

CLEANER. SAFER. GREENER.®



newfieldsag.com

PRODUCT GUIDE

NEW
BioStax™
for 2024



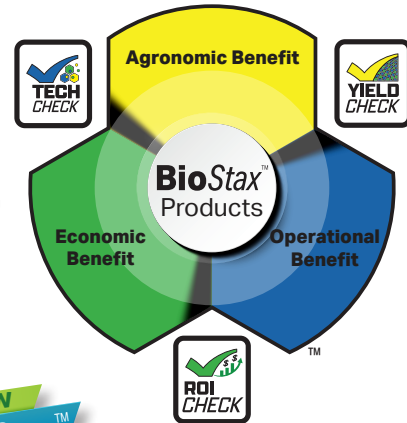
Innovations In Your Fields™

N - Fixer DUST P - Solubilizer

Nutriquire + DUST + Terrasym 450

NewFields Ag BioStax™ Product Benefits

- Convenience - Provide convenience to the end user along with cost savings
- Multiple synergistic effect from 3 or more unique products – 2+2= 5
- Stacking biology into one application-one pass method
- Additional, separate biological modes of action in one "package"



NewFields Ag BioStax™ Products

Terrasym450 + DUST + TS201

Nutriquire + DUST + Terrasym 450

Nutriquire + DUST + Terrasym 401



NEWFIELDS AG TEAM

DAN JOHNSON

Business Development Manager
Northern Region
507-995-2530
dan.johnson@newfieldsag.com
Mankato, MN
Minnesota-South Dakota-North Dakota

AMANDA HILL & JOHN BUCK

Business Development Managers
Eastern Corn Belt Region
567-674-1819
amanda.hill@newfieldsag.com
740-360-9550
john.buck@newfieldsag.com
Marion, OH
Ohio, Indiana, Michigan, Kentucky,
Tennessee, Western Pennsylvania

JEREMIE PARR

Business Development Manager
Central Region
319-540-1450
jeremie.parr@newfieldsag.com
Belle Plaine, IA
Iowa

ASHLEY TERRY

Business Development Manager
Western Region
309-989-7178
ashley.terry@newfieldsag.com
Pleasant Dale, NE
Nebraska-Kansas-Western Missouri

JARED GUEUL

Business Development Manager
Southern Illinois Region
217-725-4894
jared.gruel@newfieldsag.com
Mattoon, IL
Southern Illinois-Eastern Missouri

OPEN POSITION

Business Development Manager
Wisconsin Region
xxx-xxx-xxxx
open@newfieldsag.com
WI, IL
Wisconsin-Northern Illinois

Low Mu Tech & NewFields Ag Headquarters

BRIAN TULLEY

President/CEO
563-357-4063
brian.tulley@newfieldsag.com
Grand Mound, IA

MICHAEL MUSSELMAN

Principal | VP
309-826-2697
michael@newfieldsag.com
Eureka, IL
The rest of the U.S.

BOB KOESTLER

VP – Business Development
Sales & Marketing
608-391-0832
bob.koestler@newfieldsag.com
Fennimore, WI

TALIA EBERHART

Office and Accounting Manager
1-877-632-2467 (1-877-NFA-BIOS)
talia@newfieldsag.com

TRACY GASPER

Warehouse and Shipping Consultant
tracy.gasper@newfieldsag.com



















































DEB TULLEY

deb.tulley@newfieldsag.com

newfieldsag.com

Contact us at:
info@newfieldsag.com
ph: 1-877-632-2467 (1-877-NFA-BIOS)
103 East St.
Grand Mound, IA 52751

Table of Contents

Performance Driven Wheel of Products	4
Leaftech Ag leaf tissue analysis TM  	5
DUST TM + B4 	6
Terrasym450 + DUST + TS201  	7
Nutriquire+DUST+Terrasym 450 or 401  	8
DUST TM 	9
Terrasym [®] 401+DUST 	10
Terrasym [®] 450+DUST 	11
envita  	12
PheNom TM   	13
Nutriquire    	14
Rizoshere Ag   	15
Yield Igniter [®]  	16
Growthful TM    	17
Soyfx TM    Soy30 	18
Ionfx TM   	19
Crownfx TM  	20
B4   	21
DB29  	22
Frenzy   	23
BIGSHOT Maxim insecticide concentrate TM 	24
BAC Ag cleaner TM 	25
NutriPhi   	26
First Mid Ag Financing	27

Cleaner. Safer. Greener.TM

APPLICATION SYMBOLS


PLANTER
BOX

SEED
TREATMENT

LIQUID IN
FURROW


FOLIAR


SOIL
AMENDMENTS


INSECT CONTROL



CLEANER


TECHNOLOGY
SOFTWARE

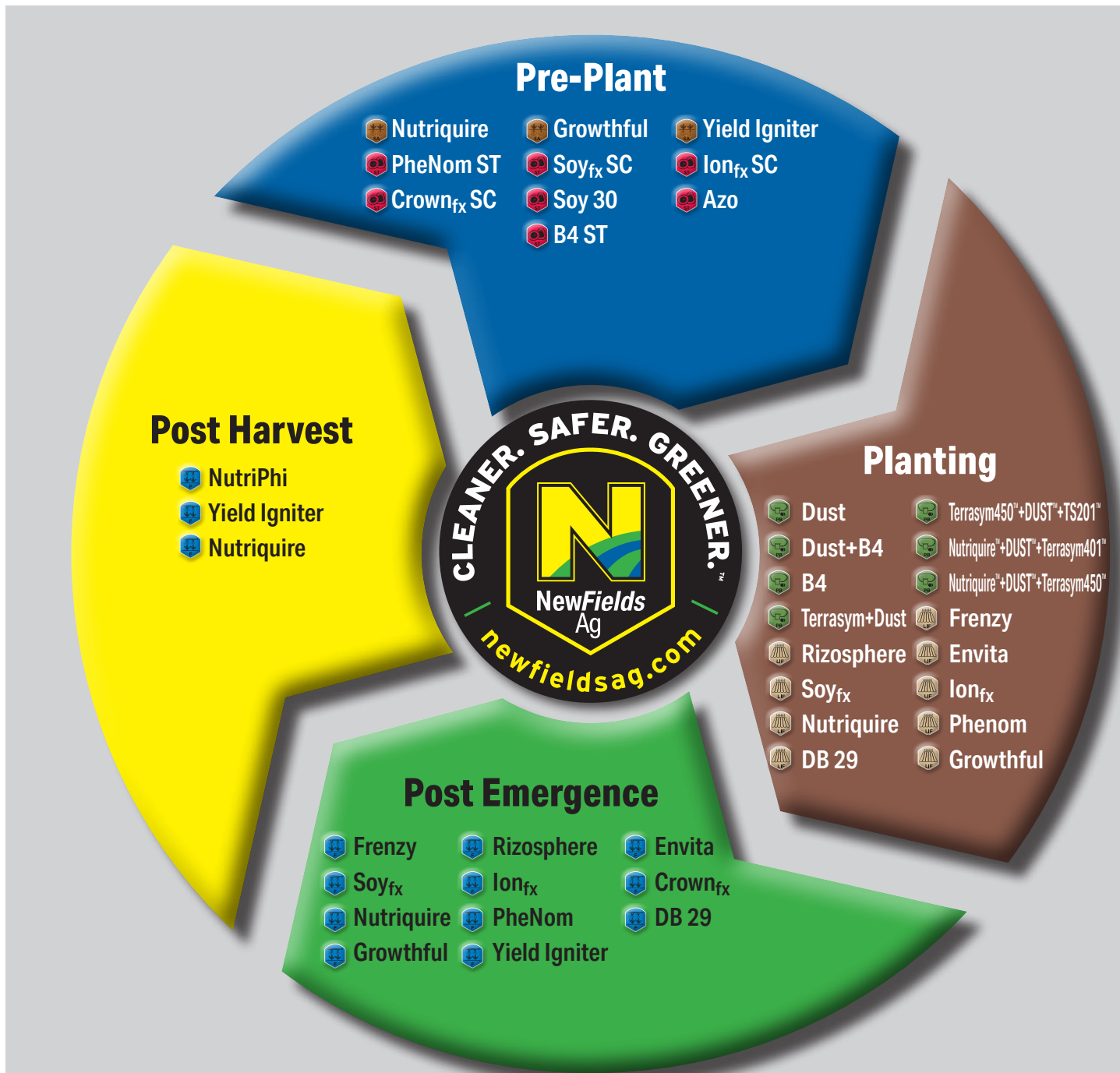
STALK DEGRADATION
& SOIL REMEDIATION

MANURE & COMPOST
MANAGEMENT

Performance Driven by a Full Season Input Approach

Increase Your Output with Full-Stage Inputs

Every seed you put into the ground has great yield potential. NewFields Ag has products specifically designed for every stage of growth and development to give your crop what it needs, when it needs it.



Pre-Plant

Planting

Post Emergence

Post Harvest

NEW

TECHCHECK



On Demand Leaf Tissue Analysis



Leaftech Ag

Timely and Targeted Corrective Actions for Improved Nutrient Stewardship and Nutrient use efficiency (NUE). Leaftech Ag delivers a handheld "Digital Lab" that geo-locates and analyzes a plant's leaf for nutrient composition. This on demand tissue analysis technology provides 30x or more site specific data points at 3% of the cost in 3-5 minutes vs 3-7 days as compared to current methods. It Removes the time delay to achieve a crop's production potential with targeted corrective actions while improving nutrient and environmental stewardship.

Scan as Service Subscription-

Includes: Scanner, Software, Case, (1) Battery, Charger and Unlimited Scans for corn, cotton, and soybeans during the 2023 US growing season
Included nutrient analysis: N, P, K, S, Zn, B, Fe, Mg, Cu, Mn, Ca, Leaf Water Content (LWC). Scanners to be returned to LeafTech Ag upon completion of growing season or discontinued use.



Terms*

This is a scan as a service subscription. At the end of the cropping season the scanner will be returned to the distributor within 20 business days of season end. * Signed agreement terms apply.

On Demand Leaf Tissue Analysis

Simple. Timely. Targeted. - application of nutrients.

Delivering results in the field:

Time = Minutes vs Days

Cost = Cents vs Dollars

Reduced input cost / unit of production - improved yields and quality

Reduced carbon emissions

30x sample or more site-specific analysis for significant less cost

Current Nutrients Measured

- Nitrogen
- Phosphorus
- Potassium
- Sulfur
- Zinc
- Copper
- Iron
- Boron
- Manganese
- Magnesium
- Calcium
- Leaf Water Content (LWC)

Up to 97% accurate as compared to lab samples. Leaftech helps a crop reach production potential.

Reaching a crop's production potential with improved environmental stewardship and sustainability

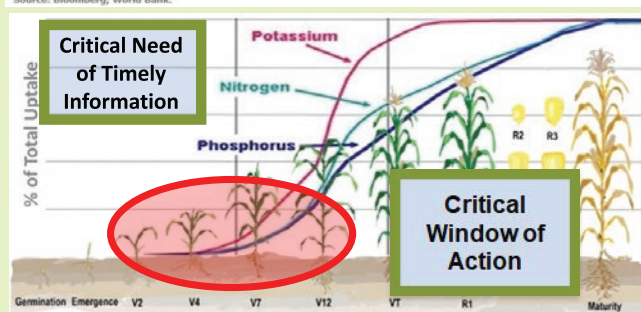
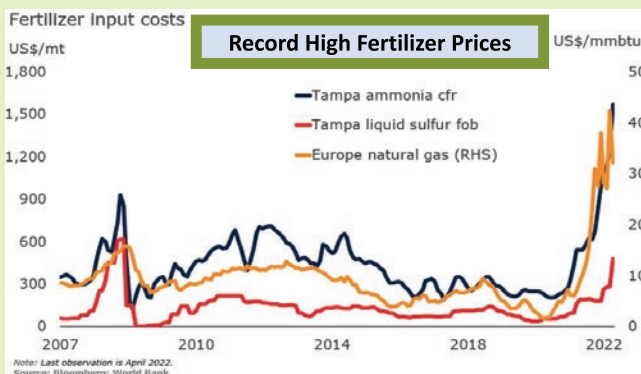


The Problems

Application of nutrients to a crop can be restricted by today's costly leaf tissue and soil sampling practices.

- 3-7 Days for lab results
- \$30-\$50 per composite lab analysis and labor
- Short critical window for decision making for nutrient imbalances
- Composite samples, non-site specific
- Limited number of data points per plant or tested field process to writing application recommendations.
- Lack of integrated analysis combined with application recommendations
- Inefficient application of expensive nutrients to lower productive areas

Results equal a crop's production potential is not achieved



NEW



POWERED by™
DUST



MINIMUM GUARANTEED ANALYSIS

Brevibacillus Laterosporous CM3	6.25x10 ⁶ CFU/g
Brevibacillus Laterosporous CM33	6.25x10 ⁶ CFU/g
Bacillus Licheniformis 1001	7.5 x10 ⁶ CFU/g
Bacillus Licheniformis M017	5.0 x10 ⁶ CFU/g
Bacillus Amyloliquefaciens	0.3x10 ⁶ CFU/g
Bacillus Pumilus	0.2x10 ⁶ CFU/g
Inert Ingredients: Dry Carrier	96%



What is DUST + B4?

- **DUST+B4** is a combination of DUST Seed lubricant, as the bio-complex inclusion carrier for B4. The B4 component is a blend of 4 highly beneficial bacillus microorganisms: *Bacillus licheniformis*, *Bacillus amyloliquefaciens*, *Bacillus pumilus* and *Brevibacillus laterosporus* for use in agriculture for all crops and is recommended for dry planter box application used to increase nutrient uptake and provide seed lubricity.

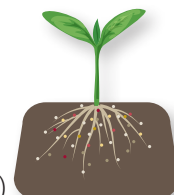
WHEN APPLIED, DUST + B4 :

- Microbes grow on the roots of your crop all season long increasing nutrient uptake and allows plants to more effectively use nutrients.
- Provides seed lubricant and seed flow aid during planting or seeding.

ECONOMIC BENEFITS

- +\$89/ac Soybeans
- +7 bpa
- +\$41/ac Corn
- +9.4 bpa

Results are from 3 year of field trials in 11 states (liquid)



OPERATIONAL BENEFITS

- Can be used on all crops
- Easy to use planter box/hopper box application
- Microplastic free
- The recommended application rate is 0.5 oz. (14g) per 1 unit of corn (80,000 seeds/unit) or soybeans (140,000 seeds/unit).
For wheat and other small seed crops 0.5 oz (14 g) per 50 lbs (22.67 kg) of seed.
- Compatible with seed applied fungicides, insecticides, and inoculants
- Convenient package size
 - 4x 1.56 lbs (0.7kg) pouches per box

AGRONOMIC BENEFITS

- Easily applied to seed for planter box use.

Agronomic Benefits of B4?

B4 solubilizes phosphorous(P), zinc(Zn) and iron (Fe) that are in the soil and unavailable to your crop. These elements are made unavailable in the soil by other elements; iron, aluminum, calcium. It takes many years for P, Zn, Fe to naturally break down and become available to feed your crop. Depending on the pH of your soil, up to 50% of the P applied at planting is not available. P, next to nitrogen is the most limiting nutrient for crop production. Crops use P to store and transfer energy produced by photosynthesis as well as for growth and reproduction.

Many factors affect P availability to crops. In acidic soils, P is made unavailable by iron and aluminum, in alkaline soils P is made unavailable by calcium. This is what causes your P to not be used to your crop and build up in your soil.

B4 rapidly creates a biofilm on the root of your crop. This biofilm is what contacts the soil and solubilizes P, Zn, and Fe. Because B4 grows all season long, it is increasing the availability and uptake of P, Zn, and Fe throughout the growing season.

P deficiency is common in crops growing in high P soils due to P not being available.

Side by side, same hybrid, same starter fertilizer, planted same day

Check



B4

+9.3 bpa



NEW

Terrasym450™+DUST™+TS201™ NEW to the NewFields Ag BioStax™ lineup!

Ways this Leading-Edge Package benefits your crop's performance



TERRASYM® TREATED CORN HAD LARGER ROOT SYSTEMS

- +9.8% in density
- +15.7% in surface area*
- +10.4% in root length
- +8.5% in # of root tips
- +4.3% in steep rooting angle
- -4.2% in shallow rooting angle*
- +8.9% in fine roots (0- 2mm diameter)

*p < 0.05 statistically significant effect

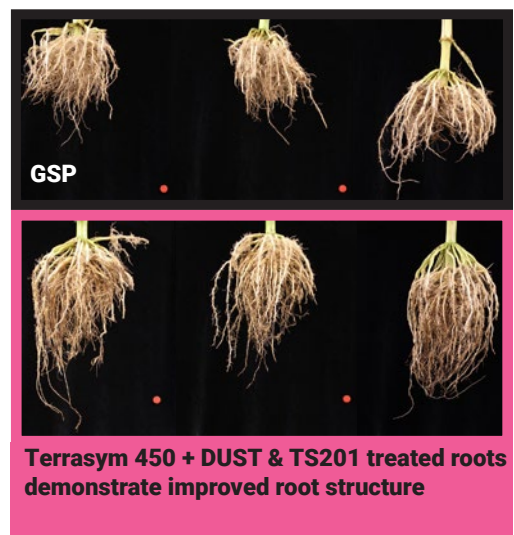


Grower Standard Practice (GSP)



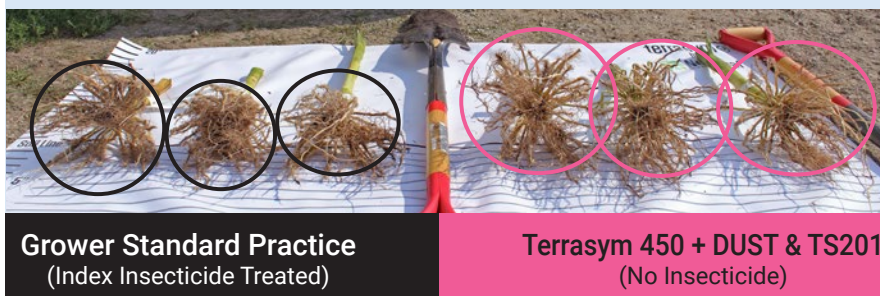
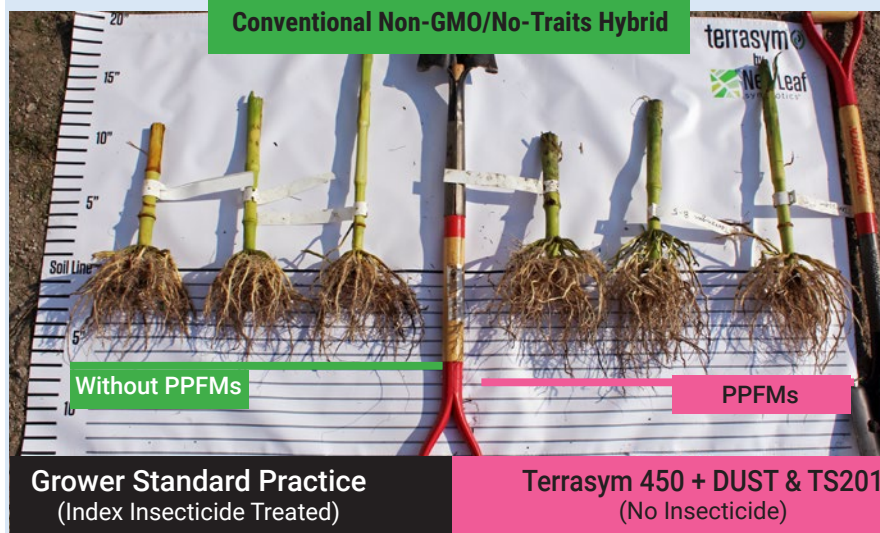
Terrasym 450 + DUST & TS201

IMPROVED ROOT STRUCTURE



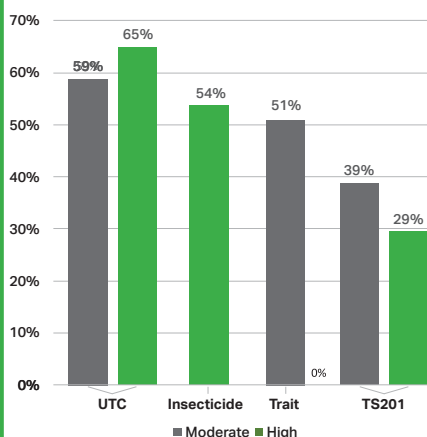
TERRASYM TECHNOLOGY ENHANCES THE ROOT STRUCTURE, EVEN WHEN UNDER ROOTWORM PRESSURE:

- Longer root, further soil depth and anchorage
- Broader circumference of root, greater standability



IMPROVED ROOT STRUCTURE DECREASES LODGING

Lodging Under Corn Rootworm Pressure



ROOT REGROWTH AFTER LARVAL PRUNING

In situations where roots are fully pruned by larval feeding, Terrasym treated roots demonstrate aggressive re-growth at the site of damage



NEW

Nutriquire + **terrasym** + **DUST**

New addition to

BioStax™ product line-up

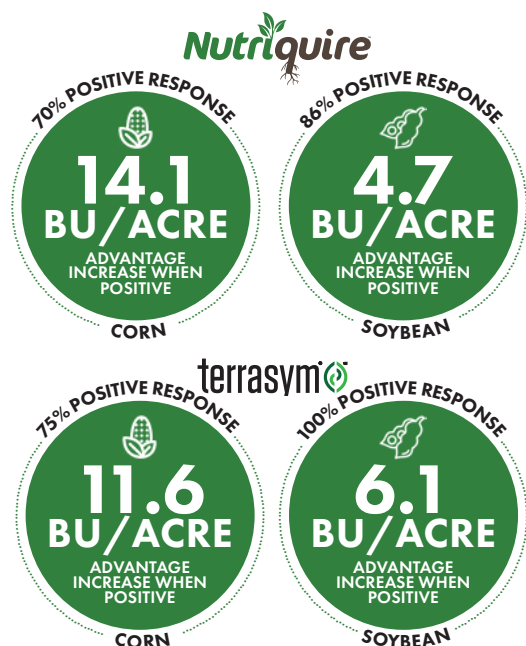
POWERED by **DUST**



Nutriquire +
Terrasym + DUST
is a synergistic
combination of
spore forming and
symbiotic sidero-
phore producing
microbials applied
in the planter box
providing ease of
use, improved

plant nutrient uptake and return on your
investment.

DUST is a patented Bio-Complex inclusion
carrier providing a perfect environment for
hosting biologicals leading to a long shelf
life. DUST also provides a yield-enhancing
amino acid food source to the sprouting
roots for stronger plant vigor right out of
the ground.



For Use On: Corn and Soybeans

BENEFITS

- Improved soil nutrient uptake
- Allows for greater iron and manganese uptake.
- Provides protection around the seed through competitive exclusion

IMPACT ON THE PLANT

• Crop Stress Mitigation

Utilizes nutrients and water more efficiently allowing the plant to continue to operate despite difficult growing conditions.

• Improved Soil Nutrient Uptake

Microbes within Nutriquire + Terrasym + DUST release enzymes that attach to micronutrients and deliver to the plant.

• Improved Ear Fill

Microbes help improve nutrient uptake throughout the entire season leading to improved ear fill.

• Seed Flowability

Provides a cleaner, safer lubrication and improved singulation compared to talc/graphite.

• Potassium Availability

Mineralizes potassium more efficiently allowing for enhanced pod fill.

• IDC Tolerance

uptake. Data shows average of 19.4% increase in the leaf tissue compared to the control.

• Iron Uptake

Bacteria within Nutriquire + Terrasym + DUST produce siderophores which bind iron and concentrate it in the root zone as a plant available form.



APPLICATION RATES

• BULK APPLICATION

Mix product into recommended units of seed, alternating between pouring seed and product for uniform seed coverage.

For Bulk Application use scoop to sprinkle powder on seed into large black "Pro-Box" and mix in before putting seed in tender.

Or apply in "seed pool" at the base of the auger when seed is moving up into planter.

• INDIVIDUAL/SINGLE ROW UNITS



Step 1

Remove provided scoop from packaging



Step 2

Using the scoop and application rates listed sprinkle Nutriquire + Terrasym + DUST into the individual/single row unit and stir gently for uniform seed coverage



Apply one half (1/2) scoop for every one (1) unit of seed.

• PACKAGING:

Soybeans 8 x 20 oz. pouches

Corn 8 x 12.5 oz. pouches



A product of:



DUST[™] is microplastic free, 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



**INNOVATION;
in the planter box.**

Directions for use:

- 1) This product may settle in the container during shipment. Gently agitate the container prior to use by turning this container end over end a few times with the lid securely in place to loosen material if settling has occurred.
- 2) Open container.
- 3) Begin with 1 scoop of product per 2 units of seed (i.e. about 1 oz per 2 unit of seed). Usage rates vary by planter type and size. The link below will give you more detailed usage information.
- 4) Use the same application method used for graphite and/or talc.
- 5) Put lid back on container.
- 6) 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.



Scan QR code for additional instructions.



Available Now
New products with built in biologicals.



POWERED by
DUST



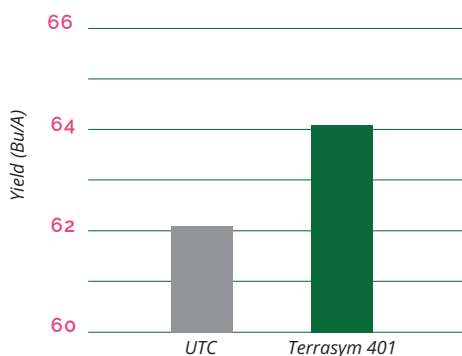
IN-FIELD PERFORMANCE



+2.0 BU/A
average yield
advantage*

75%
win rate*

16
total large-scale
trials, across 16
unique locations*



SOURCE INFORMATION: *2020 IN10T Farmer Trials data; All untreated checks and PPFM treatments have base fungicide and insecticide application.

For Use On: Soybeans

Terrasym® 401 + DUST™ for soybeans is designed to improve seed lubrication and seed flow during planting and deliver improved nutrient uptake leading to robust early season root development, enhanced tolerance of abiotic stress throughout the growing season, and higher yields at harvest.

BENEFITS

- Terrasym® 401 contains a unique strain of beneficial microbes called pink pigmented facultative methylotrophs (PPFMs), specially selected for use in soybean.
- Flow properties equal to or better than existing offerings.
- Reduces overall dustiness and residue transfer to skin and clothing.
- Insecticide-free and carcinogen-free, reducing health risks of the farmer and environment.
- Proven to reduce static and to be up to 20 times less abrasive to seed than Talc.*
- Shows enhanced development of soybean root area by +2.9%, rooting depth by +5.6% and root tips by +2.4%.**
- Features broad compatibility with 120 days on-seed stability when applied as a planter box application.
- DUST™ product is supported by the United Soybean Board and made from 100% U.S. soybeans with the support of farmers' Soy Check-Off Dollars.

APPLICATION RATES

- **PLANTER BOX:** 0.5 oz. of Terrasym® 401 + DUST™ per unit of soybean (@140K)
- **PACKAGING:**
Quantity of 8 individual 40-unit soybean packets per case*
*Each case treats 320 units or 320 acres @ 140K population

ACTIVE INGREDIENTS

Microbial content 2%

Methylobacterium hispanicum1 x 10⁹ cfu/g

Inert ingredients 98%

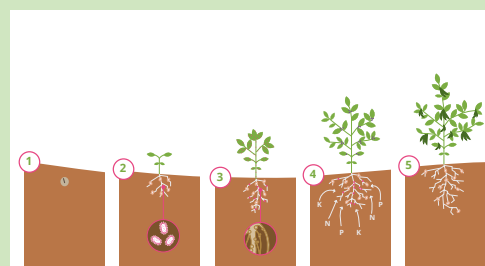


SCAN THE QR CODE
FOR ADDITIONAL
INSTRUCTIONS

SOURCE INFORMATION: *SGS Labs Study **Combination data set from 2020 IN10T Farmer Trials® & 2021 Ag Ingenuity Partner Trials; All untreated checks and PPFM treatments have base fungicide and insecticide application. *** 2020 IN10T Farmer Trials data

HOW DOES TERRASYM® 401 + DUST™ WORK?

1. DUST™ provides seed lubrication and seed flow aid at planting ensuring seed passes through the planter and is placed into the ground as the farmer intends.
2. As broad, season-long plant colonizers, PPFMs spread from the seed surface across a plant's roots and leaves.
3. PPFMs improve nutrient uptake by populating plant roots, which promotes higher numbers of root tips and overall root mass in turn enhancing nutrient acquisition.
4. They also secrete beneficial molecules into the root zone that can bind and transport yield-enabling micronutrients.
5. PPFM colonization throughout the growing season and increased nutrient uptake result in increased chlorophyll content and enhanced photosynthetic efficiency, both of which contribute to increases in yield.





POWERED by™
DUST



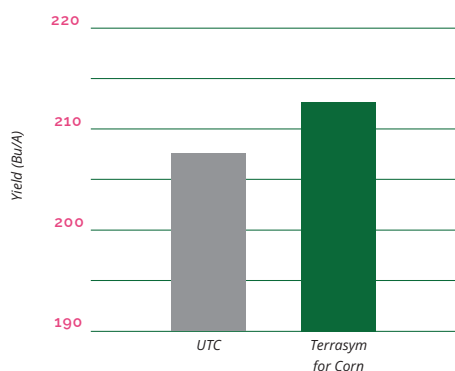
IN-FIELD PERFORMANCE



+4.5 BU/A
average yield
advantage*

80%
win rate*

20
total large-scale
trials, across 20
unique locations*



Source: 2020 IN10T Farmer Trials®; All untreated checks and PPFM treatments have base fungicide and insecticide application

For Use On: Corn

Terrasym® 450 + DUST™ for corn is designed to improve seed lubrication and seed flow during planting and deliver improved nutrient uptake leading to robust early season root development, enhanced tolerance of abiotic stress throughout the growing season, and higher yields at harvest.

BENEFITS

- Terrasym® 450 contains a unique strain of beneficial microbes called pink pigmented facultative methylotrophs (PPFMs), specially selected for use in corn.
- Flow properties equal to or better than existing offerings.
- Reduces overall dustiness and residue transfer to skin and clothing.
- Insecticide-free and carcinogen-free, reducing health risks of the farmer and environment.
- Proven to reduce static and to be up to 20 times less abrasive to seed than Talc.*
- Shows improved development of corn root area by 6.7% and increased nodal root length by 9.6%, which in turn enhances nutrient acquisition.**
- Enhances nutrient uptake, showing improved leaf tissue nutrient concentration with a +17.5% increase in iron and +12.6% increase in manganese over an untreated control.***
- PPFM microbes consume methanol (a waste byproduct in plants), which can lower the energy cost for the plant to host them as symbionts.
- Features broad compatibility with 120 days on-seed stability when applied as a planter box application.
- DUST™ product is supported by the United Soybean Board and made from 100% U.S. soybeans with the support of farmers' Soy Check-Off Dollars.



APPLICATION RATES

- **PLANTER BOX:** 0.5 oz. of Terrasym 450 + DUST™ per unit of corn (@80K)
- **PACKAGING:**

Quantity of 4 individual 50-unit corn packets per case*

*Each case treats 200 units or 470 acres @ 34K population

ACTIVE INGREDIENTS

Microbial content 2%

Methylobacterium gregans1 x 10⁹ cfu/g

Inert ingredients 98%

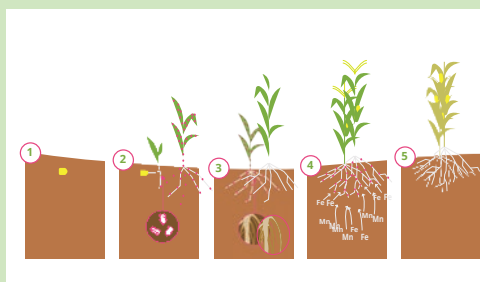


SCAN THE QR CODE
FOR ADDITIONAL
INSTRUCTIONS

SOURCE INFORMATION: *SGS Labs Study **Combination data set from 2020 IN10T Farmer Trials® & 2021 Ag Ingenuity Partner Trials; All untreated checks and PPFM treatments have base fungicide and insecticide application. *** 2020 IN10T Farmer Trials data

HOW DOES TERRASYM® 450 + DUST™ WORK?

1. DUST™ provides seed lubrication and seed flow aid at planting ensuring seed passes through the planter and is placed into the ground as the farmer intends.
2. As broad, season-long plant colonizers, PPFMs spread from the seed surface across a plant's roots and leaves.
3. PPFMs improve nutrient uptake by populating plant roots, which promotes higher numbers of root tips and overall root mass in turn enhancing nutrient acquisition.
4. They also secrete beneficial molecules into the root zone that can bind and transport yield-enabling micronutrients.
5. PPFM colonization throughout the growing season and increased nutrient uptake result in increased chlorophyll content and enhanced photosynthetic efficiency, both of which contribute to increases in yield.



* Read and follow all labeled instructions

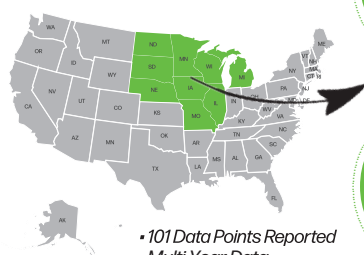
envita

**Envita.
Nitrogen
Now.
In Every
Cell.**

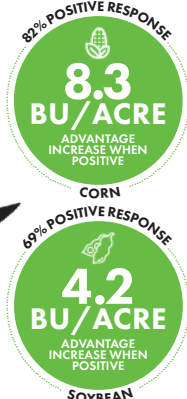
*The only
N-fixing
bacteria that
works from
within the plant applied in furrow OR
foliar, and across crops to supplement
nitrogen where and when it's needed.*



*BACKED BY A
PERFORMANCE GUARANTEE!*

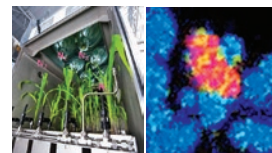


Results may vary by location and growing conditions.



APPLICATION RATES

- **In Furrow:** 0.80 fl. oz. per acre
- **Foliar:** 0.80 fl. oz. per acre
- **Guaranteed Analysis**
- **Packaging:** 32 ounce bladder 4 per case.
- **32 ounce bladder treats 40 acres**



- 1) Atmospheric N₂ was labelled "marked" and added to a growth chamber with corn.
- 2) Envita fixing labelled 9 (pink) Nitrogen in plant cells.

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 0.80 ounces (32 ounce bladder treats 40 acres) of Envita into the fertilizer/water mixture in the application tank.

• Non-plant Food

Active Ingredient: Gluconacetobacter diazotrophicus 1x10⁷ CFU/ml
Total Inert Ingredients: 98% (w/v)
(polysaccharides: 1-10% (w/v) and water: 88-97% (w/v))

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:

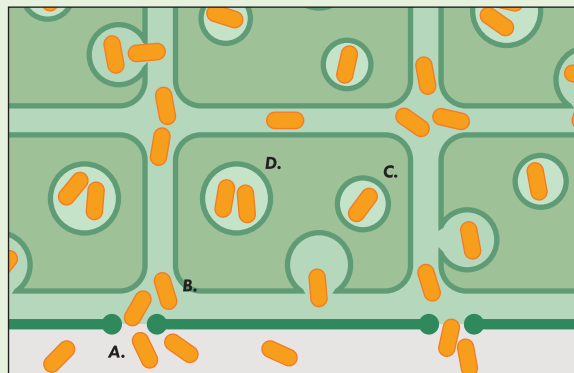
- Envita is compatible with most herbicides, insecticides, and fungicides. Perform a jar test to confirm compatibility.
- If possible avoid mixing with Group 4 herbicides, however Performance Guarantee will still apply if used with Group 4 herbicides.
- Apply Envita between the V2-V6 stage in corn & 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.

HOW ENVITA WORKS:



Envita can be applied in furrow at planting or sprayed on growing plants. It quickly establishes within the plant and grows with the plant as it matures. Unlike rhizobia which does not begin forming nodules until the root system is taking form, Envita starts to fix nitrogen very quickly and lasts all season long. This provides the plant with an additional source of nitrogen during critical growth periods where nitrogen loss may occur due to environmental conditions

- Envita enters the plant through the root zone (in-furrow application) or leaf stomata (foliar application)
- Envita bacteria works its way into the plant cell and colonies within the actual cell
- Envita bacteria 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



ATTENTION:

- Specimen Label is for general information only
- It is customer responsibility to follow all Federal, state, and local regulations regarding biologicals.
- Before using any biological be sure the intended use is approved in your state.
- Your state may require additional precautions for biologicals that are not included here.
- This information may differ from product label.
- Always follow the label and instructions on the product.
- Not a fertilizer substitute.

Minimum Guaranteed Analysis

Active Ingredient:

Pseudomonas sil. 1x10⁵ cfu/ml

Curtobacterium sal. 1x10⁵ cfu/ml

Inert Ingredients: nonaqueous carrier 98%

Cautions

Eyes: May cause mild irritation to eyes if high exposure.

Skin: May cause mild irritation to skin if high exposure.

Shelf life: 10 months from time of production.

Purpose: Biological nitrogen fixation and phosphorus solubilization.
Not a fertilizer substitute.

**For best results,
apply to your crop as
early as possible to get
season long nitrogen.**

What is PheNom®?

- PheNom® is a blend of 2 endophyte bacteria. One lives in the plant above ground and supplies nitrogen from the air, the other increases efficiency of how the plant uses phosphorous.



Application Rate PheNom ST

- Apply product at a rate 2 oz per 100# of seed
- Bladder treats 120 cwt of seed.

Directions for use of PheNom ST

- Shake contents of package to mix thoroughly.
- Open bladder when ready to use.
- Calibrate treater
- Treat seed



For best results PheNom ST

- Store in a dry and shaded location in temperatures between 35° and 70° F.
- Apply product to seed as close to planting as possible for best results.
- Calibrate the treater to apply correct rate.
- Do not mix with other products in tank of treater. (non-chlorinated water is acceptable)
- Even distribution of product on seeds for best results.
- Life on seed up to 30 days.
- Call NewFields Ag representative for questions and compatibilities with other products.



LiF Application Rate of PheNom

- Apply at a rate 16 oz per acre in furrow
 - 2x2.5 gallons = 40 acres
 - 200 gallons = 1,600 acres

Directions for LiF use of PheNom

- Shake contents of package to mix thoroughly.

For best results PheNom

- Store in a dry and shaded location in temperatures between 35° and 70° F.
- Apply product to seed furrow over the seed.
- Calibrate the applicator to correct rate.
- Compatible in liquid starter fertilizer up to 15 days. Mix after sitting.
- Call NewFields Ag representative for questions and compatibilities with other products.

Foliar Application Rate

- Apply at a rate 16 oz per acre in foliar
 - 2 x 2.5 gal = 40 acres
 - 200 gal = 1,600 acres

Directions for Foliar use of PheNom

- Shake or agitate contents of package to mix thoroughly.
- Add to spray tank last

For best results PheNom

- Store in a dry and shaded location in temperatures between 35° and 70° F.
- Apply product foliar with 10-20 gallons of water.
- Calibrate the sprayer to correct rate.
- Do not mix with foliar applied herbicides and fungicides. (Herbicide efficacy trials ongoing)
- If mixing with herbicides do jar test first and apply same day as tank mixing.
- Compatible in liquid fertilizer up to 2 days. Agitate if not used right away.
- Call NewFields Ag representative for questions and compatibilities with other products.



Nutriquire

Nutriquire Organic



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

APPLICATION RATES

- **Soil Applied:** Sandy soil 32 ounces to the acre, clay or high organic matter soil 32 ounces to the acre.
- **In Furrow:** with seed at planting.
- **Foliar:** 32 ounces to the acre
4-6 leaf or V7 to silking/tasseling
- **Packaging:** Packaged in 2 x 2.5 gal cases or 275 gal totes.)

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.

For Use On: Corn, Soybeans

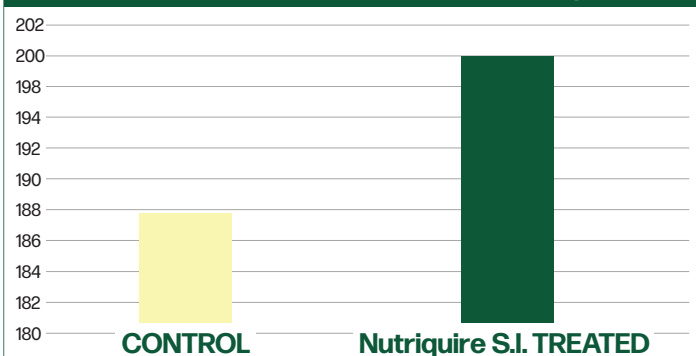
Nutriquire Soil Inoculant is a microbial-based product intended to increase the active biomass in the soil. Nutriquire introduces microbes into the soil resulting in improved plant vigor and nutrient cycling. Many of the bacteria found in Nutriquire are spore forming bacteria allowing for flexible mixing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

Yuma Irrigation Research Foundation

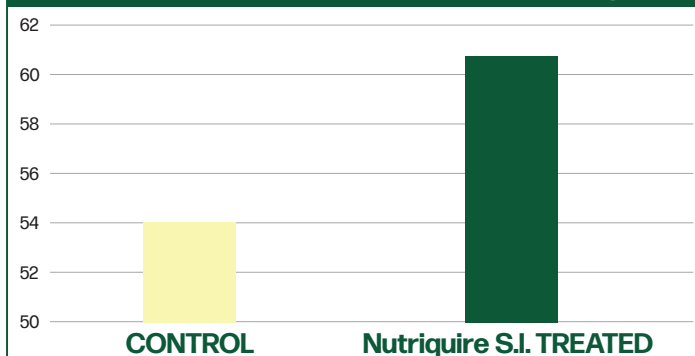
CORN & SOYBEAN MULTI-YEAR TRIAL



Two Year Corn Bu/Acre Average



Two Year Soybean Bu/Acre Average



NEW



RIZOSPHERE^{AG}
MADE WITH NATURAL INGREDIENTS

FOR GENERAL AGRICULTURAL USE

What is Rizosphere Ag?

- **Rizosphere Ag** builds the soil while increasing better early crop growth with deeper healthier root growth and reduced external fertilizer needs. Experience faster growth, greener thicker plant stand, increased fruit crop production, flowering, and overall health of soil eco-system. Plant and soil builder with broad spectrum modes of action. It is made from lactating dairy cow manure using a multi-stage microbial fermentation process to extract the essentials from the manure along with additional beneficial ingredients.

Features & Benefits Rizosphere Ag

- 100% bio-degradable, odorless, clean liquid
- All natural ingredients. Contains over 70 beneficial constituents including micronutrients, 3 natural growth constituents, numerous beneficial microbial and metabolites, fungi, and essential organic compounds.
- Supplements the natural biological process of the organic turnover in the soil which increases robust root and plant growth
- Establishes a relationship between the fungi contained in Rizosphere Ag and the soil bacteria in organic soil recycling
- Fungi and kelp extracts work in conjunction to enhance growth and create healthy soil in anaerobic conditions
- Feeds and nourishes soil bacteria that communicate and create naturally what the plant is requiring for strong healthy growth.
- Works faster than residues in the soils for stimulating decomposition of organic materials and assisting growth hormones to enter the plant molecules faster and with less resistance. Mobilizes minerals to nutrient status in soil solution.
- The fermentation process produces a solution that gives consistent results that are complementary to and compatible with the kelp extract nutrients using water as a carrier.
- Turfgrass: Better germination, grows more vigorously, deeper root growth, healthier grass, reduced fertilizer needs. Reduced shock for sod plantings, faster rooting, increase in heat tolerance. Faster growth and greener thicker blades.
- Increases fruit crop production, flowering, overall health of plant and soil ecosystem.
- Made in the USA



Packaging (Ready to use formula):

- 4 x 128 oz per case
- 300 Gallon Tote

Minimum Guaranteed Analysis:

Total Nitrogen (N)	3%
Urea Nitrogen	3%
Soluble Potash (k2O)	3%
Phosphate Total (P205)	3%
Manganese	0.1%
Zinc	0.01%

Anaerobic plate count 2,700,000 cfu/g

Builder Aerobic plate Count 17,000 cfu/g • Kelp Extract

Application Rate:

For all row crops, small grains, alfalfa/hay, wheat, forage

- **Infurrow:** 4 oz per acre
- **Foliar:** 4 oz per acre
- For Specialty, Fruits, Vegetables: contact NewFields Ag™ or dealer for application rates
- Turf, Lawn & Garden, Greenhouses: See application guide
- Greenhouse & Garden Application: 4 oz per gallon of water solution

Storage and Disposal:

- Store at room temperature.
- Do not freeze.
- Do not reuse the container.
- Dispose of in trash or offer for recycling.

Shelf Life:

2 years in unopened container



NewFields Ag™
Innovations In Your Fields™

Cleaner. Safer. Greener.™
Products supplied for
NewFields Ag™ by



NEW

**YIELD
IGNITER®**
fertilizer



For Use On: Corn, Soybeans, Wheat, Alfalfa, Pasture

DESIGNED TO DOMINATE: Strong, healthy plants are the most logical path to increased yield and profitability. Yield Igniter: A proprietary blend of humic and fulvic acid along with NPK (9-9-3), gives your corn and soybeans the boost they need at every stage of plant growth. Yield Igniter increases root mass in corn and improves nodulation in soybeans, which greatly increases water, nitrogen and other nutrient uptake, leading to healthier and more durable plants.

PLANT HEALTH BENEFITS

- Improves standability
- Decreases plant disease
- Increases water and nutrient uptake
- Better utilization of nutrients
- Quick plant entry
- Enhances effectiveness of herbicide and fungicide with foliar application
- Increases chlorophyll amount
- Assist with the release of soil bound P&K
- Increases root exudates leading to more microbial activity
- Better utilization of later applied applications of N through improving root mass and root nodulation
- Builds a larger healthier plant that allows efficient use of all inputs

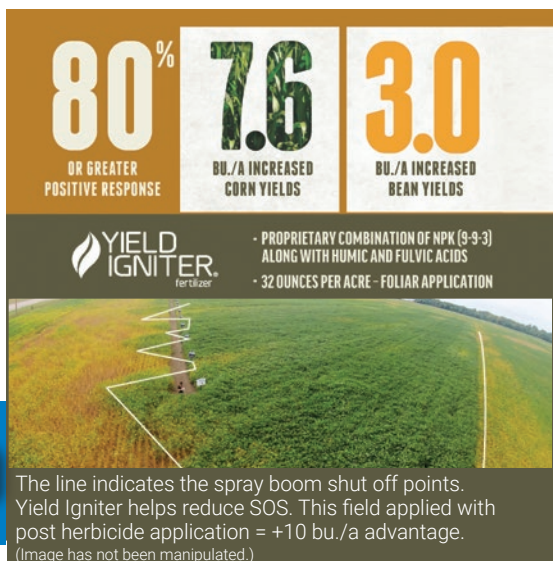
SOIL HEALTH BENEFITS

Yield Igniter increases root size and density. These benefits improve soil structure, reduce compaction and increases water infiltration, aeration and soil tilth - leading to better erosion control and less runoff. Yield Igniter increases phosphorus availability by lowering overall pH levels. This is done by increasing root exudates that contain organic acids that work to release phosphorus trapped in the soil. Healthier soil leads to healthier plants and higher yields.

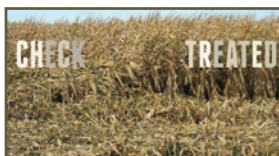
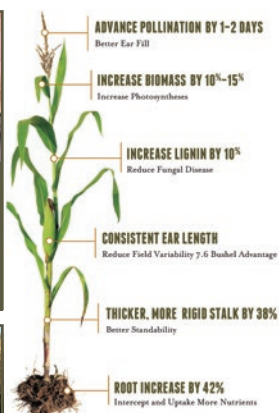
- Increase organic matter in the soil
- Increase carbon capture, sequestration
- Reduce soil compaction
- Increase water infiltration
- Increase water holding capacity
- Increase water and nutrient uptake
- Reduce erosion and runoff
- Makes nutrients more available to plants
- Provides environment and stimulus for microbial activity
- Holds nitrogen in reserve in the soil and gradually makes it available to plants
- Provides stimulus for beneficial soil microorganisms
- Ability to reduce rate of synthetic fertilizers
- Maximizes manure fertilizer

APPLICATION RATES

- **Foliar Application:** 32 ounces per acre – Foliar Application (from V3 through VT in corn) and (from V3 through R2 in soybeans) Apply in-season on crop with fungicides, insecticides, and chemistry.
- **Packaging:** 2x2.5 gallon jugs, 250 gallons mini-bulks.



The corn stalk on the left was treated with Yield Igniter and is thicker and more rigid than the untreated stalk. (Image has not been manipulated.)



Corn on right was treated with Yield Igniter, making them less susceptible to damaging winds. (Image has not been manipulated.)



INCREASE BIOMASS UP TO 10%



GROWTHFUL™

For Use On: Corn, Soybeans, Hay, Vegetables Effective Growth Promotion



CLEAR
LIQUID



NO ADDED
APPLICATION COSTS



BLENDABLE WITH
MOST INPUTS*



NON
FLAMMABLE

Corn Field Test ROI:
For every \$1 invested,
\$7 was returned.
Get it done with Growthful!

**A 10% increase in Soybean
yield could give you
\$75+ per acre
of potential profit.
Get it done with Growthful!**

Aqueus Growthful Pre Emerge (5 gallon container)	Ozs per acre
Corn	256.00
Soybeans	256.00
Aqueus Growthful In Furrow (5 gallon container)	Ozs per acre
Corn	16.00
Soybeans	16.00
Aqueus Growthful Post Emerge (5 gallon container)	Ozs per acre
Corn	12.80
Soybeans	12.80

Growthful™ is the auxiliary soil amendment that helps you grow more, faster and can easily be added to your current cultivation application methods. Growthful breaks down organic matter in the soil to release nutrients and provides hydrogen ions to improve soil and plant processes.

BENEFITS

- Increase crop yields
- Grow bigger crops faster
- Improves and increases water/nutrient availability, use, efficiency, processing, and retention
- Condition your soil for improved plant performance
- No added application costs

CORN

Product: Growthful Pre-Emerge

Burndown application: A single application prior to the emergence of the plant. Dilute 2 gallons of *Growthful Pre-Emerge* in a minimum of 10 gallons of water and apply to soil prior to emergence of plant. The target application rate is 2 gallons of *Growthful Pre-Emerge* per acre.

In Furrow application: Dilute 16 oz. of Growthful Pre-Emerge in a minimum of 3 gallons of water per acre on 30" rows. For fields with 15" rows, dilute 32 oz. of Growthful Pre-Emerge in 6 gallons of water per acre.

Product: Growthful Post-Emerge Spray

Broadcast application: Application of *Growthful Post-Emerge Spray* should be applied with the first treatment of herbicides, with regular treatments of fungicide during silking, and applied at tassel. Dilute 12.8 oz. of *Growthful Post-Emerge Spray* in 10 gallons of water and apply broadcast to soil or over crops. *Growthful Post-Emerge Spray* may be applied at other stages following V1. Apply 12.8 oz. per acre.

SOYBEANS

Product: Growthful Pre-Emerge

Burndown application: A single application prior to the emergence of the plant. Dilute 2 gallons of *Growthful Pre-Emerge* in a minimum of 10 gallons of water and apply to soil prior to emergence of the plant. The target application rate is 2 gallons of *Growthful Pre-Emerge* per acre.

In Furrow or 2 x 2 application: Dilute 16 oz. of *Growthful Pre-Emerge* in a minimum of 3 gallons of water per acre on 30" rows. For fields with 15" rows, dilute 32 oz. *Growthful Pre-Emerge* in 6 gallons of water per acre.

Product: Growthful Post-Emerge Spray

Broadcast applications at R1: Dilute 12.8 oz. of *Growthful Post-Emerge Spray* in 10 gallons of water and apply broadcast to soil or over crops after emergence. Apply 12.8 oz. per acre.

WARNING: The use of *Growthful Post-Emerge Spray* at higher than 12.8 oz. in 10 gallons could damage the crop.

NOTE: Soil type, nutrient brand, irrigation schedule, center pivot, and crop types can affect Growthful Pre-Emerge or Post-Emerge results. Please review the label, complete jar test, and consult your Aqueus representative for recommended rates and timings.

Also Works On:



CANNABIS



CARROTS



CORN



HAY



LETTUCE



ONIONS



PEPPERS



POTATOES



SNAP PEAS



SOY BEANS



SUGAR BEETS



WATERMELON

Soy_{fx}™



untreated

Soy_{fx}™

SCAN THE QR CODE FOR THE
LATEST MIXING/USE GUIDE

Branches, Pods, & Nodulation

**11%
MORE
BRANCHES**
with Soy_{fx}

**28%
MORE
PODS PER PLANT**
with Soy_{fx}

**23%
INCREASE
IN NODULATION**
with Soy_{fx}

How Does Soy_{fx} Increase Branching?

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

For Use On: Soybeans

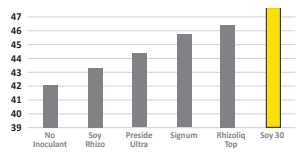
Soy_{fx}™ is a specific/unique combination of identified and tested microbials that elicit a positive crop response. Soy_{fx}™ unlocks the plant's ability to produce growth regulators and metabolites that enhance production through biosynthetic pathway efficiencies.

BENEFITS

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

APPLICATION RATES

- **Seed:** 1 fl. oz. per 50 lbs. 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**
 - Bacillus megaterium 1x10⁵ CFU/ml
 - Bacillus pumilus 1x10² CFU/ml
- Microorganisms exempt from CFR requirements 40 CFR 725
- **Packaging:** 4x120 oz. jugs (seed applied), 2x2.5 gallon jugs (in furrow and foliar), 275 gallon bulk shuttles (in furrow and foliar)



Bio Barge treats 43,200 u

What is Soy30?

Soy30 is a sterile liquid soybean inoculant. It is made of bradyrhizobium japonicum bacteria. This specific bacteria is needed by soybeans to create nitrogen fixing nodules on the roots.

ECONOMIC BENEFITS

- +\$38/ac profit
 - +2.9 bpa
- 2 yr replicated trials, 37 locations 10 states vs no inoculant

OPERATIONAL BENEFITS

Low use rate of 0.5 oz/u or 1 oz/100cwt

- 30 day life on seed
- Can be applied in furrow
- Formulated for commercial seed treaters
- Can be used with other products
- Convenient case sizes
 - 12x40u treats 480u
 - 2x240u treats 480u
 - 1x480u treats 480u
 - 90x480u Barge treats 43,200u

AGRONOMIC BENEFITS

- A sterile liquid inoculant for soybeans
- Applies 1.05 million bacteria per seed
- High amounts of living and fresh Bradyrhizobium japonicum are needed to produce nitrogen fixing nodules on the roots of soybeans.
- Soybeans need 5 lbs. of nitrogen for every bushel produced. Soy30 is the most effective and most profitable nitrogen source for your soybeans.
- Soy30 can be mixed with other products to create added benefits and yield.

Minimum Guaranteed Analysis:

Active Ingredient: Bradyrhizobium japonicum...1x10¹⁰ CFU/mL

Inert Ingredients: Aqueous carrier 99%

Soy30 treated
soybean plants



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.

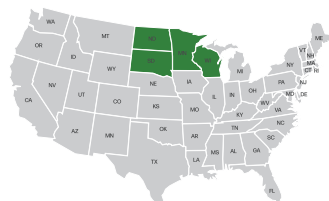
2021 ION_{fx} GRAIN SUMMARY

Testing was conducted in 13 locations across four states with 19 comparisons of ION_{fx} treated products vs. untreated (control).

Results showed the following:

74%
WIN RATE

8.4
BU/ACRE RESPONSE
WIN RATE



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



Southwest WI

BENEFITS

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.

Improved Heat Tolerance

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 fluorescense 1.0 x 10⁵ CFU/ml
- Microorganisms exempt from CFR requirements 40 CFR 725
- **Packaging:** 4x100 oz. jugs (seed applied), 2x2.5 gallon jugs (in furrow and foliar), 275 gallon bulk shuttles (in furrow and foliar)

SCAN THE QR CODE
FOR THE LATEST
MIXING/USE GUIDE



Crown_{fx}™



SCAN THE QR CODE
FOR THE LATEST
MIXING/USE GUIDE



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

4121 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%

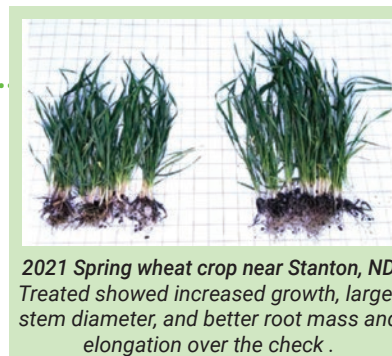
5.92 percentage points or a 36.9% increase in crude protein for treated replications

* Read and follow all labeled instructions

For Use On: Small Grains

BENEFITS

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



2021 Spring wheat crop near Stanton, ND
Treated showed increased growth, larger stem diameter, and better root mass and elongation over the check.

Early Season Emergence & Root Development:

- Crown_{fx}™ 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.

APPLICATION RATES & STORAGE

Crown_{fx} Seed Coat

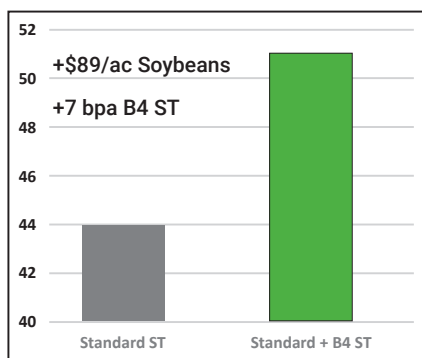
- 2 ounces per CWT seeds via seed treater.
- Should not use hormone-based plant growth regulators (PGR) with this product because the combination may result in stunted growth.
- **Packaging:** 4x1 gallon jugs.

Foliar Application

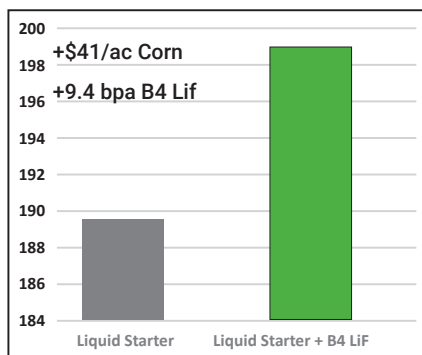
- 16 fl. oz. per acre.
- Apply with 10 to 20 gallons water.
- Do not tank mix with fungicides, PGR's, or glyphosate.
- Compatible with most insecticides and some herbicides.
- **Packaging:** 2x2.5 gallon jugs (5 gallons per case).



Soybeans



Corn



What is B4?

- B4 is a blend of 4 highly beneficial bacillus microorganisms: Bacillus licheniformis, Bacillus amyloliquefaciens, Bacillus pumilus and Brevibacillus laterosporous.
- B4 comes in 2 formulations: B4 ST is seed applied and B4 LiF is liquid infurrow applied with liquid starter fertilizer.
- B4 increases the availability of phosphorous, zinc and iron that are in your soil and unavailable to your crops

ECONOMIC BENEFITS

- +\$89/ac Soybeans
- +7 bpa B4 ST
- +\$41/ac Corn
- +9.4 bpa B4 LiF

OPERATIONAL BENEFITS of B4 ST

- 1 oz per 100 lbs of seed use rate
- Compatible with seed applied fungicides, insecticides, and inoculants
- Convenient package sizes
 - 2x2.5 gallon case treats 640 cwt
 - 15 gallon keg treats 1,920 cwt
 - 55 gallon drum treats 7,040 cwt

OPERATIONAL BENEFITS of B4 LiF

- 16 oz. per acre use rate
- Compatible with liquid starter fertilizers and insecticides in preblends
- Grower can add at the planter
- Convenient package sizes
 - 2x2.5 gallon case treats 40 acres
 - 55 gallon drum treats 440 acres
 - 275 gallon shuttle treats 2,200 acres
 - 4000 gallon bulk treats 32,000 acres

SEE ALSO
DUST+B4
on page 6



Agronomic Benefits of B4?

B4 solubilizes phosphorous(P), zinc(Zn) and iron (Fe) that are in the soil and unavailable to your crop. These elements are made unavailable in the soil by other elements; iron, aluminum, calcium. It takes many years for P, Zn, Fe to naturally break down and become available to feed your crop. Depending on the pH of your soil, up to 50% of the P applied at planting is not available. P, next to nitrogen is the most limiting nutrient for crop production. Crops use P to store and transfer energy produced by photosynthesis as well as for growth and reproduction.

Many factors affect P availability to crops. In acidic soils, P is made unavailable by iron and aluminum, in alkaline soils P is made unavailable by calcium. This is what causes your P to not be used to your crop and build up in your soil.

B4 rapidly creates a biofilm on the root of your crop. This biofilm is what contacts the soil and solubilizes P, Zn, and Fe. Because B4 grows all season long, it is increasing the availability and uptake of P, Zn, and Fe throughout the growing season.

P deficiency is common in crops growing in high P soils due to P not being available.

Side by side, same hybrid, same starter fertilizer, planted same day

Liquid Starter



Liquid Starter + B4LiF





DB29 LiF – Soil Biology Accelerator

DB29 is a specially blended micronutrient food for biology made by microbiologists. Some other bio-stimulants are based on sugar that provides a quick spike in energy for soil biology. DB29 is used by microbiologist for a longer, microbial performance.



Increased nutrient utilization



Reduces the effects of heat and drought stress

Minimum Guaranteed Analysis:

Active Ingredient: Micronutrient food for soil bacteria

Inert Ingredients: Aqueous carrier 99%

What is DB29?

DB29 is a unique micronutrient blend formulated by microbiologists specifically for feeding and stimulating bacteria to create an increase in population with a longer more stable life. DB29 has been used by microbiologists for many years in feeding bacteria in the fermentation process.

ECONOMIC BENEFITS

DB29 on Corn

- +5.5 bpa
- 95% win rate
- 2.4% yield increase
- +\$26/acre net profit @ \$6/bu

DB29 on Soybeans

- +2.25 bpa
- 96% win rate
- 3.5% yield increase
- +\$23 acre net profit @ \$13/bu

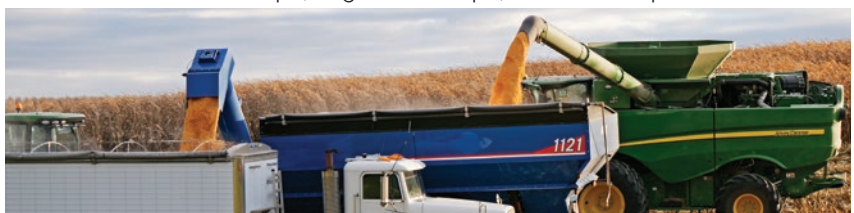
Results are from 2 years of field trials.

OPERATIONAL BENEFITS

- Foliar or in furrow application
- Tank mix compatible with herbicides, adjuvants, fungicides, liquid starter fertilizer and insecticides
 - Always perform a jar test
- Low 16 fl/oz rate per acre
 - **In furrow** – 16 oz per acre with minimum of 3 gallon liquid carrier
 - **Foliar** – 16 oz per acre with minimum of 10 gallon liquid carrier
- Convenient package size
 - 2x2.5 gallon case treats 40 acres
- Shelf life of 2 years from time of production.

AGRONOMIC BENEFITS

- DB29 is a special blend of micronutrients formulated to feed soil biology. DB29 causes a much longer more stable enhancement of soil biology than other sugar based competitors in the bio stimulant market. Sugar based bio-stimulants may cause a increase followed by a decrease in biology activity. DB29 creates a longer more stable benefit to your crop and is a great additive to other biological products.
- Compatible in tank mixes with herbicides, fungicides and starter fertilizers
- Works on all row crops, vegetable crops, and tree crops



Increases biological product performance

NEW

YIELDCHECK



Frenzy



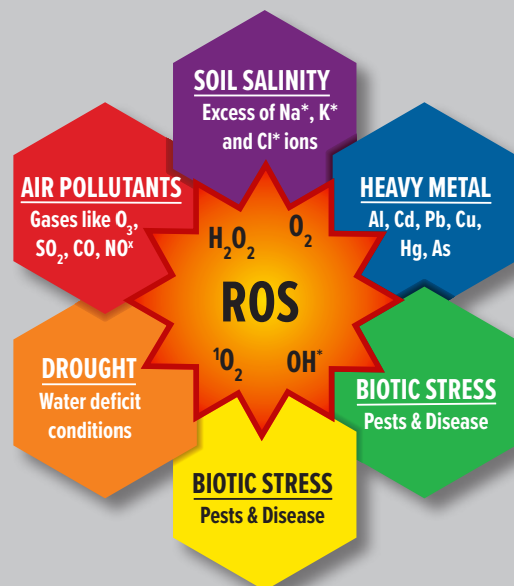
Frenzy BioTech Antioxidant Enzyme

- BioTech – enzyme produced by a bacterium
- ROS scavenger - Protects mitochondria against (ROS) reactive oxidative stress
- 100 times more efficient at combatting stress than isoflavinoids

What is ROS?

ROS = Reactive Oxygen Species

1. ROS is produced when a plant is under stress.
2. ROS negatively affects mitochondria and chloroplasts.
3. ROS causes damage to plant cells.



Minimum Guaranteed Analysis:

Active Ingredient: 9-Tricarboxylic Acid
Inert Ingredients: Aqueous carrier 99%

Specific Gravity = 1.0

Density = 8.34 lbs./gallon

* Read and follow all labeled instructions

What is Frenzy?

Frenzy is scientifically known to positively effect mitochondria. Mitochondria produce energy within cells. Frenzy is a unique enzyme produced by a beneficial bacteria. This enzyme has been removed from the bacteria and concentrated to increase the response and benefit to the plant and to improve tank mix compatibilities. Frenzy is a biotechnology that is a proven enzyme for helping plants withstand and recover from stress, while increasing nutrient efficiency. Frenzy is very effective under heat and drought stress in row crops and vegetable production.

ECONOMIC BENEFITS

Frenzy on Corn

- +8.7 bpa
- 97% win rate
- 3.7% yield increase
- 4.6:1 ROI
- +\$32/acre net profit @ \$5/bu

Frenzy on Soybeans

- +2.23 bpa
- 95% win rate
- 3.4% yield increase
- 2.6:1 ROI
- +\$17.75 acre net profit/acre @ \$13/bu

Results are from 3 years of field trials in 11 states

OPERATIONAL BENEFITS

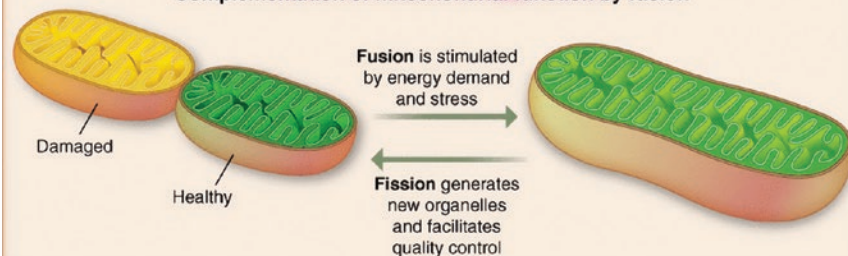
- Foliar and in furrow application
- Can be used on all crops
- Tank mix compatible with herbicides, fungicides, liquid fertilizer, insecticides
 - Always perform a jar test
- Can be applied at any growth stage foliar
- Low 16 fl/oz rate per acre
 - **Foliar** - 16 oz per acre with 10-20 gal of water
 - **In furrow** – 16 oz per acre with minimum of 3 gallons of liquid carrier
- Convenient package sizes
 - 2x2.5 gallon case treats 40 acres
 - 275 gallon shuttle treats 2,200 acres
- Not a living biological (easy storage)
- Shelf life of 2 years from time of production.

AGRONOMIC BENEFITS

- Increases energy for plant growth
- Increases nutrient use efficiency inside the plant
- Increases stress tolerance and stress recovery
- Increases nutrient cycling
- Increases carbon sequestration

How does Frenzy work?

Complementation of mitochondrial function by fusion



NEW

ROICHECK

NutriPhi is designed for beef, dairy, and hog operations to help manage biosolids, reduce run-off, and diminish harmful odors in barns, houses, and lagoons. In row crops, NutriPhi is used to promote efficient breakdown of crop residue.

NutriPhi

KEY BENEFITS

- Breaks down crop residue to make nutrients and organic matter
- Enhances nutrient value of manure
- Digestion of sludge & crust
- Improved air quality of confinement buildings
- Reduce agitation time & cost

APPLICATION



SWINE MANURE

- 2.5 Gallons per 2,400 head hog building monthly

Apply each month that you have missed since pump-out as a shock treatment. For example, on a 2,400 head building if it has been 4 months since the last manure pump-out apply 10 gallons as a shock treatment then begin maintenance of 2.5 gallons per month. Apply product directly to sections of the hog barn that have the highest solids accumulation. Begin program with a minimum of 3 months remaining until pump-out.



SWINE

Size of Herd	Application/ Month	Total Gal/Year
2,400	2.5 gal	30 gal



BEEF & DAIRY MANURE

- See Chart for Application Rates

For best results concentrate product application during months when the lagoon is not frozen. If the lagoon freezes and applications are missed during the winter months, apply the missed amount of product in spring as a shock treatment. Begin program with a minimum of 3 months remaining until pump-out. Do not apply in dairy washout systems that contain concentrated amounts of anti-bacterial.



DAIRY

Size of Herd	Application/ Month	Total Gal/Year
100	2.5 gal	30 gal
500	12.5 gal	150 gal
1,000	25 gal	300 gal

BEEF

Size of Herd	Application/ Month	Total Gal/Year
100	10 gal	120 gal
500	50 gal	600 gal
1,000	100 gal	1,200 gal

CROP RESIDUE - BREAKDOWN

- 1 – 2 quarts per acre applied directly to residue with a minimum of 15 gallons of water per acre for coverage

Apply as soon after harvest as possible.
Can also be applied during spring burn-down programs.

* Read and follow all labeled instructions



BIGSHOT Maxim Concentrate

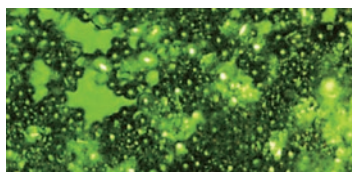
Botanical Agricultural Pest & Mosquito Control

MICRO-FLUIDIZED & MICRO-ENCAPSULATED TIME RELEASED ACTIVES



FIFRA 25b
Grown Organically

Mircoencapsulated time release capsules.



Also Controls:

Various boring insects and chewing insects Beetles Sucking insects, mites, flies, Cotton pests, Moths, Spider mites, Fungus gnats, Leaf webbers, loopers, Leafhoppers, Mealybugs, fleas, ticks, Grubs, Armyworms, Mosquitoes, Whiteflies, Sandflies, Houseflies, Cutworms, Lawn and root grubs, Fruit flies, Bedbugs, Locusts, Midges, Aphids – Root Aphid, Aphids, Ants, Scale insects.

Packaging

- 4 x 128 oz per case
- 12 x 32 oz per case
- 60 x 8 oz per case
- 60 x 4 oz per case

Storage and Disposal:

Store at room temperature. Do not freeze.
Do not reuse the container.
Dispose of in trash or offer for recycling.

PPE: See label directions

Active Ingredients:

Cedarwood Oil	14%
Cinnamon Oil	0.23%
Thyme Oil	0.53%

Inert Ingredients:

Water, Glycerin, Soap, Isopropyl alcohol	85.24%
Total	100.00%

FOR GENERAL AGRICULTURAL USE

What is BIGSHOT Maxim Concentrate?

- BIGSHOT Maxim is a high quality organically grown botanical mosquito and agricultural pest control solution that works. Provides residuals greater than 21 - 30 days even throughout rainy cycles.

Ingredients are from organic sources, not harsh chemicals.

Benefits of BIGSHOT Maxim

- Effective Mosquito Control (adulticide and knock down)
- Effective against mosquito larvae and pupa (no need for multiple chemicals)
- Effective Spider Control
- Safe around pets, the environment, children, and adults when used as directed
- Bee and butterfly friendly (saves beneficial pollinators) when used as directed
- Completely safe around gardens and plants when used as directed
- 21 to 30 days or more residual, even with rain events
- Fresh Botanical scent, unlike synthetic chemicals currently being used
- Extremely effective and safe for aerial spraying when used as directed
- Recognized FIFRA 25(b) Unrestricted GRAS - (generally recognized as safe)

Directions for use of BIGSHOT Maxim Concentrate SHAKE WELL BEFORE AND AFTER DILUTION

Agriculture Pest Control Application: General Row Crop Application:

- Ground rig application rate: Recommended usage rate 0.6 to 0.75 ounces per gallon of spray mix. Use a minimum of 7 gallons per acre to a maximum of 10 gallons per acre of spray mix. Use the higher rate for more dense canopy/foliage and larger insects.
- Aerial application rate: 4 ounces to 5 ounces per acre with 2 to 3 gallons water/spray mix per acre.
- Pests and Molds - Soybeans, Cotton, Wheat – Apply 4 to 5 ounces per acre diluted into 7 gallons of water/spray mix per acre. Use the higher rate for denser canopy and larger insects.
- For vegetables, citrus, and specialty crops contact NewFields Ag™ or dealer for application rates
- Psyllid (Citrus Greening) dilute ¾ ounce per gallon applied twice at 2 weeks apart.
- Pests and molds- dilute ¾ ounce of BIGSHOT per gallon dilution, however begin at 1½ ounce per gallon for fruit and vegetable crops, it may not need ¾ ounce.
- Pests - HEMP dilute ¾ ounce into 10 gallons water for pest control.

Animal Application:

- Contact NewFields Ag™ or dealer for application rates to farm facilities and farm animals such as cattle, horse, swine, and other animals.
- Contact NewFields Ag™ or dealer for home & garden use and for pets & other animals.
- For Animals- fixed spray system tanks 16 oz BIGSHOT Maxim concentrate per 55-gallon drum.



99.9999% Effective Against
Odor Causing and Surface
Damaging Microbes

BAC Ag
Botanical Antimicrobial Cleaner



FIFRA
25b

**Grown
Organically**

Use For Cleaning: Any agricultural and
veterinary locations, food use site, equipment,
Any porous and non-porous surfaces.

- Facilities
- Pens
- Equipment
- Food processing equipment
- Agricultural and Veterinary locations
- Vehicles
- Building's interior and exterior
- All bedding materials
- Concrete
- Wood
- Plastic
- Metal

Packaging (Ready to use formula):

- 12 x 32 oz per case
- 4 x 128 oz per case
- 55 Gallon Drum
- 300 Gallon Tote

Active Ingredients:

Thyme Oil	0.23%
Lemongrass Oil	0.05%

Inert Ingredients:

Deionized Water, Soap, Wintergreen Oil, Citric Acid	99.72%
Total	100.00%

FOR GENERAL AGRICULTURAL USE

What is BAC Ag?

• **BAC Ag** is a safer, organically grown antimicrobial, anti-fungal and cost effective pest control product. With over 20 years of research, comprised of expert chemists and engineers, made with organic ingredients and recognized as safe under FIFRA by the EPA and FDA. Within minutes of application, **BAC Ag** tackles surface damaging mold, organisms, pests, and insects, making it the leading antimicrobial cleaner for commercial, residential, and agricultural use. **BAC** provides a sustainable alternative to eco-destroying products. **BAC Ag** can be applied as a mist (it doesn't need to be shaken or wiped off) and, unlike many harsh chemical products, it has a mild scent. **BAC Ag's** research team created a formula from whole plant naturally sourced essential oils, replacing toxic products and reimagining green, highly-effective solutions.

This 25(b) product is exempt from registration with Federal Environmental Protection Agency under FIFRA regulation, which are ingredients that can be used in pesticide products that are exempt from the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) under the minimum risk exemption regulations in 40 CFR 152.25(1). BAC is an antimicrobial cleaner for hard and soft surfaces and will repel insects. BAC will clean mold on surfaces, stainless steel, countertops, floors, walls, and is effective against odor causing bacteria. For use in home, business, agriculture equipment, veterinary locations, and cleaning in hospitals.

Features & Benefits BAC Ag

- Prevents mold
- Removes hard water deposits
- One step deodorizing cleaner
- Plant and mineral based ingredients
- EPA – 25B exempt designated safe ingredients
- Non-irritating on skin
- Non-Toxic
- Highly renewable and biodegradable
- No rinse formula
- Ready to use
- Non-corrosive
- Non-staining
- Made in the USA



Directions for Use (Ready to use formula):

Degreaser: antimicrobial cleaner for odor causing microbes, Deodorizer, Lasting residual clean. No rinse or wiping needed. This product utilizes plant oils that are non-toxic and biodegradable, nonflammable, non-combustible, and non-corrosive.

- For pressure washing cleaning – Dilute 12 oz per gallon water
- For lasting antimicrobial odor microbe cleaning apply/spray BAC Ag without dilution and let dry.
- For stationary misting systems – 12 ounces per 55-gallon drum.

Storage and Disposal:

Store at room temperature.
Do not freeze.
Do not reuse the container.
Dispose of in trash
or offer for recycling.



Financing Program

NewFields Ag has partnered with First Mid Bank & Trust to offer customer financing for the 2024 crop year. First Mid has a 158-year history of working with farmers.

NewFields Ag Finance Program Overview

- **0% financing through January 12, 2024**
- **Only available for NewFields Ag product line** excluding LeafTech™ products
- **Prime-3.5% financing January 13th through May 1st, 2024**
- Due December 15, 2024, with a 30-day grace period
- Easy and convenient application process
- Flexible terms
- No geographic restrictions
- Must submit order of product to NewFields Ag
- Fast approval for loan requests \$200,000 or less
- Loans greater than \$200,000, will require historical tax returns, balance sheets, and cash flow projections from the customer
- Application options:
 - PDF or paper application can be completed and submitted via email, mail, or fax to First Mid along with supporting documents.
 - Mail to: First Mid Merchant Financing
Attn: Credit Dept.
PO Box 499
Mattoon, IL 61938
 - Email to: merchantfinancing@firstmid.com
 - Electronic application can be submitted online via DocuSign.
<https://www.firstmid.com/newfieldsag/>

Customer Benefits

- Ability to finance product purchases up to \$500,000
- Credit decisions received within 48 hours
- Reliable customer support for all application and financing questions



Contacts

Sydney Spelman
Merchant Financing Officer
sspelman@firstmid.com
217-258-0471 (Office)

Customer Support Center
833-594-0323
Mon-Fri 7am-6pm (CST)
Saturday 8am-1pm (CST)

Innovations In Your Fields™



NewFields Ag™

newfieldsag.com

Contact us at: info@newfieldsag.com

ph: 1-877-NFA-BIOS (1-877-632-2467) 103 East St., PO Box 174, Grand Mound, IA 52751

CLEANER. SAFER. GREENER.®