



2021

A REPORT COMPRISED OF  
INDEPENDENT & GROWER  
**FIELD TRIALS**  
**AND RESULTS**  
FOR BW FUSION PRODUCTS

# The BW Fusion Difference

Agronomy is not just as simple as what goes in, is what comes out. While that would be great, that is not the reality with nature. We can, however, gain an understanding of the soil and plant relationship and the nutritional capabilities across crop production variables to accurately guide agronomic decision-making.


We are sharing this report to do just that. We want to give our customers an information tool that can be used - along with input from our dealers and sales team - to help you get the most value from your nutritional decisions. As you use this resource, I hope you will see an example of the transparency we hang our hats on at BW Fusion and our dedication to sound agronomic recommendations. The data and results shared here range from soils to tissues to final yield, and further showcases product technologies across multiple crops and geographic locations.

As farmers, when we talk about ROI, the easiest method to see that is yield. As an agronomist, my job is to identify limiting factors, increase efficiencies, and build a foundation for long-term sustainability.

We understand that yield is important, but it is not our sole focus. It is about starting with the foundation of the microbial team technologies to raise crops more efficiently and productively. That is why you'll find relevant data and crop production results showcasing many of those biological products, such as Environoc 401 and MeltDown.

Soil microbes don't do what they do for the benefit of anything else. They perform their functions based on their inherent abilities- whether that is for N, P, K, S, Fe or any other crop nutrient- by creating more plant available nutrition. Our 25+ years of in-house experience has given us the upperhand in developing foundational microbial products that deliver those specific capabilities to the soil and the plant in acquiring their nutritional needs. This is when the true upside potential is reached.

Thank you to our current customers for your ongoing support, and welcome to those of you interested in gaining more knowledge in this exciting field.



**Bodie Kitchel**

*National Director of Agronomy*

# TABLE OF CONTENTS

## CORN

- 4 Environoc 401**
  - Nitrogen Tissue Testing
  - Central Valley Co-op Replicated 401 Trial
  - Elite Seed 401 Trial
- 5 Environoc 401**
  - Fogarty Environoc 401 Test Plot
  - Storby Seed 401 Trial
- 6 BD-BioCast**
  - Northern Iowa BD-Biocast Trial
  - GROWER WIN: Ethan Tanner, Union City, TN
- 7 BD-BioCast**
  - Iowa Soybean Association Trial
  - GROWER WIN: Buena Vista County, IA
- 8 MeltDown**
  - Storby Seed 2-Year MeltDown Trials
  - GROWER WIN: Central Indiana
- 9 MeltDown**
  - MeltDown 2020 Spring Applied
- 10 MeltDown**
  - Southern Illinois MeltDown Trials
- 11 GROWER WIN**
  - Fishman Farms, Cherokee County, IA
- 12 MeltDown + Environoc 401**
  - In-House Multi-Site Trials
- 13 MeltDown + Environoc 401**
  - In-House Multi-Site Trials (Continued)
  - GROWER WIN: Northwest Iowa Grower
- 14 BW-Advance**
  - Nebraska Grower BW-Advance Test Plot
  - GROWER WIN: Hobbs Farms, Northern Alabama
- 15 3-Year Biodyne Trial**
  - Benton Huberts In-House Trial Overview
  - 3-year Yield Averages
- 16 3-Year Biodyne Trial**
  - 2020 Soil Results
- 17 3-Year Biodyne Trial**
  - 2021 Soil Results
- 18 Environoc 401**
  - Central Valley Co-op Replicated 401 Trial
  - Buckeye Ag Microbial Product Soybean Testing

## SOYBEANS

- 19 Environoc 401**
  - Kenneth Diehl Ag Demonstration Plots
  - GROWER WIN: Northwest Iowa Grower
- 20 Environoc Seed Treatment**
  - Gold-Eagle Cooperative Latham Hi-Tech Seed Trial
  - Soybean Split Row Planter Seed Treatment Trial
- 21 Environoc Seed Treatment**
  - Over-Treating Seed Treatment Trial
  - ICIA Seed Treatment Germination Test
- 22 MeltDown + Environoc 401**
  - In-House Multi-Site Trials
- 23 MeltDown + Environoc 401**
  - In-House Multi-Site Trials (Continued)
  - Hillebo MeltDown + 401 Trials
  - GROWER WIN: Clay County, Nebraska
- 24 Multi-Products**
  - Grower Biostimulant Trials
  - Storby Seed PiKSi Dust Trial

## MULTI-CROPS

- 25 Wheat**
  - Twin Rivers Ag-Benson Farms Trial
  - Grower BW-Advance Trial
- Alfalfa**
  - Grower BW-Advance Trial
- 26 Sorghum**
  - Stabel Family Farms Environoc 401 Trial
  - GROWER WIN: Southeast Mississippi Peanut Grower
- 27 Potatoes**
  - GROWER WIN: Blake Matthews, Matthews Land & Cattle

## OTHER

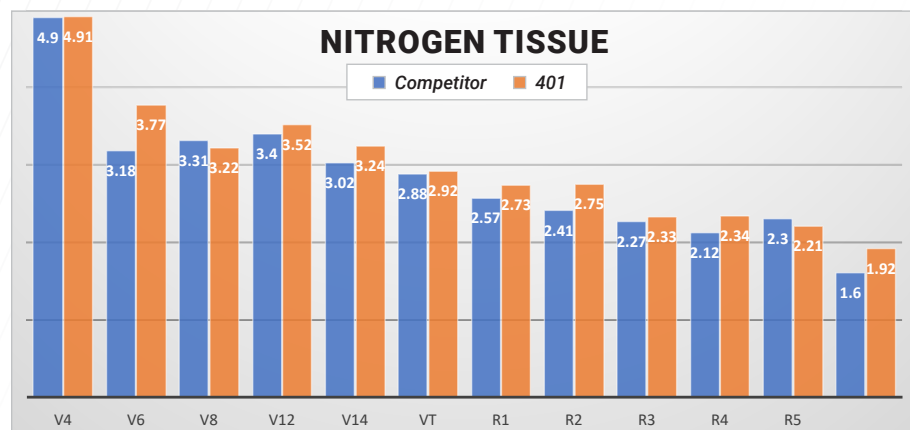
- 28 Field Observations**
- 30 Additional Resources**



# Environoc 401

## SEASON LONG NITROGEN TISSUE TESTING

Environoc 401 vs Competitor



YIELD RESULTS	
Environoc 401:	278 BPA
Competitor:	272.6 BPA
<b>+5.4 BPA ADVANTAGE</b>	

NITROGEN ADVANTAGE	
<b>+5.3% N with 401</b>	

Corn Hybrid: DKC 64-32

## CENTRAL VALLEY CO-OP REPLICATED 401 TRIAL

6 Replicated Plots with Environoc 401  
& Check Strips | Nebraska

ENVIRONOC 401 (16 oz/Acre)	
Average Difference from Check:	14.1
Average % Change in Yield:	5.4%
Average Revenue Change \$/Acre:	\$55.30
Average Net Return \$/Acre:	\$47.80

## ELITE SEED 401 TRIAL

Environoc 401 vs Untreated | Effingham, Illinois | 2020



YIELD RESULTS	
Environoc 401:	231 BPA
Untreated:	219 BPA
<b>+12 BPA ADVANTAGE</b>	

Corn Hybrids: DKC 64-34

# Environoc 401



## FOGARTY ENVIRONOC 401 TEST PLOT

Environoc 401 + Starter vs Starter Only vs Untreated | Walthill, Nebraska | 2021

#	Company	Product	Treatment	Row Width	Row Length	Harvest Weight	Moisture %	Yield B/A at 13%
1	Pioneer	P1197AM	No Starter Treatment	240	812	5276	13.7	256.57
2	Pioneer	P1197AM	Starter Only	240	812	5398	13.4	263.41
3	Pioneer	P1197AM	Environoc 401 + Starter	240	812	5658	14.2	273.55
4	Pioneer	P1185AM	Environoc 401 + Starter	240	812	5802	15.9	274.95
5	Pioneer	P0095AM	Environoc 401 + Starter	240	812	5662	14.9	271.51
6	Pioneer	P0908AML	Environoc 401 + Starter	240	812	5584	14.6	268.71
7	Pioneer	P1082AM	Environoc 401 + Starter	240	812	5612	14.9	269.11
8	Pioneer	P1237AM	Environoc 401 + Starter	240	812	5912	15.3	282.17
9	Pioneer	P1359AM	Environoc 401 + Starter	240	812	5874	15.8	278.70
10	Pioneer	P1366AM	Environoc 401 + Starter	240	812	5854	15.3	279.40
11	Pioneer	P1563AM	Environoc 401 + Starter	240	812	5944	16.1	281.01
12	Pioneer	P1548AM	Environoc 401 + Starter	240	812	5836	17.7	270.65
13	Pioneer	P1197AM	Environoc 401 + Starter	240	812	5730	18.0	264.76

Date Planted: 5/8/2021

Date Harvested: 11/7/21

Irrigation: None

Previous Crop: Soybeans

Planting Population: 33,000

### YIELD RESULTS

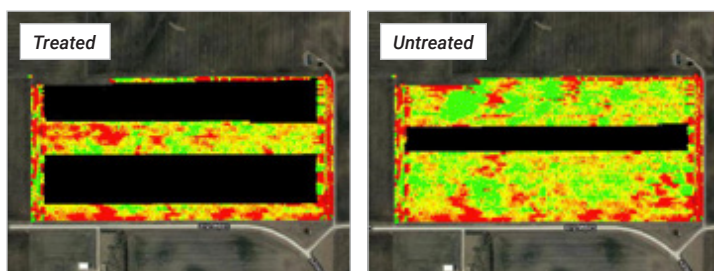
Environoc 401 + Starter: 274.05 BPA  
 Starter Only: 263.41 BPA  
 No Starter: 256.57 BPA

**+17 BPA ADVANTAGE  
OVER NO STARTER**

**+10.6 BPA ADVANTAGE  
OVER STARTER ONLY**

## STORBY SEED 401 TRIAL

Environoc 401 vs Untreated | Northern Iowa



### YIELD RESULTS

Environoc 401: 240.10 BPA  
 Untreated: 230.92 BPA

**+9.28 BPA ADVANTAGE**

Moisture: 16.31%

43.29 acres of Environoc 401 vs

12.36 acres of Untreated

# BD-BioCast

## NORTHERN IOWA BD-BIOCAST TRIAL

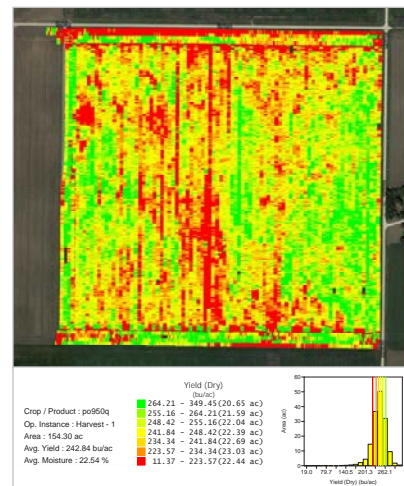
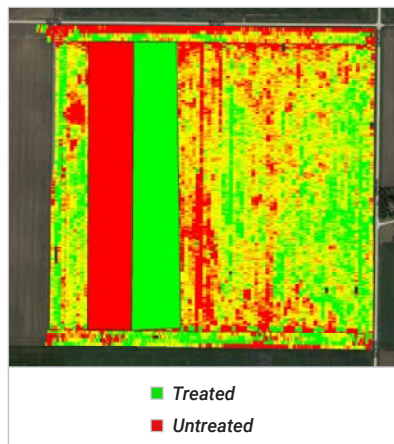
**BD-BioCast Treated with Post-Herbicide (V6-V7) vs Untreated** | Northern Iowa | 2021

### YIELD RESULTS

BD-BioCast: 243.70 BPA

Untreated: 238.13 BPA

**+5.6 BPA ADVANTAGE**



## GROWER WIN

Discover the BW Difference

### ETHAN TANNER / UNION CITY, TN

#### A Consistent Winner.

BW Fusion has had the pleasure of working with one of the most consistent corn producing families in Tennessee. Elwin Tanner started entering the National Corn Growers Contest years ago. His passion and success has inspired his son, Ethan Tanner, to continue breaking through barriers in their operation.

Ethan has used BW Fusion products the last two years. High yield results in 2020 were 296.7 BPA and placed first in the state minimum tillage category. This year, Elwin Tanner won Tennessee Dryland No Till with a yield of 315.94 BPA. Ethan claimed Tennessee Dryland Minimum Till with a yield of 312.72 BPA.

We sincerely thank Ethan and Elwin for the opportunity to work with them and for their trust in the BW Fusion products.



**From Bodie Kitchel, National Director of Agronomy:** Thanks to social media and Brad Brookshire of Kentucky, we were fortunate to meet Ethan. Ethan is the kind of grower I love to work with, as he is always challenging and focused on the next hurdle and how to overcome it. Ethan makes me a better agronomist through our collaboration and challenging each other on all things crops.

# BD-BioCast



## BD-BIOCAST & 401

BD-BioCast is a biostimulant technology containing an Organic Acid profile along with an Amino Acid profile derived from plant protein hydrolysates, paired with the proprietary, best-in-class Environoc 401. This product is designed for producers requiring broadcast application.

## IOWA SOYBEAN ASSOCIATION TRIAL

**Treated with BD-BioCast  
vs Untreated**

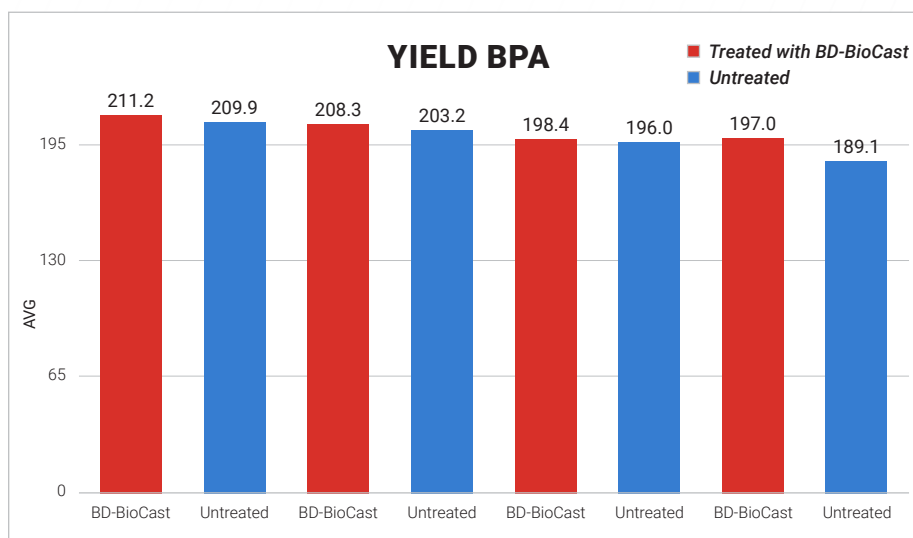
Clay County, Iowa | 2019

### YIELD RESULTS

BD-BioCast: 203.7 BPA  
Untreated: 199.6 BPA

**+4.1 BPA ADVANTAGE**

Crop Management Trial  
comparing Biodyne BD-BioCast  
at 32 oz/acre vs Untreated on  
a corn following soybean rotation.



**GROWER WIN**  
Discover the BW Difference

## BUENA VISTA COUNTY, IA

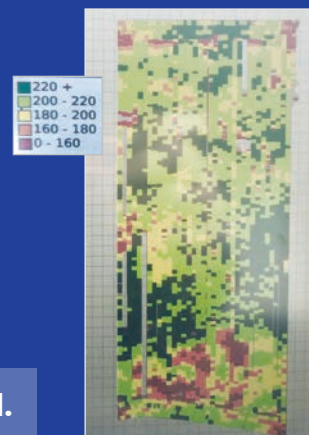
**BW Products: BD-BioCast Plus applied at V4 - V5**

Corn following soybeans.

Planted: 4/28/21

Planting Population: 34,500

Fertility History: Chicken litter every other year; pre-emerge & y-drop 32% + ATS



**Personal yield record on this grower's farm. +41 BPA over field's APH.**



# MeltDown

## STORBY SEED 2-YEAR MELTDOWN TRIALS

MeltDown Spring Application + 32% vs 32% Only | Northern Iowa

### YEAR 1



MELTDOWN + 32%		
CLIMATE FIELDVIEW Field Region Summary		
HANSON EAST 32% + MeltDown November 7, 2019		
31.1 ACRES	21.7 MOISTURE	229 YIELD (BPA)

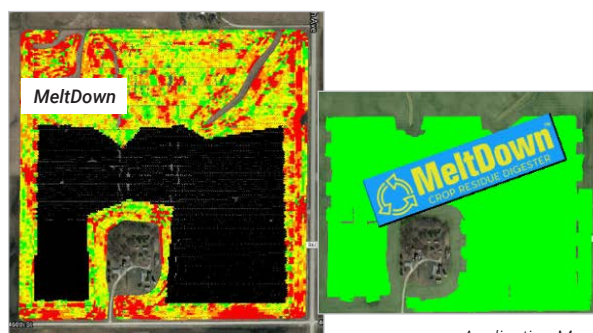
32% ONLY		
CLIMATE FIELDVIEW Field Region Summary		
HANSON EAST No MeltDown November 4, 2019		
38.5 ACRES	21.8 MOISTURE	206 YIELD (BPA)

### YIELD RESULTS

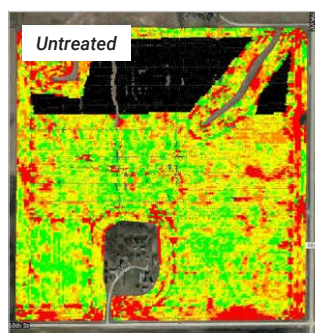
MeltDown + 32%: 229 BPA  
32% Only: 206 BPA

**+23 BPA ADVANTAGE**

### YEAR 2



Total Area: 19.74 acres  
Moisture: 16.43%  
Yield (dry): 217.45 BPA



Total Area: 19.74 acres  
Moisture: 16.43%  
Yield (dry): 217.45 BPA

### YIELD RESULTS

MeltDown: 231.50 BPA  
Untreated: 217.45 BPA

**+14.05 BPA ADVANTAGE**  
SECOND YEAR OF + 14 BPA

**GROWER WIN**  
Discover the BW Difference

## CENTRAL INDIANA

BW Products: EnviroNoc 401, BioZinc, SeaAmino (all in-furrow)

Corn following soybeans.

Fertility & Field Management History:

Variable rate potash, phosphorus & lime in spring

Applied EnviroNoc 401, SeaAmino, BioZinc & water in-furrow

2x2 application of ATS, 28% and 10-34-0

Sidedress 28% + ATS

Fungicide & insecticide at tassel

This year resulted in a best-ever yield of 270 BPA across the scales. The former best for this field was 218 BPA, and the previous best for the farm was 248 BPA.



# MeltDown



## MELTDOWN 2020 SPRING APPLIED TESTING: V3 SOIL SAMPLE

**Indicator Complete Soil Testing** | Zone 1: MeltDown Zone 2: No MeltDown

BW-Fusion MeltDown Zone Testing			
Nutrient	Zone 1 (MeltDown & 401)	Zone 2 (Control, 401 Only)	Results (% Change)
HT3 24 Hour CO <sub>2</sub>	32.9	21.3	<b>54.5%</b>
VAST	24.0	18.0	<b>33.3%</b>
H <sub>2</sub> O Nitrates	9.8	6.9	<b>42%</b>
H <sub>2</sub> O Amoniacal	25.8	22.0	<b>17%</b>
Slan	161.3	148.8	<b>8%</b>
C:N Ratio	18.8	18.1	<b>4%</b>
WEON	13.3	12.1	<b>10%</b>
Inorganic N	35.6	28.9	<b>23%</b>
WEOC	139.2	122.0	<b>14%</b>
Total Est. N Release	45.3	35.3	<b>28%</b>
H3A P	17.2	13.5	<b>27%</b>
P Saturation	84.4	79.1	<b>7%</b>
H3A K	33.1	28.3	<b>17%</b>
H3A Calcium	971.7	756.9	<b>28%</b>
CEC	29.9	30.0	<b>0%</b>

Applied on April 4 to soybean stubble.

Samples were pulled the first week of June or 7-8 weeks post-application.

## MELTDOWN FIELD PROOF

### 12 Day Post Apply



### 3 Weeks Post Apply



# MeltDown

## SOUTHERN ILLINOIS MELTDOWN TRIALS

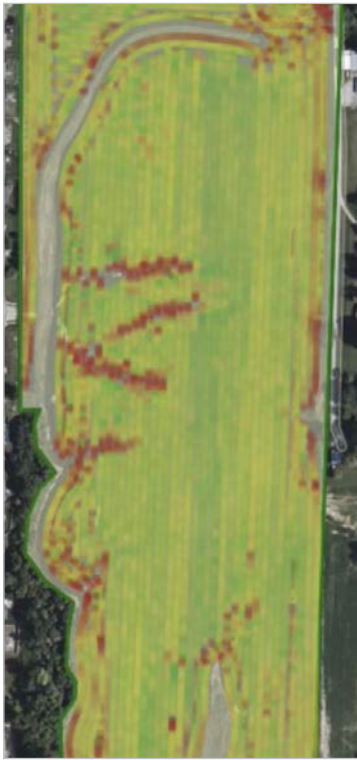
MeltDown Treated vs Untreated 1 vs Untreated 2 | Southern Illinois | 2021

### MELTDOWN TRIAL 1

#### YIELD RESULTS

MeltDown Treated: 305 BPA  
Untreated 1: 276 BPA  
Untreated 2: 239 BPA

**+29 BPA ADVANTAGE**



### MELTDOWN TRIAL 2

#### YIELD RESULTS

MeltDown Treated: 281 BPA  
Untreated 1: 265 BPA  
Untreated 2: 255 BPA

**+16 BPA ADVANTAGE**



## FISHMAN FARMS | CHEROKEE COUNTY, IA

- Farm acres located in severe drought
- Corn (110-day) was planted the end of April following soybeans
- 3-year history of fall-applied Biodyne MeltDown & Spring BD-BioCast
- Achieved corn yields between 240-280 BPA
- Only 157 lbs of commercial N & 0 lbs of P applied



### BW FUSION PROGRAM

- MeltDown: Fall Applied
- BD-BioCast with 32%
- BW-Advance
- BW-Respite & BW-SeaAmino
- BW-Boron 7% & Slow Release N
- Veltyma & Generic Capture
- Urea, AMS & Potash

& Supported by **AGRONOMY 365**

**Even under heavy drought stress, with proper nutrition, biology and stress mitigation the grower achieved lifetime best fields and yields.**

### GROWER ADVANTAGES

- Consistent corn yield between **240-280 BPA**
- 30 BPA better than previous corn APH
- **Only 157 lbs** of commercial **N** applied, **0 lbs of P**, 75 lbs of K
- October 10 Haney soil tests showed **180 lbs of available N**
- **In-season stress mitigation**
- **Strong as steel stalk quality**, ideal limegreen color at harvest, incredible growth & height



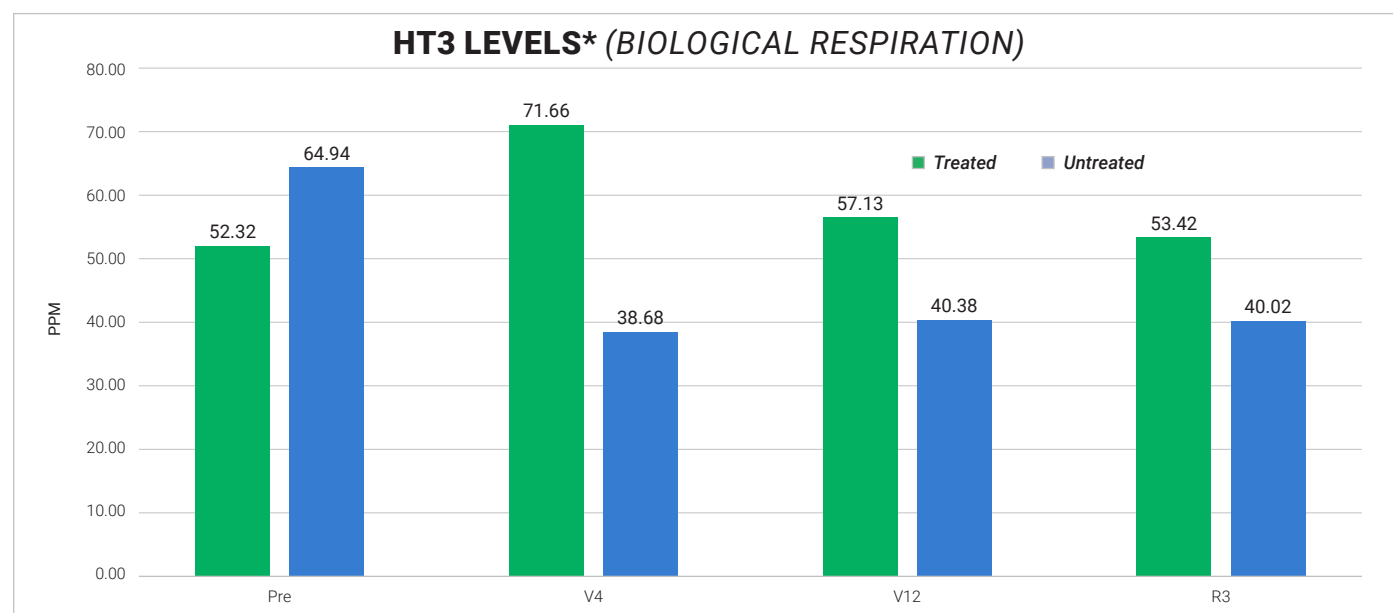
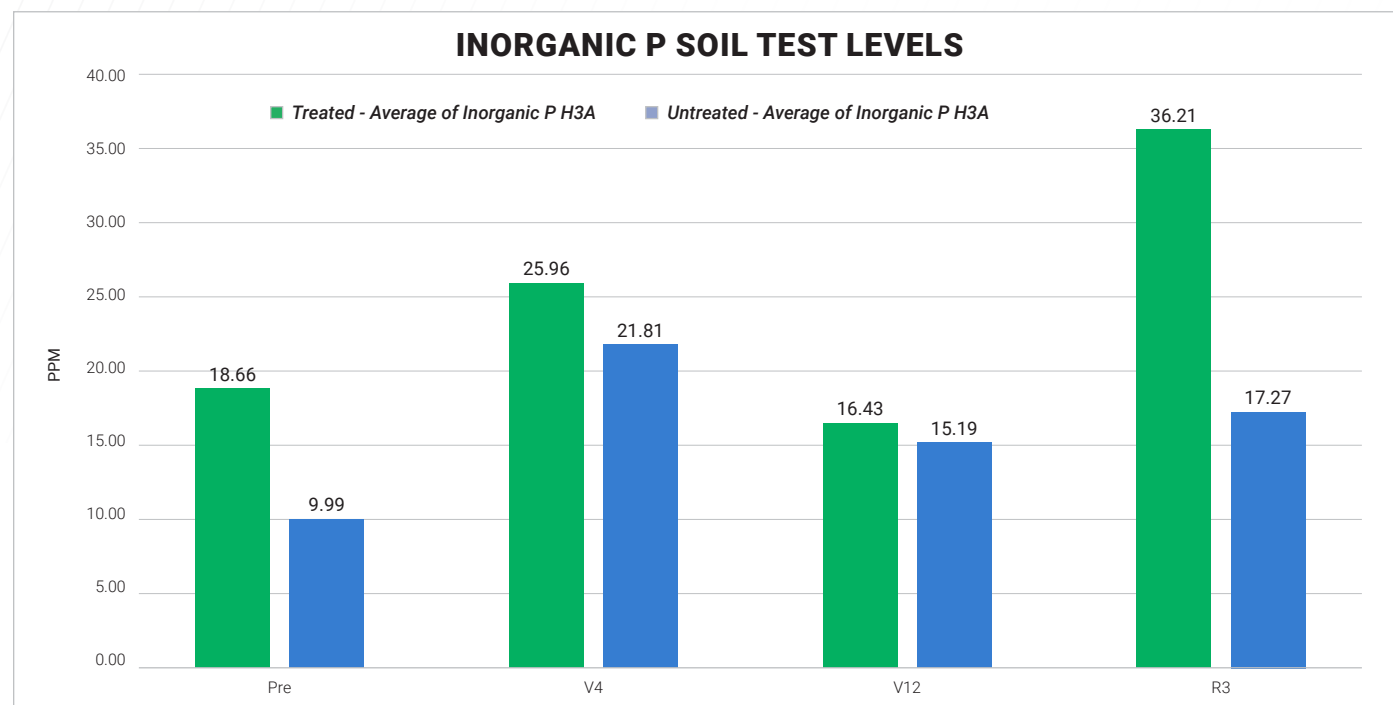


# MeltDown + Environoc 401

## IN-HOUSE MELTDOWN + ENVIRONOC 401 MULTI-SITE TRIALS

Soil Test Levels: Treated vs Untreated | Iowa

Application Timing: Environoc 401 in-furrow, MeltDown pre-emerge



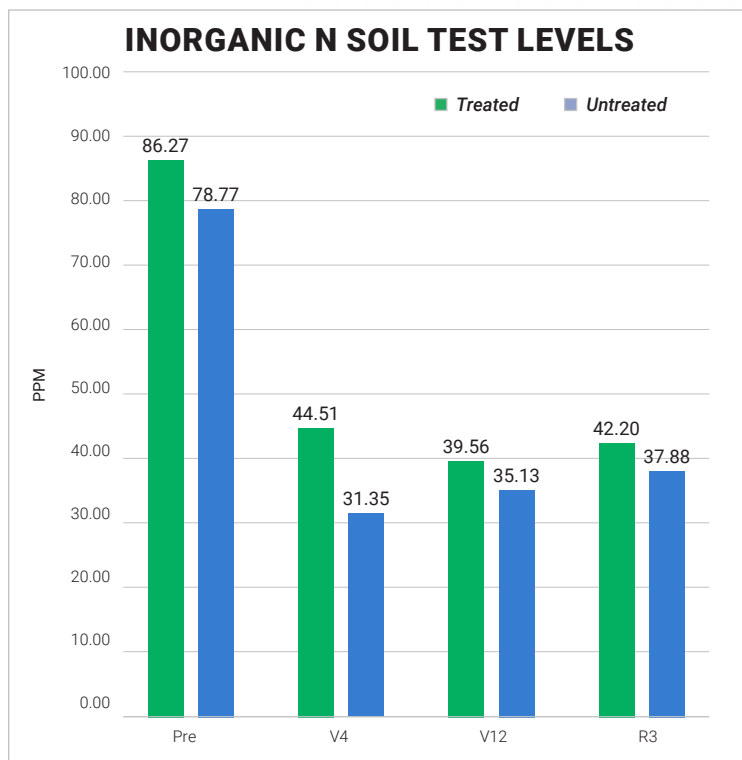
\*24 hr measurement of biological respiration reported as CO<sub>2</sub>

**H3A TESTING** as used in the charts above, uses root exudates and deionized water to measure the available pool of the specific nutrient being tested for. Because the H3A extraction mimics root exudates and more closely resembles the effects of nature than the acid use in a standard soil test, it provides a much better representation of nutrient availability.

# MeltDown + Environoc 401

## IN-HOUSE MULTI-SITE TRIALS (CONTINUED)

Soil Test Levels: Treated vs Untreated | Iowa



### INORGANIC NUTRIENT MEASUREMENTS

As used in the charts shown on this page and those to the left, the word 'inorganic' refers to the form of the noted nutrient in a plant available form.

**Application Timing:** Environoc 401 in-furrow, MeltDown pre-emerge

## GROWER WIN

Discover the BW Difference

### NORTHWEST IOWA GROWER

**BW PRODUCTS:** Environoc 401, BW-JumpStart, BW-SeaAmino & BW-Humic/Fulvic 12% Liquid

Corn following corn.

Planted: 5/4/21

Planting Population: Variable Rate

Fertility History: Hog manure every 3-4 years, Urea & AMS at VE & V5-V7

**This grower experienced a +56 BPA over this field's historic APH yield. This was a personal field record that brought consistency across the field as well.**



# BW-Advance

## NEBRASKA GROWER BW-ADVANCE TEST PLOT

**BW-Advance vs Competitor vs Untreated** | Buffalo County, Nebraska | 2021

#	Treatment	Moisture %	Yield BPA at 13%
1	Untreated	18.3	266
2	BW-Advance	19.1	269
3	BW-Advance	20.0	262
4	Competitor	19.9	261
5	BW-Advance	18.2	235
6	Competitor	18.1	230
7	Competitor	17.8	223
8	Untreated	18.0	232

### YIELD AVERAGES

**BW-Advance:** 255.33 BPA  
**Competitor:** 238 BPA  
**Untreated:** 249 BPA

**+6.33 BPA ADVANTAGE**

**Date Planted:** 5/1/2021

**Date Harvested:** 10/6/2021

**Tillage:** Strip-till

**Previous Crop:** Corn

**Planting Population:** 32,000

**Fertility Program:** Manure 1-year prior; 32% through irrigation pivot; 250# of Nitrogen

## GROWER WIN

Discover the BW Difference

### HOBBS FARMS

#### NORTHERN ALABAMA

#### BW PRODUCTS:

**BD-BioCast Plus** at first post-planting herbicide  
**PiKSI Dust Plus** at second post-planting herbicide  
**BW-Advance** with fungicide application

Soybeans following Wheat.

Planted: 6/15/21

Fertility History: 1 ton of poultry litter applied prior to wheat planting



#### IN MEMORIAM

BW Fusion would like to express our sympathies to the Hobbs Farm Family for the loss of Jesse Hobbs. His support of BW Fusion and commitment to farming for the better will be remembered.

#### YIELD & COST ADVANTAGE

**Untreated:** 47 BPA  
**BW Fusion Program:** 56.8 BPA

**BW ADVANTAGE** +9.8 BPA  
**Market Price** \$11.75/bu\*  
**Gross \$/Acre** \$115.15

**Based on a total cost of \$43.50/acre for three BW Fusion products applied, the grower experienced a net \$71.65/acre additional income.**





# 3-Year Biodyne Trial

## BENTON HUBERTS IN-HOUSE TRIAL

**MeltDown & Environoc 401 Treated Fields** | Guthrie County, Iowa | 2019-2021

Corn on Corn | Soil Type: Colo-Judson Complex, Fine Silty Clay Loam, Mod. Well Drained

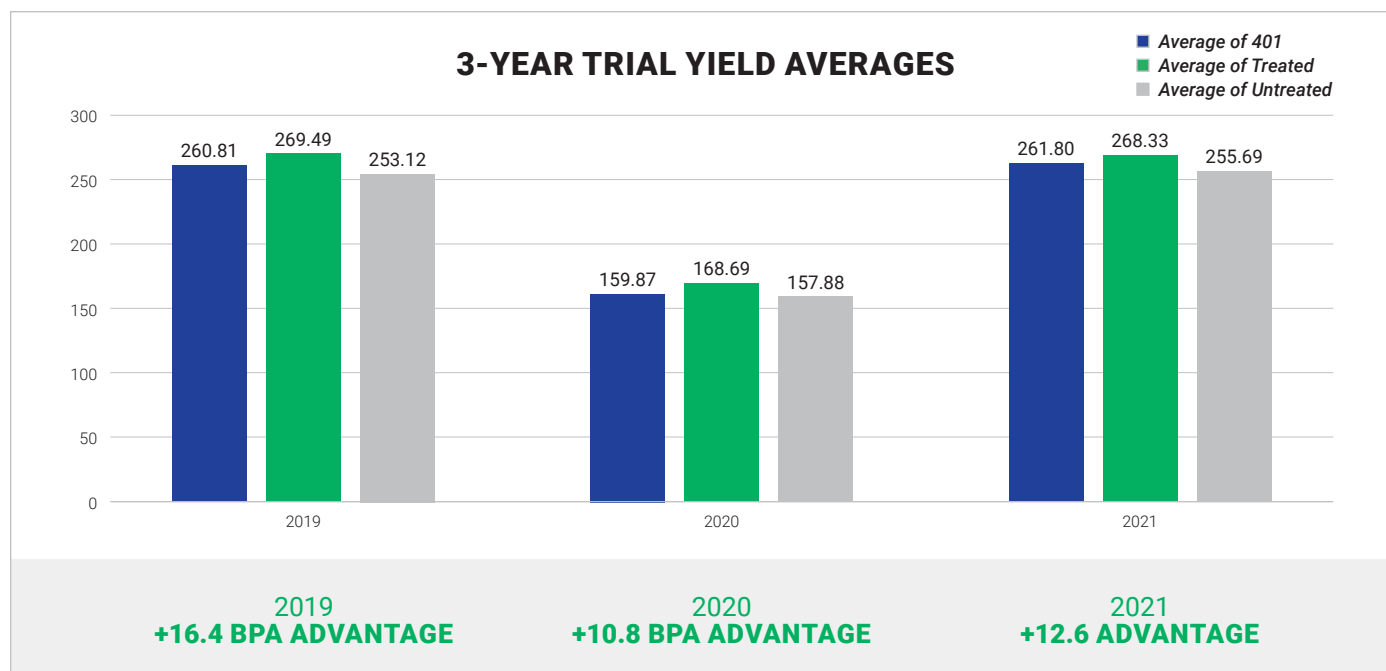
### ABOUT THE TRIAL

The Benton Huberts trial, showcased below on the next two pages, is an ongoing 3-year dataset looking at the benefits of Environoc 401 used in conjunction with MeltDown on a corn-on-corn rotation in central Iowa. In this trial, Environoc 401 has been applied in-furrow, and MeltDown has been broadcast applied in the spring.

On this farm, the corn stalks are baled in the fall, used to bed hog barns, and reapplied to the field in the spring with manure from the barns. MeltDown has traditionally been used as a tool to breakdown crop residue and cycle nutrients back into the soil. When applied in the spring as a partner to Environoc 401, MeltDown will continue to break down complex carbons like cellulose, lignin, and chitin, as well as aiding Environoc 401 to cycle nutrients such as ammonifying organic Nitrogen, fixing atmospheric

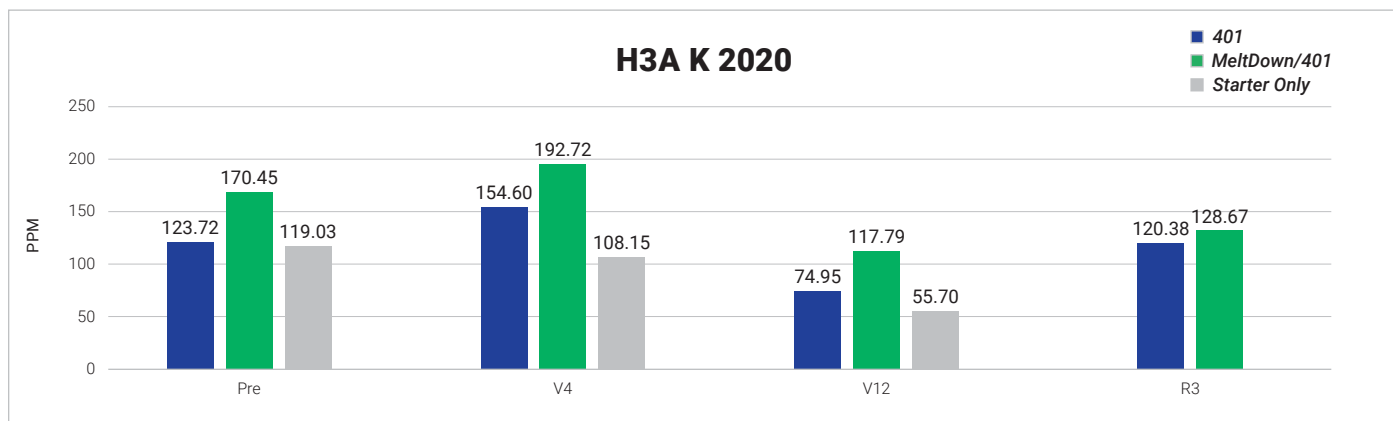
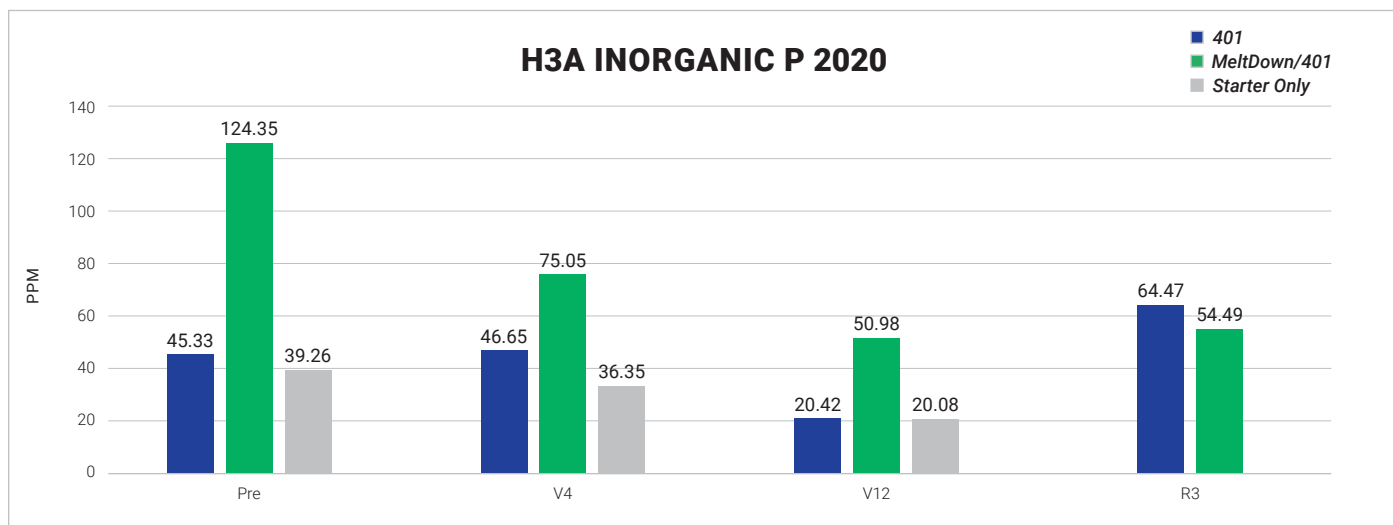
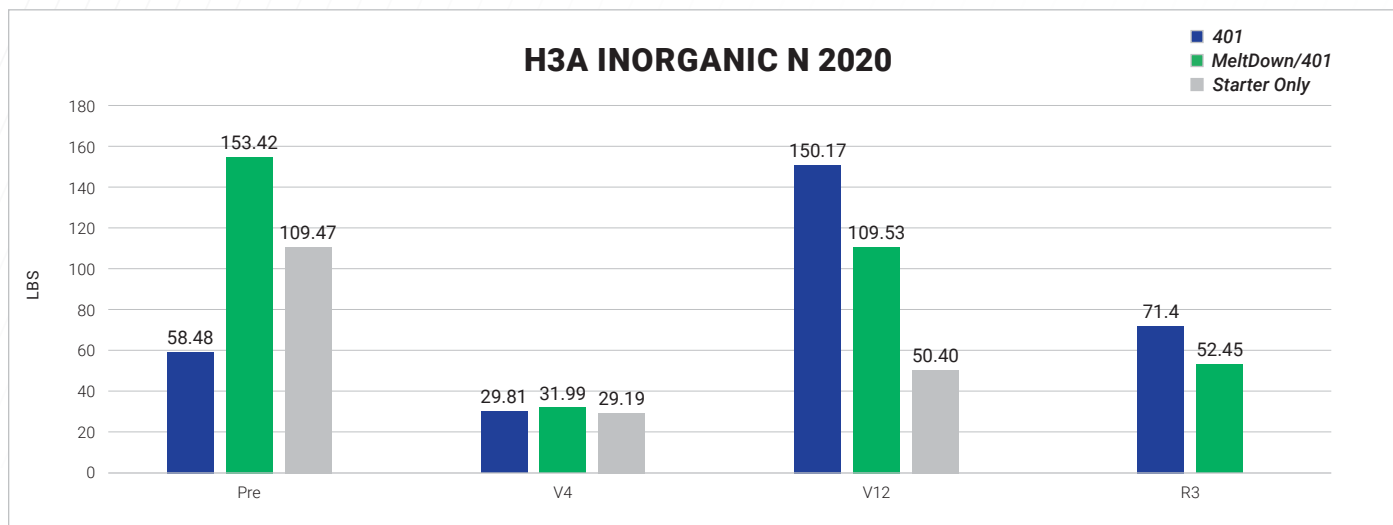
Nitrogen, and solubilizing Phosphorus, Potassium, and other growth-attributing nutrients. We believe that the combination of these two biology teams are truly changing and creating a more biologically diverse soil, that will better cycle nutrients to crop.

- Over the course of this trial, we have seen **double digit yield increases all three years.**
- No commercial P or K has been applied since the start of the trial.
- In 2019, rainfall on the trial was 5-7 inches above average. Whereas in 2020, the rain stopped and the trial was 10 inches below the average annual rainfall. Yet plant available potassium, phosphorus and nitrogen were still significantly more available across all three seasons of the trial when using Environoc 401 or a 401/MeltDown combination.



# 3-Year Biodyne Trial

## 2020 SOIL RESULTS

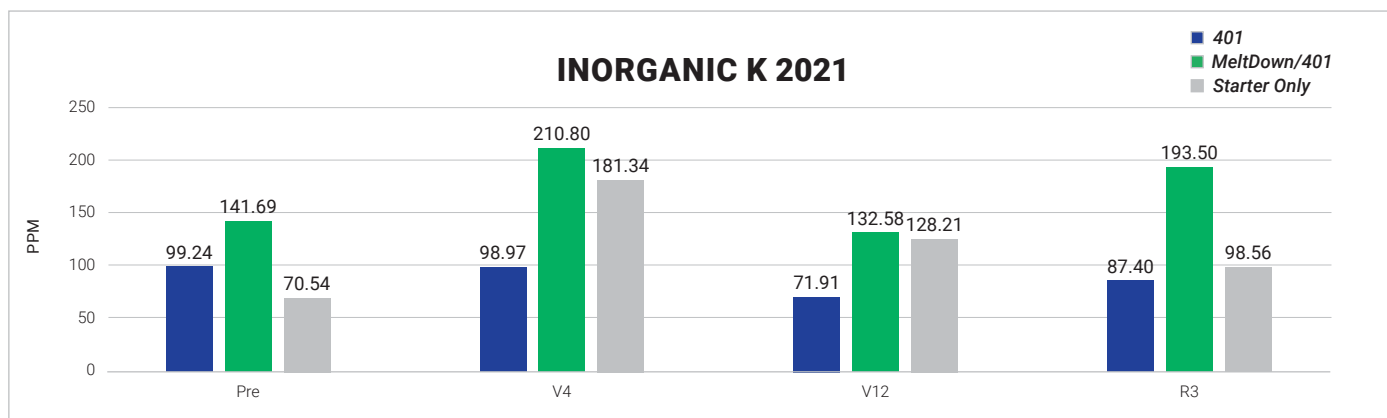
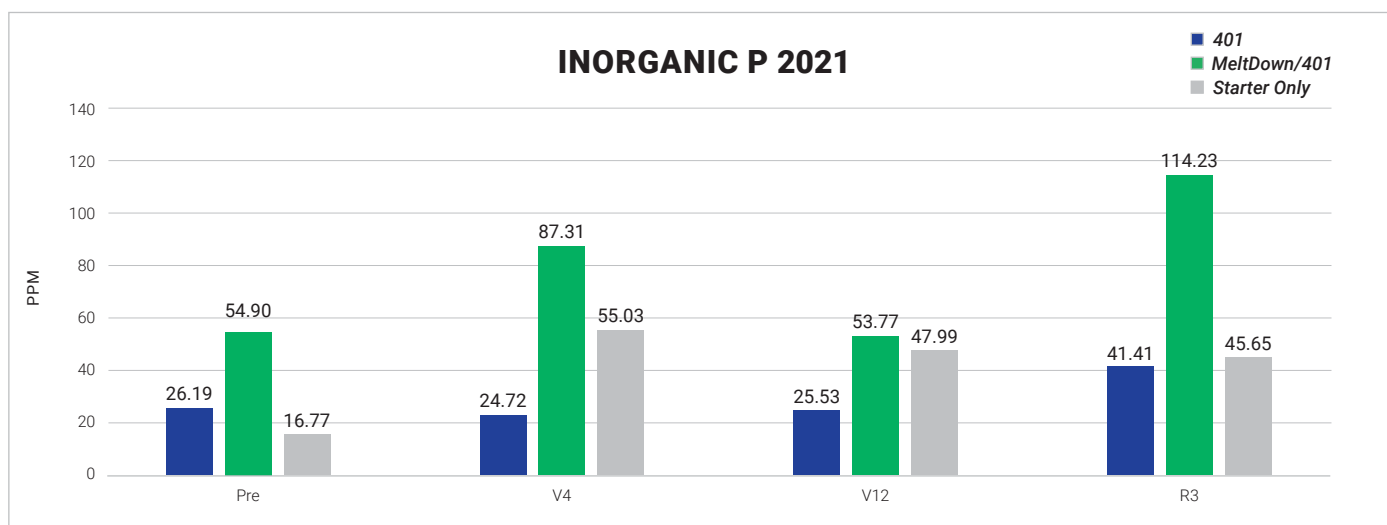
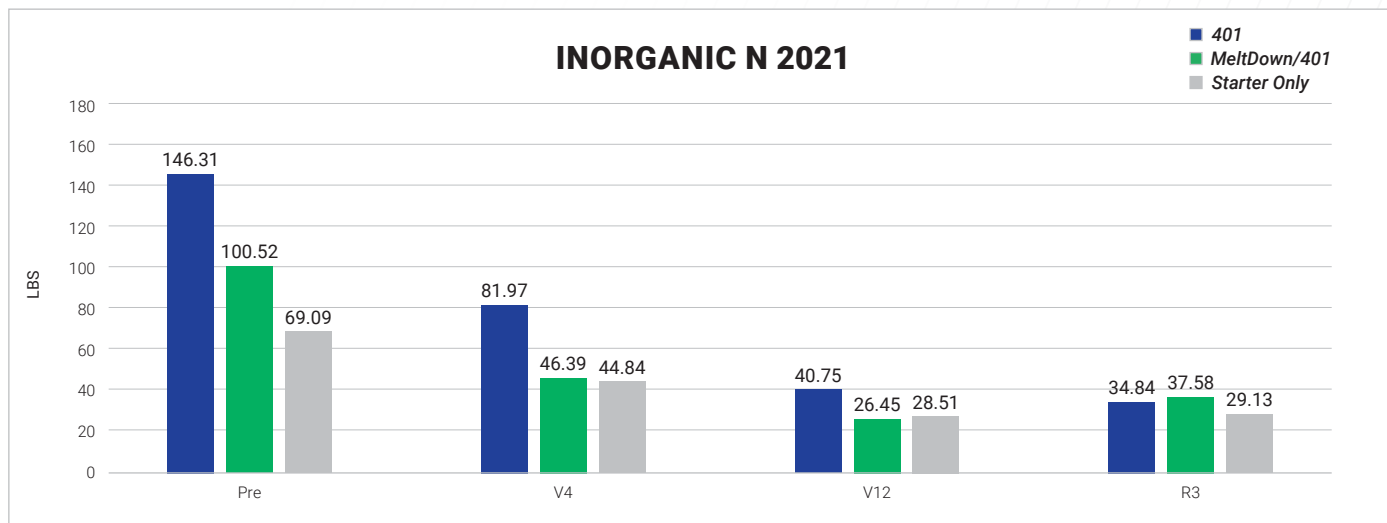


# BENTON-HUBERTS IN-HOUSE TRIAL

**MeltDown & Environoc 401 Treated Fields** | Guthrie County, Iowa | 2019-2021

Corn on Corn | Soil Type: Colo-Judson Complex, Fine Silty Clay Loam, Mod. Well Drained

## 2021 SOIL RESULTS





# Environoc 401

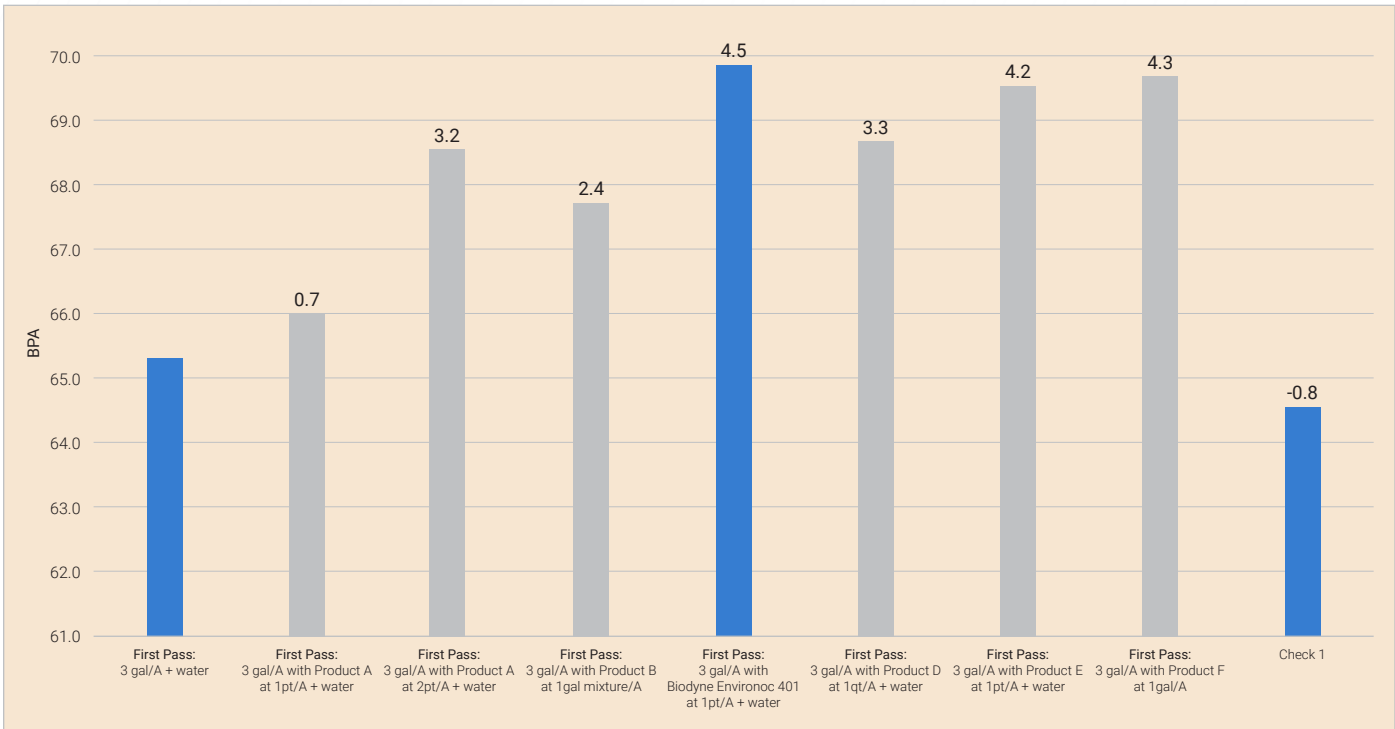
## CENTRAL VALLEY CO-OP REPLICATED 401 TRIAL

5 Replicated Plots with Environoc 401  
& Check Strips | Nebraska

ENVIRONOC 401	
Average Difference from Check:	1.7
Average % Change in Yield:	1.9%
Average Revenue Change \$/Acre:	\$19.18
Average Net Return \$/Acre:	\$10.68

## BUCKEYE AG MICROBIAL PRODUCT SOYBEAN TESTING

Environoc 401 vs 5 Additional Microbial Products | Ohio | 2017



### TRIAL ADVANTAGES

ENVIRONOC 401 WAS TOP YIELD  
PERFORMING MICROBIAL PRODUCT OUT  
OF 6 DIFFERENT PRODUCTS TESTED

**+4.5 BPA OVER CHECK ROWS**

# Environoc 401

## KENNETH DIEHL AG DEMONSTRATION PLOTS

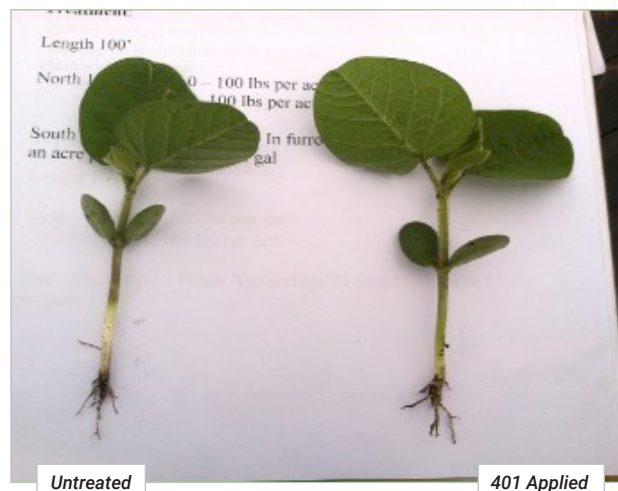
Environoc 401 In-Furrow vs Untreated | Illinois

### YIELD & COST RESULTS

South 1/2 of Field: 62.7 BPA  
Environoc 401 Treated  
In-Furrow (1 pint to an acre plus water to equal 4 gal)  
No additional fertility  
Cost of \$8.00/acre

North 1/2 of Field: 60.1 BPA  
18-46-0, 0-0-60 (100 lb/acre)  
Cost of \$52.21/acre

**COST SAVINGS OF \$44.21/ACRE  
+2 BPA YIELD ADVANTAGE**



**Seeding Rate:** 150,000 per acre

**Herbicide Program:** Pre-emerge \$25.31/acre & Post-emerge \$12.36/acre

**GROWER WIN**  
Discover the BW Difference

## NORTHWEST IOWA GROWER - 3 FIELD RESULTS

**FIELD 1:**  
**+7 BPA Advantage**  
**over 2020 & +13 BPA**  
**over 10-year Average**

**BW PRODUCTS:** BW-Advance  
applied with fungicide at R3

Soybeans following corn.

Planted: 5/7/2021

Planting Population: 160,000

Fertility: Hog manure applied

**FIELD 2:**  
**+7.5 BPA Advantage**  
**over 2020 & +10.5 BPA**  
**over 10-year Average**

**BW PRODUCTS:** BW-Advance  
applied with fungicide at R3

Soybeans following corn.

Planted: 5/6/2021

Planting Population: 160,000

Fertility: Hog manure applied

**FIELD 3:**  
**+17 BPA Advantage**  
**over 2020 & +20 BPA**  
**over 10-year Average**

**BW PRODUCTS:** BW-Advance  
applied with fungicide at R3

Soybeans following corn.

Planted: 4/30/2021

Planting Population: 160,000

Fertility: 11-52-75-20S

# Environoc Seed Treatment

## GOLD-EAGLE COOPERATIVE LATHEM HI-TECH SEED TRIAL

### Environoc Seed Treatment vs Environoc Seed Treatment + Starter vs Untreated

Humboldt County, Iowa | 2021

#	Company	Soybean	Seed Treatment	# of Rows	Row Width	Row Length	Harvest Weight	Moisture %	Yield B/A at 13%
1	Lathem	L 2193 E3	Untreated	6	30	691	940	11.9	66.7
2	Lathem	L 2193 E3	Environoc ST	6	30	691	938	12.1	66.4
3	Lathem	L 2193 E3	Environoc ST	6	30	691	930	12.2	65.7
4	Lathem	L 2193 E3	Untreated	6	30	691	880	12.0	62.3
5	Lathem	L 2193 E3	Untreated	6	30	691	870	12.1	61.6
6	Lathem	L 2193 E3	Environoc ST	6	30	691	918	12.4	64.7
7	Lathem	L 2193 E3	Environoc ST	6	30	691	888	11.9	63.0
8	Lathem	L 2193 E3	Untreated	6	30	691	880	12.0	62.3
9	Lathem	L 2193 E3	120 w/Environoc ST	6	30	691	910	12.1	64.4
10	Lathem	L 2193 E3	120 w/Environoc ST	6	30	691	918	12.1	65.0
11	Lathem	L 2193 E3	120 w/Environoc ST	6	30	691	912	12.1	64.5
12	Lathem	L 2193 E3	120 w/Environoc ST	6	30	691	926	12.2	65.5
13	Lathem	L 2193 E3	107 w/Environoc ST	6	30	691	890	12.2	62.9
14	Lathem	L 2193 E3	107 w/Environoc ST	6	30	691	900	12.3	63.5

Date Planted: 5/10/2021

Date Harvested: 10/12/21

Tillage: Conventional

Previous Crop: Corn

Planting Population: 160,000

## SOYBEAN SPLIT ROW PLANTER SEED TREATMENT TRIAL

### Environoc ST Treated vs Untreated | North Central Iowa | 2018

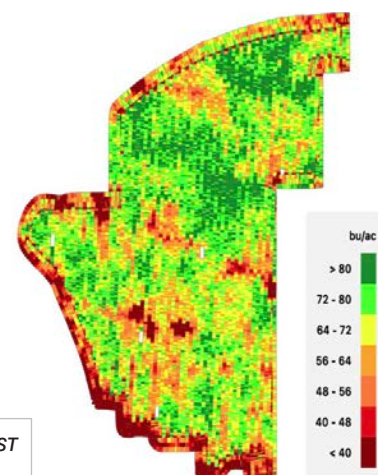
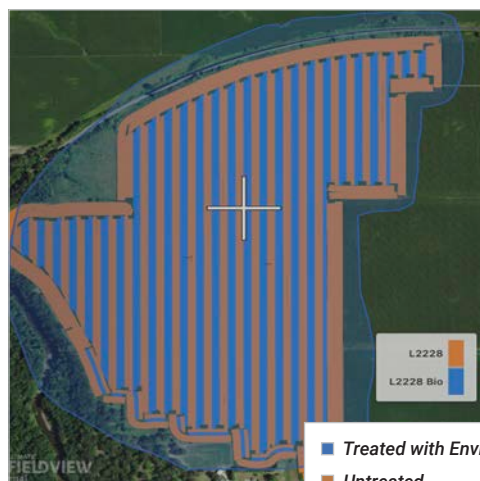
#### YIELD RESULTS

Environoc ST: 70 BPA  
Untreated: 65 BPA

**+5 BPA ADVANTAGE**

Total Area: 170.7 acres; 24 rows each

Moisture: 10.1%





# Environoc Seed Treatment

## OVER-TREATING SEED TREATMENT TRIAL

### Environoc ST Overtreated on Pioneer Premium Seed Treatment\*

South Central, Illinois | 2021

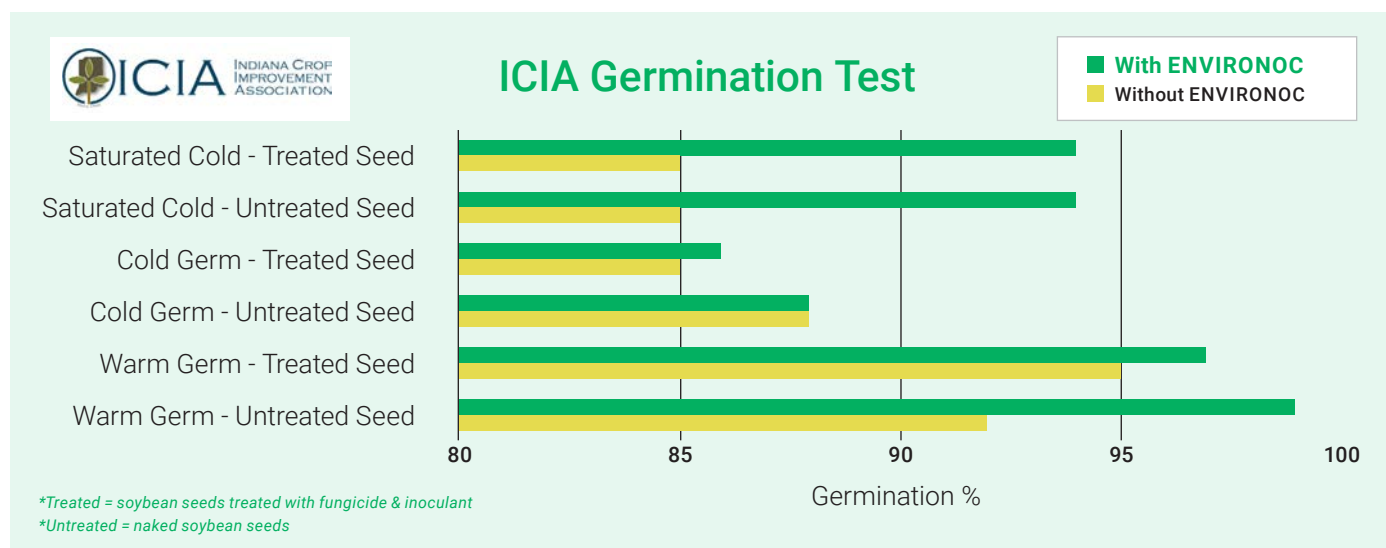
#### YIELD RESULTS (10.6% Avg. Moisture; 75.4 Total Acres)

Environoc ST + PPST*:	76 BPA
PPST, No Environoc Treatment:	75 BPA
Other Seed Variety, No Environoc Treatment:	60 BPA

**+1 BPA ADVANTAGE**



## ICIA SEED TREATMENT GERMINATION TEST



### ABOUT THE TRIAL

The germination test results shown above were done in conjunction with the Indiana Crop Improvement Association to evaluate the effects of Environoc ST on treated seed (fungicide + inoculant) and untreated seed (naked seeds). It is important to note the high germination proficiency of both treated and untreated seed applied with Environoc ST in the saturated cold

germ test, and the significant difference it shows to the seeds that were not applied with Environoc ST.

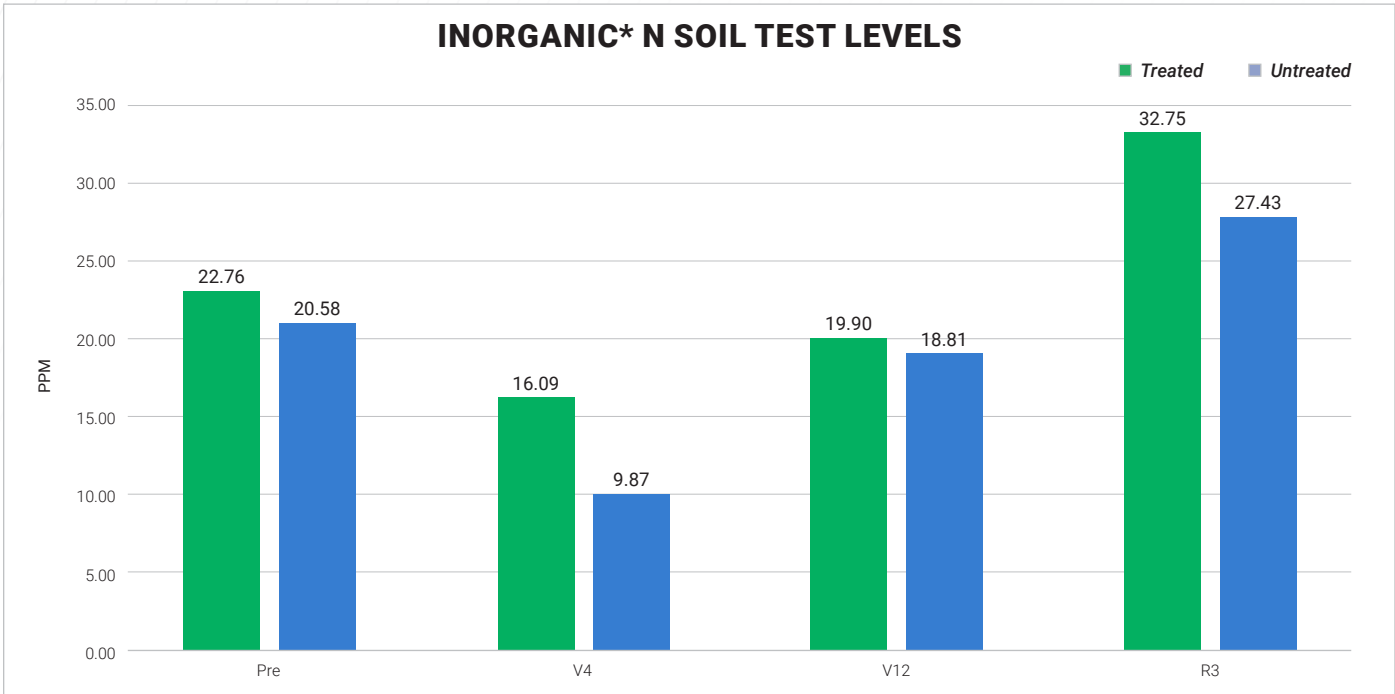
Industry standard germination percentage in corn is commonly held at 85%. Environoc ST is shown here to improve that germination percentage, increasing emergence and viability of planted seed.

# MeltDown + Environoc 401

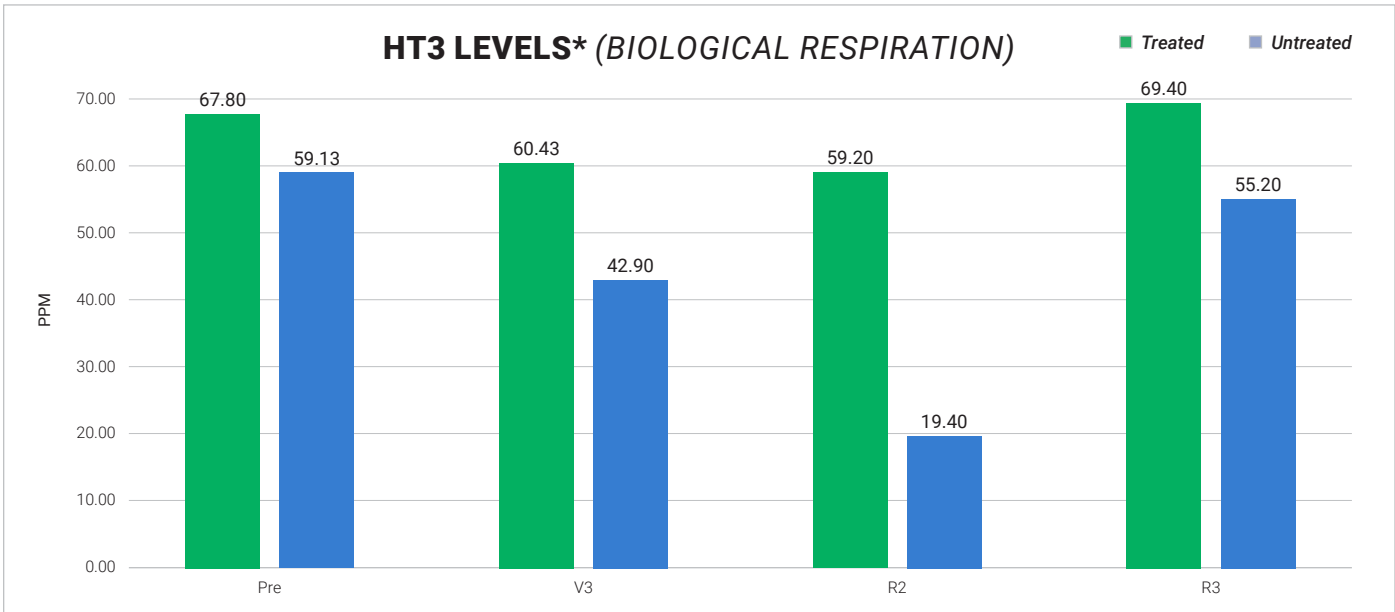
## IN-HOUSE MELTDOWN + ENVIRONOC 401 MULTI-SITE TRIALS

Soil Test Levels: Treated vs Untreated | Iowa

Application Timing: Environoc 401 in-furrow, MeltDown pre-emerge



\*As used in the charts shown above and to the right, the word 'inorganic' refers to the form of the noted nutrient in a plant available form.



\*24 hr measurement of biological respiration reported as CO<sub>2</sub>

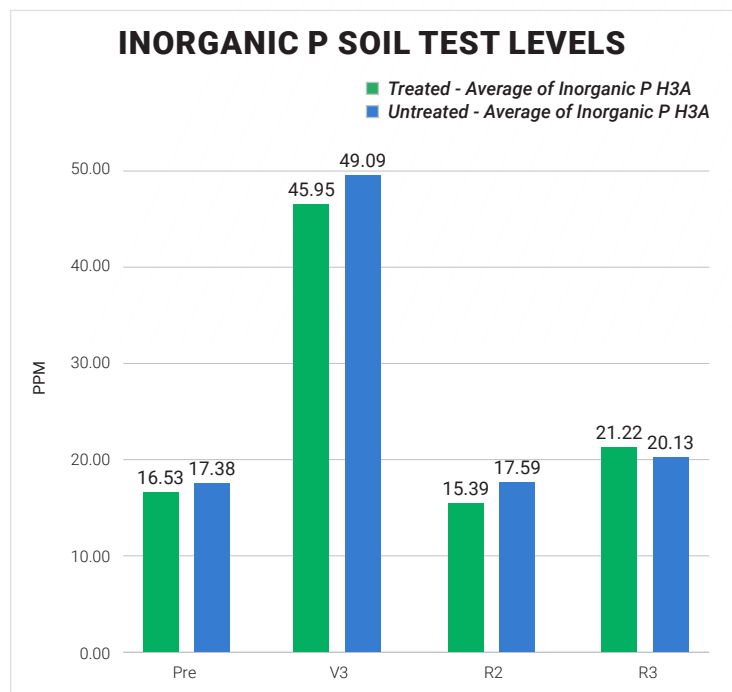
**H3A TESTING** as used in the charts above, uses root exudates and deionized water to measure the available pool of the specific nutrient being tested for. Because the H3A extraction mimics root exudates and more closely resembles the effects of nature than the acid use in a standard soil test, it provides a much better representation of nutrient availability.

# MeltDown + Environoc 401

## IN-HOUSE MULTI-SITE TRIALS (CONTINUED)

**Soil Test Levels: Treated vs Untreated** | Iowa

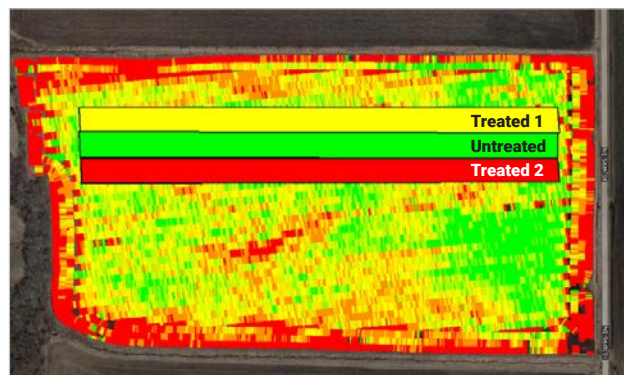
**Application Timing:** Environoc 401 in-furrow, MeltDown pre-emerge



## HILLEBO MELTDOWN + 401 TRIALS

**MeltDown & 401 Treated vs Untreated**  
Iowa | 2 Trials

TRIAL YIELD AVERAGES	
Treated 1:	83.98 BPA
Treated 2:	80.23 BPA
Untreated:	82.61 BPA



## GROWER WIN

Discover the BW Difference

### CLAY COUNTY, NEBRASKA

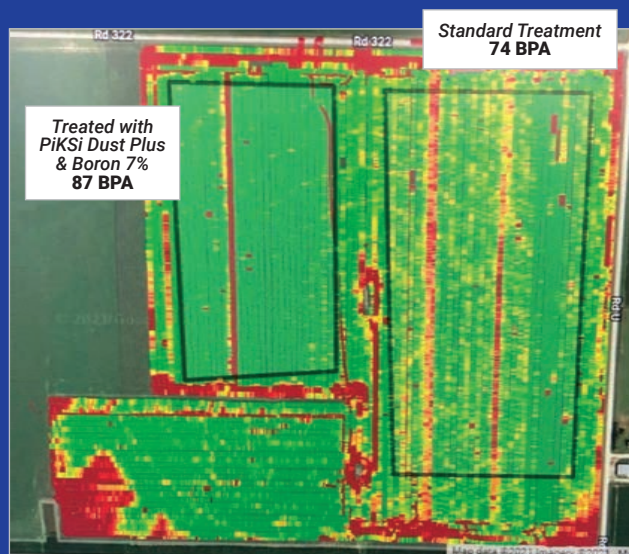
**BW PRODUCTS:** West field (as noted in photo at right) treated with PiKSi Dust Plus, BW-Boron 7% at V3-V4

Soybeans following corn.

Planted: 5/8/2021

Planting Population: 150,000

**High productivity ground in south-central Nebraska underneath pivots; but soybean yields have struggled to reach over 75 BPA. This year they reached 87 BPA average.**



# Multi-Products

## GROWER BIOSTIMULANT TRIALS

**BW-BioCast Plus, BW-Advance, & Untreated** | Northwest Mississippi | 2021



### TRIAL YIELD AVERAGES

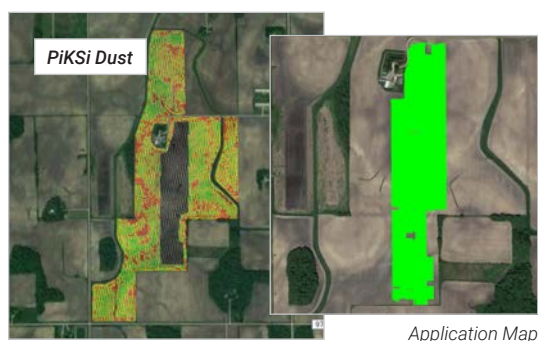
PPST* Only:	68.15 BPA
PPST + Environoc 401:	69.69 BPA
PPST + BW-BioCast Plus:	69.05 BPA
Fungicide Only:	69.25 BPA
Fungicide + BW-Advance:	69.75 BPA

*\*Pioneer Premium Seed Treatment*

## PiKSi Dust

### STORBY SEED PIKSI DUST TRIAL

**PiKSi Dust vs. Untreated** | Northern Iowa | 2021



**Total Area:** 98.74 acres  
**Moisture:** 10.7%  
**Yield (dry):** 67.50 BPA



**Total Area:** 81.27 acres  
**Moisture:** 11.09%  
**Yield (dry):** 59.28 BPA

### YIELD RESULTS

PiKSi Dust:	67.50 BPA
Untreated:	59.28 BPA

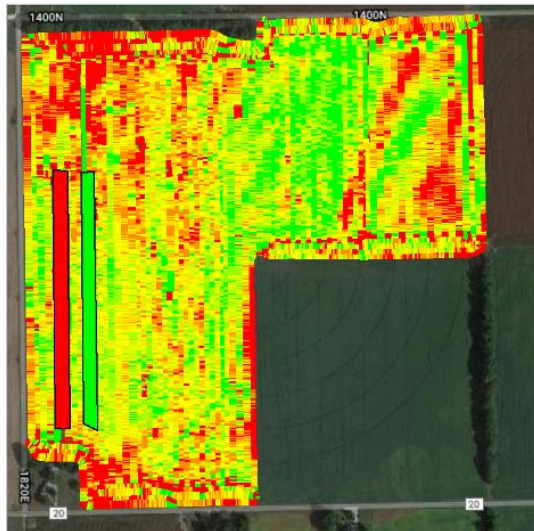
**+8.22 BPA ADVANTAGE**



# Wheat

## TWIN RIVERS AG-BENSON FARMS TRIAL

**BW-Advance & BW-Boron 7% + Fungicide vs Fungicide Only** | Southeast Illinois | 2021



### TRIAL YIELD AVERAGES

Treated: 1.265 Acres 107.54 BPA  
Untreated: 0.848 Acres 95.69 BPA

**+11.85 BPA ADVANTAGE**

## GROWER BW-ADVANCE TRIAL

**BW-Advance + Boron + Fungicide vs. Untreated** | Grant County, Oklahoma | 2021



### TRIAL YIELD AVERAGES

Treated Acres: 75 BPA  
BW-Advance, Boron &  
Fungicide at heading  
Untreated Acres: 58 BPA

**+17 BPA ADVANTAGE**

## Alfalfa **GROWER BW-ADVANCE TRIAL**

**BW-Advance + Boron 7% + PiKSi Dust Plus vs. Untreated** | 2021

Sprayed alfalfa field 4 times for a total product cost of \$81/acre  
One foliar application after every cutting for 5 total alfalfa cuttings

Treatment	Price	Avg. Yield	Total Revenue
BW Fusion Applied	\$180/ton	6.8 tons/ac	\$1224/ac
No Foliar Application	\$180/ton	5.0 tons/ac	\$900/ac

### RESULTS & ADVANTAGES

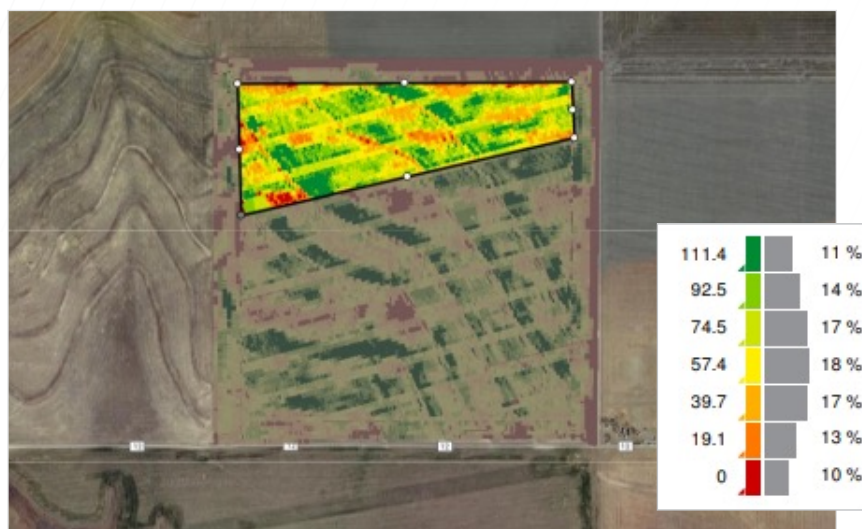
1.8 ton/acre more hay  
\$324/acre extra profit  
\$81/product cost  
**\$243/acre net profit**

# Sorghum

## STABEL FAMILY FARMS ENVIRONOC 401 TRIAL

*Environoc 401 Treated vs Untreated | Kansas | 2020*

	Treatment	Total Acres	Moisture %	Average Wet Weight (lbs/ac)	Average Dry Yield (BPA)
1	Untreated	159.5	12.3	3,672.8	65.4
2	Environoc 401 Treated	33	12	4,469.6	79.7



### YIELD RESULTS

Environoc 401 Treated: 79.7 BPA  
Untreated: 65.4 BPA

**+14.3 YIELD ADVANTAGE**

## GROWER WIN

*Discover the BW Difference*

### SOUTHEAST MISSISSIPPI PEANUT GROWER

**BW PRODUCTS:** Environoc 401 in-furrow with planter; BW-SeaAmino around fruit set

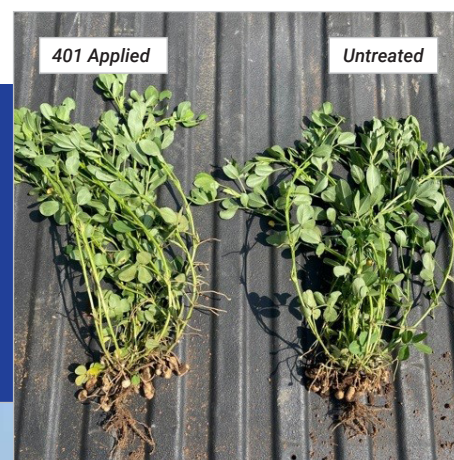
Peanuts following cotton.

Planted: 5/17/21

Fertility History: 3 ton of poultry litter in 2020 ahead of last year's cotton crop.

Vertical & strip tillage; Dryland field & 24" above average annual rainfall in 2021.

**Even with 24" above average annual rainfall in a dryland area, this grower experienced a 0.17 ton peanut yield increase.**





# Potatoes

## GROWER WIN

Discover the BW Difference

### BLAKE MATTHEWS, MATTHEWS LAND & CATTLE

#### Oakley, Idaho

Shared by Jared Cook, BW Fusion Dealer & Agronomist, Idaho:

If I had to summarize Blake Matthews into one simple phrase, it would be this by USA Astronaut Suinta Williams, "Don't get bogged down by the notions of limits. There aren't any."

Blake is a true innovator; a genuine manager guiding and directing his families row crop farm to success. Blake oversees the production of potatoes, sugarbeets, wheat, malt barley, alfalfa and corn on their farm. Blake is a true hands-on and hands-in the soil kind of manager. I've been privileged to work with Blake for over a decade now. Repeatedly I've heard from Blake, "We have to improve our efficiency. We have to be better. Our God in Heaven expects that of us." Blake has been on a continual quest to improve every aspect of the farm since the day I met him. Each year he is trying new things and test plotting to try and find that true breakthrough product or recipe.

In 2021, Blake first used BW Fusion products. Environoc 401, Meltdown, and BW Advance were the initial products selected, primarily due to their specific capabilities. Soil testing had revealed very high Organic N (WEON) numbers, and tissue testing proved a continual fight with low Boron and Iron values. Knowing the weaknesses and trusting that BW Fusion's Bodie Kitchel was right with his recommendation for these products, Blake was all in. I have always admired Blake for knowing the absolute needs of his farm, and when he has that gut feeling you get out of his way and watch what unfolds. Monitoring Blake's crops with tissue samples and in-season soil samples, we validated that the BW Fusion products performed exactly



Blake Matthews, left, and agronomist Jared Cook, right, have been working together for 10 years. In 2021, BW Fusion products were applied to Blake's potato fields.



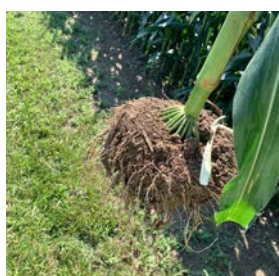
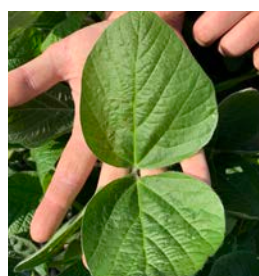
as prescribed. Blake didn't necessarily see yield gains in every crop grown, but what we did see were reductions in applied fertility. If I know Blake right, that is as good as a yield gain. That means we improved efficiency, and the yield bump is just around the corner.



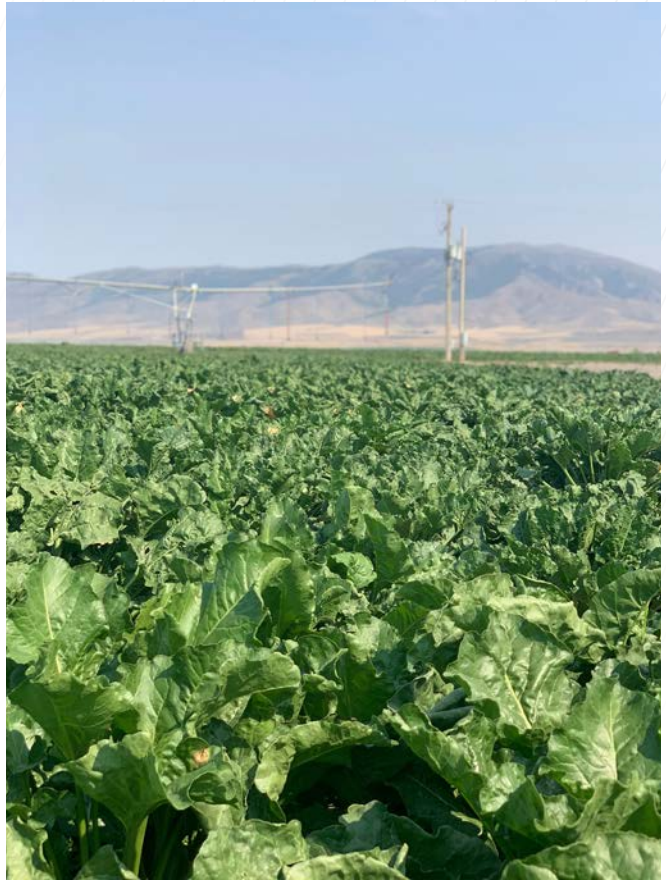
# FIELD OBSERVATIONS



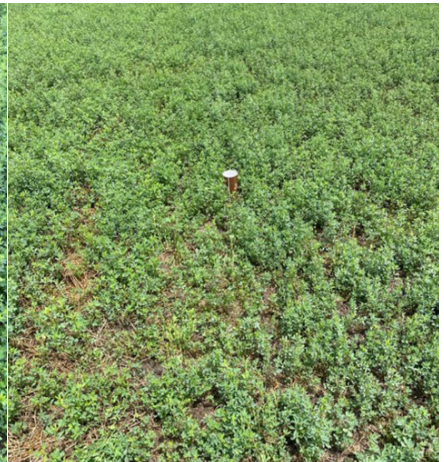
2020 Environoc 401 Treated vs Untreated Early Corn Roots: Multiple Fields in Northern Iowa







Treated with BW-Advance & BW-Boron 7% One Week Prior



Untreated



**PiKSi Dust Plus**



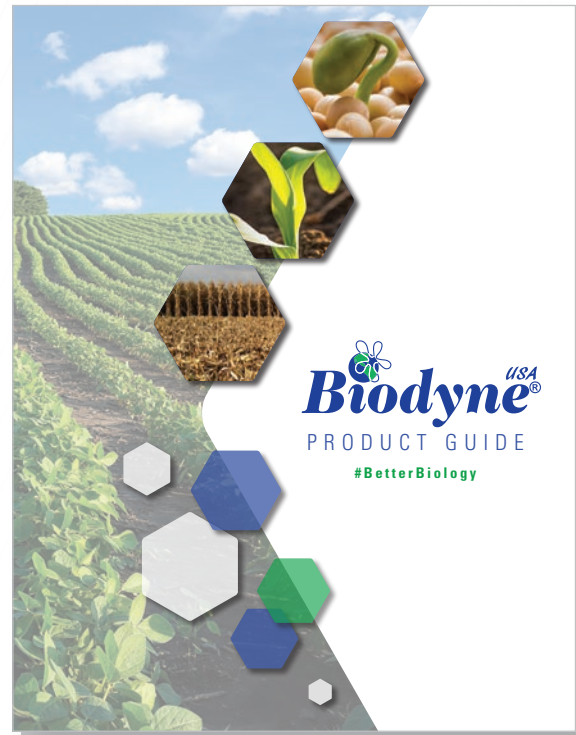
**PiKSi Dust Plus**



## Additional Resources



## BW-FUSION PRODUCT GUIDE



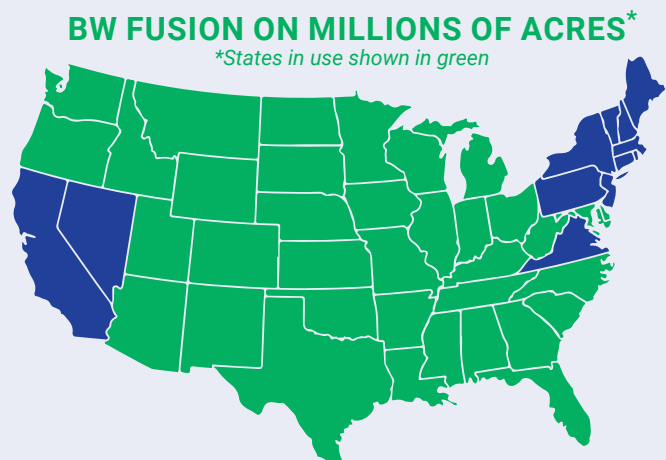
## BIODYNE PRODUCT GUIDE

Find these resources and more online at: [www.bw-fusion.com](http://www.bw-fusion.com) and [www.biodyne-usa.com](http://www.biodyne-usa.com).  
A growing sales team, dealer network and agronomy expert team are also available. Interested in knowing the value of the BW Fusion Difference on your crop production business? Give our main offices a call at 712-288-6210 or email them at [info@bw-fusion.com](mailto:info@bw-fusion.com).

## ***BW Fusion Across the Nation***

BW Sales Representatives and Dealers are located across the United States to serve you. While proud of our cornbelt presence, our products can be used for nearly every crop under the sun. Let's get in touch.

[www.bw-fusion.com](http://www.bw-fusion.com)







INDEPENDENT & GROWER  
**FIELD TRIALS  
AND RESULTS**

2021