PROVEN IN THE FIELD







Timac Agro USA provides innovative, high-quality solutions in crop nutrition. Timac Agro products are unique in that virtually all contain patented plant and seaweed extract formulas. A subsidiary of the Roullier Group, present in 39 countries, the company is headquartered in Reading, Pennsylvania, with manufacturing facilities in New York, Michigan, Illinois, and Pennsylvania.

Our patented formulas are derived from nearly 60 years of research and development in plant extract technology. Through precise methods, our extracts are evaluated for their specific effects at each stage of crop development. By enriching selected extracts with macro- and micronutrients, we create bionutritional formulas that meet the everchanging needs of the crop. Better yield and quality benefit our customers and are the result of improved emergence, vegetative growth, and reproductive performance.



RELENTLESS INNOVATION



OPTIMIZED APPLICATIONS



FLEXIBLE MANUFACTURING

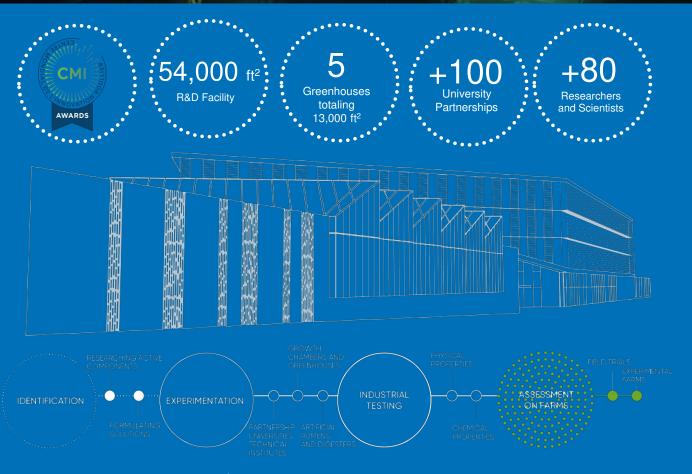


PARTNER IN THE FIELD



OUR INSPIRATION COMES FROM NATURE











200 Employees



100 Sales Agronomists



4 Production Facilities



30+ States Served





60+ Patented Formulas



100+ Scientific
Publications Worldwide



300+ US Growers and University Trials



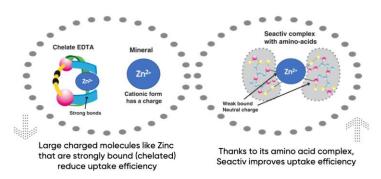
+80% Outperformance in Trials

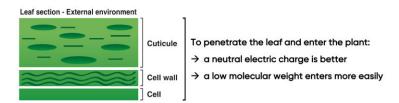


FERTILEADER - LATE SEASON NUTRITIONAL

LATE SEASON NUTRITIONAL

The Fertileader series are combinations of highly available nutrients and our patented Seactiv™ Complex. The formulations are designed to provide the plant with a critical nutritional and physiological boost vegetative and reproductive stages during times at stress.





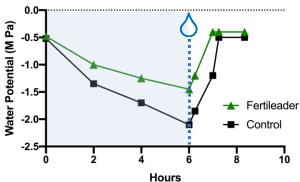
KEY BENEFITS

- Foliar nutrition to help solve deficiencies and reduce in- season stress
- Amino acid chelated nutrients (low molecular weight carriers) which are easily absorbed by the plant
- Formulated with our patented Seactiv[™] Complex

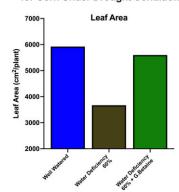
COMMON FORMULATION (3 OF 8)

	N	Р	K	Ca	Mn	Zn	В	Мо
Gold							5.7	0.35
Axis	3	18			2.5	5.7		
Elite	9		6	8.5			0.1	

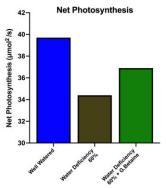
Impact of Fertileader on Water Stress & Recovery



Addition of Glycine Betaine Increases Growth for Corn Under Drought Conditions









FERTILEADER®







RESULTS AT A GLANCE

RESOLIS AT A GLANCE					
Location	Crop	Placement	Product	Rate	Outcome
USA 50+ Grower Trials	Soybeans	All	All	1.5-4 pts/ac	+6.2 bu/ac
The Farm LLC Garden City, MO	Soybeans	V3	Elite	2 pts/ac	+4 bu/ac
CMS Germansville, PA	Soybeans	R1	Gold	2.5 pts/ac	+8.6 bu/ac
Penn. State Univ. Lancaster County	Soybeans	R1	Gold	2.5 pts/ac	+6 bu/ac
Penn. State Univ. Lancaster County	Soybeans	R1	Gold	1.5 pts/ac	+9 bu/ac
Contract Researcher Charles City, VA	Soybeans	V3,R1	Elite	2 pts/ac (2x)	+5.6 bu/ac
Mid Michigan Ag Dewitt, MI	Soybeans	R1	Gold	2 pts/ac	+6.5 bu/ac
Mid Michigan Ag Dewitt, MI	Corn	V10	Gold	2 pts/ac	+5.7 bu/ac
Contract Researcher Lewisburg, PA	Corn	V5	Axis	2.5 pts/ac	+10 bu/ac
Contract Researcher New Kent, VA	Corn	V8	Elite	2 pts/ac	+16 bu/ac
Contract Researcher New Kent, VA	Corn	V6	Elite	2 pts/ac	+5 bu/ac
Miss. State Univ. St Joseph, LA	Corn	V10	Elite	1.5 pts/ac	+7 bu/ac
Univ. of Wisconsin Hancock, WI	Sweet Corn	R2	Gold	2 pts/ac	+512 lbs/ac
Contract Researcher Lancaster County	Alfalfa	After Cutting	Gold	2.5 pts/ac	+2539 lbs/ac
Grower Trials (49) Lancaster County	Alfalfa	After Cutting	Gold	2.5 pts/ac	+11.7 RFV
Grower Study Morristown, TN	Wheat	Feekes 10.5	Elite	2 pts/ac	+27.7 bu/ac



Location	Crop	Placement	Product	Rate	Outcome
Miss. State Univ. St Joseph, LA	Cotton	Bloom and 10 Days	Elite	1.5 pts/ac (2x)	+272 lbs/ac
Miss. State Univ. St Joseph, LA	Cotton	Bloom and 10 Days	Elite	1.5 pts/ac (2x)	+167 lbs/ac
Univ. of Wisconsin Handcock, WI	Potato	10% bloom, 14 Days	Gold	1.5 pts/ac (3x)	+53.5 cwt/ac
Grower Study Immokalee, FL	Potato	14-day intervals	Gold	1.75 pts/ac (3X)	+39.04 cwt/ac
Grower Study Immokalee, FL	Potato	14-day intervals	Gold	1.75 pts/ac (3X)	+7.97 cwt/ac
Louisiana State Univ. Crowley, LA	Rice	V3	Axis	2 pts/ac	+248 lbs/ac
Louisiana State Univ. Crowley, LA	Rice	Panicle Initiation	Gold	2 pts/ac	+150 lbs/ac
Univ. of Missouri Qulin, MO	Rice	Panicle Initiation	Elite	2 pts/ac	+810 lbs/ac
Grower Study South Carolina	Bell Pepper	Bloom, 14 Days	Elite	2 pts/ac (3x)	+218 boxes/ac
Grower Study South Carolina	Bell Pepper	Bloom, 14 Days	Elite	2 pts/ac (3x)	+6% premium
Grower Study New York	Snap Beans	V3	Axis	2 pts/ac	Increase pod set
Grower Study New York	Carrot	21, 35 DAP	Elite	2 pts/ac (2x)	55% increase in weight
Grower Study New York	Squash	Bloom	Elite	2 pts/ac	47% increase in weight
Penn State Lancaster County	Pumpkin	Running, 14 days	Elite Gold	1.5 pts/ac (6x)	+4 tons/ac
Contract Researcher Penn Yan, New York	Grapes	Bloom	Gold	2 pts/ac	+821 lbs/ac
Grower Study Georgia	Highbush Blueberry	Summer Vegetative	Elite	4 pts/ac	Increase plant vigor

INCREASE YIELD WITH FERTILEADER

SOYBEANS

OBJECTIVE

To combine grower trials throughout the country and calculate a national average for the product line.

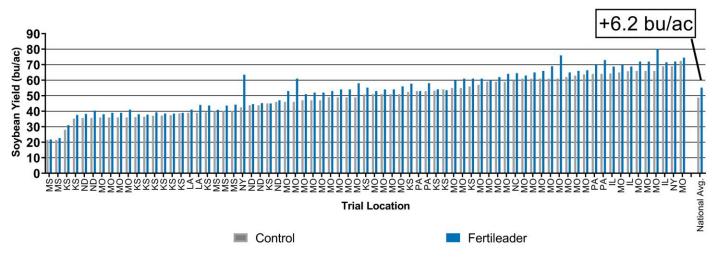
SITE LOCATION USA

RESEARCHER

Various Grower Studies

Trial ID: RT-19-USA-SOY-FL

Cumulative Grower Trial Soybean Yields



KEY FINDING

+6.2 bu/ac

Over Untreated Fields

Product	Application Rate	Timing
Untreated		
Fertileader	1.5-4 pts/ac	V4-R2



TANK-MIX WITH HERBICIDE SPRAY



OBJECTIVE

To compare the effects of Fertileader Elite when tank-mixed with glyphosate application compared with glyphosate alone on soybean yield and ROI when applied at V3.

SITE LOCATION

Garden City, MO

RESEARCHER

Contract Research Organization The Farm Research Center, LCC

Trial ID: RT-17-CM-SOY-FLEL

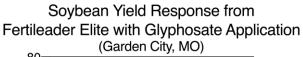
STUDY INFORMATION

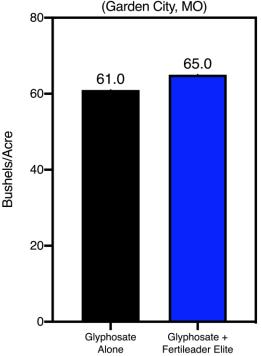
Planting Date	11-May-2017
Harvest Date	10-Oct-2017
Variety	P31T77RR
Population	128,800

KEY FINDINGS

+4 bu/ac
More than untreated control

ROI: +\$25.50/ac





Graph: Fertileader Elite treatment added 4 bushel/ac over untreated control.

The Gross Revenue was calculated at \$9.50/bu.

Treatment	Application Rate	Timing
Control – Glyphosate only		
Glyphosate + Fertileader Elite	1 qt/ac	V3



FOLIAR SPRAY AT EARLY BLOOM

SOYBEANS

OBJECTIVE

To assess the yield response of a foliar spray of Fertileader Gold at early bloom (R1) on crop of soybean.

SITE LOCATION

Germansville, PA

RESEARCHER

CMS, Inc. Contract Research Org.

Soybean Yield Response from Fertileader Gold at Early Bloom

Trial ID: RT-19-NF-SOY-FLGO

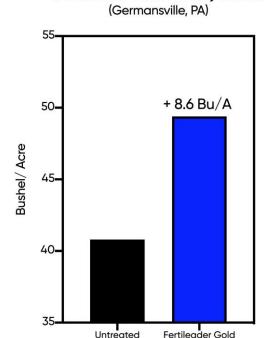
STUDY INFORMATION

Variety	S120114 Seedway	
Population	130,000	

KEY FINDINGS

+8.6 bu/ac
More than untreated control

ROI: \$58.02/ac



Control

2.5 pt/A

Graph: Foliar spray of Fertileader Gold improved yield 8.6 bu/ac for soybean crop. The Gross Revenue above was calculated at \$8.50 bushel with Fertileader Gold retail cost of \$48.25/Gallon.

Treatment	Application Rate	
Control	N/A	
Fertileader Gold	2.5 pint/A	



FOLIAR APPLIED AT EARLY BLOOM

SOYBEANS

OBJECTIVE

To evaluate the effects of Fertileader (a patented liquid formula) on soybean yield when applied at R1 (early bloom) growth stage.

SITE LOCATION PA

RESEARCHER

Alyssa Collins, PhD Penn State University

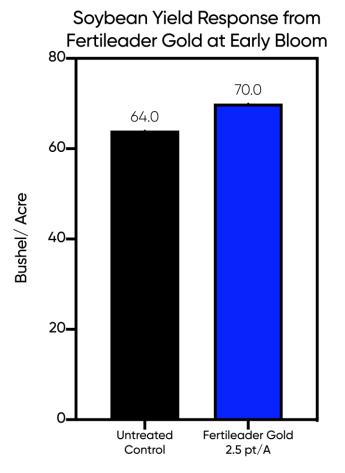
Trial ID: RT-17-NE-SOY-FLGO+CK

STUDY INFORMATION

Planting Date	11-May-2017
Harvest Date	10-Oct-2017
Variety	P31T77RR
Population	140,000

KEY FINDINGS





Graph: Foliar spray of Fertileader Gold improved yield 6.0 bu/ac for soybean crop. The Gross Revenue above was calculated at \$9.50 bushel with Fertileader Gold retail cost of \$48.25/Gallon.

Treatment	Application Rate	Timing
Untreated Control		
Fertileader Gold	2.5 pt/ac	R1



FOLIAR APPLIED AT EARLY BLOOM



OBJECTIVE

To evaluate the effects of Fertileader (a patented liquid formula) on soybean yield when applied at R1 (early bloom) growth stage.

SITE LOCATION

Penn. State University

RESEARCHER

Alyssa Collins, PhD

Trial ID: RT-17-NE-SOY-FLGO+CK

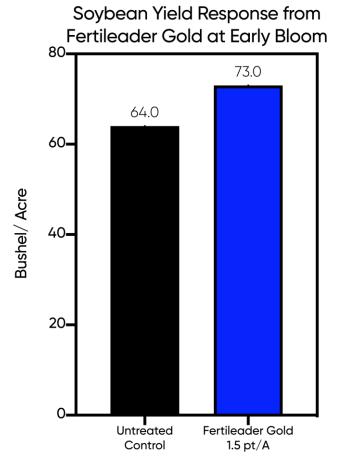
STUDY INFORMATION

Planting Date 11-May-2017
Harvest Date 10-Oct-2017
Variety P31T77RR
Population 140,000

KEY FINDINGS

+9 bu/ac
More than untreated control

ROI:
+ \$76.45/ac



Graph: Foliar spray of Fertileader Gold improved yield 6.0 bu/ac for soybean crop. The Gross Revenue above was calculated at \$9.50 bushel with Fertileader Gold retail cost of \$48.25/Gallon.

Treatment	Application Rate	Timing
Untreated Control		
Fertileader Gold	1.5 pt/ac	R1



FOLIAR SPRAY AT LATE VEGETATIVE & POD SET



OBJECTIVE

To assess the yield response of a foliar spray of Fertileader Elite at late vegetative (V6-V7) and pod set (R3) stage on soybean.

SITE LOCATION

Charles City, VA

RESEARCHER

Contract Research Organization

Trial ID:: RT-18-SE-SOY-FLEL

KEY FINDINGS

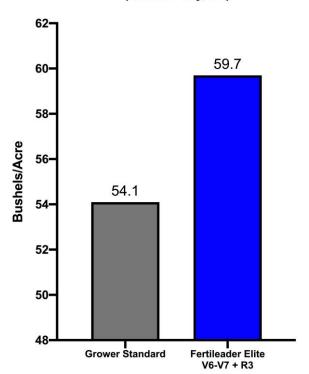
+5.6 bu/ac

More than grower standard

ROI: \$20.85/ac

Graph right: Foliar sprays of Fertileader Elite improved yield 5.6 bu/ac. The Gross Revenue above was calculated at \$8.50/bu for soybean with Fertileader Elite retail cost of \$53.50/Gallon.

Soybean Yield Response from Foliar Fertileader Elite Application (Charles City, VA)



Treatment	Application Rate	
Grower Standard	N/A	
Fertileader Elite	2 quart/A (split applied)	



TANK-MIX WITH FUNGICIDE SPRAY



Trial ID: DT-20-GL-SOY-FLGO

OBJECTIVE

To assess the yield response of a foliar spray of Fertileader Gold with group 7/11 fungicide at R3 on soybean.

SITE LOCATION

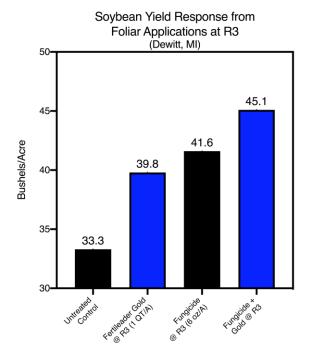
Dewitt, MI

RESEARCHER

Third-Party Contract Research Org.

STUDY INFORMATION

Variety Becks 1889 RR
Population 70,000



KEY FINDINGS

+6.5 bu/ac

More than Untreated Control

ROI: \$46.44/ac

More than Untreated Control

+3.5 bu/ac
More than Fungicide Alone

Graph: Foliar spray of Fertileader Gold at R3 added 6.5 bu/ac for soybean crop, and tank-mixed with fungicide added 3.5 bu/ac over fungicide alone. The Gross Revenue above was calculated at \$9.00 bushel with Fertileader Gold retail cost of \$48.25/Gallon.

Treatment	Application Rate	
Untreated Control	N/A	
Fertileader Gold	1 QT/A	
Group 7/11 Fungicide	6 oz/A	
Fungicide + Fertileader Gold	6 oz/A + 1 QT/A	



TANK-MIX WITH FUNGICIDE SPRAY



OBJECTIVE

To assess the yield response on addition of Fertileader Gold to grower standard (Group 7/11 fungicide) at V10 on corn.

SITE LOCATION

Dewitt, MI

RESEARCHER

Third-Party Contract Research Org.

Trial ID: DT-20-GL-COR-FLGO

STUDY INFORMATION

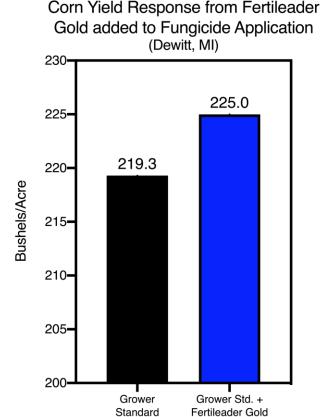
Planting Date	5-July-2020
Harvest Date	27-Oct-2020
Variety	NK 9175
Population	34,848

KEY FINDINGS

+5.7 bu/ac
More than grower standard

ROI: \$9.32/ac

More than grower standard



Graph: Foliar spray of Fertileader Gold with grower standard at V10 added 5.7 bu/ac for corn crop over grower standard (fungicide alone). The Gross Revenue above was calculated at \$3.75 bushel with Fertileader Gold retail cost of \$48.25/Gallon.

Treatment	Application Rate
Grower Standard (Group 7/11 Fungicide)	8 oz/A
Grower Standard + Fertileader Gold	8 oz/A + 1 QT/A



TANK-MIX WITH HERBICIDE SPRAY



OBJECTIVE

To test the proprietary liquid formulas on corn for grain. These trials were enacted to evaluate Fertileader's ability to withstand drought stress during early ear development at V5.

SITE LOCATION

Lewisburg, PA

RESEARCHER

Third-Party Contract Research Org.

STUDY INFORMATION

Planting Date	20-May-2020
Variety	Redtail RT 54T13 RM 104
Population	35,000

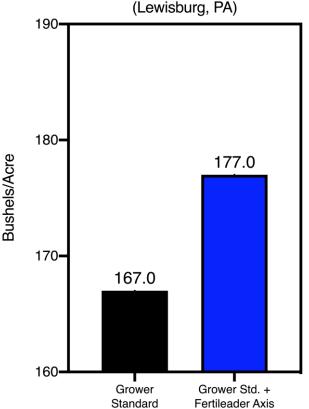
KEY FINDINGS

+10.0 bu/ac
More than grower standard

ROI: \$22.11/ac

More than grower standard

Corn Yield Response from Fertileader Axis with Herbicide Application (Lewisburg, PA)



Graph: Foliar spray of Fertileader Axis with grower standard at herbicide added 10 bu/ac for corn crop over grower standard (herbicide alone). The Gross Revenue above was calculated at \$3.75 bushel with Fertileader Axis retail cost of \$49.25/Gallon.

Treatment	Application Rate
Grower Standard	N/A
Grower Standard + Fertileader Axis	2.5 pts/ac



EFFECTS OF FERTILEADER AT V8



OBJECTIVE

To assess the yield response of a foliar spray of Fertileader Elite during a peak nitrogen uptake stage (V8) on corn.

SITE LOCATION

New Kent, VA

RESEARCHER

Contract Research Organization

Corn Yield Response from Foliar

Trial ID: DT-18-SE-COR-FLEL

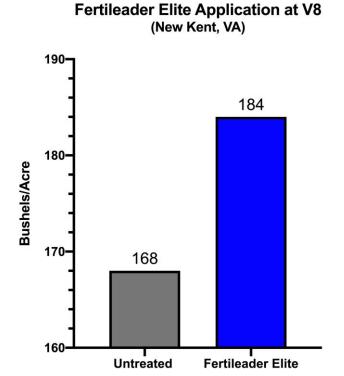
STUDY INFORMATION

Planting Date	22-April-2018
Harvest Date	6-Sept-2018
Variety	CROPLAN 5678
Population	32,000

KEY FINDINGS

+16 bu/ac
More than grower standard

ROI: +\$42.62/ac



Graph above: Foliar spray of Fertileader Elite improved yield 16 bu/ac. The Gross Revenue above was calculated at \$3.50/bu for corn with Fertileader Elite retail cost of \$53.50/Gallon.

Treatment	Application Rate
Untreated Control	N/A
Fertileader Elite	1 quart/A



EFFECTS OF FERTILEADER AT V6



OBJECTIVE

To assess the yield response of a foliar spray of Fertileader Elite at V6 on corn.

SITE LOCATION

New Kent, VA

RESEARCHER

Contract Research Organization

Corn Yield Response from Foliar

Trial ID: DT-17-SE-COR-FLEL

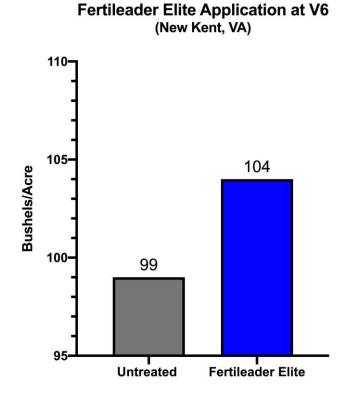
STUDY INFORMATION

Planting Date	14-April-2017
Harvest Date	22-Aug-2017
Variety	Channel 201-00
Population	26,000-32,000 (Variable Rate)

KEY FINDINGS

+5 bu/ac
More than grower standard

ROI: \$4.12/ac



Graph above: Foliar spray of Fertileader Elite improved yield 5 bu/ac. The Gross Revenue above was calculated at \$3.50/bu for corn with Fertileader Elite retail cost of \$53.50/Gallon.

Treatment	Application Rate
Untreated Control	N/A
Fertileader Elite	1 quart/A



EFFECTS OF FERTILEADER AT V10



OBJECTIVE

To determine the effects of Fertileader Elite applied at V10 on corn yield.

SITE LOCATION

St. Joseph, LA

RESEARCHER

Randy Smith, PhD Mississippi State University

Trial ID: RT-18-DL-COR-FST+GZ+FLEL

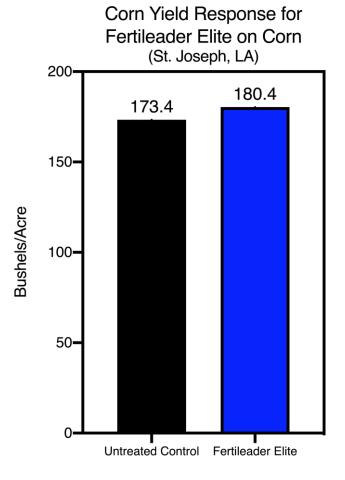
STUDY INFORMATION

Planting Date	29-Mar-2018
Harvest Date	5-Oct-2018
Hybrid	DKC 68-26 RR
Population	32,000
Trial Design	Randomized complete block, 6 replications

KEY FINDINGS

+7 bu/ac
Over untreated control

ROI: \$14.84/ac



Graph above: Foliar spray of Fertileader Elite improved yield 7 bu/ac. The Gross Revenue above was calculated at \$3.50/bu for corn with Fertileader Elite retail cost of \$53.50/Gallon.

Treatment	Application Rate	Timing
Untreated Control		
Fertileader Elite	1.5 pt/ac	V10



FERTILEADER GOLD AT EAR DEVELOPMENT



OBJECTIVE

To assess the impact of a foliar spray Fertileader Gold at R2 (Kernel Blister) stage on yield and kernel development.

SITE LOCATION

Hancock, WI

RESEARCHER

University of Wisconsin Hancock Research Station

Trial ID: DT-20-GL-SCOR-FLGO

STUDY INFORMATION

Planting Date 15-May-2020
Harvest Date 14-Aug-2020
Variety Elle F1
Planting Date 15-May-2020

KEY FINDINGS

+519 lbs/ac

in *processed sweet corn weight*

+7.8%

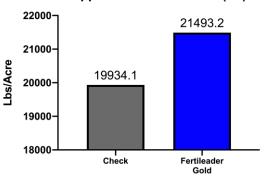
Improvement in 'Brix over Check

ROI: \$299.94/ac

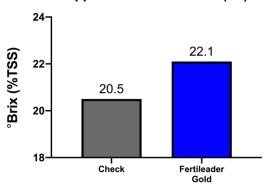
More than Untreated Fertilizer

Processed sweet corn calculation based on harvested weight of fully husked ear divided by 3 = weight of usable kernels

Sweet Corn Yield for Fertileader Gold Applied at Kernel Blister (R2)



Sweet Corn °Brix for Fertileader Gold Applied at Kernel Blister (R2)



Graph: Fertileader Gold improved processed sweet corn yield by +1560 lbs/ac. The Gross Revenue was calculated at \$0.60/Lb for processed sweet corn. The retail price of Fertileader Gold was calculated at \$48.25/gallon.

Treatment	Application Rate
Untreated Control	N/A
Fertileader Gold	1 QT/A



FERTILEADER FOR PRODUCTION

ALFALFA

OBJECTIVE

To assess the yield response for foliar application of Fertileader Gold at 2.5 pt/ac following each cutting over 2nd, 3rd and 4th cuttings of the growing season.

SITE LOCATION

Lancaster County, PA

RESEARCHER

Jordan Martin, CCA Timac Agro USA

STUDY INFORMATION

This study was conducted in a growers field over the course of a growing season. Data were collected by-infield sampling of 4 replications within 24 hours prior to mechanical cutting of the field. All treatments were applied in field replicated strips and all other management measures were equal other than treatments. Data were collected prior to 2nd, 3rd and 4th cutting and dry-weight values were taken down to 12% moisture for the purpose of the study.

KEY FINDINGS

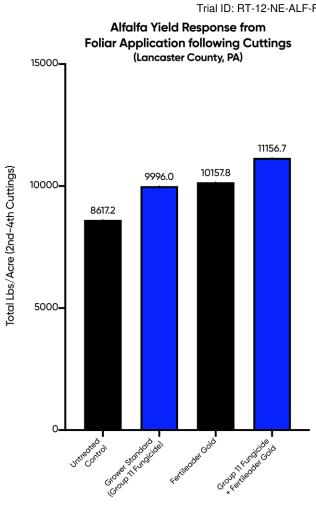
Fertileader increased weight over untreated control by

1540.5 lbs/A

Fertileader with grower standard fungicide increased weight over untreated control by

2539.4 lbs/A

Trial ID: RT-12-NE-ALF-FLGO



Treatment	Application Rate
Untreated Control	N/A
Grower Standard (Group 11 Fungicide)	7 oz/ac, 7-10 days following 1st, 2nd & 3rd cutting
Fertileader Gold	2.5 pt/ac, 7-10 days following 1st, 2nd & 3rd cutting
Grower Standard + Fertileader Gold	7 oz + 2.5 pt/ac, 7-10 days following 1st, 2nd & 3rd cutting



FERTILEADER FOR QUALITY



OBJECTIVE

To evaluate metrics such as crude protein %, total digestible nutrient % and RFV to assess the impact on quality response for foliar application of Fertileader Gold following cuttings.

SITE LOCATION

49 Sites Over 10 Years

RESEARCHER

Jordan Martin, CCA Timac Agro USA

Trial ID: DT-17-NE-ALF-FLGO

STUDY INFORMATION

This study was conducted across 49 sites over 10 years evaluating the impact of Fertileader Gold on quality (feed value metrics). All data were generated from feed analytics reporting from Agri analysis laboratory (Lititz, PA). Averages are represented on the graphs within this report.

KEY FINDINGS

Fertileader increased Crude Protein over the untreated control by

1.9% Points

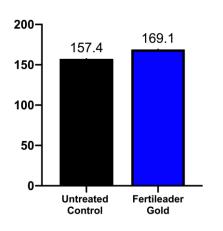
Fertileader increased RFV (Relative Feed Value) over the untreated control by

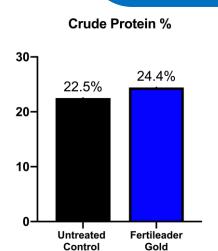
+11.7

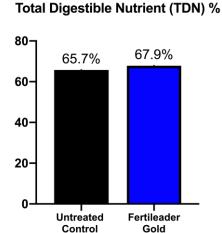
Fertileader increased Total Digestible Nutrient over the untreated control by

2.2% Points

Relative Feed Value (RFV)







Treatment	Application Rate
Untreated Control	N/A
Fertileader Gold	2.5 pt/ac, 7-10 days following cuttings



INCREASED GRAIN DEVELOPMENT

OBJECTIVE

To evaluate the impact of a foliar application of Fertileader Elite (1 quart/acre) on winter wheat yield at Feekes 10.5 Stage.

SITE LOCATION

Morristown, TN



RESEARCHER

Grower Study

STUDY INFORMATION

Winter wheat was planted on December 15. The following spring, Fertileader Elite was applied to half of the field on April 27th at a rate of 1 quart/ acre. The wheat crop was in the Feekes 10.5 stage. Also in the tank was propiconazole fungicide, lambda-cyhalothrin insecticide. and water conditioning а agent/non-ionic surfactant blend. This was a dryland field that was previously under soybeans. Harvest date was June 17th. Wheat harvest was collected from 1/10 acre weighed. Bushels per acre were calculated from this weight. Moisture and test weight were also collected. measurement was replicated three times from random locations, and data were analyzed using a paired t-test ($\alpha = 0.05$).

KEY FINDINGS

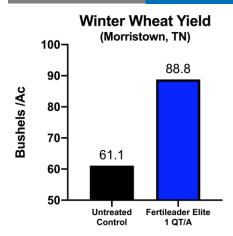
+27.7 bu/ac **Over Untreated Control**

ROI: \$118.20/ac

APPLICATION

Treatment	Application Rate
Untreated Control	N/A
Fertileader Elite	1 quart/A





Graph: The Gross Revenue was calculated at \$4.75 bushel for winter wheat. Return on treatment was calculated at retail cost for Fertileader Elite at \$53.50/gal.



FOLIAR SPRAY AT SQUARE & BLOOM

COTTON

OBJECTIVE

To assess the yield response of a foliar spray of Fertileader Elite at square and bloom on crop of upland cotton.

SITE LOCATION

Saint Joseph, LA

RESEARCHER

H. Randall Smith, Ph.D. Mississippi State University

Trial ID: RT-17-DL-COT-FLEL

STUDY INFORMATION

Variety	STV 4848 GLT
Population	52,000
Planting Date	May 17, 2017
Harvest Date	October 28, 2017

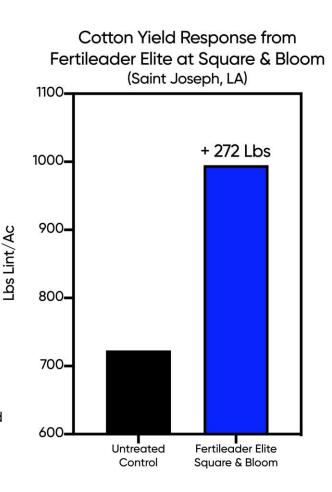
KEY FINDINGS

+272 lbs lint/ac

More than untreated control

ROI: \$143.14/ac

Graph: Foliar spray of Fertileader Elite improved yield 272 lbs lint/ac for cotton crop. The Gross Revenue above was calculated at \$0.60/lb cotton lint with Fertileader Elite retail cost of \$53.50/Gallon.



Treatment	Application Rate
Control	N/A
Fertileader Elite	1.5 pint/A (2X)



FOLIAR SPRAY AT SQUARE & BLOOM



OBJECTIVE

To assess the yield response of two foliar sprays of Fertileader Elite at bloom and 10 days later on crop of upland cotton.

SITE LOCATION

Saint Joseph, LA

RESEARCHER

H. Randall Smith, Ph.D. Mississippi State University

Trial ID: RT-16-DL-COT-FLEL

STUDY INFORMATION

Variety Phytogen 333 WRF
Population 52,000
Planting Date June 1, 2016
Harvest Date November 12, 2016

KEY FINDINGS

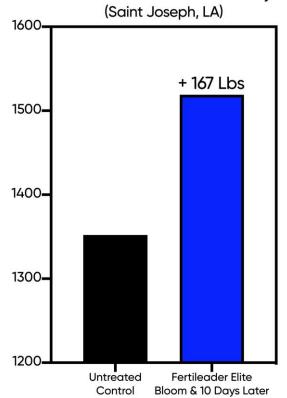
+167 lbs lint/ac

More than untreated control

ROI: \$80.14/ac

Graph: Foliar sprays of Fertileader Elite improved yield 167 lbs lint/ac for cotton crop. The Gross Revenue above was calculated at \$0.60/lb cotton lint with Fertileader Elite retail cost of \$53.50/Gallon.





APPLICATION

Treatment	Application Rate
Control	N/A
Fertileader Elite	1.5 pint/A (2X)

-bs Lint/Ac



FERTILEADER DURING TUBER DEVELOPMENT



OBJECTIVE

To compare the yield and quality impact in potato of multiple foliar applications of Fertileader Gold through tuber development.

SITE LOCATION

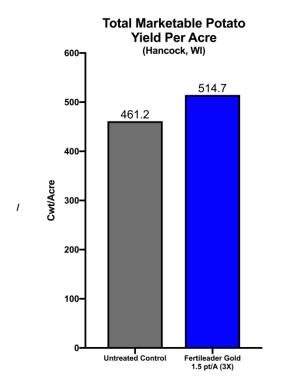
Hancock, WI

RESEARCHER

University of Wisconsin Hancock Research Station

STUDY INFORMATION

Planting Date 22-April-2020
Harvest Date 15-Sept-2020
Variety Russet Norkota



KEY FINDINGS

Trial ID: DT-20-GL-POT-FLGO

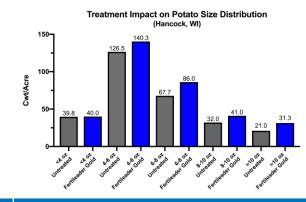
+53.5 cwt/ac with

+20%

Gain in Marketable Yield over untreated control

ROI: \$1714/ac

Gains in Tuber Size, Yield & Quality +17.7% in Tuber Counts +4.3% in Average Tuber Size -11.8% in Defects/Culls



Treatment	Application Rate
Untreated Control	N/A
Fertileader Gold	3X @ 1.5 pt/acre/application 14 day intervals



FERTILEADER DURING TUBER DEVELOPMENT



OBJECTIVE

To compare the yield and size distribution impact in yellow skin variety *Satina* potato for multiple foliar applications of Fertileader Gold during tuber development against grower standard practice.

SITE LOCATION

Immokalee, FL

RESEARCHER

Colton Davis Timac Agro USA

STUDY INFORMATION

Variety Satina
Population 23,868
Planting Date 23-Nov-2021
Harvest Date 15-March-2021

KEY FINDINGS

Trial ID: RT-21-SE-POT-FLGO

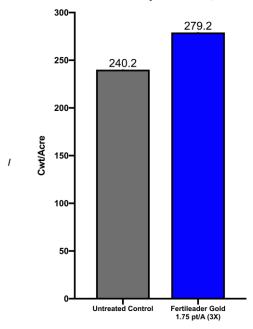
+39.04 cwt/ac

In marketable yield with Fertileader Program

Reduced Cull Weight by 19.8%

ROI: \$1,036.56/ac

Total Marketable Potato Yield Satina Variety - Immokalee, FL



Treatment	Application Rate
Grower Standard Practice	N/A
Fertileader Gold	3X @ 1.75 pt/acre, 14-day intervals



FERTILEADER DURING TUBER DEVELOPMENT



OBJECTIVE

To compare the yield and size distribution impact in red skin variety *Thompson* potato for multiple foliar applications of Fertileader Gold during tuber development against grower standard practice.

SITE LOCATION

Immokalee, FL

POTATO

RESEARCHER

Colton Davis Timac Agro USA

STUDY INFORMATION

Variety Thompson
Population 23,868
Planting Date 16-Nov-2021
Harvest Date 15-March-2021

KEY FINDINGS

Trial ID: RT-21-SE-POT-FLGO-2

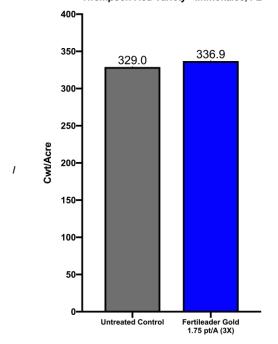
+7.97 cwt/ac

In marketable yield with Fertileader

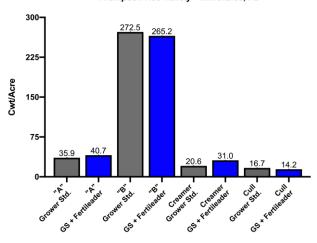
Reduced Cull Weight by 14.7%

ROI: \$548.71/ac

Total Marketable Potato Yield Thompson Red Variety - Immokalee, FL



Treatment Impact on Potato Size Distribution Thompson Red Variety - Immokalee, FL



Treatment	Application Rate
Grower Standard Practice	N/A
Fertileader Gold	3X @ 1.75 pt/acre, 14-day intervals



FOLIAR SPRAY WITH HERBICIDE APPLICATION



OBJECTIVE

To assess the yield response of a foliar spray of Fertileader Axis with herbicide application at V2-V3 on total (main + ratoon) crop of rice.

SITE LOCATION

Crowley, LA

RESEARCHER

H. Rouse Caffey Rice Research Station Louisiana State University

Trial ID: RT-20-DL-RIC-FLAX

STUDY INFORMATION

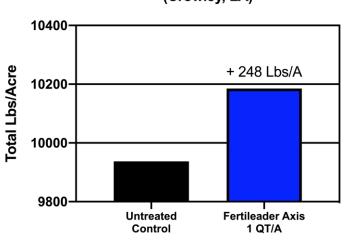
Planting Date	13-Mar-2020
Harvest Date	3-Aug-2020 2-Nov-2020
Variety	CL 153
Population	33 seeds/ft ²

KEY FINDINGS

+248 lbs/ac
More than untreated control

ROI: \$21.16/ac

Rice Yield Response from Foliar Spray of Fertileader Axis at V2-V3 (Crowley, LA)



Graph: Foliar spray of Fertileader Gold improved yield 150 lbs for total (main + ratoon) crop. The Gross Revenue above was calculated at \$13.50/cwt for rice with Fertileader Axis retail cost of \$49.25/Gallon.

Treatment	Application Rate
Control	N/A
Fertileader Axis	1 Quart/A



FOLIAR SPRAY AT PANICLE INITIATION

RICE

OBJECTIVE

To assess the yield response of a foliar spray of Fertileader Gold at panicle initiation (R0) on total (main + ratoon) crop of rice.

SITE LOCATION

Crowley, LA

RESEARCHER

H. Rouse Caffey Rice Research Station Louisiana State University

Trial ID: RT-16-DL-RIC-FLGO

STUDY INFORMATION

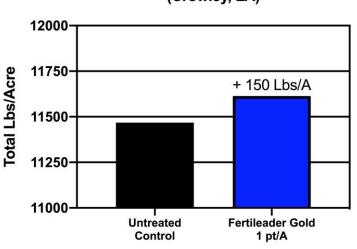
Planting Date	23-Mar-2016
Harvest Date	9-Aug-2016
Variety	CL 153
Population	33 seeds/ft²

KEY FINDINGS

+150 lbs/ac
More than untreated control

ROI: \$12.22/ac

Rice Yield Response from Foliar Spray of Fertileader Gold at Panicle Initiation (Crowley, LA)



Graph: Foliar spray of Fertileader Gold improved yield 150 lbs for total (main + ratoon) crop. The Gross Revenue above was calculated at \$12.50/cwt for rice with Fertileader Gold retail cost of \$48.25/Gallon.

Treatment	Application Rate
Control	N/A
Fertileader Gold	1 pint/A



FOLIAR SPRAY AT PANICLE INITIATION

RICE

OBJECTIVE

To assess the yield response of a foliar spray of Fertileader Elite at panicle initiation (R0) on main crop of rice.

SITE LOCATION Qulin. MO

RESEARCHER

David Dunn. Ph.D. University of Missouri

TION KEY FINDINGS

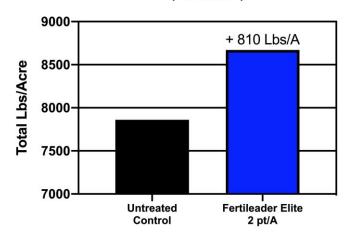
Trial ID: RT-18-CM-RIC-FLEL

+810 lbs/ac

More than untreated control

ROI: \$87.88/ac

Rice Yield Response from Foliar Spray of Fertileader Elite at Panicle Initiation (Qulin, MO)



STUDY INFORMATION

The location of this study was on a Crowley silt loam soil located at the Missouri Rice Research Farm near Qulin, MO. A soil test indicated that pH was above 6.8 and soil nutrients were classified as either good or very good. University of Missouri fertilizer application rates and timings were followed for all treatments. The experimental design was a randomized complete block with four replications. Plots were 20 ft long by 13 ft wide. Fertileader Elite was applied 30 days after planting (25 May - internode elongation/panicle initiation) pint/acre. Plots were harvested, and total weight of grain was used to calculate vield and test weight.

Graph above: Foliar spray of Fertileader Elite improved yield 810 lbs for main crop. The Gross Revenue above was calculated at \$12.50/cwt for rice with Fertileader Elite retail cost of \$53.50/Gallon.

Treatment	Application Rate
Control	N/A
Fertileader Elite	2 pint/A



FOLIAR SPRAYS OF FERTILEADER ELITE



OBJECTIVE

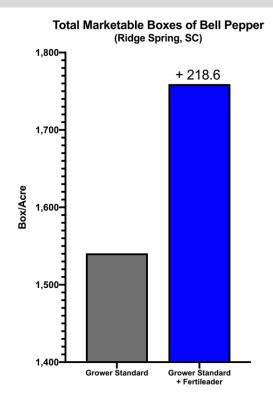
To assess the total yield and crop quality response for bell pepper when three applications of Fertileader Elite starting at first bloom in 14 day intervals.

SITE LOCATION

South Carolina

RESEARCHER

Independent Grower Study



KEY FINDINGS

Trial ID: DT-20-SE-PEP-FLEL

218.6 box/ac

Increase In Total Marketable Boxes of Bell Pepper

10.2%

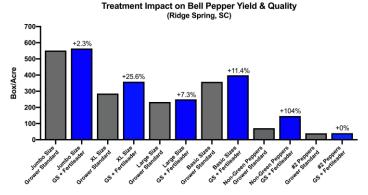
More Boxes of Premium Categories (JBO,XL)

Bell Pepper

\$3,588/ac

Return on Investment with Fertileader added to GS program

Graph (Right): Treatment impact on category distribution based on increase by percentages. **Graph (Above):** Treatment impact on total number of marketable boxes of bell pepper.



Treatment	Application Rate
Grower Standard	N/A
Grower Standard with Fertileader Elite	40 oz/Ac, 3x 14 Day Intervals, Starting at First Bloom (5/14, 5/28, 6/11)



BELL PEPPER BIO-NUTRITIONAL TRIAL



BELL PEPPER

OBJECTIVE

To evaluate the impact of multiple applications of two different bio-nutritional spray programs (2 apps/partial & 4 apps/full) on bell pepper sizing & packout dynamics against grower standard program.

SITE LOCATION

South Carolina

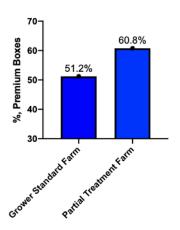
RESEARCHER

Blake Brown, CCA Timac Agro USA

STUDY INFORMATION

Packout data for these treated farm fields (partial or full) were totaled and a grower standard farm was used to evaluate against the treatment. All picking events (Reporting Dates) were totaled for both treated and grower standard fields (minimum of three picks). Premium Boxes is the combination of Jumbo and X-Large category boxes. Other boxes that generate a lower return include select, large, medium, suntan, mixed red, and red.

Vanguard Variety, Bell Pepper Total Packout by Treatment



APPLICATION

Partial Treatment – Vanguard & Boca Varieties	Application Rate
Fertileader Elite – 9/3	1.25 qt/ac
Fertileader Elite – 9/17	1.25 qt/ac

KEY FINDINGS

Trial ID: DT-19-SE-PEP-GZ-FLEL

Partial Treatment on Vanguard Variety:

9.6% more fruit in the Premium Categories
over Grower Standard

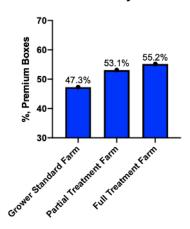
Partial Treatment on Boca Variety:

5.8% more fruit in the Premium Categories
over Grower Standard

Full Treatment on Boca Variety:

7.9% more fruit in the Premium Categories
over Grower Standard

Boca Variety, Bell Pepper Total Packout by Treatment



Full Treatment – Boca Variety	Application Rate
Fertiactyl GZ – 9/3	1 qt/ac
Fertiactyl GZ – 9/17	1 qt/ac
Fertileader Elite – 10/1	1 qt/ac
Fertileader Elite – 10/8	1 qt/ac



INCREASE ESTABLISHMENT AND PRODUCTION



Trial ID: DT-17-NE-SNA-FLAX

OBJECTIVE

To test the benefits of Fertileader Axis on snap beans.

SITE LOCATION

Monroe County, NY

RESEARCHER

New York Team Timac Agro USA

STUDY INFORMATION

Variety **Snap Beans** Fertileader Axis **Treatments** Soil Type Loam

KEY FINDINGS

✓ Increased Root Development

✓ Increased Production





Product	Application Rate	Timing
Standard Program		
Fertileader Axis	1 qt/ac	V2-V4



INCREASE ESTABLISHMENT AND PRODUCTION

CARROT

OBJECTIVE

To test the benefit of Fertileader Elite on carrots.

SITE LOCATION

Monroe County, NY

RESEARCHER

New York Team Timac Agro USA

Trial ID: DT-17-NE-CAR-FLEL

KEY FINDINGS

- ✓ 1 qt/ac Elite Yielded 55%

 More Weight Over Check
 - 1 qt/ac Elite 2x Yielded 68%

 More Weight Over Check



Elite 1x



Product	Application Rate	Timing
Standard Program		
Fertileader Elite	1 qt/ac	30 days after planting
Fertileader Elite	1 qt/ac (2 applications)	30 DAP, 25 days later



INCREASE ESTABLISHMENT AND PRODUCTION



OBJECTIVE

To test the benefit of Fertileader Elite on squash. The hypothesis is the application of Fertileader Elite promotes early establishment and increases yield quality.

SITE LOCATION

Monroe County, NY

RESEARCHER

New York Team Timac Agro USA

Trial ID: DT-17-NE-SQU-FLEL

STUDY INFORMATION

Variety Squash
Treatments Fertileader Elite
Soil Type Loam

KEY FINDINGS

47%
More Weight Over Check





Product	Application Rate	Timing
Standard Program		
Fertileader Elite	1 qt/ac	Before Flowering



IMPACT ON TOTAL YIELD & SIZE

PUMPKIN

OBJECTIVE

To test a full Fertileader program on pumpkin production in Lancaster County, PA with a contract researcher. Our RSM Jordan Martin only oversaw the application of our products; sampling and harvest was all conducted by a 3rd party.

SITE LOCATION

Lancaster County, PA

RESEARCHER

Jeff Stoltzfus PSU Extension

Trial ID: RT-17-NE-PUM-FL

STUDY INFORMATION

Planting Date	June
Harvest Date	October
Variety	Aladdin
Population	2,800
Tillage	No-till
Treatments	Fertileader
Reps	2

KEY FINDINGS

- √ 1,000 \$/ac ROI
- ✓ More pumpkins per plant
- ✓ Larger pumpkins

The study was a strip trial with 2 replications. In October, 25 vines were harvested from each treatment. The pumpkins were counted and weighed. The plant population was used to estimate yield on the plot.

Table 1: Economic Results of the Trials

Results	Untreated	Fertileader
Pumpkins / Plant	2.16 ^b #	2.56 ^a #
Weight / Plant	37.19 b lbs	43.185 a lbs
Total Weight / Acre	26.03 tons/ac	30.23 tons/acre
ROI	\$ 0/acre	\$1,008/acre

Assumption: \$0.12/lb pumpkin price. Letter indicates significant difference in treatment P<0.05.

Product	Application Rate	Timing
Untreated		
Fertileader	15 pts/ac (Split, 6 apps)	Running, Fruit Sizing, Ripening



FOLIAR SPRAY AT BLOOM, 2 YEAR STUDY

WINE GRAPES

OBJECTIVE

Compare the yield results on an foliar application of Solubor (1 lb/ac) vs Fertileader Gold (1 qt/ac) on American Hybrid (Aurore) Wine Grapes.

SITE LOCATION

Finger Lakes, NY

RESEARCHER

Alexander Duffy
National Product Manager, Timac Agro USA

Trial ID: RT-20-NE-GRA-FLGO

STUDY INFORMATION

Planting Date
Harvest Date

Hybrid

Hybrid
Population

Population

Planting Date

Aug. 2018, Aug. 2019

Aurore (American Hybrid Grape)

680 Vines/acre

Strip block

10+ Leaf

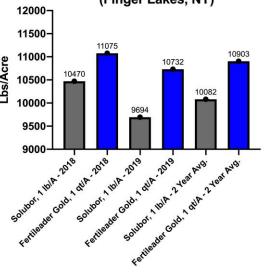
KEY FINDINGS

+821 lbs/ac

More than Solubor Treatment, 2-Year Study Average

ROI: \$152.12/ac

2 Year Bloom Spray Treatment Comparison on Aurore Variety, American Hybrid Grape Yield (Finger Lakes, NY)



Graph: Foliar spray of Fertileader Gold at bloom improved yield by an average of 821 lbs over 2-years. The Gross Revenue above was calculated at \$0.20/lb for American Hybrid grapes with Fertileader Gold retail cost of \$48.25/Gallon.

Treatment	Application Rate	Timing
Solubor	1 lb/ac	Bloom
Fertileader Gold	1 qt/ac	Bloom



PLANT RESPONSE FROM FERTILEADER SPRAY



OBJECTIVE

To assess the plant response of foliar application of Fertileader Elite used in conjunction with grower standard program on southern highbush cultivar blueberry bush.

SITE LOCATION Baxley, GA

RESEARCHER

Josh Lanier, CCA
Timac Agro USA

KEY FINDINGS

The below photos were taken 30 days following application of Fertileader Elite (2 qt/a). The same fertigation program for both sections within this uniform planting were maintained during the trial.









Grower Standard + FERTILEADER®

- Use of Fertileader with grower standard foliar nutrition in tank mix during vegetative growth period shows better utilization of nutrients and increased plant photosynthesis
- Foliage and fruiting wood growth was expedited allowing for increased productivity
- Stronger internal fruiting wood allows for higher berry holding capacity going into harvest



PROVEN IN THE FIELD



