate of DAP (75 lb/ac) treated with NanoCote Core. The field with NanoCote and a reduced rate had an increased yield of 9 bu/acre compared to the grower standard without NanoCote.



# CORN

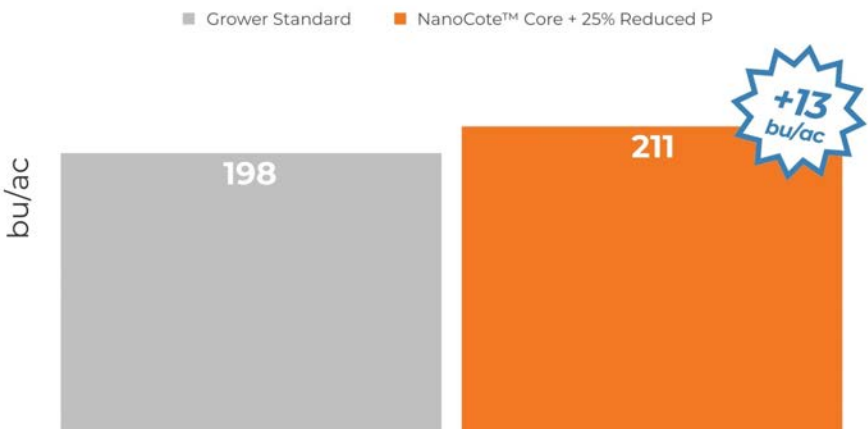
## NanoCote™ Core Increases Nutrient Uptake for Corn

<b>Year:</b>	2023
<b>Collaborator:</b>	INTENT
<b>Location:</b>	Carroll, Iowa

<b>Application Type:</b>	Crop Nutrition
<b>Nano-Yield Product:</b>	NanoCote™ Core
<b>Additional Product:</b>	11-52-0 MAP

### Summary:

Third party research collaborators evaluated NanoCote Core for enhancing nutrient efficiency of MAP fertilizer applied as a spring application for corn production. A grower standard rate of MAP (200 lb/ac) was compared side by side with a 25% reduced rate of MAP (150 lb/ac) treated with NanoCote Core. The field with NanoCote and a reduced rate had an increased yield of 13 bu/acre compared to the grower standard without NanoCote.



# POTATO

## NanoCote™ Core Provides Two Ton Yield Increase for Potatoes

<b>Year:</b>	2023
<b>Collaborator:</b>	Grower
<b>Location:</b>	Washington

<b>Application Type:</b>	Crop Nutrition
<b>Nano-Yield Product:</b>	NanoCote™ Core
<b>Additional Product:</b>	AMS, MAP, KMag, 0-0-60, SOP, YaraVita® PROCOTE® B and Mn, Boron 15%, Mn Sulfate 32%, Dolopril®

### Summary:

In 2023, two large potato growers in the Skagit valley in Washington State incorporated NanoCote Core into their dry fertilizer programs. The result over three trials was an average increase of two tons per acre when NanoCote was added to their dry fertilizer blends.



**Average Yield**  
(tons/ac)

Grower Standard 20

NanoCote Core 22



# POTATO

## NanoCote™ Core Increases Potato Yield with Phosphorus Application

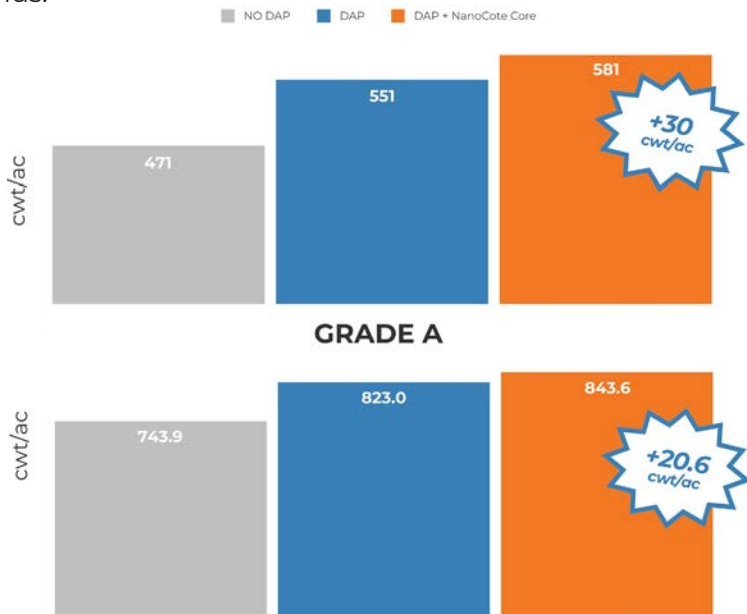


<b>Year:</b>	2024
<b>Collaborator:</b>	Mid Michigan Agronomy
<b>Location:</b>	Manistee, Michigan

<b>Application Type:</b>	Top Dress, Dry Fertilizer
<b>Nano-Yield Product:</b>	NanoCote™ Core
<b>Additional Product:</b>	DAP 80 lb/ac

### Summary:

In 2024, Mid Michigan Agronomy incorporated NanoCote Core into their replicated top dress DAP fertilizer program. The result was a 13.4% increase over the check and 2.5% over the grower standard when NanoCote was added to their dry fertilizer blends.



# POTATO (SWEET)

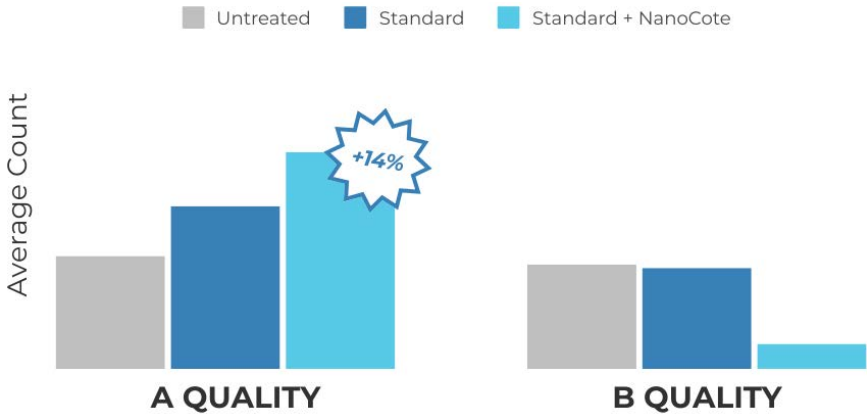
## NanoCote™ Core Increases Sweet Potato Quality

<b>Year:</b>	2024
<b>Collaborator:</b>	Mid Michigan Agronomy
<b>Location:</b>	North Carolina

<b>Application Type:</b>	Crop Nutrition
<b>Nano-Yield Product:</b>	NanoCote™ Core
<b>Additional Product:</b>	DAP

### Summary:

A replicated trial in North Carolina found that when DAP fertilizer was treated with NanoCote Core, the result was an increase in the number of “A” quality sweet potatoes compared to untreated. Yield was similar between the two treatments. Fertilizer was applied at first bloom.



## NanoCote™ Core Improves Color and Density of Sod

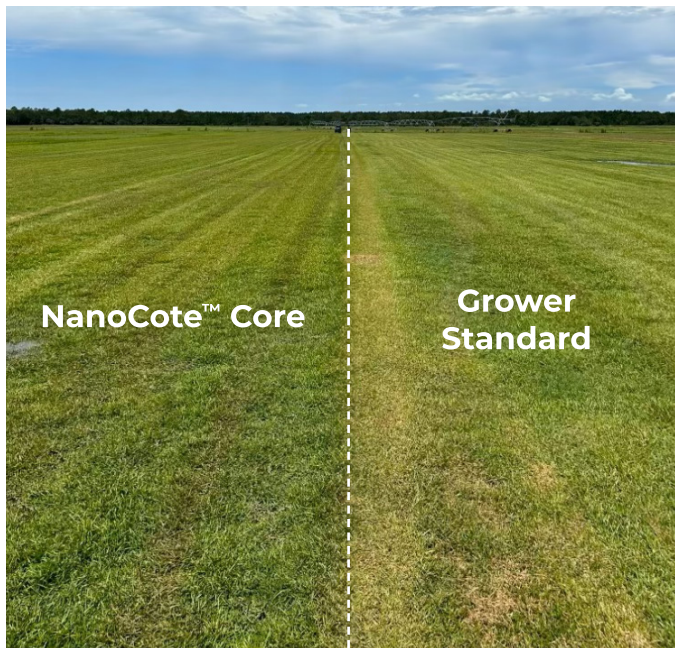
<b>Year:</b>	2023
<b>Collaborator:</b>	Tri-Yield, LLC
<b>Location:</b>	Ocala, Florida

<b>Application Type:</b>	Crop Nutrition
<b>Nano-Yield Product:</b>	108 fl oz/ton NanoCote™ Core
<b>Additional Product:</b>	21-0-21

### Summary:

In 2023, a customer in Ocala, Florida evaluated NanoCote Core with 21-0-21 fertilizer to improve centipedegrass sod quality established from ribbons. At three weeks after establishment there were visible differences. At four weeks the grower noted strong differences in color and density. The conclusion is that NanoCote Core increased nutrient

uptake and also prolonged the release of fertilizer to provide overall higher nutrient efficiency.



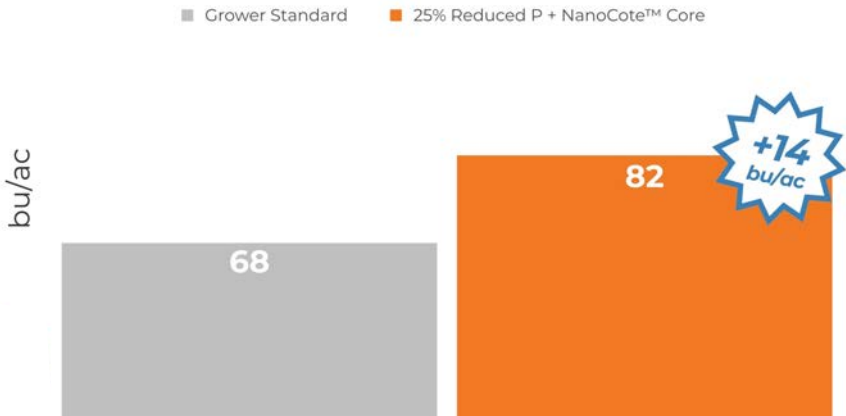
# SOYBEAN

## NanoCote™ Core Increases Soybean Yield in Ohio with Phosphorous Application

<b>Year:</b>	2023
<b>Collaborator:</b>	INTENT
<b>Location:</b>	Brown, Ohio
<b>Application Type:</b>	Crop Nutrition
<b>Nano-Yield Product:</b>	108 fl oz/ton NanoCote™ Core
<b>Additional Product:</b>	18-46-0 DAP

### Summary:

Third party research collaborators evaluated NanoCote Core for enhancing nutrient efficiency of DAP fertilizer applied as a spring application for soybean production. A grower standard rate of DAP (100 lb/ac) was compared side by side with a 25% reduced rate of DAP (75 lb/ac) treated with NanoCote Core. The field with NanoCote and a reduced rate had an increased yield of 14 bu/acre compared to the grower standard without NanoCote.



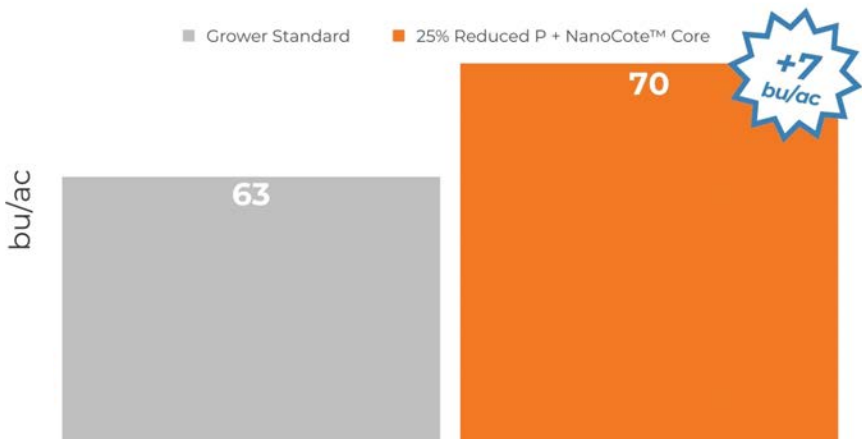
# SOYBEAN

## NanoCote™ Core Increases Soybean Yield

<b>Year:</b>	2023
<b>Collaborator:</b>	INTENT
<b>Location:</b>	St. Charles, Missouri
<b>Application Type:</b>	Crop Nutrition
<b>Nano-Yield Product:</b>	108 fl oz/ton NanoCote™ Core
<b>Additional Product:</b>	18-46-0 DAP

### Summary:

Third party research collaborators evaluated NanoCote Core for enhancing nutrient efficiency of DAP fertilizer applied as a spring application for soybean production. A grower standard rate of DAP (60 lb/ac) was compared side by side with a 25% reduced rate of DAP (45 lb/ac) treated with NanoCote Core. The field with NanoCote and a reduced rate had an increased yield of 7 bu/acre compared to the grower standard without NanoCote.



# SOYBEAN

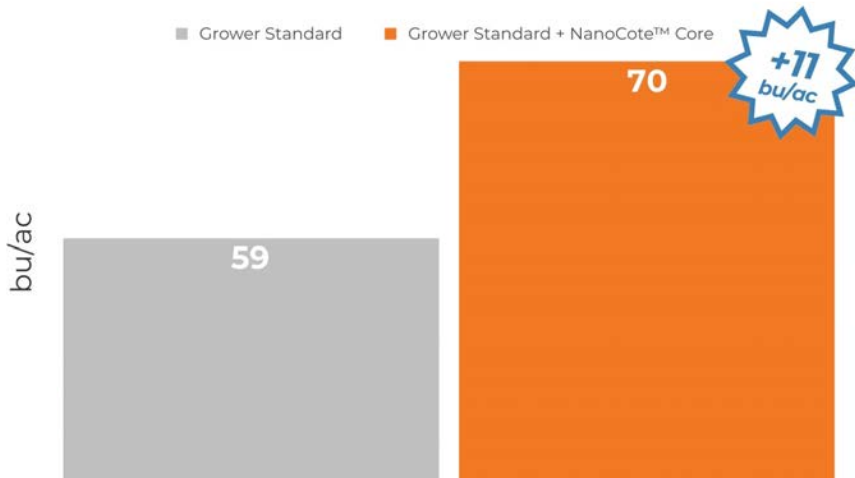
## NanoCote™ Core Increases Soybean Yield

<b>Year:</b>	2023
<b>Collaborator:</b>	INTENT
<b>Location:</b>	St. Charles, Missouri

<b>Application Type:</b>	Crop Nutrition
<b>Nano-Yield Product:</b>	108 fl oz/ton NanoCote™ Core
<b>Additional Product:</b>	18-46-0 DAP

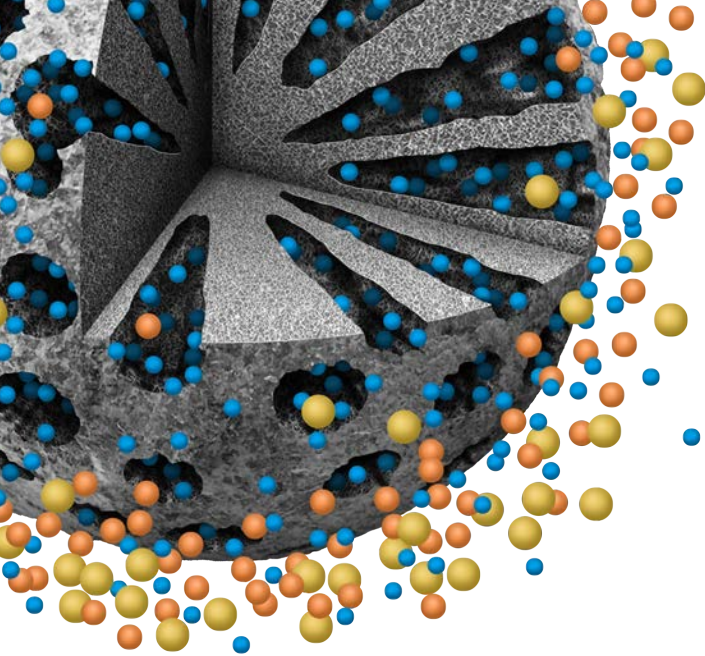
### Summary:

Third party research collaborators evaluated NanoCote Core for enhancing nutrient efficiency of DAP fertilizer applied as a spring application for soybean production. A grower standard rate of DAP (60 lb/ac) was compared side by side with and without NanoCote Core. The field with NanoCote had an increased yield of 11 bu/acre compared to the grower standard without NanoCote.









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Cody Lorentzen • 701-202-7415  
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