

2022 YIELDMASTER SOLUTIONS

PRODUCT GUIDE



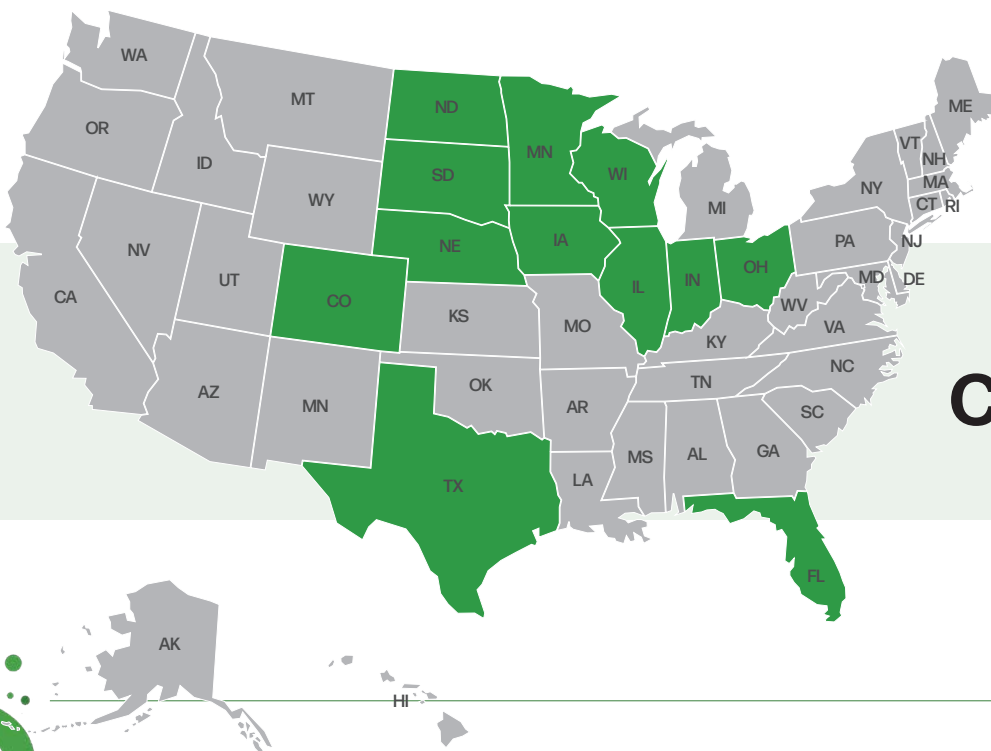
PO BOX 198 | DE SMET, SD 57231 | 605-860-8534 | YIELDMASTERSOLUTIONS.COM

LEADING THE WAY IN YIELD ENHANCING SOLUTIONS

YieldMaster Solutions (YMS) is pleased to offer dealers and growers performance enhancing biological technologies, innovations to improve crop health and increase yield potential. Solutions include products from some of the most innovative biological suppliers in the industry: Azotic North America, Agrovive, AgriGuardian, Lo Mu Tech, Asido, and MycoGold. We offer a robust product portfolio for multiple crop types to meet specific operation and application needs including: seed coat, foliar, and in furrow applications.

UNBIASED INDEPENDENCE DEVOTED TO INTEGRITY.

- In its approach to promote biotechnology, YMS is a rare marketing company. Our discovery process is focused on two key factors:
 1. Does it work?
 2. Does it enhance the grower's ROI?
- As a fiercely independent organization, we choose to identify and ground truth rather than manufacture.
- All environmentally sound products that have shown the ability to improve plant health or function must earn their way into our elite portfolio through our Proof of Concept Trials.
- YMS is equally selective about the technology partners we choose to align with. Partners must align with the YMS model for innovation and performance.



**2021
PROOF OF
CONCEPT TRIAL
LOCATIONS**

PHOTOS FROM THE FIELD

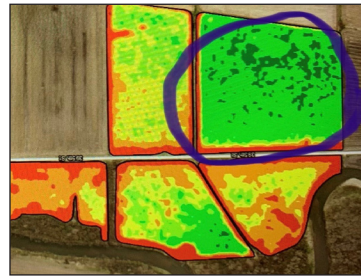
envita



Lake Preston, SD



Grand Forks, ND



Hancock, IA



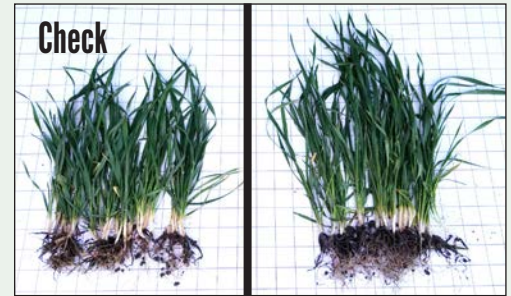
Ashkum, IL



Tintah, MN



Crownfx™



Stanton, ND

IONfx™



Southwest WI

Soyfx™



Cannon Falls, MN

Ortonville, MN

alphajoule™



Tintah, MN

INTERESTED IN LEARNING MORE?

Visit our website for more information:

www.yieldmastersolutions.com

or contact us by phone at

605-860-8534

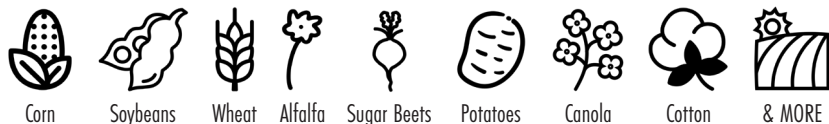


YieldMaster

SOLUTIONS^{LLC}

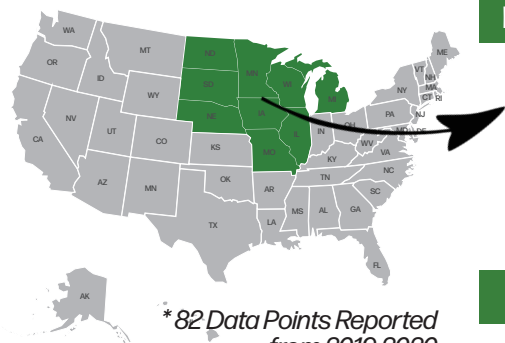
envita

MULTI CROP USE



The only N-fixing bacteria that works from within the plant, applied in furrow OR foliar, and across crops to supplement nitrogen where and when it's needed.

BACKED BY A PERFORMANCE GUARANTEE!



*82 Data Points Reported from 2019-2020

Results may vary by location and growing conditions.

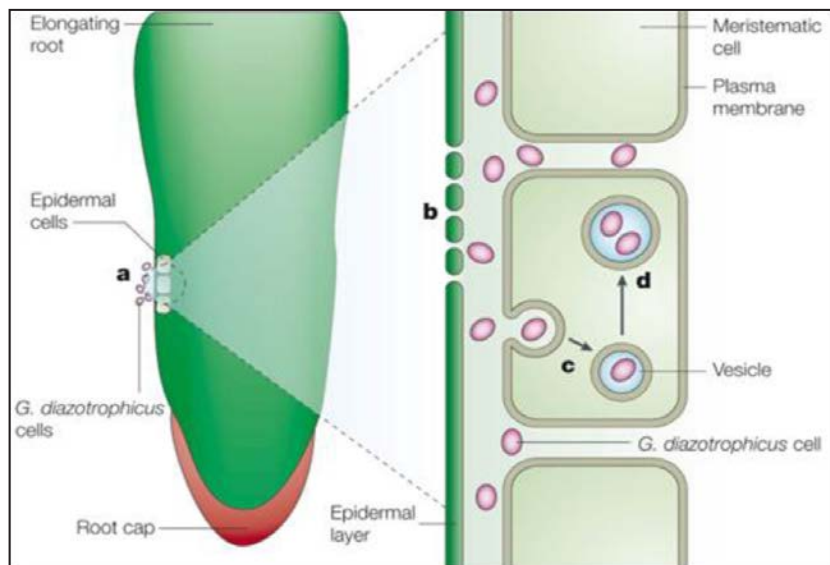
79%
POSITIVE RESPONSE

8.0
Bu/Acre

ADVANTAGE

When Positive Response Achieved

How Envita works:



- Envita (Gd.) enters the plant
- Envita bacteria (Gd.) works its way into the plant cell and colonies within the actual cell
- Envita bacteria (Gd.) creates small vesicles or "air pockets" within the plant cell that have the ability of capturing nitrogen from the atmosphere
- Envita repopulates within the cell

Application Rates

In furrow: 3.2 fl. oz. per acre

Foliar: 3.2 fl. oz. per acre

In Furrow Starter Fertilizer

Tank Mix Directions:

Compatible with most starter fertilizers. Always perform jar test to confirm mixture compatibility. For best results follow product mixing protocol listed below:

STEP 1:

Load starter fertilizer into application tank

STEP 2:

Load 1 - 2.5 gallons of water per acre into application tank. Low salt fertilizers require less water, while higher salt fertilizers such as 10-34-0 require higher levels of water to buffer the salt's impact on the bacteria.

STEP 3:

Load 3.2 ounces (1 gallon treats 40 acres) of Envita into the fertilizer/water mixture in the application tank.

DO NOT ADD ENVITA DIRECTLY INTO FERTILIZER BEFORE ADDING WATER.

*The amount of time Envita is mixed with fertilizer in a tank is critical to the success of the product. For best results apply mixture of fertilizer, water, and Envita within 6-8 hours.

Foliar Application Directions:

- Envita is compatible with most herbicides, insecticides, and fungicides. Perform a jar test to confirm compatibility.
- If possible avoid mixing with Group 4 herbicides, however Performance Guarantee will still apply if used with Group 4 herbicides.
- Apply Envita between the V2-V6 stage in corn & V2-V4 stage in soybeans.
- Apply Envita with 15-20 gallons per acre of water for best results.
- Use a non-ionic surfactant for best results.
- Follow best spraying practices: Avoid heavy dews, extreme heat & humidity, etc.

CAUTION: SHOULD NOT USE IN COMBINATION WITH UREA PRODUCTS. DO NOT APPLY FOLIAR WITH 28% OR 32% UAN.

Storage and Use:

DO NOT FREEZE. Store between 39° and 76° F out of the sun. Do not open until ready to use. Shake container well before using. Keep jugs upright. This fluid contains living organisms, so be mindful that it may have an odor and is perishable.

*Read and follow all labeled instructions

Soy_{fx}TM

For Use On: Soybeans

Soy_{fx}TM is a specific/unique combination of identified and tested microbials that elicit a positive crop response. Soy_{fx}TM unlocks the plant's ability to produce growth regulators and metabolites that enhance production through biosynthetic pathway efficiencies.

KEY BENEFITS

- Flexible Use Options
- Increased Branching, Pods & Nods
- Efficacy After Hail Event
- Plant Stress Mitigation & Reduced Ethylene Production



How Does Soy_{fx} Increase Branching?

Microbes contained within Soy_{fx} manipulate the plant into activating the lower axillary buds into developing branches.

Increased Pods

- Additional branching and less aborted flowers/pods helps support higher pod counts.
- We sampled 145 Soy_{fx} treated plants compared to 145 non-treated plants from the same field
- 28% increase in pod count with the Soy_{fx} treated plants

Increased Nodulation

- Facilitative anaerobic bacteria support the production of nodules in upper inch of soil
- Independent research documented a 23% increase in nodulation with Soy_{fx}
- Nodules fix Nitrogen into a form usable by plants

Efficacy after Hail Event

- Microbes within Soy_{fx} trigger regrowth at point of breakage rather than relying on lower axillary buds
- Soy_{fx} allows for a quicker, more aggressive recovery from a hailstorm resulting in lower yield loss

Branches, Pods, & Nodes

**11%
MORE
BRANCHES**

with Soy_{fx}

**28%
MORE
PODS PER PLANT**

with Soy_{fx}

**23%
MORE
NODULATION**

with Soy_{fx}

Application Rates

- **Seed:** 2 ounces per CWT. Can be applied alone or in combination with other seed treatments.
- **In Furrow:** 16 fl. oz. per acre and minimum of 5 gpa total volume.
- **Foliar:** 16 fl. oz. per acre with 10 to 20 gallons water. May be tank mixed with other products. Early vegetative application (V2-V4) would be ideal.
- **Guaranteed Analysis**
- **Non-plant Food:**
 - Bacillus megaterium 1×10^5 CFU/ml
 - Bacillus pumilus 1×10^2 CFU/ml
- Microorganisms exempt from CFR requirements 40 CFR 725
- **Packaging:** 4x1 gallon jugs (seed applied), 2x2.5 gallon jugs (in furrow and foliar), 275 gallon bulk shuttles (in furrow and foliar)

Soy_{fx} treated soybean plants



Untreated soybean plants



Photos taken approximately
1 ½ months after hailstorm.

ION_{fx}™

For Use On: Corn, Sorghum, Small Grains (Foliar), Cotton, Canola and Flax

ION_{fx}™ is a mix of genetically identified and patented bacteria, along with archaea and fungi. While many microbes live naturally in a plant, this mix of microorganisms has been selected to support, enhance, or supplement plant functions. ION_{fx} unlocks a plant's ability to produce growth regulators and metabolites.

KEY BENEFITS

- Improved Emergence
- Improved Early Vigor
- Enhanced Root Development
- Improved Heat Tolerance



ION_{fx} Silage Summary

In 2021, silage testing was conducted in 7 locations across South Dakota, North Dakota, Nebraska and Wisconsin. 22 comparisons of ION_{fx} responsiveness in 7 silage products vs. untreated (control).

Results showed the following:

7 Locations	Tons Per Acre at 65%	Milk per Acre (lbs)	Beef per Acre (lbs)
Untreated Corn	27.4	29,747	2,184
ION _{fx}	29.8	32,626	2,387
22 Comparisons Avg. Difference Treated vs. Untreated		2,879	203



Application Rates

- **Seed:** 2 ounces per CWT seeds via seed treater. Can be co-applied with other products.
- **In Furrow:** 16 fl. oz. per acre and minimum of 5 gpa rate.
- **Foliar:** 16 fl. oz. per acre with 10 to 20 gallons water. May be tank mixed with other products. For corn or sorghum, V3-V7 would be ideal application stage.
- **Guaranteed Analysis**
 - **Non-plant Food:**
Pseudomonas fluorescence
..... 1.0 x 10⁵ CFU/ml
 - Microorganisms exempt from CFR requirements
..... 40 CFR 725
- **Packaging:** 4x1 gallon jugs (seed applied), 2x2.5 gallon jugs (in furrow and foliar), 275 gallon bulk shuttles (in furrow and foliar).

Improved Emergence

- Phosphate solubilization through microbial activity helps support enhanced seed germination.
- Cold and wet soils release phosphorus very slowly which can delay plant growth.

Improved Early Vigor

- Slow acting, continuous action microbes facilitate micronutrient availability within the plant.
- Increased Phosphorus uptake.
- Enhanced root system allowing for more efficient nutrient & water uptake.

Enhanced Root Development

- Slow acting, continuous action microbes facilitate micronutrient availability within the plant.
- Release of hormones such as IAA help promote increased root development.

* Read and follow all labeled instructions

Crown_{fx}TM

KEY BENEFITS

- Enhance root mass
- Release more tillers
- Enlarge root area
- Increase seed head length
- Increase kernel counts
- Increase crude protein

2020 SPRING BARLEY SEED TREATMENT STUDY

LOCATION: ABERDEEN, ID

August 7th

Combine Grain Yield Results

Five replications of each seed treatment were harvested side-by-side across the circle and weighed. Results correlated with hand pulled results.

Treatment and Replication	Pounds Per Acre at 5.5% Moisture	Field Test Weight
Control 1	5,966.69	48
Control 2	6,584.23	48
Control 3	6,485.64	50
Control 4	6,763.74	48
Control 5	6,787.14	49
Average	6,517.8	48.6
Treated 1	6,864.94	49
Treated 2	7,177.26	49
Treated 3	6,867.43	48.5
Treated 4	6,953.49	48.5
Treated 5	6,782.49	48.5
Average	6,929.9	48.7

412.1 lbs or 6.3% Yield Increase for Treated Replications

Clean Grain Percent Crude Protein Analysis

During harvest samples were pulled from each side-by-side replication and analyzed for crude protein (hull on) by wet chemical analysis.

Treatment and Replication	% Crude Protein
Control 1	13.68
Control 2	14.56
Control 3	18.37
Control 4	19.25
Control 5	14.37
Average	16.05%
Treated 1	20.98
Treated 2	23.29
Treated 3	23.37
Treated 4	20.91
Treated 5	21.31
Average	21.97%

5.92 percentage points or a 36.9% increase in crude protein for treated replications



Application & Storage

Crown_{fx} Seed Coat

- 2 ounce per CWT of seed via seed treater.
- Should not use hormone-based plant growth regulators (PGR) with this product because the combination may result in stunted growth.
- Packaging: 4x1 gallon jugs.

Foliar Application

- 16 ounces per acre rate.
- Can be applied through ground application, fertigation, or aerial.
- Apply with 10-20 gallons of water.
- Do not tank mix with fungicides, PGR's, or glyphosate.
- Compatible with most insecticides and some herbicides.
- Packaging: 2x2.5 gallon jugs (5 gallons per case).

SCOUTING RECOMMENDATIONS

- **Early Season Emergence & Root Development:** Crown_{fx}TM promotes root development including early season lateral roots which provides necessary support for tillering and shoot development. Avoiding propiconazole during this phase is critical as a multispectral antimicrobial will terminate the symbiotic bonds with the plant.
- **Faster Canopy:** By supporting increased tillering and leaf surface area canopy can be established earlier. This can have an impact on weed pressures and moisture retention in the field.
- **Larger Flag Leaves:** Increased flag leaf surface area is directly linked to energy production during reproduction. This is critical to support the production of energy and carbohydrates for yield.
- **Increased Uniformity at Harvest and Protein Increases:** Plant height is typically increased and shows increased uniformity of height and reduced lodging due to increased support in the field. Protein levels are supported through the increase in metabolic processing in the plant. Fertility management is recommended to maximize protein levels realized at harvest.
- **Increased Straw Residues Post Harvest:** The increase in head bearing tillers creates the opportunity for increased straw and residues in the field post harvest.



2021 Spring wheat crop near Stanton, ND

Treated showed increased growth, larger stem diameter, and better root mass and elongation over the check.

alpha^{joule}™

KEY BENEFITS

- Crop-by-crop and seasonal yield enhancement
- Root growth and root reserve recharge
- Harvest flexibility and potential forage quality improvements
- Stand life & rotation implications

alpha^{joule} On-Farm Results—Fed On-Farm to Dairy

Location: Klondike, WI
Oconto County

Soil Type: Sandy loam

Established: Spring 2018 with oats as nurse crop

Harvest Dates: June 4, 2020; June 29, 2020; July 28, 2020; and September 2, 2020

Comments: alpha^{joule} applied to each crop starting at spring green-up. Orchardgrass was included in the drill box at planting.



Applying alpha^{joule} to alfalfa/legume mixtures has a positive effect on both species. Follow best management practices to maintain desired balance of alfalfa/grass.

	Crop	Crude Protein	TTNDFD	Milk per Ton	Yield at 15% Moisture	Milk per Acre at 15% Moisture
Without Treatment	First	24.6%	49.31%	2,956 lbs	2.25 T/A	6,636 lbs/A
With alpha ^{joule}	First	23.9%	45.28%	3,090 lbs	2.34 T/A	7,237 lbs/A
alpha ^{joule} % Advantage		-2.8%	-8.2%	+4.5%	+4.0%	+9.1%
Without Treatment	Second	24.4%	44.20%	2,997 lbs	1.30 T/A	3,566 lbs/A
With alpha ^{joule}	Second	22.9%	42.00%	2,881 lbs	1.43 T/A	4,120 lbs/A
alpha ^{joule} % Advantage		-6.2%	-5.0%	-3.9%	+10.0%	+15.5%
Without Treatment	Third	24.2%	37.06%	2,804 lbs	1.19 T/A	3,337 lbs/A
With alpha ^{joule}	Third	25.7%	38.87%	2,846 lbs	1.32 T/A	3,757 lbs/A
alpha ^{joule} % Advantage		-6.2%	+4.9%	-3.9%	+10.9%	+12.6%
Without Treatment	Fourth	24.6%	40.30%	2,885 lbs	1.13 T/A	3,341 lbs/A
With alpha ^{joule}	Fourth	24.5%	39.21%	2,951 lbs	1.49 T/A	4,397 lbs/A
alpha ^{joule} % Advantage		=	-2.7%	+2.3%	+31.9%	+31.6%
Without Treatment	Total	24.5%	42.72%	2,911 lbs	5.87 T/A	16,880 lbs/A
With alpha ^{joule}	Total	24.3%	41.34%	2,942 lbs	6.58 T/A	19,511 lbs/A
alpha ^{joule} % Advantage		=	-3.2%	+1.1%	+12.1%	+15.6%

BOTTOM LINE:

Note the increasing effect of alpha^{joule} through the season: +4% on first, +10% on second, +11% on third, and +32% on fourth crop. On a milk per acre basis, an acre of alpha^{joule} treated alfalfa produced over \$420 more at \$16/cwt milk during the season.

ALPHA^{joule}™ TECHNICAL DESCRIPTION

Alpha^{joule}™ from Agrovive, Inc. is an in-plant biostimulant for alfalfa comprised of proprietary strains of *Pseudomonas Fluoresens* and *Bacillus Megatarium* bacteria. These non-GMO, patent pending bacteria strains were selected from the natural environment and screened for their ability to recycle nutrients, impact water use efficiency, and reduce the effects of abiotic and biotic stressors on alfalfa growth at the cellular level.

In the alfalfa plant, the alpha^{joule} endophytic bacteria live in the inner cellular spaces and the cell walls of the roots, crown, stems and leaves where metabolism as well as cell division are regulated. Here, the bacteria and the host cells have a symbiotic relationship that promotes plant health, photosynthesis, carbohydrate production, and performance efficiencies.

When stresses begin to adversely affect cell functions in any part of the alfalfa plant, the production of ethylene is triggered within those cells. Ethylene is an anti-growth hormone that slows vital cell functions such as photosynthesis and promotes early maturity as well as leaf drop if not alleviated. Alpha^{joule}'s multi-strains of bacteria mediate ethylene production within the stressed plant at the sub-clinical stage to reduce potential effects on yield, maturity, quality, or persistence.

Application Rates

Alpha^{joule}™ management suggestions for ease of application & best results.

- Liquid product that can be sprayed, fertigated with an irrigation system, or air applied.
- Can be applied to all alfalfa varieties and technologies at spring green-up and following each harvest during the growing season.
- A case of alpha^{joule} covers 20 acres of established alfalfa.
- Each case contains two 2.5-gallon jugs. One jug is alpha^{joule} and the second jug is PRYMER™ for Alfalfa, a bacteria and micronutrient activator.
- Apply with a minimum of 10 gallons of clean water per acre.
- Use larger sized nozzles for best crop coverage.
- Apply alpha^{joule} when the majority of crown buds have released and at least three weeks before the next harvest. This recommendation usually provides a 5-7 day application window after the previous crop's cut date.
- Alpha^{joule} and PRYMER for alfalfa are tank mix compatible with other products applied to alfalfa at the green-up stage of growth. This would include micronutrients (except copper), insecticides, herbicides (except glyphosate), and most fungicides.



*Read and follow all labeled instructions

N-TEXX[®] N-TEXX[®]

SEED COAT SOIL INOCULANT WITH HUMUS

N-TEXX[®] Soil Inoculant is a microbial-based product intended to increase the active biomass in the soil. N-TEXX introduces microbes into the soil resulting in improved plant vigor and nutrient cycling. Many of the bacteria found in N-TEXX are spore forming bacteria allowing for flexible mixing and application options.

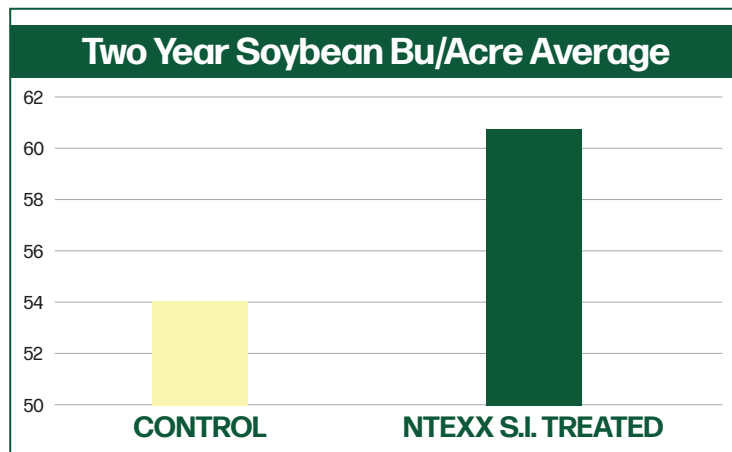
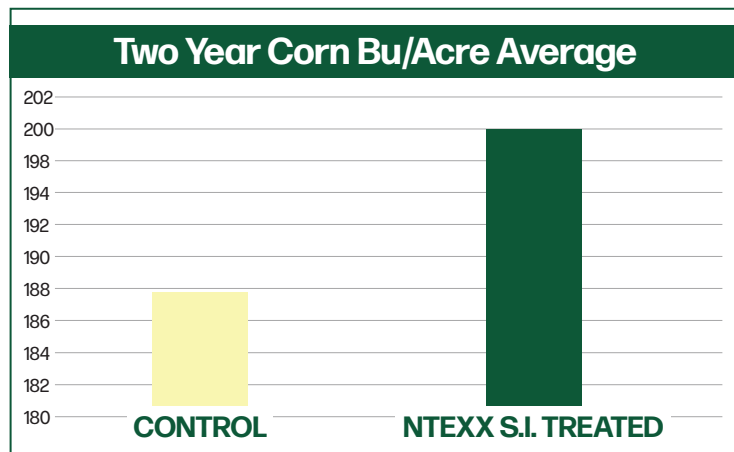


KEY BENEFITS

- Enhances fertilizer program by increasing plant nutrient uptake
- Improves germination and plant vigor
- Increases root mass growth
- Improves water infiltration
- Improves soil environment for plant growth by building the aerobic zone of the soil
- Stimulates soil microorganisms that provide essential nutrients for plants through their productive biological processes

Yuma Irrigation Research Foundation

CORN & SOYBEAN MULTI-YEAR TRIAL



Application Rates

Soil Applied:

- Sandy soil 32 ounces to the acre, clay or high organic matter soil 16 ounces to the acre.
- In furrow with seed at planting, if possible.

Foliar Applied:

- 16 to 32 ounces to the acre
- 4-6 leaf or V7 to silking/tasseling

Seed Coat Applied:

- 4-8 ounces per CWT of seed

Methods of Application:

- Can be applied through overhead, aerial irrigation and mixed with sprayer tank containing start up fertilizers and/or herbicides.
- Ensure tank is free of residue, avoid or treat chlorinated water if possible.
- Do not apply when a crop is severely stressed.
- Do not mix with fungicides or insecticides and do not apply within 2 weeks of applying fungicides.
- May be mixed with a 2,4-D herbicide, and glyphosate.
- Packaging: Packaged in 2 x 2.5 gal cases or 275 gal totes.



MycoGold® offers crop specific blends that are effective with improving production, creating better soil environments, and defending against disease and infestations. We have experienced products that are front end beneficial and others that are back end performing. MycoGold is a complete package biological inoculant that starts working from germination all the way to harvest. MycoGold's key biologicals work as bio fertilizers. Do not sacrifice yield, let the efficiencies of MycoGold do what they're designed to do.



MycoGold® Soybean Blend



MycoGold® Corn Blend



MycoGold® Peanut Blend



MycoGold® Cotton Blend



MycoGold® Sorghum Blend



MycoGold® Wheat Blend

How MycoGold Mycorrhizal Fungi Inoculant Works

Mycorrhizal Fungi is the only known fungal system which is categorized as a bio-fertilizer. Its hyphae can extend much beyond a few meters away from the depletion zone and thus can acquire nutrients from a much wider soil area. The mycorrhizal fungus grows as a vast web of tiny filaments in plant roots and the surrounding soil. The fungal threads, called mycelia, explore a much larger area than do the plant roots. When the mycorrhizae encounter limited resources, such as water, phosphorus or micronutrients, they can pass them on to their associated plant. Mycorrhizal fungi seed inoculant can increase plants' access to phosphorus, ammonium, potassium, calcium, iron, copper, manganese, zinc and nickel. MycoGold® Mycorrhizal Fungi seed treatment can also help with drought resistance and heat tolerance. This is partly the result of mycorrhizae-induced hormonal changes in plants, which allow them to maintain a better water balance under drought conditions. Mycorrhizae allows for a 25% reduction of water in row crops which makes it a great drought insurance.

3 in 1 Talc Replacement Product

Mycorrhizal Fungi Inoculant

Bacteria & Bio-Stimulant Package

Micro-nutrient Package

The MycoGold Advantage

✓ 8-10% YIELD INCREASES

By improving nutrient uptake and soil biology, MycoGold seed inoculant supports plant growth leading to yield increases.

✓ 10-25% REDUCTION OF FERTILIZER

MycoGold's key bacteria and fungi work as bio fertilizers that fix Nitrogen, unlock P, and create better root development and soil biology which allows better uptake of nutrients.

✓ HIGH COUNTS OF ENDO FUNGI PROPAGULES

Propagules start benefiting the plant in the early stages and are more effective than spores for row crops short growing season.

✓ IMPROVED PEST RESISTANCE

Through root colonization, research has determined better plant defenses against disease. The *Beauveria Bassiana* fungi grows endophytically through the plant defending against various insect pests.

✓ IMPROVED DROUGHT RESISTANCE

Since MycoGold seed inoculant supports water uptake from the soil, it strengthens plants in drought periods. This is of high importance in times of increasingly extreme climate conditions.





Cleaner. Safer. Soy.®

Dust is a **new**, innovative, patented product made to replace the grimy graphite/talc mix in the planter. Dust is a 100 percent renewable soy protein product. Microscopically, it has more round shapes than graphite and talc, which are materials that are milled out of the ground. Dust's round shapes provide lubricity for mechanical parts in meters and relief of static friction while making your seeds flow better through your planter. You will find it clean and safe to use.

KEY BENEFITS

- Replacement for Talc & Graphite in Planter
- Made with 100% Soy Protein & Lecithin
- Patented, Microplastic-Free, Seed Lubricant
- Used on 7 million+ Acres Per Year on more than 20 Different Crops



Directions for use:

- 1) Open container. Contents will settle in transport.
- 2) Begin with 1 scoop of product per unit of seed (i.e. about 1 oz per unit of seed). Usage rates vary by planter type and size. The link below will give you more detailed usage information.
- 3) Use the same application method used for graphite and/or talc.
- 4) Put lid back on container.
- 5) Keep container closed and in a dry location. Treat the same way you use graphite/talc.

REMINDER
WITH DUST, LESS IS MORE

To calculate the amount of DUST need for planting use the ratio of 1 scoop equals 1 oz of DUST.

Low Mu Tech

CORN TRIAL

SOYBEAN TRIAL

Figure 3. 5 Plant Weight Averaged for Each Lubricant Treatment 21 Days After Planting.

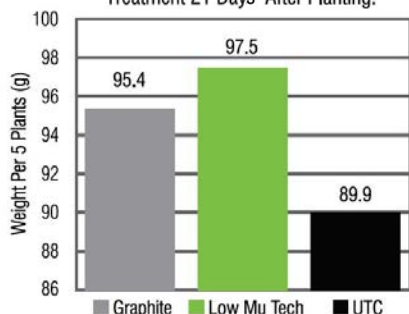
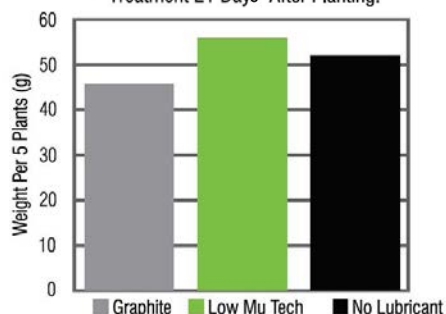


Figure 3. 5 Plant Weight Averaged for Each Lubricant Treatment 21 Days After Planting.



Greenley Research Center
University of Missouri



Scan QR code for additional instructions.



COMING SOON
New products with built in biologicals.

The replacement is better than the original. Innovation; in the planter box.

MIXING/USE GUIDE

BIOLOGICALS

SEED APPLIED

		<i>Seed Treatments</i>					<i>Applicator¹</i>	
Product	Rate	Fungicides	Insecticides	life on seed	Storage	Mixing	Atomizer	Nozzle
Soy _{fx}	2 oz/CWT	Most	Most	up to 90 days	39-82° F	Alone or slurry	yes	yes
ION _{fx}	2 oz/CWT	Most	Most	up to 90 days	39-82° F	Alone or slurry	yes	yes
Crown _{fx}	2 oz/CWT	Most	Most	up to 90 days	39-82° F	Alone or slurry	yes	yes
NTexx SC	4 oz/CWT	Some	Some	9 months	39-82° F	Alone or slurry	yes	yes

FOLIAR OR IN FURROW

Product	Rate fl. oz/acre	Application timing (foliar)	Compatibility (don't use with)	Use with glyphosate	Life in Solution ²	Storage Temp (F)	Storage conditions	Mixing order	Adjuvant Rec.
Soy _{fx}	16	IF or V3 - R1	Propiconazole	no	6-8 hrs	39-82°	out of sun	add water first	yes
ION _{fx}	16	IF or V3 - V8	Propiconazole	no	6-8 hrs	39-82°	out of sun	add water first	yes
Hydra _{val}	16	IF or V3 - V8	Propiconazole	no	6-8 hrs	39-82°	out of sun	add water first	yes
AlphaJoule + Prymer	32	3-5" regrowth	Propiconazole	no	6-8 hrs	39-82°	out of sun	add water first	yes
NTexx SI	16-32	IF or Foliar	Insect./Fung.	good	6-8 hrs	39-82°	out of sun	add water first	yes
Envita	3.2	IF or V2-V6	urea	good	6-8 hrs	39-82°	out of sun	add water first	yes
MicroMix Complete	16	V3 - R4	no concern	good	days	no concern	no concern	no concern	yes
Moly	4	V3 - R4	no concern	good	days	no concern	no concern	no concern	yes
Nutra-Boost	16	V3 - R4	no concern	good	days	no concern	no concern	no concern	yes

1. Follow applicator pressure and application settings

2. Using an injection system (in furrow or foliar) for these biologicals is a very good option.

A jar test is recommended to help answer questions

USE OF AGRIGUARDIAN™ PRODUCTS TO IMPROVE SOYBEAN YIELDS

Also Increases the Effectiveness of Soy_{fx}™



Early Season Application: Young Soybeans (V2 – V7) Can partner with most post herbicides.

MicroMix Complete™

- 16 oz per acre foliar applied with most herbicides or can be applied alone
- Aids in preventing yellow flash and plant stunting from herbicides
- Provides essential micronutrients for rapid growth and higher yield
- Supports nitrogen fixation and nodule activity
- Helps overcome IDC, because it has iron in the mix
- Facilitates plant vigor, flowering and pod development
- Recommended as a partner with any glyphosate or glufosinate herbicide application

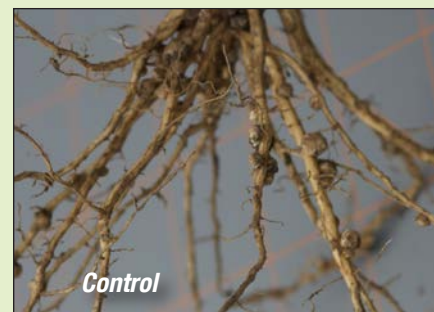
Moly™

- 4 oz per acre foliar applied, can be tank mixed with most other products
- Needed for nodule formation and nitrogen fixation
- Supports healthy, pink nodules
- Molybdenum is the most common nutrient deficiency in agricultural production worldwide.
 - Very small amount in most soils
 - Similar to nitrate, it readily leaches from the soil
 - Unavailable for uptake at low soil pH

NutraBoost®

- ½ to 1 gallon per acre foliar – can be tank mixed or applied alone
- Contains readily absorbed potassium, magnesium, and sulfur
- Promotes rapid growth, and enhanced flowering, and pod set

Micro Mix & Moly Enhance Nodulation & Nitrogen Fixation



Mid-Season: Flower to Pod Fill (R1-R3) Can mix with most herbicides, fungicides, or insecticides.

MicroMix Complete™

- 16 oz per acre foliar applied with most herbicides or can be applied alone
- As soil gets hotter, soil pH increases, reducing the availability of micronutrients from the soil
- Helps reduce seed abortion, and increase pod fill
- Reduces stress and can help reduce disease pressure

Moly™

- 4 oz per acre foliar applied, can be tank mixed with most other products
- Moly applied early does not move out of nodules so another application may benefit the crop
- Needed to convert nitrate into ammonium for plant use
- Assists in regulating water loss, abscisic acid (ABA) and stomata function
- Plants with adequate Mo stay greener longer during drought conditions

NutraBoost®

- ½ to 1 gallon per acre foliar – can be tank mixed or applied alone
- Especially beneficial for pod fill and mid to late season productivity
- Helps move carbohydrates and proteins for grain fill
- Supports chlorophyll and photosynthesis and reduces yellowing or crop burn
- Though soil nutrient levels may be adequate, environmental conditions or root systems may not support sufficient uptake to maximize yield. NutraBoost® will help that



Note: AgriGuardian™ products should be used as part of a good soil and crop nutrition program; including the use of soil tests and tissue analysis to determine the nutritional needs of the soil and crops.

USE OF AGRIGUARDIAN™ PRODUCTS TO IMPROVE CORN YIELDS



Early Season Application: Young Corn (V3 – V5) Can partner with most post herbicides.

MicroMix Complete™

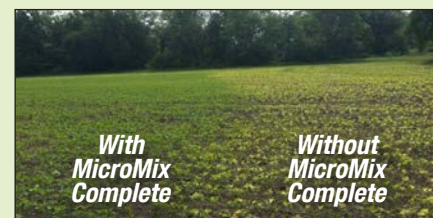
- 16 oz per acre foliar applied with most herbicides or can be applied alone
- Aids in preventing yellow flash and stunting from herbicides
- Provides essential micronutrients for rapid growth and higher yield
- Facilitates plant vigor, enhances ear size
- Works as a partner with any glyphosate or glufosinate herbicide application

Moly™

- 4 oz per acre foliar applied, can be tank mixed with most other products
- Molybdenum is the most common nutrient deficiency in agricultural production worldwide
 - Very small amount in most soils
 - Similar to nitrate, it readily leaches from the soil
 - Unavailable for uptake at low soil pH
- Needed along with zinc for increasing ear size at V3-V5 (formation of IAA which influences number of kernels around and kernels per row)

NutraBoost®

- ½ to 1 gallon per acre foliar – can be tank mixed or applied alone
- Contains readily absorbed potassium, magnesium, and sulfur
- Promotes rapid early growth, and enhanced ear size set
- Provides readily available nutrients when root systems are too small to meet crop needs



Mid-Season: Tassel to Ear Fill (R1-R3) Can mix with most herbicides, fungicides, or insecticides.

MicroMix Complete™

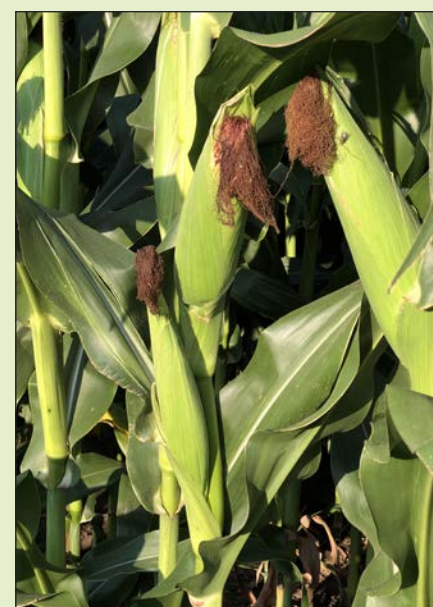
- 16 oz per acre foliar applied with most pesticides or other nutrients, or can be applied alone
- As soil gets hotter, soil pH increases, reducing the availability of micronutrients from the soil
- Helps increase ear fill
- Reduces stress and can help reduce disease pressure

Moly™

- 4 oz per acre foliar applied, can be tank mixed with most other products
- Needed to convert nitrate into ammonium for plant use
- Assists in regulating water loss, abscisic acid (ABA) and stomata function
- Plants with adequate Mo stay greener longer during drought conditions

NutraBoost®

- ½ to 1 gallon per acre foliar – can be tank mixed or applied alone
- Especially beneficial for grain fill and mid to late season productivity
- Helps move carbohydrates and proteins for grain fill
- Supports chlorophyll and photosynthesis and reduces yellowing or crop burn
- Though soil nutrient levels may be adequate, environmental conditions or root systems may not support sufficient uptake for maximize yield. NutraBoost® will help that.



Note: AgriGuardian™ products should be used as part of a good soil and crop nutrition program; including the use of soil tests and tissue analysis to determine the nutritional needs of the soil and crops. AgriGuardian™ offers a complete line of plant nutrients for soil and foliar application, and other crop performance enhancement products. www.AgriGuardian.com

USE OF AGRIGUARDIAN™ PRODUCTS TO IMPROVE SMALL GRAIN YIELDS



Early Season Application Can partner with most post herbicides.

MicroMix Complete™

- 16 oz per acre foliar applied with most herbicides or can be applied alone
- Aids in preventing yellow flash and stunting from herbicides
- Provides essential micronutrients for rapid growth and higher yield
- Facilitates plant vigor, enhances rapid growth and increased tillering

Moly™

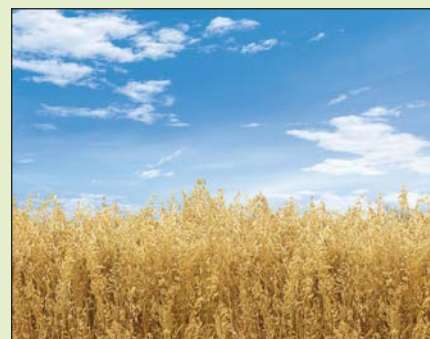
- 4 oz per acre foliar applied, can be tank mixed with most other products
- Molybdenum is the most common nutrient deficiency in agricultural production worldwide
 - Very small amount in most soils
 - Similar to nitrate, it readily leaches from the soil
 - Unavailable for uptake at low soil pH
- Needed along with zinc for increase head size (formation of IAA which controls increase number of kernels per head)

NutraBoost®

- ½ to 1 gallon per acre foliar – can be tank mixed or applied alone
- Contains readily absorbed potassium, magnesium, and sulfur
- Promotes rapid early growth, and enhances head size
- Provides readily available nutrients when root systems are too small to meet crop needs



AgriGuardian Crop Comparison



Mid-Season: Jointing to Grain Fill Can mix with most herbicides, fungicides, or insecticides.

MicroMix Complete™

- 16 oz per acre foliar applied with most pesticides or other nutrients, or can be applied alone
- As soil gets hotter, soil pH increases, reducing the availability of micronutrients from the soil
- Helps increase grain fill and test weight
- Reduces stress and can help reduce disease pressure

Moly™

- 4 oz per acre foliar applied, can be tank mixed with most other products.
- Needed to convert nitrate into ammonium for plant use.
- Assists in regulating water loss, abscisic acid (ABA) and stomata function.
- Plants with adequate Mo stay greener longer during drought conditions

NutraBoost®

- ½ to 1 gallon per acre foliar – can be tank mixed or applied alone
- Especially beneficial for grain fill and mid to late season productivity
- Helps move carbohydrates and proteins for grain fill
- Supports chlorophyll and photosynthesis and reduces yellowing or crop burn
- Though soil nutrient levels may be adequate, environmental conditions or root systems may not support sufficient uptake for maximize yield. NutraBoost® will help that



Note: AgriGuardian™ products should be used as part of a good soil and crop nutrition program; including the use of soil tests and tissue analysis to determine the nutritional needs of the soil and crops. AgriGuardian™ offers a complete line of plant nutrients for soil and foliar application, and other crop performance enhancement products. www.AgriGuardian.com



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