



Redox

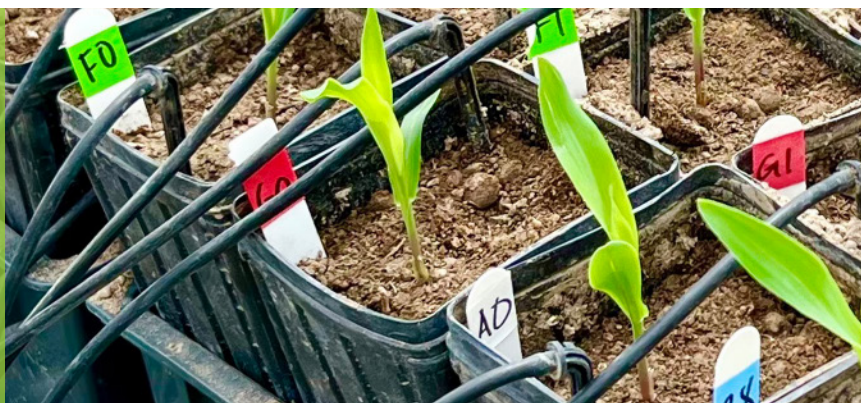
BIO-NUTRIENTS

REDOX RESULTS
2023 COLLECTION

GROWING BEYOND WITH REDOX

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Dr. Gifford Gillette provides an in-depth overview of 2023 research in this Redox Grows Podcast.



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NUTRIENT EFFICIENCY

diKaP™, TriPlex™ Micro, and OXYCOM® Calcium on Newly Planted Alfalfa
ALFALFA

RESEARCH OBJECTIVE

Determine what combination of Redox Bio-Nutrients products provided the best benefit to alfalfa yield and quality.

KEY OUTCOMES

A combination of Redox Bio-Nutrients products increased yield at the second cutting and the relative feed value compared with the untreated.

BACKGROUND

First year, spring-seeded alfalfa and two mature cuttings harvested prior to fall dormancy.

THE TRIAL



WHO:
Redox Research Team



WHAT:

Product	Rate	Timing	Application Method
Treatment A:			
Untreated	-	-	-
Treatment B:			
diKaP™	1 lb/acre	After Cutting	Foliar
TriPlex™ Micro	1 pint/acre		
Treatment C:			
OXYCOM® Calcium	1 lb/acre	After Cutting	Foliar
TriPlex™ Micro	1 pint/acre		



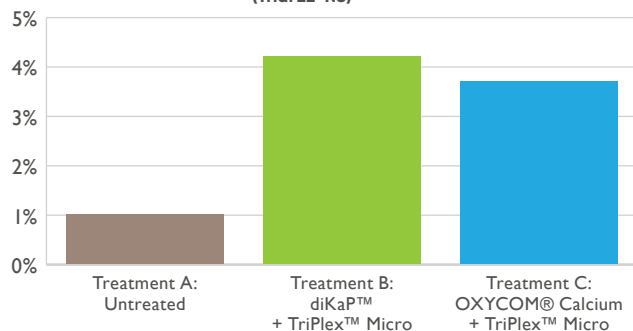
EVALUATION PARAMETERS:

- Yield
- Relative Feed Value (RFV)

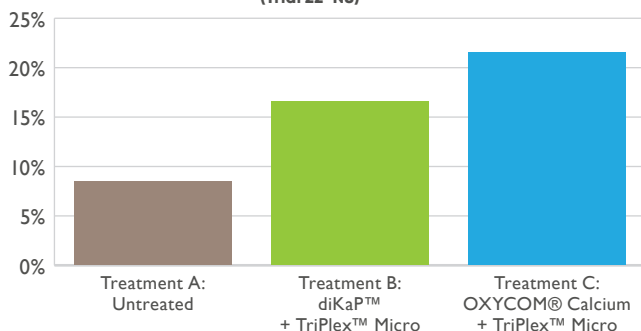


WHERE: Cassia County, ID

2nd Cutting % Yield Increase After Application
(Trial 22-N8)



2nd Cutting RFV % Increase of Alfalfa
(Trial 22-N8)



NUTRIENT EFFICIENCY

Increasing RFV on Alfalfa with Redox Products

Alfalfa, Sprinkler

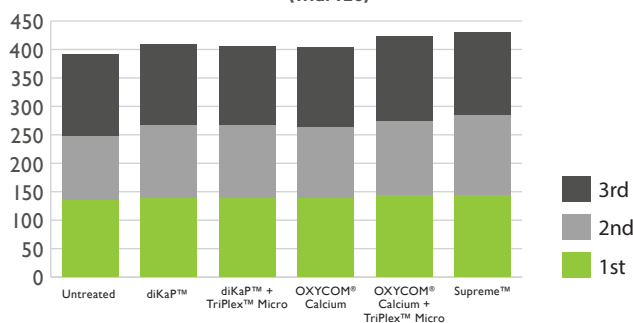
RESEARCH OBJECTIVE

Evaluate general benefits of Redox products for RFV while also evaluating additive benefits of TriPlex™ Micro on forage quality.

KEY OUTCOMES

All Redox Bio-Nutrients products increased relative feed value of alfalfa across three cuttings. The combination of TriPlex™ Micro and OXYCOM® Calcium doubled the percent increase of OXYCOM® Calcium alone with average increase of RFV from 3.4% to 8.1%. This combination treatment also increased yield 6% across four cuttings. Supreme™ Flowable increased yield 4.5%.

Cumulative RFV After Three Cuttings
(Trial T20)



BACKGROUND

Alfalfa was in its 2nd year since planting.

THE TRIAL



WHO:

Redox Research Team



WHAT:

	Rate	Timing & Application
Untreated		Foliar Application, Applied after every cutting once it has reached around 3 inches
diKaP™	1 lb/a	
diKaP™ + TriPlex™ Micro	1 lb/a 0.125 gal/a	
OXYCOM® Calcium	1 lb/a	
OXYCOM® Calcium + TriPlex™ Micro	1 lb/a 0.125 gal/a	
Supreme™ Flowable	0.25 gal/a	



EVALUATION PARAMETERS:

- RFV



WHERE: Redox Research Farm, Burley, ID

NUTRIENT EFFICIENCY

Mainstay™ Calcium 2.0 Reduces Bitter Pit
and Increased Yield

APPLE

RESEARCH OBJECTIVE

The purpose of this trial was to determine whether bi-weekly or weekly applications of Mainstay™ Calcium 2.0 would outperform weekly applications of calcium chloride. Applications were made from April 18 to August 24.

KEY OUTCOMES

Mainstay™ Calcium 2.0 applications reduced bitter pit and increased yield over calcium chloride applications

THE TRIAL



WHO:
Crop Matters, LLC.



WHAT:

Treatment	Product	Rate	Number of Applications
Treatment 1	Grower Standard	-	14
Treatment 2	Calcium Chloride 32%	5 lbs./acre	14
Treatment 3	Mainstay™ Calcium 2.0	0.5 gals./acre	14
Treatment 4	Mainstay™ Calcium 2.0	0.5 gals./acre	7



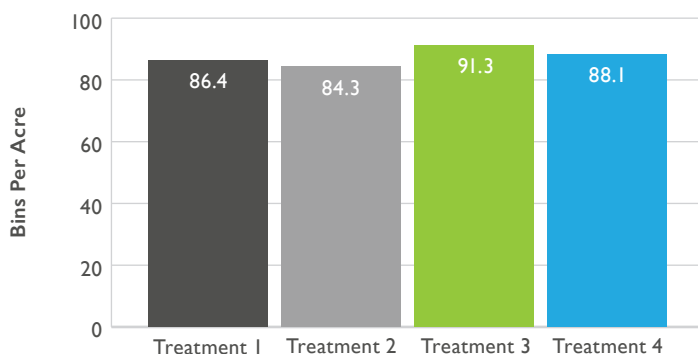
EVALUATION PARAMETERS:

- Bitter Pit
- Brix
- Yield

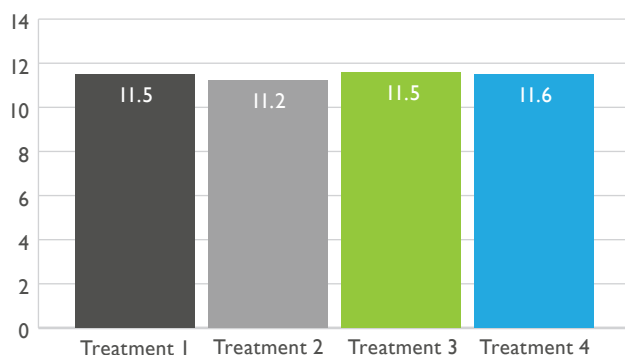


WHERE: Washington

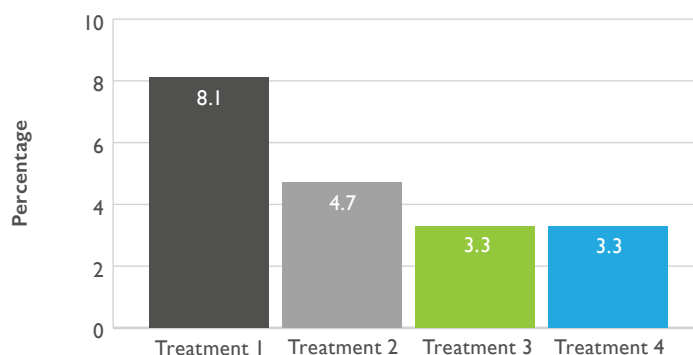
Yield



Brix



Bitter Pit Incidence



NUTRIENT EFFICIENCY

RDX-N™ at a Half-rate of In-Season Nitrogen Improves Yield and Quality on Melons
CANTALOUPE

RESEARCH OBJECTIVE

Determine if the nitrogen source, UAN-32 or CAN-17, would impact the efficacy of RDX-N™ at reduced rates of nitrogen on melons.

KEY OUTCOMES

Regardless of nitrogen source, UAN-32 or CAN-17, RDX-N™ at reduced rates of nitrogen increased melon yield while increasing melon brix

BACKGROUND

The entire field received 350 lbs of pre-plant MAP (11-52-0) which means when considering the entire nitrogen budget for RDX-N™ efficiency rates were 70% and were outside our control. RDX-N™ was recommended at 1 quart per 40 lbs N delivered. The first application delivered 20 lbs of N and the second application delivered 7 lbs of N. Both applications received 1 pint of RDX-N™.

THE TRIAL



WHO:

University of Arizona Cooperative Extension



WHAT:

Product	Rate	Timing	Application Method
UAN-32 (100%)	-	Applied at planting and 3 weeks later	Injected through a drip irrigation manifold system.
UAN-32 (50%) + RDX-N™	1 pt./acre		
CAN-17 (100%)	-		
CAN-17 (50%) + RDX-N™	1 pt./acre		



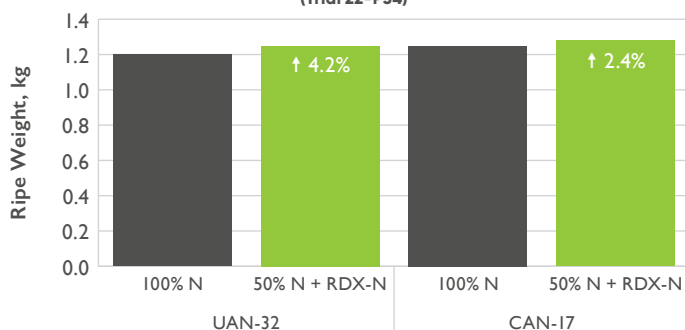
EVALUATION PARAMETERS:

- Yield
- Brix

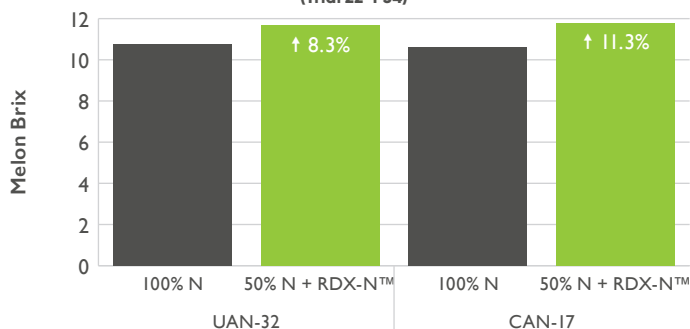


WHERE: Yuma, Yuma County, AZ

Melon Yield with Half-rate of In-season Nitrogen & RDX-N™
(Trial 22-P34)



Melon Brix with Half-rate of In-season Nitrogen & RDX-N™
(Trial 22-P34)




NUTRIENT EFFICIENCY

 **Mainstay™ Calcium** Increases Yield on Celery

CELERY – ORGANIC

RESEARCH OBJECTIVE

The purpose of this trial was to show that  **Mainstay™ Calcium** increased yield on celery.

KEY OUTCOMES

 **Mainstay™ Calcium** improved yield by 3% over the grower standard and 5% over competing product.

THE TRIAL




WHO:

Holden Research and Consulting, Camarillo Ca.



WHAT:

Treatment	Product	Rate
Treatment 1	AN20	81.5 gals./season
Treatment 2	AN20	81.5 gals./season
	Comp 1	2.5 gals./season
Treatment 3	AN20	81.5 gals./season
	 Mainstay™ Calcium	2 gals./season

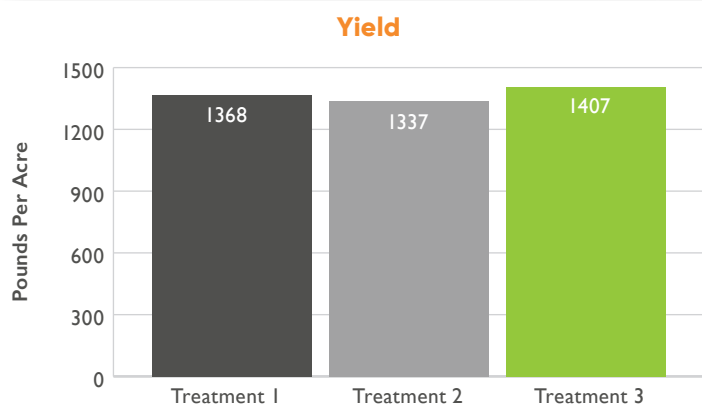


EVALUATION PARAMETERS:

- Yield



WHERE: Camarillo, CA



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ABIOTIC STRESS DEFENSE

Reducing Fruit Drop in Citrus with
Mainstay™ Si and **Banx™**

CITRUS, VALENCIA

RESEARCH OBJECTIVE

Determine how **Mainstay™ Si** and **Banx™** influence fruit drop in citrus.

KEY OUTCOMES

Both Redox treatments increased yield which increased overall fruit drop. However, the percentage of fruit that dropped was reduced for both treatments as well – by 10% for **Mainstay™ Si** and 5% for **Banx™** (relative to the Grower Standard approach of Citrus Fix).

Fruit quality parameters such as solids and brix were also improved by ~10% with **Mainstay™ Si** and 5% with **Banx™**.

Overall, the **Mainstay™ Si** program boosted gross return by 44% and the program with **Banx™** increased profits by 25%.

BACKGROUND

Under the conditions of this trial, **Mainstay™ Si** and **Banx™** provide multiple, synergistic benefits to growers that impact yield and quality.

THE TRIAL



WHO:

Florida Ag Research



WHAT:

Product	Rate	Timing	Application Method
Mainstay™ Si	2 qt./acre	Full bloom & 2 weeks later	Foliar
Banx™	3 lbs./acre	45 days after bloom	Foliar



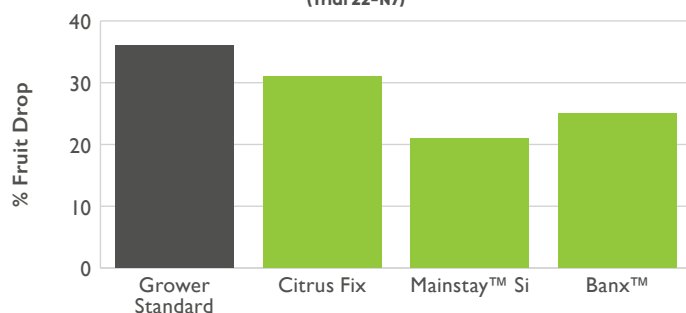
EVALUATION PARAMETERS:

- % Fruit Drop
- Yield
- Brix
- Solids
- Gross Return



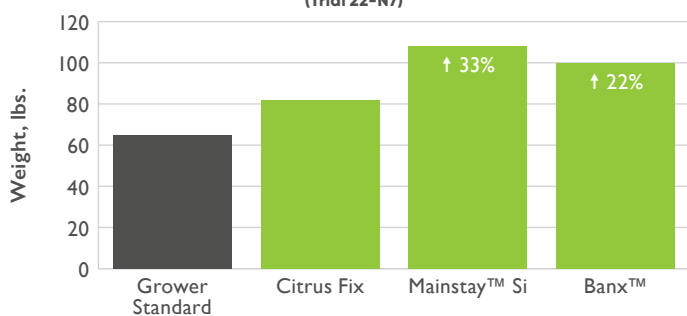
WHERE: Lake Wales, Polk County, FL

% Fruit Drop of Citrus with Redox Products
(Trial 22-N7)

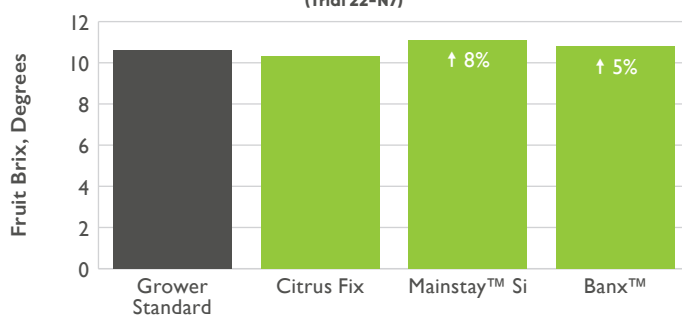




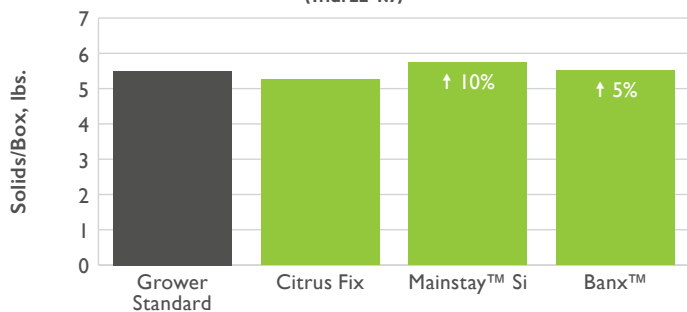
Harvest Fruit Yield of Citrus with Redox Products
(Trial 22-N7)



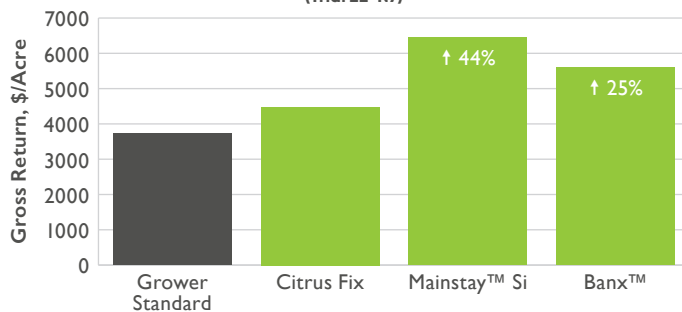
Brix of Citrus with Redox Products
(Trial 22-N7)



Solids of Citrus with Redox Products
(Trial 22-N7)



Gross Return with Redox Products
(Trial 22-N7)



Notes:

NUTRIENT EFFICIENCY

Greater Nitrogen Efficiency with RDX-N™ with Multiple In-season Applications on Corn
CORN

RESEARCH OBJECTIVE

Determine if RDX-N™ at a half-rate can maintain corn yield with regular nitrogen applications throughout the growing season.

KEY OUTCOMES

RDX-N™ treatments maintained yield (e.g., 50%) and increased yield (70%) under the conditions of this trial with multiple applications of nitrogen throughout the year.

BACKGROUND

This research plot was following potatoes. The plot was conducive to collecting both ear and silage yield which mimics cultural practices in close proximity to dairys.

THE TRIAL



WHO:
Redox Research Team



WHAT:

Product	Rate	Timing	Application Method
UAN-32 (100%)	-	At planting, V3, V6, V10	Fertigation through drip
UAN-32 (70%) + RDX-N™	1 qt./40 lbs. N		
UAN-32 (50%)	-		
UAN-32 (50%) + RDX-N™	1 qt./40 lbs. N		



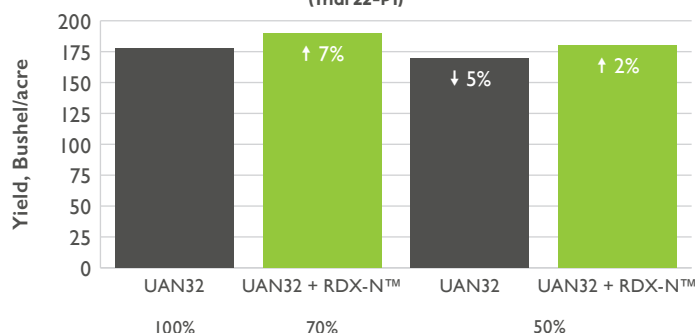
EVALUATION PARAMETERS:

- Ear yield
- Silage yield

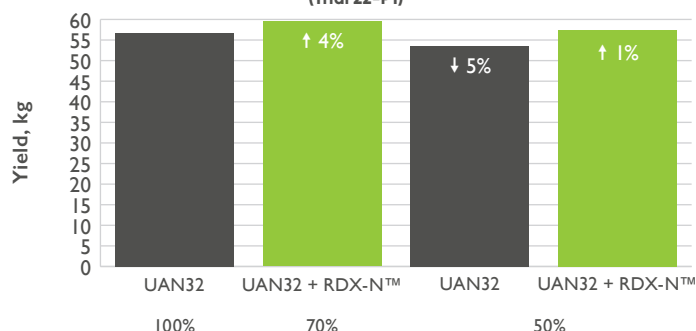


WHERE: Burley, Cassia County ID

Corn Ear Yield with RDX-N at Reduced Rates
(Trial 22-P1)



Corn Silage with RDX-N at Reduced Rates
(Trial 22-P1)



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ROOT DEVELOPMENT

Rootex™ as a starter on corn
for root development
CORN

RESEARCH OBJECTIVE

Determine if Rootex™ added to a starter program could improve corn root growth and yield.

KEY OUTCOMES

Corn root biomass increased by 37% at V4 stage with Rootex™ and ultimately led to a 6% increase in yield.

BACKGROUND

Sulfur was removed from the treatment with Rootex™ to indicate the ability for Rootex™ to drive root growth and yield in its absence.

THE TRIAL



WHO:
GLC Consulting



WHAT:

Product	Rate	Timing	Application Method
Treatment A:			
Grower Standard	-	-	-
10-34-0	10 gal/acre	At planting	In-furrow
28-0-0-3S	10 gal/acre	23 DAP	Sidedress
Treatment B:			
10-34-0	10 gal/acre	At planting	In-furrow
Rootex™	2 qt/acre	At planting	In-furrow
28-0-0 (no sulfur)	10 gal/acre	23 DAP	Sidedress



EVALUATION PARAMETERS:

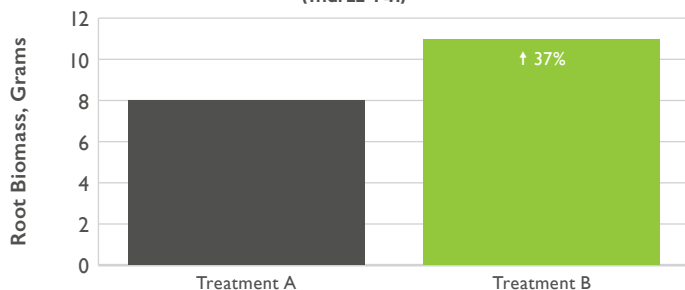
- Root Biomass
- Yield



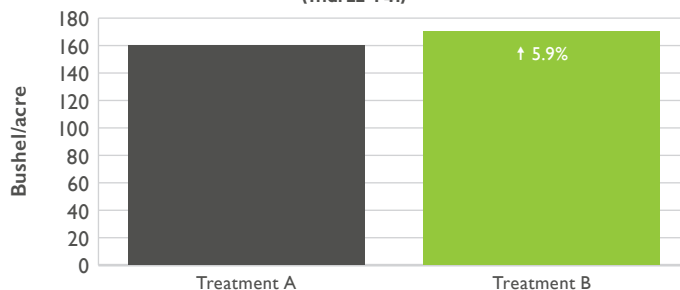
WHERE: Brooks County, GA



Corn Root Biomass at V4 with Rootex™ as a Starter
(Trial 22-P41)



Corn Yield with Rootex™ as a Starter
(Trial 22-P41)



NUTRIENT EFFICIENCY

RDX-N™ at 50% Nitrogen Inputs Maintains Yield on Corn

CORN

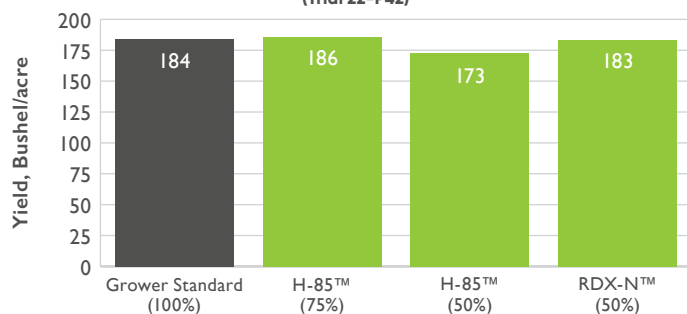
RESEARCH OBJECTIVE

Determine if RDX-N™ can maintain yield at 50% of growers standard nitrogen inputs.

KEY OUTCOMES

RDX-N with 50% of nitrogen inputs maintained yield compared with the Grower Standard at 100% of nitrogen inputs. H-85™ by itself regularly maintains yields at 25% nitrogen reductions, however, maintenance at 50% reductions is less probable, thus the value of RDX-N™ in nutrient management programs.

RDX-N on Corn at 50% of Nitrogen Inputs
(Trial 22-P42)



BACKGROUND

The local Co-op blended with 10-34-0 to make the 25% and 50% nitrogen reductions while keeping phosphate inputs consistent at planting. Total pounds of nitrogen applied per acre at 100% was 225.

THE TRIAL



WHO:
GLC Consulting



WHAT:

Product	Rate	Timing	Application Method
Grower Standard	100% nitrogen	At Planting	Soil
Grower Standard H-85™	75% nitrogen 1 pint/acre	At Planting	Soil
Grower Standard H-85™	50% nitrogen 1 pint/acre	At Planting	Soil
Grower Standard RDX-N™	50% nitrogen 4 gal/acre	At Planting	Soil



EVALUATION PARAMETERS:

- Yield



WHERE: Brooks County, GA

NUTRIENT EFFICIENCY

10-34-0 reductions of 50%, 75%, 90%, and 100% on corn with RDX-P™

CORN, RAINFED

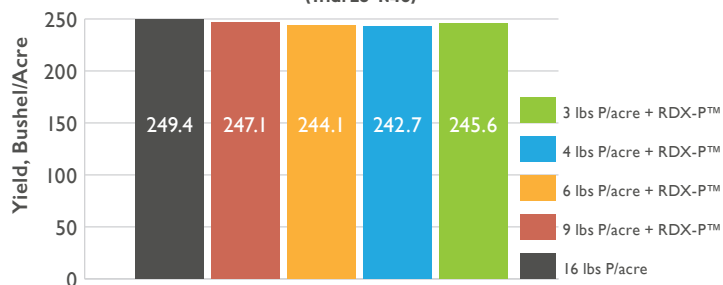
RESEARCH OBJECTIVE

Maintain corn yield with reduced phosphate when RDX-P™ is included in the starter.

KEY OUTCOMES

All phosphorus rate reductions included with RDX-P™ and the phosphate replaced with RDX-P™ delivered by 10-34-0 maintained corn yield within 2.7% (or 7 bushels/acre).

Corn with Phosphorus Reductions & RDX-P
(Trial 23-N40)



BACKGROUND

When 10-34-0 was reduced, UAN-32 was added to balance the nitrogen delivered across treatments.

THE TRIAL



WHO:

Alpha Ag Research



WHAT:

Treatment	gal/acre	lb P/acre	Timing & Application
10-34-0 (100%)	4	15.9	All applications were in-furrow at planting. RDX-P was mixed with the 10-34-0 and the UAN-32 that was added to balance the Nitrogen applied across treatments.
10-34-0 (50%) + RDX-P™	2 0.34	9.1	
10-34-0 (25%) + RDX-P™	1 0.53	5.7	
10-34-0 (10%) + RDX-P™	0.4 0.62	3.6	
RDX-P™ Only	0.96	3.2	



EVALUATION PARAMETERS:

- Yield



WHERE: O'Brien County, IA

GROWING BEYOND WITH REDOX | 17

NUTRIENT EFFICIENCY

Rootex™ replacement of 10-34-0 on corn

CORN, under center pivot

RESEARCH OBJECTIVE

Quantify the ability to replace 10-34-0 with Rootex™ on corn.

KEY OUTCOMES

Replacing a single application of 10-34-0 (12 gal/acre) at planting with an application of Rootex at planting (2 qt/acre) and at V6 sidedress (1 gal/acre) increased yield by 12 bushel/acre.

BACKGROUND

The CRO stated, “All the nitrogen with Rootex™ was broadcast, while 13 lbs N with 10-34-0 was applied 2x2. This may have provided an early season N advantage to the 10-34-0 treatment.”

THE TRIAL



WHO:
SEAgR

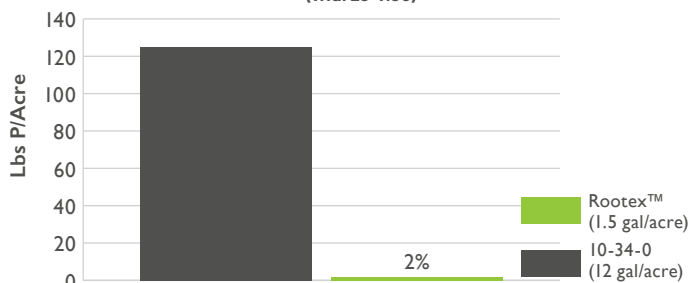


WHAT:

		Grower Standard + 10-34-0	Grower Standard + Rootex™
At Harvest	Yield, Bu/Ac	247.2	259.1
	SEM, Bu/Ac	6.8	3.7
	Test Weight, Lb/Bu	60.2	61.2
At V5	Root Weight, g	5.6	8.0
	Plant Height, in	21.0	24.6
	Stem Diameter, mm	9.5	12.9

Treatment	N, lbs/acre	P, lbs/acre	K, lbs/acre	Timing & Application
Grower Standard with 10-34-0	239.7	125.7	141.5	10-34-0 was applied at planting
Grower Standard with Rootex	239.4	2.2	141.8	Rootex™ was applied in-furrow at planting & as a sidedress at V6

Applied Phosphate of 10-34-0 versus Rootex™
(Trial 23-N50)



EVALUATION PARAMETERS:

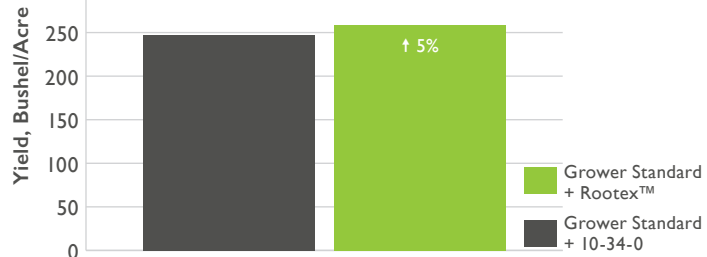
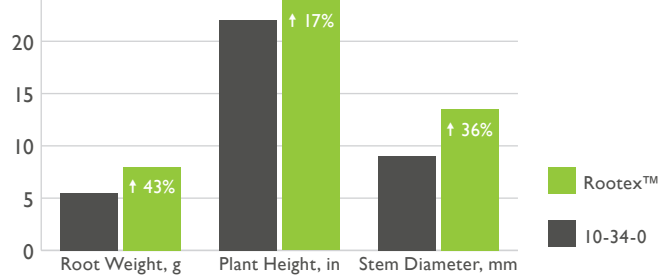
- Yield
- Grain density
- V5 Evaluations



WHERE: Tifton County, GA



25 _____



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NUTRIENT EFFICIENCY

RDX-N™ mixed with UAN-32 at 71% of the
Grower Standard nitrogen

Corn, Center Pivot

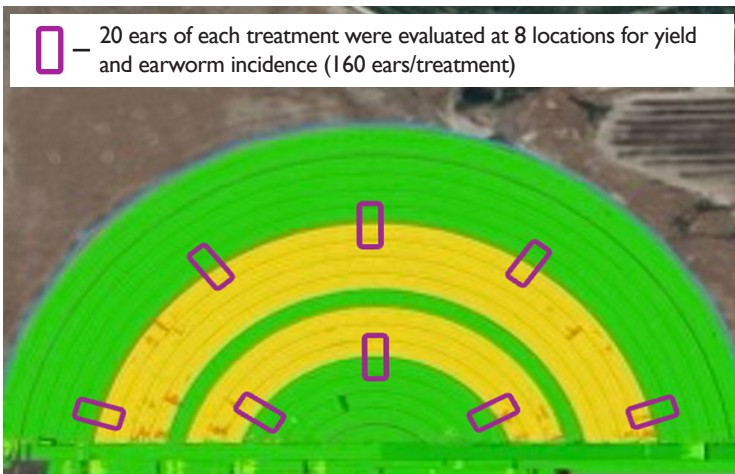
RESEARCH OBJECTIVE

Evaluate yield, pest incidence, and soil characteristics (post-harvest) of corn treated with RDX-N™ in a practical farm research setting.

KEY OUTCOMES

The reduction in nitrogen in combination with RDX-N™ increased yield by 9%, reduced earworm incidence by 7%, and improved 10 soil biological characteristics.

— 20 ears of each treatment were evaluated at 8 locations for yield and earworm incidence (160 ears/treatment)



THE TRIAL



WHO:

Grower-Cooperator



WHAT:

Treatment	Rate	N lbs/acre	Timing & Application	Total N
Grower Standard UAN-32 UAN-32		90 50	At planting as 3x3 At sidedress	140
GS (71%) + RDX-N UAN-32 RDX-N UAN-32	0.125	50 50	At planting as 3x3 At planting as 3x3 At sidedress	100



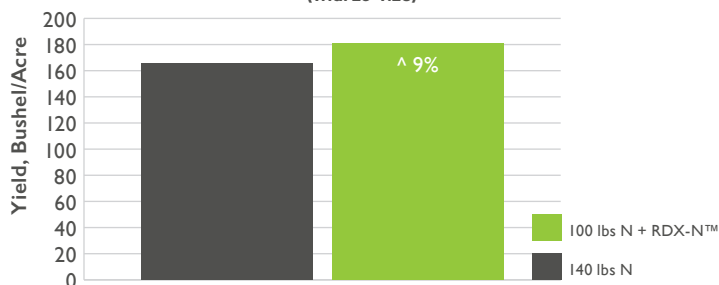
EVALUATION PARAMETERS:

- Yield
- Soil Biology
- Earworm Incidence

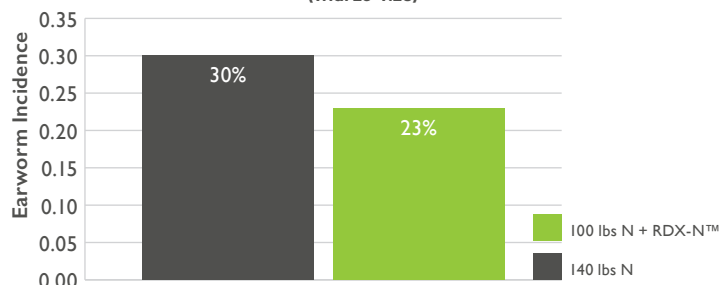


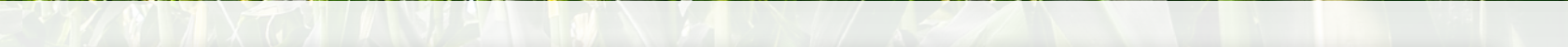
WHERE: Cassia County, ID

Corn Yield at 71% of the Grower Standard with RDX-N™
(Trial 23-N28)

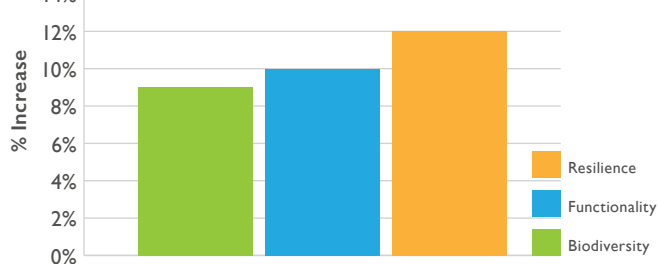


Earworm Incidence with & without RDX-N™
(Trial 23-N28)

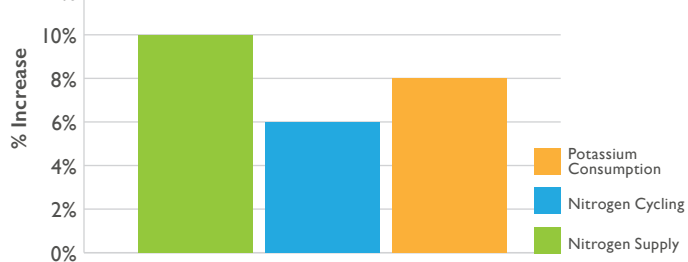
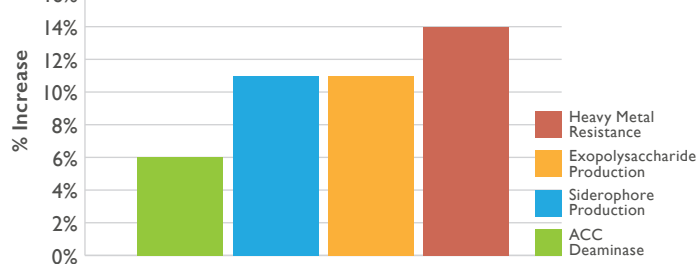




14%



16% _____

[illegible]

NUTRIENT EFFICIENCY

Supreme™ Increases Cotton Turnout,
Color and Yield

COTTON

RESEARCH OBJECTIVE

The purpose of this trial was to improve cotton yield and increase turnout, color, length, strength, and uniformity with an application of Supreme™.

KEY OUTCOMES

With an application of 0.5 lbs./acre of Supreme™ at first bloom, there was a 15.4% increase in yield. There was also an increase in turnout by 1.4%, color by 9.6%, and lint uniformity by 1.3%. Lint length and strength were all similar to grower standard.

THE TRIAL



WHO:

GLC Consulting LLC – Ag Research



WHAT:

Product	Rate	Timing
Grower Standard	-	-
Supreme™	0.5 lb./acre	First Bloom



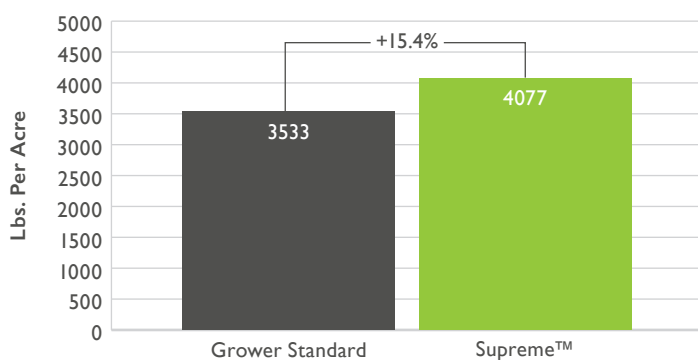
EVALUATION PARAMETERS:

- Yield
- Color
- Turnout
- Lint Uniformity
- Lint Length
- Lint Strength

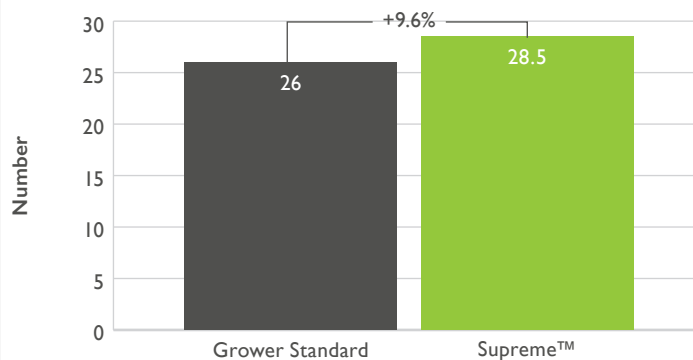


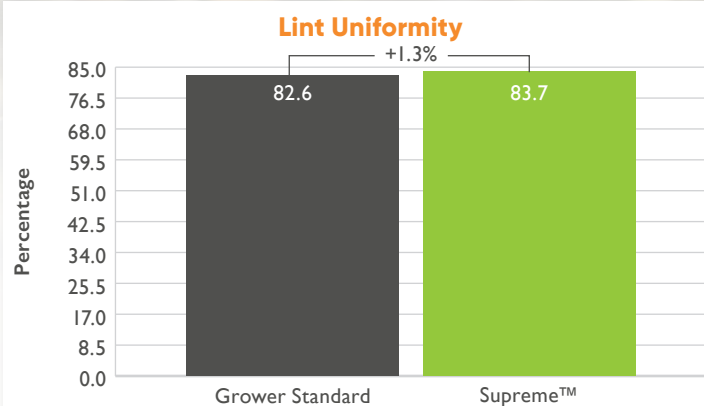
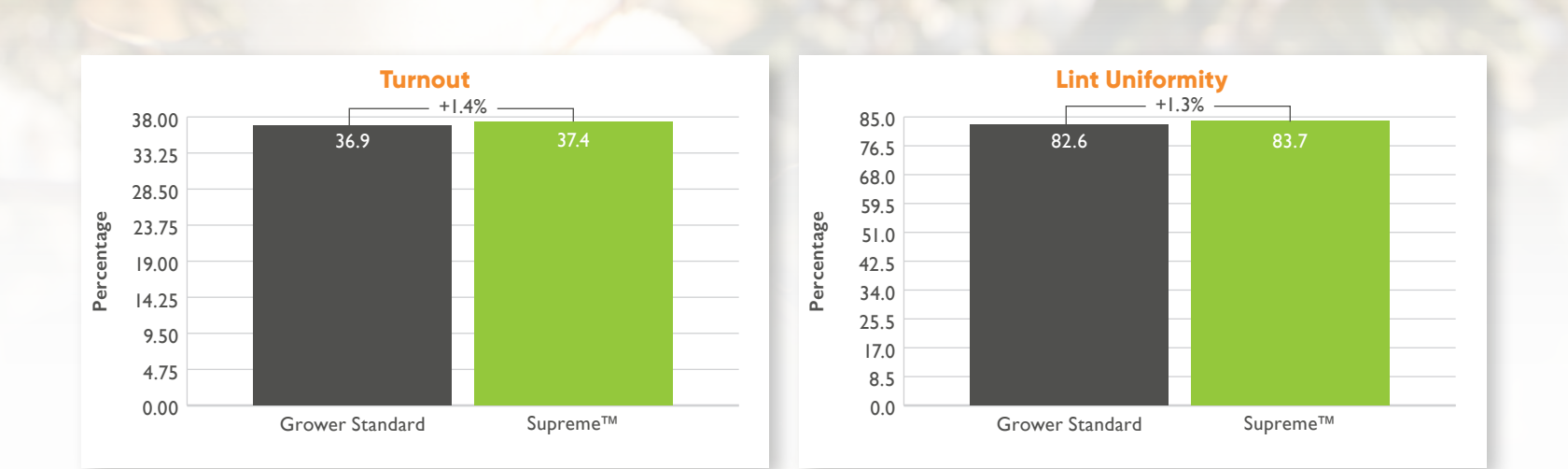
WHERE: Quitman, GA

Yield



Color





This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

ABIOTIC STRESS DEFENSE

Abiotic Stress Relief by OXYCOM® Calcium in Cotton

COTTON, UPLAND

RESEARCH OBJECTIVE

Provide regular foliar applications of OXYCOM® Calcium to combat plant stress and evaluate impacts on cotton yield and quality.

KEY OUTCOMES

Cotton yield increased by almost 6%, lint yield by 8%, and cotton quality increased with OXYCOM® Calcium applications.

THE TRIAL



WHO:

GLC Consulting



WHAT:

Product	Rate	Timing	Application Method
Grower Standard	-	-	-
Grower Standard + OXYCOM® Calcium	0.5 lbs./acre	1st application at bloom and then every 2 weeks	3 Foliar Applications



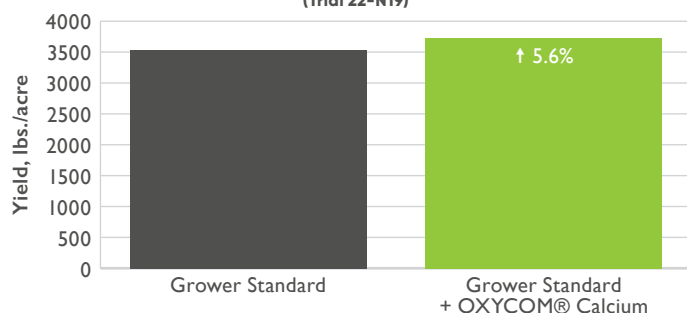
EVALUATION PARAMETERS:

- Total Yield
- Lint Yield & Quality

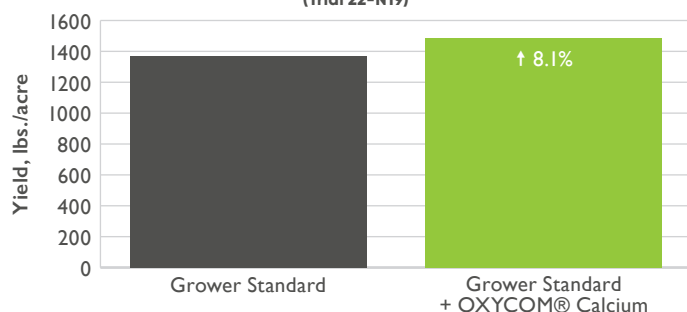


WHERE: Quitman, Brooks, GA

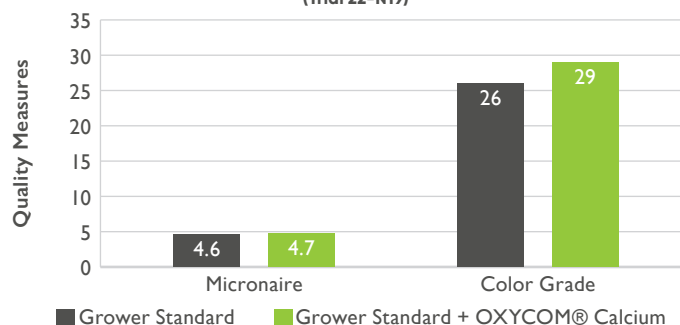
Total Cotton Yield with OXYCOM® Calcium
(Trial 22-N19)



Lint Yield with OXYCOM® Calcium
(Trial 22-N19)



Cotton Quality with & without OXYCOM® Calcium
(Trial 22-N19)



ABIOTIC STRESS DEFENSE

Mainstay™ Si Improves Grape Quality in High-Heat Growing Conditions
WINE GRAPES, PINOT NOIR

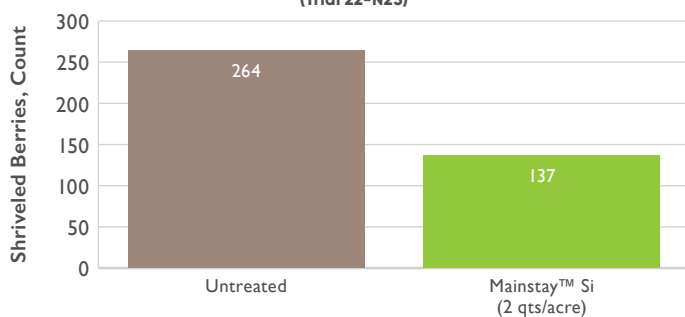
RESEARCH OBJECTIVE

Determine the ability of Mainstay™ Si to help with grape quality among clusters.

KEY OUTCOMES

Mainstay™ Si reduced raisining by 48%. A total of 265 shriveled grapes were observed among 100 clusters for untreated blocks. Only 137 shriveled grapes were counted among the same amount of clusters in blocks treated with Mainstay™ Si. Additionally, no Botrytis infections were observed in blocks treated with Mainstay™ Si. Three grape clusters in untreated blocks exhibited low Botrytis infections.

Number of Berries with Shivel in 100 Pinot Noir Clusters
(Trial 22-N25)



***Example 1** of berry raisining. In this cluster, 7 berries would have been counted.

***Example 2** of berry raisining. In this cluster, 2 berries would have been counted.

BACKGROUND

Late-season application with harvest in early September. Average daily highs were over 100°F during this month with a high of 108°F. Observations regarding grapes occurred 25 days after the Mainstay™ Si application.

THE TRIAL



WHO:

Grower-Cooperator Tech Team



WHAT:

Product	Rate	Timing	Application Method
Untreated	-	-	-
Mainstay™ Si	2 qts/acre	Late Season	Foliar



EVALUATION PARAMETERS:

- Berry shrivel



WHERE: Monterey County, CA



*Example 1



*Example 2

NUTRIENT EFFICIENCY

diKaP™ Improves Lettuce Yield

LETTUCE

RESEARCH OBJECTIVE

The purpose of this trial was to determine if adding diKaP™ to a fungicide would improve lettuce yield.

KEY OUTCOMES

diKaP™ at 3 lbs. per acre improves lettuce yield by 14% over the grower standard and by 9% over the standalone fungicide application.

THE TRIAL



WHO:

Redox R&D Team



WHAT:

Treatment	Product	Rate
Treatment 1	Grower Standard	-
Treatment 2	Fungicide	-
Treatment 3	Fungicide diKaP™	- 3 lbs./acre

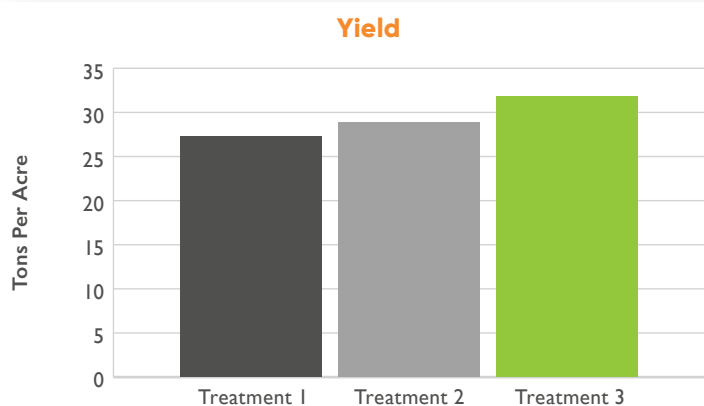


EVALUATION PARAMETERS:

- Yield



WHERE: Salinas Valley



NUTRIENT EFFICIENCY

Rootex™ Flowable Increases Yield

PEANUTS, VARIETY GA16HO

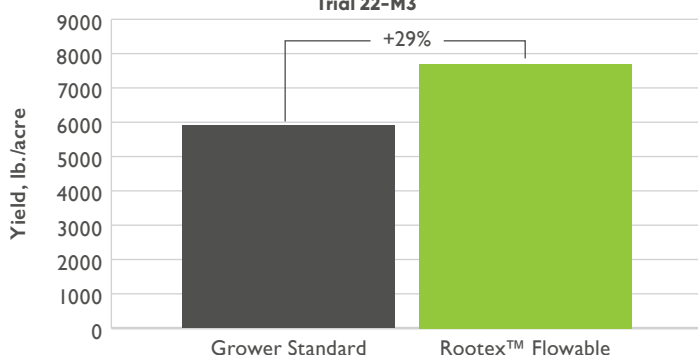
RESEARCH OBJECTIVE

Determine if an in-furrow application of Rootex™ Flowable will increase plant health and peanut pod yield compared to Grower Standard with no Rootex treatment.

KEY OUTCOMES

Rootex™ Flowable increased peanut yield by 29% with one in-furrow treatment of 0.5 gal./acre.

Rootex™ Flowable In-furrow on Peanuts
Trial 22-M3



Treatment grades taken from the official USDA grade report provided by Sanchez Farms Buying Point in Old Town, FL. These grades are from the 6.5 acre test-strip only.

Category	Numeric Grade or Deduction
Segregation	1
LSK	4%
Sound Splits	2%
Hulls	21%
Total Kernels	78%
SMKSR	73%
Total Damage	0
Moisture	9.5%
Total SMK	75%

BACKGROUND

The project consisted of one large, irrigated field-scale demonstration implemented in Luraville, Florida. The previous planted crop in 2021 was a peanut runner-type variety. It was followed by a wheat cover crop.

THE TRIAL



WHO:
3rd Party



WHAT:

Product	Rate	Application Method
Rootex™ Flowable	0.5 gal./acre	In-furrow



EVALUATION PARAMETERS:
• Yield & Quality



WHERE: Luraville, FL

Photos were taken to document observations during the growing season. Pictured left are untreated peanuts in pivot 3, and right shows peanuts treated with Rootex™ Flowable from the trial.



NUTRIENT EFFICIENCY

Efficient Soluble Calcium Plant Nutrition with Mainstay™ Calcium

PEANUTS, GA-06G



RESEARCH OBJECTIVE

Provide soluble calcium plant nutrition with **Mainstay™ Calcium** as an inclusion with standard fungicide and/or micro-nutrient sprays.

KEY OUTCOMES

The **Mainstay™ Calcium** program increased peanut yield by 3% over the gypsum program with only 3.4% the amount of calcium applied.

The gypsum program delivered 184 lbs. of calcium/acre whereas **Mainstay™ Calcium** delivered 7.6 lbs. of calcium/acre.

Under the conditions of this trial, for every dollar spent on **Mainstay™ Calcium** the grower recovers \$3.70 (i.e., \$33.89/acre).

BACKGROUND

Growers are seeking more efficient ways to deliver soluble calcium nutrition. In this trial **Mainstay™ Calcium** was more efficient with less taken to the field but **Mainstay™ Calcium** was also delivered with an existing fungicide and micro-nutrient management program for peanuts.

THE TRIAL



WHO:
SEAgR



WHAT:

Product	Rate	Timing	Application Method
Mainstay™ Calcium	3 qts./acre	1st Bloom and 21 days later for a total of 1.5 gallons	Sprayed with fungicide and micro-nutrients



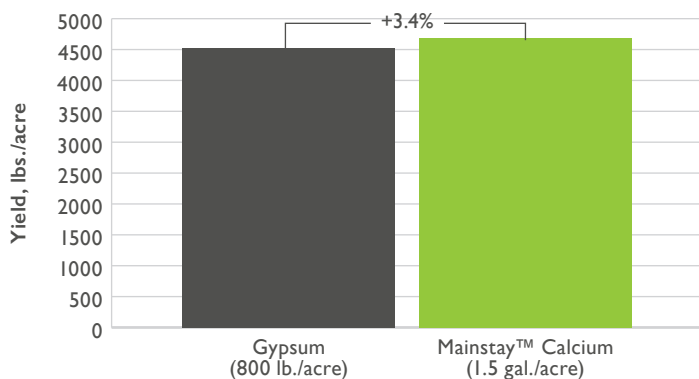
EVALUATION PARAMETERS:

- Yield
- ROI



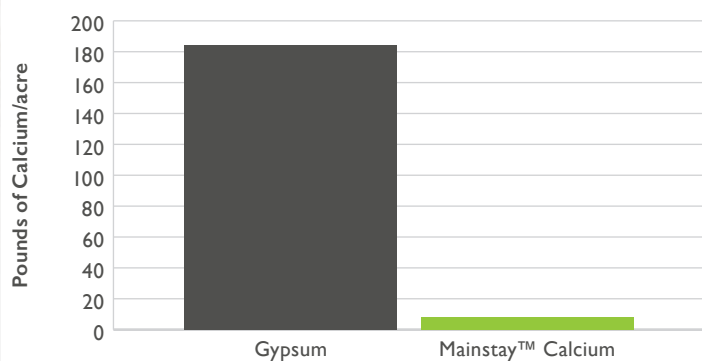
WHERE: Tift, County, GA

Peanut Yield with Gypsum versus Mainstay Calcium
(Trial 22-N15)





Applied Calcium with Gypsum versus Mainstay Calcium
(Trial 22-N15)



Notes:

ROOT DEVELOPMENT

Rx Platinum™ in-furrow on peanuts

PEANUTS, BAILEY II VARIETY



RESEARCH OBJECTIVE

Evaluate if an in-furrow application of Rx Platinum™ will increase peanut yield compared to various programs with microbial products, micronutrients, biostimulants, and biologicals.

KEY OUTCOMES

Rx Platinum™ was the highest yielding treatment and increased peanut yield by 8% over the grower standard with one in-furrow treatment of 0.5 gal/acre.

BACKGROUND

Current university guidance does not recommend conventional fertilizer in-furrow on leguminous crops.

THE TRIAL



WHO:

Severn Peanut Company-Wayne Nixon



WHAT:

Product	Rate	Timing	Application Method
A: Grower Standard Microbial (GS)	-	at planting	In-Furrow
B: GS + Fungicide	-		
C: GS High Rate + Fungicide	-		
D: GS + Fungicide + Micronutrient	-		
E: GS + Fungicide + Micro+ 3 Additional	-		
F: GS + Fungicide + Rx Platinum™	0.5 gal/acre		

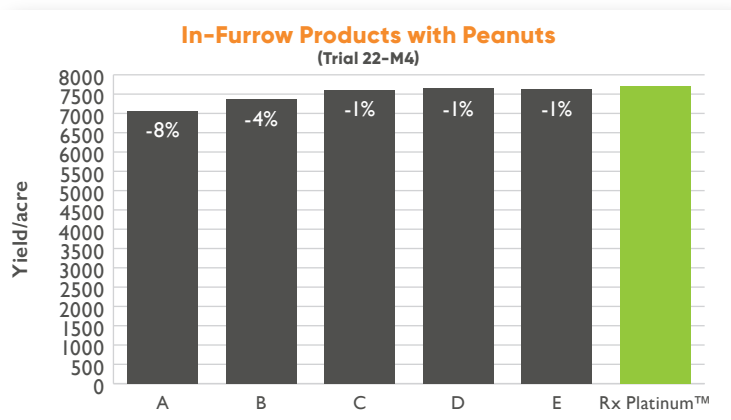


EVALUATION PARAMETERS:

- Yield



WHERE: Beargrass, Martin County, NC



NUTRIENT EFFICIENCY

TriPlex™ Zinc Increases Gross Crop Value

DRY PINTO BEANS

RESEARCH OBJECTIVE

Our purpose was to measure the increase of Gross Crop Value with one application of TriPlex™ Zinc at pre-bloom.

KEY OUTCOMES

TriPlex™ Zinc showed an increase of \$198 in Gross Crop Value over Grower Standard.

BACKGROUND

Evaluating yield increases between TriPlex™ Zinc and comparable competing products.

THE TRIAL



WHO: Cosmocel



WHAT:

Product	Rate	Timing	Application Method
Competitor	18.4 oz./acre	Once at pre-bloom	Foliar
Zinc Sulfate	0.3 lbs./acre	Once at pre-bloom	Foliar
TriPlex™ Zinc	0.4 lbs./acre	Once at pre-bloom	Foliar



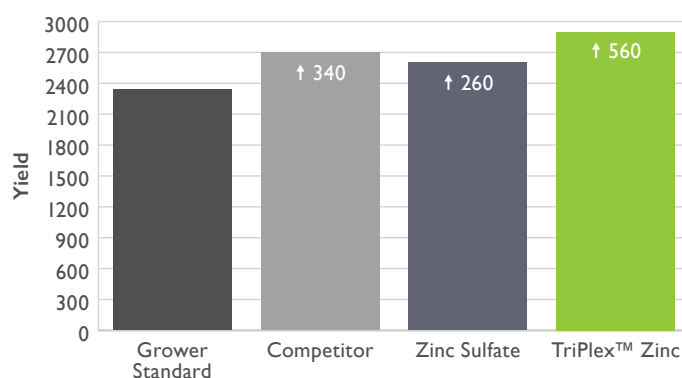
EVALUATION PARAMETERS:

- Yield
- ROI



WHERE: Nuevo León, Mexico

Dry Bean Yield (lbs.)



ABIOTIC STRESS DEFENSE

RootRx™ on pistachios in year 1 of 3

Pistachio

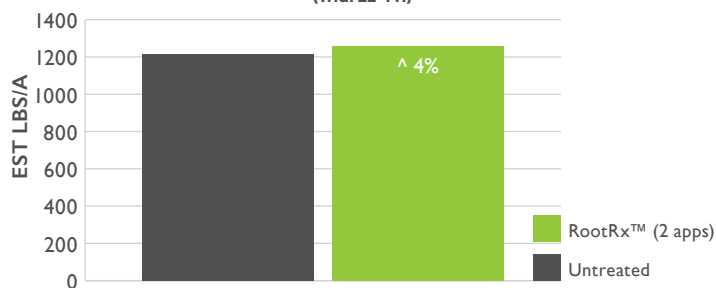
RESEARCH OBJECTIVE

Determine the benefits of RootRx™ on a perennial crop, pistachio, after three years of annual foliar applications during early season (twice) and post-harvest (once).

KEY OUTCOMES

In year 1 pistachio yield increased by 4% with RootRx™ treatments versus a control.

Yield on Pistachios with RootRx™ (Year 1)
(Trial 22-M1)



BACKGROUND

Pistachio trees face many abiotic stressors throughout the growing season and RootRx™ aids the crop in maximizing its potential.

THE TRIAL



WHO:

Pacific Ag Research



WHAT:

Treatment	Rate	Timing & Application
Untreated	-	-
RootRx™	1 gal/acre .5 gal/acre	Applied 1 gal/acre at root flush on April 20th and .5 gal/acre on May 28th



EVALUATION PARAMETERS:

- Yield



WHERE: Five Points, Fresno County, CA

ABIOTIC STRESS DEFENSE

Supreme™ Flowable Once, Twice, Early, or Late Improves Potato Yield

POTATO, RUSSET BURBANK

RESEARCH OBJECTIVE

Our purpose was to determine how timing of foliar applications with fungicide sprays influenced potato yield.

KEY OUTCOMES

All three treatment applications of Supreme™ Flowable positively impacted yield of potatoes.

BACKGROUND

Potato varieties that are indeterminate, like Russet Burbank, have additional growth potential after crop set with foliar applications. In this trial, row closure coincided with the 1st white mold application.

THE TRIAL



WHO:
G2 Ag Research



WHAT:

Product	Rate	Timing	Application Method
Supreme™ Flowable	1 qt./acre	Row closure	Foliar, with fungicide sprays
		Row closure (2 weeks later)	
		Row closure (4 weeks later)	



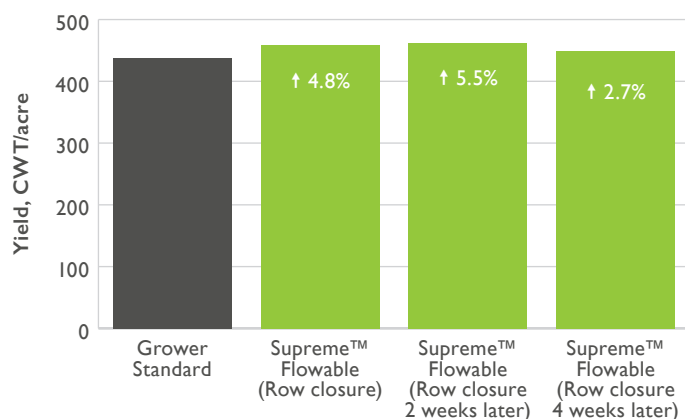
EVALUATION PARAMETERS:

- Yield



WHERE: Idaho Falls, Bonneville County, ID

Impact of Supreme™ Flowable Applications on Potatoes
(Trial 22-N2)



NUTRIENT EFFICIENCY

TriPlex™ Micro Shows
No Symptoms of Phytotoxicity

GARDEN TOMATO, HEIRLOOM

RESEARCH OBJECTIVE

Determine at what rate TriPlex™ Micro caused phytotoxicity that harmed the plant's growth. Treatments were done with the equivalent of 40 gallons of water per acre.

KEY OUTCOMES

Maximum labeled rate of TriPlex™ Micro was safe for all garden tomato plants tested at different growth stages. No mortality of any tomato plants, including at rates that were 8 times the maximum labeled rate.



BACKGROUND

This trial provides baseline confidence in the safety of TriPlex™ Micro as a foliar spray directed at tomato plants at different growth stages, including early growth (<30 Days).

THE TRIAL



WHO:
Redox Bio-Nutrients



WHAT:

Product	Rate	Timing	Application Method
TriPlex™ Micro	0.25 gals./acre (maximum label rate)	Two applications 14 days apart	Foliar
	0.5 gals./acre (2X Label)		
	1.0 gals./acre (4X Label)		
	2.0 gals./acre (8X Label)		



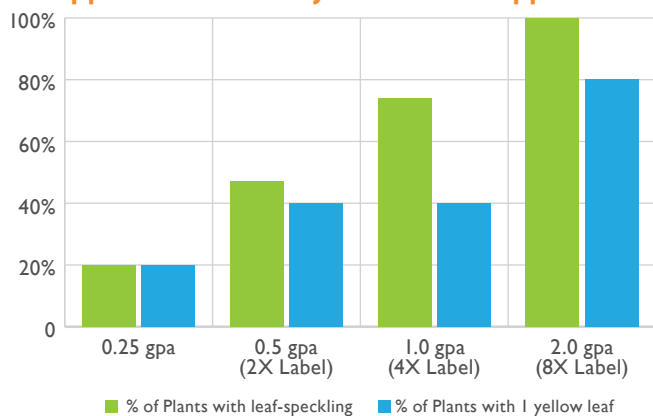
EVALUATION PARAMETERS:

- % of plants with at least one leaf speckled
- % of plants with at least one leaf yellow
- Verdure (0-5 Scale)



WHERE: Burley, ID

Symptoms of Tomato Phytotoxicity after Two TriPlex Micro Applications & 21 Days After Initial Application





Leaf-Speckling (8X Label)



Yellowing of Leaf (8X Label)

Notes:

(22-RI)

ABIOTIC STRESS DEFENSE

Increase Ball Speed on Greens
with TurfRx Si

TURF

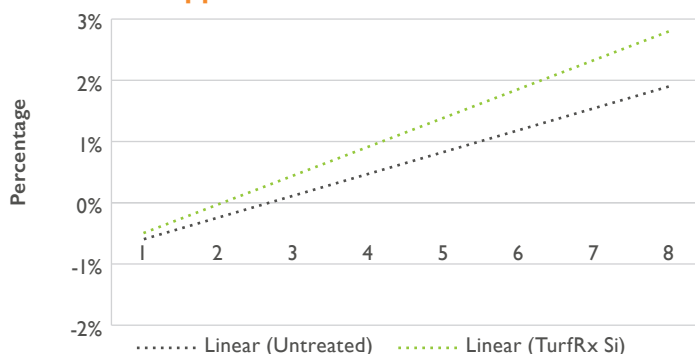
RESEARCH OBJECTIVE

Determine if TurfRx Si can increase ball speed.

KEY OUTCOMES

Cumulative percent increase in ball speed for TurfRx Si was 2.1% after 4 treatments.

% Increase in USGA Green Speed During 4 Biweekly Applications & 8 Measurements



BACKGROUND

This trial provides baseline confidence in the ability of TurfRx Si to increase ball speed on a USGA green. As more applications occurred, gains in speed increased. The green tested was not being rolled during treatments and this trial may indicate minimum speed increase potential.

Future trials will determine what threshold of treatments maximizes gains beyond 4 applications.

THE TRIAL



WHO:
Redox R&D Department



WHAT:

Product	Rate	Timing	Application Method
TurfRx Si	0.5 gals./acre	Biweekly	Foliar



EVALUATION PARAMETERS:

- Weekly Stimpmeter Readings



WHERE: Burley, ID

ABIOTIC STRESS DEFENSE

Efficient P & K Delivery with Abiotic Stress Relief of diKaP™ for Spring Wheat

HARD RED

RESEARCH OBJECTIVE

Provide efficient P & K delivery and Abiotic Stress Relief during tillering and flowering stages of spring wheat.

KEY OUTCOMES

diKaP™ treatments increased wheat yield by 6.4% at 0.5 lb./acre and by 4.1% at 1.0 lb./acre over the grower standard program.

BACKGROUND

All plants experience abiotic stress. In this trial weed and insect pressure were minimal, but colder than normal temperatures and above-average rain in May and June created stressful growing conditions.

THE TRIAL



WHO:
Agraserv



WHAT:

Product	Rate	Timing	Application Method
diKaP™	0.5 lb./acre	Tillering and flowering stage	Foliar
	1.0 lb./acre		



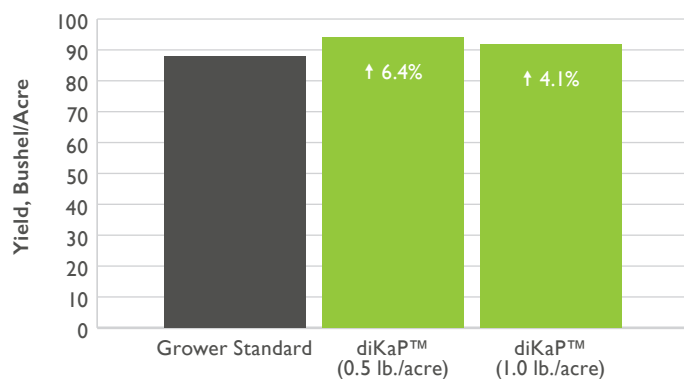
EVALUATION PARAMETERS:

- Yield



WHERE: Power County, ID

Spring Wheat Yield with diKaP™



NUTRIENT EFFICIENCY

diKaP™ with herbicide spray on spring wheat

HARD WHITE SPRING WHEAT, Center Pivot

RESEARCH OBJECTIVE

Quantify the impact of a one-time foliar application of diKaP™ applied.

KEY OUTCOMES

A single foliar application of diKaP™ at 1 lb/acre increased spring wheat yield.

BACKGROUND

The prior crop was wheat. Wheat prices compared to cost of application during this trial support valuable return on investment.

THE TRIAL



WHO:

Grower-cooperator



WHAT:

Treatment	Rate	Timing & Application
Grower Standard		Herbicide Spray at Feekes 3.5
Grower Standard with diKaP	1 lb/acre	



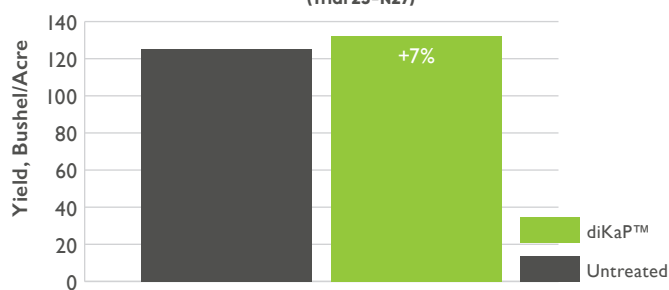
EVALUATION PARAMETERS:

- Yield
- Protein
- Test Weight



WHERE: Minidoka County, ID

Hard White Spring Wheat Yield
(Trial 23-N27)



	Untreated	diKaP™
% Protein	13.5%	13.0%
Weight, lb/bu	59.9	61.8

ABIOTIC STRESS DEFENSE

Mainstay™ Si applied with fungicide on wheat

WHEAT, Dryland

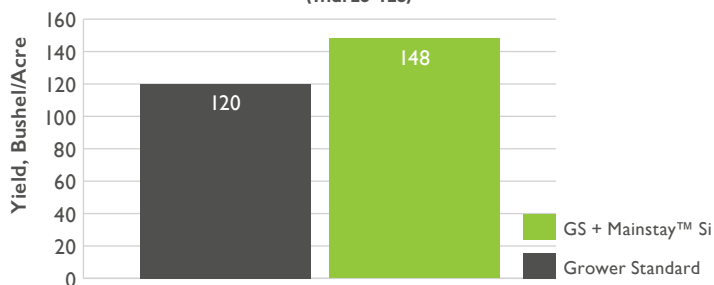
RESEARCH OBJECTIVE

Evaluate the impact on wheat yield of a single application of Mainstay™ Si at flag leaf stage.

KEY OUTCOMES

Mainstay™ Si significantly increased yield when included with the fungicide application - from 120 bushels/acre to 148 bushels/acre - an increase of 28 bushels/acre, or 23%.

Mainstay™ Si foliar at 1 pint/acre at flag leaf stage
(Trial 23-T25)



BACKGROUND

Wheat variety was AP 1991 sourced from Harvey's Fertilizer.

THE TRIAL



WHO:

D&T Eason Farms INC



WHAT:

Treatment	Rate	Timing & Application
Grower Standard		Foliar applications at flag leaf stage
Mainstay™ Si	1 pint/acre	



EVALUATION PARAMETERS:

- Yield



WHERE: Edgecombe County, NC

The logo features the word "Redox" in a bold, black, sans-serif font. A green diagonal line with a small leaf-like shape at its end cuts through the letter "x". Below "Redox" is the text "BIO-NUTRIENTS" in a smaller, green, all-caps, sans-serif font.

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