BiOWiSH™ Crop

BiOWiSH™ Crop Improves Crop Yield and Restores Soil Fertility

Benefits

- Improves crop yield
- Increases available nutrients in the soil
- Improves plant vigor
- Enhances root development
- Adds and stimulates beneficial soil biology
- Restores soil fertility
- Reduces crop water stress
- Reduces fertilizer leaching and runoff
- Simple to apply in all cropping systems
- Applications in all crop groups
- High return on investment

Delivery Systems

- Liquid delivery ground rigs
- Center pivots
- Fertigation systems
- Drip irrigation
- Micro-irrigation
- Back pack sprayers
- … and more!

Compatibility

- Many common liquid fertilizers
- Glyphosate and many other common ag chemicals
- Please contact your local distributor for more information

How BiOWiSH™ Crop Works

BiOWiSH™ Crop leverages multiple biological pathways and increases the efficiency of these natural biological processes to enhance crop yields.

BiOWiSH™ Crop products are comprised of unique naturally occurring organisms and their metabolites which are produced in proprietary multi-phase fermentation processes. These processes induce an epigenetic shift in the organisms resulting in the expression of specific attributes and generating significant performance across a broad range of application conditions. Our robust products are designed for simple and compatible application with common crop production practices.

BiOWiSH™ Crop is delivered in both a solid soluble organic and inorganic form. The products are solubilized in the field, then applied to the soil or crops by liquid delivery systems. No activation required!

Modes of Action

- Increases available nutrients in the soil
- Enhances root development
- Adds beneficial microbes to the soil

Made in the USA

OMRI LISTED® For Organic Use

BiOWiSH™ TECHNOLOGIES

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Biological help for the human race.

BiOWiSH™ Crop

Trials and Field Data

At BiOWiSH™, we test our products with a variety of partners to ensure and validate performance and value.

- Government institutes
- Universities
- Independent 3rd party research
- Distributors
- Growers

We also test our products:

- In different geographies
- In various environmental conditions
- With a variety of management practices
- Across different economic conditions

Partner/Client	Country	Type	Results
Helena Research	USA	Silage Corn	Increased yield per acre by 27.36%, increased profitability by $467 per acre ($1,153 per hectare)
Helena Research	USA	Rice	Increased yield per acre by 36.37%, increased profitability by $743 per acre ($1,836 per hectare)
Ohio State University	USA	Hydroponic lettuce	Increased production by 13%
Center for Applied Horticultural Research	USA	Tomato	Increased fruit yields by an average of 22%
Jilin Agricultural University	China	Rice & Maize	Increased yields by 8.1% and 7.8% in rice and maize, respectively, and improved chlorophyll and photosynthetic rates
Ohio State University	USA	Tomato	Consistently improved drought tolerance, difference from negative control significant from Dunnett's test (P<0.10)
Arise Research & Discovery, Inc.	USA	Tomato & Sweet Corn	Reduces nitrogen application in early tomato plant development/Reduces nitrogen application in early corn plant development which results in a better nutrient intake and a significant cost savings
Biovaritech	Argentina	Soybean	Yield increase of 8.2%
Biovaritech	Argentina	Corn	Yield increase of 9.5%
Univ. of Florida's Institute of Food & Ag. Sciences	USA	Corn	Increased plant weight by 38.61%

Treated with BiOWiSH™ Crop | No BiOWiSH™ Crop Applied

At this hydroponic lettuce farm in Australia, faster growth provided an additional crop rotation per year and a significant improvement in farm profitability.

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Distributed in Western & South Australia by Baileys Fertilisers
W: baileysfertiliser.com.au **E:** info@baileysfertiliser.com.au
P: (08) 9439 1688 **F:** (08) 9439 1068
A: 24 Beach St, Kwinana, WA 6167.

BAILEYS

BiOWiSH® Crop Technology

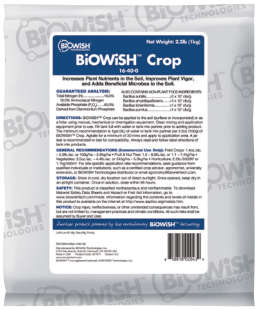
power your biology. produce more with BiOWiSH®.

Why are Farms Turning to Biotechnology?

Biostimulants are biologically-based products that, when applied to crops, stimulate natural processes. These products can help improve yield, restore damaged soil, and extend soil fertility among many other benefits.

In partnership with growers, BiOWiSH Technologies cultivates an agronomic first approach with our advanced microbial solutions. Our unique microbial strains are produced by a proprietary manufacturing process which promotes the expression of specifically desired characteristics. The consistent expression of these characteristics is called the epigenetic effect.

Designed for the agricultural industry, our biology uses multiple modes of action and performs the intended effects reliably across broad operating conditions. The final result is our range of microbial biostimulants, proven to improve crop yields and stimulate soil biology.



BiOWiSH® Crop Technology

BiOWiSH® Crop Technology comes in a solid, soluble formulation for on-farm application and a liquid formulation for fertilizer manufacturing. BiOWiSH® Crop Liquid can be coated onto a wide range of fertilizers and fertilizer fillers, or mixed with liquid fertilizers at your fertilizer manufacturer, to create an enhanced efficiency fertilizer.

BiOWiSH® Crop Technology is an advanced microbial solution that helps farmers sustainably increase crop production, without further depleting the soil or reducing the value of the crop. The unique composition stimulates the natural processes that improve yield and extend soil fertility, helping farmers produce more.

Benefits

- Improves crop yields
- Increases nutrient availability
- Enhances root development
- Improves plant vigor
- Stimulates native microbial activity in the soil
- Improves soil productivity

biowishtech.com | agronomy@biowishtech.com

BiOWiSH® Crop Technology

Modes of Action

Increases plant nutrients in the soil

- Converts ammonia into less volatile nitrogen species
- Converts bound phosphorus to available phosphorus
- Produces a number of enzymes that can break down complex organic molecules in soil

Adds beneficial microbes & stimulates native microbial activity

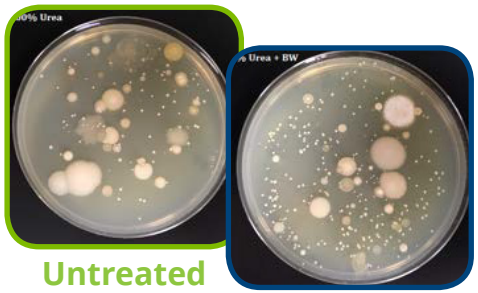
- Promotes growth of beneficial soil microbes

Promotes root development

- Improves hyphal networks
- Enhances root growth

Improves plant vigor

- Demonstrated endophytic activity
- Improves drought tolerance



Untreated

BiOWiSH®

Note the high number of beneficial, plant growth promoting species in the BiOWiSH®-treated sample.

Broad Operating Conditions

- pH 3.5 to 9.5
- Salinity up to 35,000 ppm (35 ppt) which is seawater level
- Low oxygen content (0.5 ppm), active in water logged conditions
- Below wilting point
- In oligotrophic (very low nutrient level) conditions
- Across a broad range of organic materials
- Optimal performance as temperatures increase, with high performance starting at 50°F soil temperature. Varying temperatures will induce dormancy as temperatures fall below the threshold and re-activate as temperatures rise

OMRI® LISTED For Organic Use

Consistency

BiOWiSH® uses multiple modes of action and works in broad operating conditions so that growers can consistently see positive results. Below are a few summaries from our library of studies which show success in many geographies, management practices, and economic conditions:

Helena Research - Silage Corn

BiOWiSH® treatment resulted in a 27% yield increase and a $467 per acre profitability increase.

Helena Research - Tomatoes

BiOWiSH® was added to two rates of fertilizer: a full amount and a reduced amount. When compared to the control, the control plus BiOWiSH® resulted in a 15% yield increase and 20% net income gain. The reduced amount resulted in a 6% yield increase and 26% net income gain.

Helena Research - Wheat

BiOWiSH® was impregnated on two rates of fertilizer: 280 and 240 lb/acre. When compared to the control, the 280 lb rate increased yield by 7%, soil health rating by 36%, and resulted in an additional $28.50 per acre. The 240 lb/acre rate resulted in a 2% yield increase, 30% soil health rating increase, and an additional $15.27 per acre.

North Dakota State University - Potatoes

BiOWiSH® was added to two rates of fertilizer: 100 and 85 lb/acre. When compared to the control, the 100 lb rate increased yield by 17% and net income by $2935 per acre. The 85 lb rate resulted in a 25% yield increase and a net income gain of $3145 per acre.

University of Florida - Corn

BiOWiSH® increased plant height by 19%, ear weight by 26%, and plant weight by 39%.

Want more? Visit biowishtech.com/resources for additional research and case studies.

BiOWiSH® TECHNOLOGIES

Distributed in Western & South Australia by Baileys Fertilisers

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1146-02-EN

PRODUCT NAME
BiOWiSH™ Crop
16-40-0

GUARANTEED ANALYSIS
Total Nitrogen (N)……16.0%
16.0% Ammoniacal Nitrogen
Available Phosphate (P_2O_5)……40.0%
Derived from Diammonium Phosphate

ALSO CONTAINS NON-PLANT FOOD INGREDIENTS
Bacillus subtilis…… ≥1 x 10^8 cfu/g
Bacillus amyloliquefaciens ……..≥1 x 10^8 cfu/g
Bacillus licheniformis……..≥1 x 10^8 cfu/g
Bacillus pumilus ……..≥1 x 10^8 cfu/g

PRODUCT USAGE
The intended use of this product is in crop production requiring nitrogen and phosphorus. BiOWiSH™ Crop can be applied to all crop types using manual, mechanical or chemigation application processes.

PRODUCT ORIGIN
Made in USA by:
BiOWiSH Technologies, Inc.
2724 Erie Avenue, Suite C
Cincinnati, OH 45208 USA

PHYSICAL/CHEMICAL PROPERTIES
COLOR: Off white
ODOR: Mild ammonia, earthy odor
pH: 7.9 – 8.5 S.U.
BULK DENSITY: 1.04 – 1.16 g/cm^3
SOLUBILITY: Soluble in water
PHYSICAL STATE: Powder

PRODUCT FORMAT / CODES
301070 – 100 g / 3.5 oz
301071 – 1 kg / 2.2 lbs
301072 – 5 kg / 11 lbs
301073 – 10 kg / 22 lbs

PRODUCT BENEFITS
- Improves yield
- Increases plant nutrients in the soil
- Enhances root development
- Improves plant vigor
- Adds beneficial microbes to the soil

PRODUCT DOSING
Application rates vary based on management practices, crop types, and soil characteristics. For site specific or crop specific application protocols, please contact a BiOWiSH Technologies Distributor near you or contact BiOWiSH Technologies at agronomy@biowishtech.com.

DIRECTIONS

BiOWiSH™ Crop 16-40-0 can be applied as a pre-transplant treatment, to the soil at planting, or to the root zone post germination. Thoroughly clean all mixing and application equipment prior to use. For activation, use a minimum of 4 L of water per 100g of BiOWiSH™ Crop. Use a minimum of 45 L of water per 1000m^2. Higher water volumes are allowed for maximum coverage. Agitate for a minimum of 30 minutes and add the mixture to a sprayer, flood water or apply through irrigation systems. For most farms, adding BiOWiSH™ Crop to a fertility program allows a 10% reduction in inorganic fertilizer applications. Please see user guides for more information.

- **Field Crops:** 100 g/ha – 2.5 kg/ha
- **Fruit & Nut Tree:** 1.1 – 7.4 kg/ha
- **Vegetables:** 245 g/ha – 5.0 kg/ha
- **Horticulture:** 1.1 kg/500 m^2.
- **Turf:** Initial application of 350-500g/ha followed by a maintenance rate of 250g/ha at 6-8 week intervals.

For site specific application rate recommendations, seek guidance from your qualified BiOWiSH Distributor representative.

STORAGE AND HANDLING

The product is sold in food grade metallized polyester and polyethylene bonded film bags and has a three-year shelf life. Store in cool, dry location out of direct sunlight. Once opened, keep in an airtight container. Once in solution, dose within 96 hours.

SAFETY

The product is classified nonhazardous and nonflammable. To download Safety Data Sheet and Hazard or First Aid Information, go to www.biowishtech.com/sds. Information regarding the contents and levels of metals in this product is available on the internet at http://www.aapfco.org/metals.htm.

NOTICE

Crop injury, ineffectiveness, or other unintended consequences may result from, but are not limited to, management practices and climatic conditions. All such risks shall be assumed by Buyer and User.

COMPATIBILITY

BiOWiSH™ Crop will not operate effectively in the presence of some chemical products. Please contact a BiOWiSH Distributor representative in your area for site specific compatibility information.

CONTACT

BiOWiSH Technologies, Inc.
www.biowishtech.com
agronomy@biowishtech.com

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BiOWiSH™ TECHNOLOGIES

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