

# ProfitProAG Farm Report

December 2018

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## Crop Management News

by Dr. Jim Ladlie, ProfitProAG President

### Crop Profit Making Strategies in 2019 Corn & Soybean Crop Management Inputs

Pre-plant	At-plant	Herbicide Applications	Foliar
<p><b>Biological Seed Coating</b> (Option 1 - Liquid)</p> <ul style="list-style-type: none"> <li>BioSeedCoat™ (corn)</li> <li>or</li> <li>BioSeedCoat™ + Soybean Inoculant (soybeans)</li> </ul> <p>Apply with commercial treater at ProfitProAG</p>	<p><b>Biological Seed Coating</b> (Option 2 - Dry)</p> <ul style="list-style-type: none"> <li>ProfitCoat™ PB</li> <li>or</li> <li>ProfitCoat™ PB + Organic Soybean Inoculant (soybeans)</li> </ul> <p>Apply at planting with dry applicator on seed tender</p> <p><b>Apply in-furrow at planting with starter</b></p> <p><b>Eubio-NBS (c10)</b></p> <ul style="list-style-type: none"> <li>12.8 oz/A</li> <li>Performance Assurance Program</li> </ul> <p><b>Molybdenum 3% (L)</b></p> <ul style="list-style-type: none"> <li>2 to 4 oz/A (4 oz/A maximum in starter per season)</li> </ul> <p><b>MicroNutrient Mix™ (L)</b></p> <ul style="list-style-type: none"> <li>6.4 to 12.8 oz/A</li> </ul> <p><b>Bio-Empruv™</b></p> <ul style="list-style-type: none"> <li>4 oz/A in-furrow</li> </ul>	<p><b>1<sup>st</sup> Application</b> Herbolyte™ (L) (foliar)</p> <ul style="list-style-type: none"> <li>12.8 oz/A</li> </ul> <p><b>2<sup>nd</sup> Application</b> Herbolyte™ Plus (L) (foliar)</p> <ul style="list-style-type: none"> <li>16 oz/A</li> </ul> <p><b>Comments:</b></p> <ul style="list-style-type: none"> <li>When mixing with herbicides, add Herbolyte or Herbolyte Plus to tank first</li> <li>Mix 1 gallon Herbolyte per 100 gallons spray solution and apply at 10 gallons per acre</li> <li>Herbolyte Plus contains MicroNutrient Mix</li> <li>Can apply the following with Herbolyte and Herbolyte Plus: <ul style="list-style-type: none"> <li>Molybdenum 3%</li> </ul> </li> </ul>	<p><b>GroPal™</b></p> <ul style="list-style-type: none"> <li>25.6 oz/A</li> </ul> <p><b>Molybdenum 3% (L)</b></p> <ul style="list-style-type: none"> <li>2 to 4 oz/A (6 oz/A total per season)</li> </ul> <p><b>Comments:</b></p> <ul style="list-style-type: none"> <li>Can apply with foliar plant nutrients</li> </ul> <p><b>Bio-Empruv™</b></p> <ul style="list-style-type: none"> <li>Apply at the rate of 24 oz per acre at V10 to tassel with 1 qt/100 gal of Herbolyte Plus in at least 10 gallons water per acre if 4 oz per acre was applied in-furrow</li> <li>If only applying once, use 32 oz between V10 and pre-tassel with 1 qt/100 gal of Herbolyte Plus</li> </ul>



**Achieve healthy crops from seeding to harvest.**

### 2019 Early Order Product Cash Discount Program

- All products on conventional and organic price sheets (except for products listed below).
- The Early Order Product Cash Discount Program (E.O.P.C.D.P.) is for 2019 crop year inputs.

Deadline Discount Dates	2019 Retail Early Order Product Cash Discount <sup>1,2</sup>
December 1 – 15, 2018	6%
December 16 – 31, 2018	5%
January 1 – 15, 2019	4%
January 16 – 31, 2019	3%
February 1 – 28, 2019	2%

<sup>1</sup>Cash or check

<sup>2</sup>Products NOT included in the 2019 Early Order Product Cash Discount Program:

- Commercial fertilizers • Equipment • Manure pit treatment products • Human products • Services

**For more information or to place an order call:**

**Dennis Klockenga**  
320-333-1608 (cell)  
dklockenga@profitproag.com

**Chris Chodur**  
507-402-4195 (cell)  
cchodur@profitproag.com

or call ProfitProAG at  
1-888-875-2425 (toll free)

# PROFITPROAG

More from Every Acre...  
More From Every Animal

**FREE**  
**Teleconference Calls**

## Agronomic/Livestock

3<sup>rd</sup> Thursday of the Month  
December 20, 2018

## Call #

1-855-212-0212

## Meeting ID #

769-100-082#

## Time

8 to 9 pm Central Time

**For More Information**  
**or to find a Consultant**  
**in Your Area**

Call 1-888-875-2425

Ask about the ProfitMaster™  
Full-Circle System and the  
Manure Master™ Program  
[www.profitproag.com](http://www.profitproag.com)

# Now Hiring

Work at our  
Albert Lea, MN office

**Manure Master Program**  
**Sales & Service**  
for North Iowa &  
Southern Minnesota

For details call John at  
**507-373-2550**

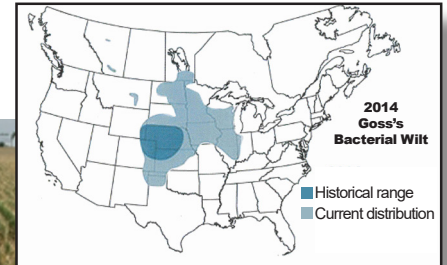


Innovative Manure Management  
**manuremaster.com**  
"The Manure Treatment Experts"

# Goss's Wilt Economics

Goss's Wilt has reduced the corn crop by 1+ billion bushels annually at a cost of \$4+ billion.

**Bio-Empruv** is the latest weapon  
to help keep and improve yield.



## Corn Nutrient Calculator

300	BU Volume	Total Lbs Needed
1.33333	N Conversion Ratio	400
0.60000	P2O5 Conversion Ratio	180
1.33333	K2O Conversion Ratio	400
0.50000	SO4 Conversion Ratio	150

### Nutrient Management:

4.00%	Organic Matter % (O.M.)
45	Nitrogen Credit (Lbs)
9	Soil Report - Nitrate / Ammonium (Lbs)

### P2O5 Management:

8	Soil Report Lbs - (ppm x 2 = Lbs)
---	-----------------------------------

### K2O Management:

36	Cation Exchange Capacity (CEC)
272	Soil Report Lbs - (ppm x 2 = Lbs)

### SO4 Management:

25	Soil Report Lbs - (ppm x 2 = Lbs)
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Input cells are Blue  
Calculated cells are Green  
Friday 8/24/2018 8:4 AM

Bio Minerals Technologies, Inc.  
(435)752-5215  
Copyright - Modification and Reproduction Prohibited

Client: Johnson  
Field/Crop: W. 80  
Licensed to: ProfitPro, LLC  
User: Dennis Klockenga

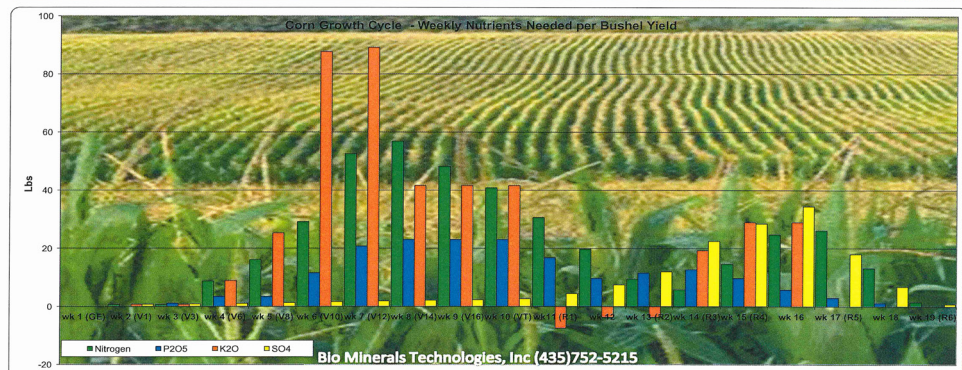
Comments:  
1% = 20lbs. Stable, released over growing cycle based upon need  
Released over growing cycle based upon need  
Less stable, released within 6 weeks of growing cycle. Not retained in soil.  
Nitrogen released during period not utilized by the crop needs not be available for later utilization  
See Growth Cycle Deficiency Chart & Graph for deficiency periods.

- 400 N Lbs Needed for BU Volume
- (80) O.M. Conv. To Lbs.
- (45) N Cr. Lbs
- (9) Soil Report Lbs
- 4 Soil Report Lbs - Time Depletion
- 270 Net Supplemental N Needed
- 180 P2O5 Lbs Needed for BU Volume
- (8) Soil Report Lbs
- 172 Net Supplemental P2O5N Needed
- 400 K2O Lbs Needed for BU Volume
- CEC Factor Adj.
- (102) SOLU-PLKS / Bio Release
- (272) Soil Report Lbs
- 179 Net Supplemental K2O Needed
- 150 SO4 Lbs Needed for BU Volume
- (25) Soil Report Lbs
- 125 Net Supplemental SO4 Needed

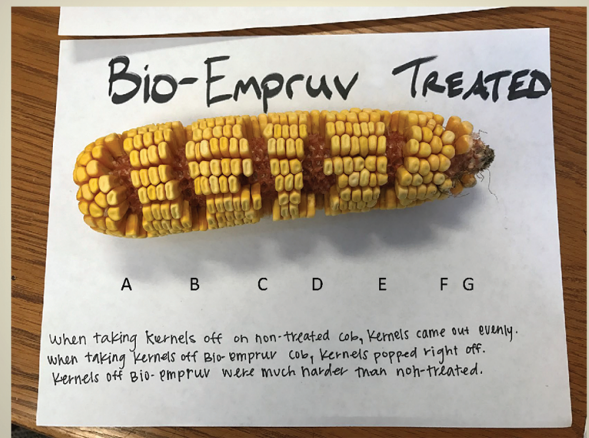
Growth Stage	GE	V1	V2	V6	V8	V10	V12	V14	V16	VT	R1	R2	R3	R4	R5	R6			
Lbs.	wk 1 (GE)	wk 2 (V1)	wk 3 (V2)	wk 4 (V6)	wk 5 (V8)	wk 6 (V10)	wk 7 (V12)	wk 8 (V14)	wk 9 (V16)	wk 10 (VT)	wk 11 (R1)	wk 12	wk 13 (R2)	wk 14 (R3)	wk 15 (R4)	wk 16	wk 17 (R5)	wk 18	wk 19 (R6)
Nitrogen	0	1	1	9	18	29	33	37	48	41	31	20	8	6	15	25	26	13	1
Weekly %	0.00%	0.18%	0.18%	2.19%	4.02%	7.50%	13.14%	14.23%	12.05%	10.22%	7.88%	4.93%	2.37%	1.49%	3.68%	6.25%	6.97%	3.25%	0.36%
Running %	0.00%	0.18%	0.36%	2.55%	6.57%	13.87%	27.01%	41.24%	53.29%	63.51%	71.17%	76.10%	78.47%	79.83%	83.58%	89.76%	96.35%	99.64%	100.00%
Run Total	0	1	1	10	28	55	108	165	213	254	285	304	314	320	334	359	385	399	400
P2O5	0	0	1	3	3	12	21	23	23	23	17	10	12	13	10	8	3	1	1
Weekly %	0.00%	0.00%	0.64%	1.93%	1.93%	6.41%	11.54%	12.82%	12.82%	12.82%	9.30%	5.39%	6.41%	7.05%	5.39%	3.21%	1.67%	0.84%	0.00%
Running %	0.00%	0.00%	0.64%	2.58%	4.51%	10.92%	22.45%	35.27%	48.08%	60.90%	70.25%	75.64%	82.04%	88.09%	94.48%	97.69%	99.36%	100.00%	100.00%
Run Total	0	0	1	5	8	20	40	63	87	110	126	136	148	160	170	176	179	180	180
CEC (Before CEC Factor Adj.)	0	1	1	9	18	29	33	37	48	41	31	20	8	6	15	25	26	13	1
Weekly %	0.00%	0.20%	0.20%	2.23%	4.32%	8.32%	15.11%	16.41%	14.41%	12.41%	8.89%	4.89%	2.89%	1.89%	4.89%	7.25%	7.25%	3.25%	0.36%
Running %	0.00%	0.20%	0.40%	2.63%	6.95%	15.27%	30.87%	53.17%	68.58%	73.99%	84.39%	82.54%	81.61%	80.68%	85.90%	92.76%	96.00%	100.00%	100.00%
Run Total	0	1	2	11	22	41	73	110	158	206	238	268	302	323	342	371	400	400	400
CEC Adj. for CEC Factor	0	1	1	12	35	121	123	68	58	58	-10	-5	-5	19	29	29	40	40	40
Weekly %	0.00%	0.14%	0.14%	1.41%	4.29%	13.87%	13.87%	8.54%	7.34%	7.34%	-1.39%	-0.73%	-0.73%	2.45%	3.64%	3.64%	4.76%	4.76%	4.76%
Running %	0.00%	0.14%	0.28%	1.72%	6.01%	19.88%	33.75%	42.29%	50.63%	58.97%	57.58%	56.85%	56.12%	58.57%	62.21%	65.85%	70.61%	75.37%	80.13%
Run Total	0	1	2	12	40	139	240	287	334	381	373	360	355	374	404	433	473	513	553
SO4	0	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Weekly %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Running %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Run Total	0	1	2	3	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32

### Weekly Nutrient Needs per BU Volume Range:

Nutrient	wk 1 (GE)	wk 2 (V1)	wk 3 (V2)	wk 4 (V6)	wk 5 (V8)	wk 6 (V10)	wk 7 (V12)	wk 8 (V14)	wk 9 (V16)	wk 10 (VT)	wk 11 (R1)	wk 12	wk 13 (R2)	wk 14 (R3)	wk 15 (R4)	wk 16	wk 17 (R5)	wk 18	wk 19 (R6)
Nitrogen	300	0	1	9	18	29	33	37	48	41	31	20	8	6	15	25	26	13	1
P2O5	300	0	0	1	3	12	21	23	23	23	17	10	12	13	10	8	3	1	1
K2O	300	0	1	9	18	29	33	37	48	41	31	20	8	6	15	25	26	13	1
SO4	300	0	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2



## Kernel Extraction base to tip Bio-Empruv



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## Kernel Extraction base to tip Untreated



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### Bio Empruv Corn & Untreated Corn

#### Corn Treated with Bio Empruv Row A - Macro Nutrients

Silicon - Si	160.57
Phosphorus - P	1,728.07
Sulfur - S	1,366.03
Potassium - K	2,897.91
Calcium - Ca	169.60

#### Non-Treated Corn Row A - Macro Nutrients

Silicon - Si	189.71
Phosphorus - P	377.27
Sulfur - S	809.92
Potassium - K	1,852.83
Calcium - Ca	148.30

#### Corn Treated with Bio Empruv Row D - Macro Nutrients

Silicon - Si	122.83
Phosphorus - P	1,329.77
Sulfur - S	1,271.65
Potassium - K	3,957.76
Calcium - Ca	115.27

#### Non-Treated Corn Row D - Macro Nutrients

Silicon - Si	140.85
Phosphorus - P	303.31
Sulfur - S	787.14
Potassium - K	2,225.50
Calcium - Ca	101.56

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## Kernel Visual Comparison



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# Crop Nutrient Management Program By Field/Crop Agreement

*A program designed to simultaneously reduce input cost and improve yield and quality.*

## Objective:

To lay out a seasonal plan-of-action by field/crop.

## Description:

**Crop Nutrient Management Program by field/crop** is a standard predetermined program for each crop that will result in improved yield, quality and reduced cost. ProfitProAG will analyze complete soil reports by field/crop and develop a plant nutrient production plan for each. The plan-of-action will be developed by crop outlining the what, when and how. It takes into account present farming practices and equipment availability. An annual crop management written plan by field/crop will be provided.

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## 2019 Eubio-NBS Crop Performance Assurance Program Agreement

*A program to prove the merits of the technology at no risk to the producer.*

## Product Description:

**Eubio-NBS (c10)** is a “Next Generation” Natural Biological Stimulant. It optimizes and stimulates the biological medium to help increase already existing natural processes that are essential for healthy soil and plants. Implementation of the Eubio-NBS program is recommended for a three-year cropping period to achieve maximum soil health, crop health, yield and quality enhancement.

## How Does The Performance Assurance Program Work?

Eubio-NBS can be applied to any crop and acres at no risk to the producer. The program requires control areas at least four planter widths wide on each crop application. Yield monitor or comparison weights (treated & non-treated areas) across the scale (silage, vegetables and forages) must be provided to ProfitProAG no later than four weeks after harvest. Failure to provide data comparison between the control and treated areas will result in an invoice for the cost of the product as outlined below.

The cost for one application is \$10.00 per acre, and two applications (Soil & Foliar) is \$15.00 per acre. If the results of the comparison show an improvement in yield and/or quality above the control areas, more than the cost of \$10.00 or \$15.00 per acre, the producer will be invoiced for the product. For example, if applied on corn, which results in a 10 bu/A advantage, then  $10 \text{ bu/A} \times \$3.00/\text{bu corn} = \$30.00/\text{A}$ , you would then pay the \$10.00/A product cost. If the yield advantage is less than \$10.00/A, there is no charge. This is a way to prove the merits of the Eubio-NBS technology, which has shown to give excellent crop performance results on a multitude of crops.

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## 2019 Eubio-NBS (RTU) Livestock Performance Assurance Program Agreement

**Swine-Dairy-Beef-Poultry**

*A program to prove the merits of the technology at no risk to the producer.*

## Product Description:

**Eubio-NBS (RTU)** is a water enhancer with naturally occurring trace minerals that act as a natural biological stimulant. It optimizes and stimulates the biological water medium to help increase already existing natural processes that are essential to livestock operations.

## How Does The Performance Assurance Program Work?

ProfitProAG allows the producer to apply Eubio-NBS (RTU) to livestock drinking water at five ppm (five gallons of product per one million gallons of water) for evaluation of improved livestock performance at no risk. The program requires a control barn or historical data from the treated barn/animal group as a comparison.

If the results of the comparison between the treatment and control show an economical improvement in animal performance parameters, then pricing for future product applications will be provided. Failure to provide data comparison between the treated animal group and control animal group (barn or historical data) will result in an invoice of \$25.00 per gallon.

## Featured Product of the Month



# Eubio-NBS (RTU)

## Livestock Drinking Water Enhancer

### PRODUCT DESCRIPTION:

**Eubio-NBS (RTU)** is a water enhancer with naturally occurring trace minerals that act as a natural biological stimulant. It optimizes and stimulates the biological water medium, to help increase already existing natural processes that are essential to livestock operations.

Eubio-NBS (RTU) is designed to stimulate both anaerobic and aerobic environments.

Eubio-NBS (RTU) is biodegradable, non-toxic, non-hazardous, non-corrosive, non-irritating and does not require PPE.

### GUARANTEED ANALYSIS:

Ocean Mineral Water Enhancer with  
Naturally Occurring Trace Minerals ..... 100%

### INGREDIENTS:

Sodium Reduced, Concentrated Ocean Water.

### USAGE AND APPLICATION RATE:

Usage is dependent upon system variables and targeted efficiencies. System enhancement can be achieved at dosage rates of 1 ppm to 10 ppm per daily flow rate. A dosage rate of 5 ppm is a good starting point.

Eubio-NBS (RTU) can be applied as a wet spray or mist in livestock facilities at 5 ppm.

### STORAGE:

Normal Warehousing. Product is freeze/thaw stable. Shelf life three years.

### LIMITATION OF LIABILITY:

Due to system variations and other additives that may be present, please discuss usage of Eubio-NBS (RTU) with our technical representative.

Eubio-NBS (RTU) has no known negative impact on natural biological processes.

**KEEP OUT OF REACH OF CHILDREN**

**Made in the U.S.A.**

## Warren Krohn, Nicollet, MN

### Eubio-NBS (RTU) Finishing Pigs Trial

Performance Parameter	Eubio-NBS (RTU)	Control	Difference
<b>Facility Turns:</b>			
Days/turn	114	122	-8
Weeks/turn	16.3	17.4	-1.1
Turns/year	3.20	2.99	+0.21
<b>Performance Factors:</b>			
Average days on feed	110	116	-6
Total pig days	106,278	108,042	-1,766
Pounds feed/head	541	590	-49
Average daily grain	1.78	1.76	+0.02
Feed per gain	2.75	2.88	-0.13
ADFI	4.89	5.07	-0.18

# **ProfitPro®AG invites YOU to call in on the third THURSDAY of the month for the FREE TELECONFERENCE**

**A cost-effective and convenient way to gain knowledge  
on new crop production technologies**

**It's Easy . . . It's FREE**

**Thursday, December 20, 2018  
8:00 p.m. Central Time**

## **UPCOMING SUBJECTS**

### **Crop Profit Making Strategies in 2019**

Corn and soybean crop management inputs will be discussed along with Goss's Wilt concerns. **Dr. Jim Ladlie, ProfitProAG President**, will also provide information on the Crop Nutrient Management Program, the 2019 Eubio-NBS Crop Performance Assurance Program and the 2019 Eubio-NBS (RTU) Livestock Performance Assurance Program.

**For more information visit [www.profitproag.com](http://www.profitproag.com) and click on "Monthly Teleconference."**

## **DIRECTIONS FOR CALLING IN**

1. Dial the toll free number **1-855-212-0212** at 8 p.m. **SHARP** (Central Time) to get in from the beginning.
2. Enter the meeting ID No. **769-100-082#** (pound or hashtag key).
3. **All calls will be muted when joining the teleconference.**
4. **To ask a question** during the Q & A portion of the program, press \*6 (star six). After asking the question please press \*6 to re-mute your phone.
5. **NO FEE** or pre-registration required.
6. Access the teleconference anytime between 8 to 9 p.m. (CT)

## **Monthly Podcasts on Soundcloud**

We've taken our monthly teleconference and created two half hour podcasts to be listened to at anytime on any device. The podcasts will be available on soundcloud using either the manure master or the profitproag channels



**ProfitProAG**

<https://soundcloud.com/user-331466437>

**Manure Master**

<https://soundcloud.com/user-873513634>

# Bio-Empruv™

## 0-9-6

### GENERAL INFORMATION:

**Bio-Empruv 0-9-6** contains a blend of biological stimulants, natural fermentation extracts, natural surfactants and microbial metabolites. **Bio-Empruv** stimulates the plant's defense mechanisms and improves resistance against many environmental and physiological disorders.

**Bio-Empruv** is an advanced generation of plant nutrients to enhance nutrient availability and uptake by the plant. It also contains natural growth promoters, enzyme precursors and nutrients to aid in crop production.

**Bio-Empruv** is a blend of water-soluble plant nutrients for efficient crop use without chloride salts that can be toxic to plants. It provides nutrients in a readily available form.

### GUARANTEED ANALYSIS:

Available Phosphate ( $P_2O_5$ ) ..... 9.0%

Soluble Potash ( $K_2O$ ) ..... 6.0%

Derived from mono-potassium phosphate and dipotassium phosphate.

### DIRECTIONS FOR USE:

**Bio-Empruv** is recommended for use on all plants. It is intended to supplement and enhance a full fertilization program as recommended in accordance with a reliable Soil and Tissue Analysis. **Bio-Empruv** provides a source of immediately available nutrients but will not, by itself, provide all necessary nutrients required during the growing season. **Bio-Empruv** is designed for foliar application.

**In-furrow:** Apply at the rate of 4 oz per acre.

**Foliar Application on Corn:** Apply at the rate of 24 oz per acre at V10 to tassel with 1 qt/100 gal of Herbolyte Plus in at least 10 gallons water per acre if 4 oz per acre was applied in-furrow. If only applying once, use 32 oz between V10 and pre-tassel with 1 qt/100 gal of Herbolyte Plus.

**Aerial Application on Corn:** Apply foliar at a rate of 1 quart per acre in at least 5 to 8 gallons water per acre prior to tasseling with 1 qt/100 gal of Herbolyte Plus.

**Sprinkler or Pivot Irrigation:** Apply at the rate of 1 to 2 quarts per acre with irrigation water. Inject **Bio-Empruv** half an hour before end of irrigation cycle.

**IMPORTANT:** Enough healthy leaf tissues/canopy need to be present for the material to be absorbed through the leaves.

**Compatibility:** **Bio-Empruv** is compatible with most fertilizers and registered pesticides. However, a compatibility jar test and small plot test is recommended before large-scale treatments are started. Always refer to product label.

**STORAGE:** Storage of **Bio-Empruv** must comply with all local, state and federal regulations.

Made in the U.S.A.

**KEEP OUT OF REACH  
OF CHILDREN AND ANIMALS**



More From Every Acre . . . More From Every Animal

# GOSS'S WILT IS BACK!



by Dennis Klockenga, ProfitProAG Consultant

After scouting many fields in North Central Iowa, Goss's Wilt has been observed in most corn fields. This area has experienced stress from too much rainfall combined with storms that produced wind and hail. It's just enough stress for the bacteria to thrive!

## Leaf Symptoms

Goss's Wilt of corn, *Clavibacter michiganensis* subspecies *nebraskensis*, is a bacterial disease that causes long and large brown lesions on the leaves that appear water soaked. The lesions have black freckles and when a corn leaf is held up towards the sun, they are quite visible. This is the best way to identify the disease as no other corn disease displays the freckles.

It was discovered by plant pathologist R.W. Goss from the University of Nebraska. The disease forms a leaf lesion at the onset and then progresses further



*Brown leaf sheath from the bottom of the stalk displaying Goss's Wilt*

into the plant where it shuts down the xylem and phloem flow up and down the plant. Consequently, the plant can't get needed water and food to thrive and shuts down, which leaves a smaller yield, lower test weight and possibly higher moisture corn due to the inability of the plant to dry down naturally. It also displays brown mottles on the bottom part of the stalk.

The newer version of Goss's Wilt displays a pinkish color on the leaves. It waits for a lesion or wound to form and uses it as an entrance into the plant. Wind or hail can cause wounds to the leaves and/or the stalk, which allows Goss's Wilt to enter and populate the plant. It typically starts at the top of the plant and works its way down. However it can also start at the bottom and work up. If the infection gets a foothold, up to 100 bu/A can be lost. So far this year, it appears to be starting at the bottom and moving up the plant.

## More about the Disease

According to Dr. Don Huber, Professor Emeritus, Purdue University, Plant Pathology, applying a fungicide cancels out six of the seven genetic characteristics for Goss's Wilt resistance. Northern Corn Leaf Blight is certainly detrimental, but one must also weigh the consequences of applying a fungicide.

## The Solution

**Bio-Empruv** has been tested for several years and looks promising as a preventative and curative for Goss's Wilt. **Bio-Empruv is a blend of biological stimulants, natural fermentation extracts, natural surfactants and microbial metabolites.** It stimulates the plant's defense mechanisms and improves resistance against many environmental and physiological disorders. It also boosts the plant's immune system and nutrition. The ideal application time as a foliar is at V4-V5 at 8 oz/A and 24 oz/A at V10- tassel with a quart per 100 of Argosy (a polymer that helps keep the Bio-Empruv on the leaf). Since most of the corn is now past tasseling, recommendations include using the entire 32 oz/A with the Argosy to stop the progression and help the corn mature to its maximum ability. In 2015-17, some tremendous responses were reported from using this product and a 30-70 bu/A increase was not uncommon.

## Economics

Goss's Wilt has reduced the corn crop by 1+ billion bushels annually at a cost of \$4+ billion. **Bio-Empruv** is the latest weapon to help keep and improve yield.

**Bio-Empruv @ Qt/A---\$15.28/A**

+

**Herbolyte Plus @ Qt/100 @  
15 gpa water---\$1.15/A**

**Total---\$16.43/A**

Using \$3/bushel corn, a six bushel increase is needed to break even. Typical increases are generally much higher, which makes this an excellent venue to use.

**Bio-Empruv  
Treated**

**Untreated**

### Bio-Empruv Corn & Untreated Corn

Corn Treated with Bio-Empruv  
Row A - Macro Nutrients

Silicon - Si	160.57
Phosphorus - P	1,728.07
Sulfur - S	1,366.03
Potassium - K	2,897.91
Calcium - Ca	169.60

Non-Treated Corn  
Row A - Macro Nutrients

Silicon - Si	189.71
Phosphorus - P	377.27
Sulfur - S	809.92
Potassium - K	1,852.83
Calcium - Ca	148.30

Corn Treated with Bio-Empruv  
Row D - Macro Nutrients

Silicon - Si	122.83
Phosphorus - P	1,329.77
Sulfur - S	1,271.65
Potassium - K	3,957.76
Calcium - Ca	115.27

Non-Treated Corn  
Row D - Macro Nutrients

Silicon - Si	140.85
Phosphorus - P	303.31
Sulfur - S	787.14
Potassium - K	2,225.50
Calcium - Ca	101.56

*Treated on the left with Bio-Empruv  
vs. untreated on the right*



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More From Every Acre . . . More From Every Animal



# Big Yields Start with Healthy Seedlings

The key to consistently **bigger yields and better grain** quality starts with healthy soils and plants. To achieve this, biodiversity must be established in the soils and plant foliage with balanced soil mineral nutrition and enhanced soil organic matter levels (bioactive carbon).

Grain yield, quality and seed stability is only derived from increased levels of minerals and carbohydrate structures within the plants. Starting the seeds correctly right from germination and forward is crucial to achieve the end result of high quality seed production. Beneficial organisms that work with the plant throughout all the growth stages deliver the required vital and essential nutrients to produce high quality grains. The application of all the minerals, including both major nutrients (9 of them) as well as the trace elements (some 70 of them), is also essential and cannot be overlooked. The beneficial biology not only surrounds the plants with required minerals, but also protects the plants from soil pathogens. The trace elements provide the necessary minerals for the plant to adjust its chemistry for the production of high quality plant metabolites (nutrient rich compounds) and allows the plant a defense mechanism that alters its internal chemistry for disease prevention from both the soil and air.

High yield and quality grains are only possible with the correct aerobic biology in the root systems and the right broad spectrum (some 80) minerals used throughout the growing season. There are no exceptions! Plants given less will produce lower quality, unstable seeds/kernels, become highly diseased and are prone to increased insecticide and fungicide requirements that contain higher levels of poisons and mycotoxins.

Some of the tools and techniques used to achieve high yield and quality grains include crop rotation (corn, soybeans and a cereal crop in a three-year rotation), cover crops (used in corn/soybeans late summer application and following the cereal crop), **biological seed coatings** and natural organic ores for a base nutrient program with over 75 trace elements (soft rock phosphate, potassium sulfate and elemental sulfur).

For more information, call ProfitProAG at

**1-888-875-2425** (toll free) or go to

**[www.profitproag.com](http://www.profitproag.com)**

to find a Service Rep in your area.



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