



# PLANT PRODUCTS



# WELCOME TO JH BIOTECH INC.

## “Innovation for a Greener Earth,”

Behind every product JH Biotech puts to market are environmentally mindful technologies for productive agriculture. Founded in 1987 by Dr. John Hsu, JH Biotech produces organic, biological, and green solutions for crop and livestock farming.

Through extensive internal research and close cooperation with public and private organizations, JH Biotech constantly improves products and introduces new technologies for greener agriculture production. Devoted to this research and development, JH Biotech finds the best ways to increase food productivity, quality, production, and safety.

Located on the coast of Southern California, JH Biotech operates and produces out of its own facilities. These products are distributed in the US and around the world including Japan, Taiwan, Malaysia, Indonesia, Hong Kong, the Middle East, Australia, Europe, Brazil, El Salvador, Costa Rica, the Philippines, Mexico, Peru, Guatemala, and Honduras.

JH Biotech’s environmentally safe solutions deliver maximized yields free of harsh chemicals for our growing industry.

## Primary Core Strengths



**Research & Development**



**Production & Fermentation Facilities**



**CAPCO - EPA Certified Analytical Laboratory**



**Essential Patented Technologies**

## Commercial Products



**60+ Certified Organic Products**



**14+ Patented Technologies**



**150+ Agricultural Plant Products**



**55+ Agricultural Animal Nutritions**





# PLANT NUTRITION

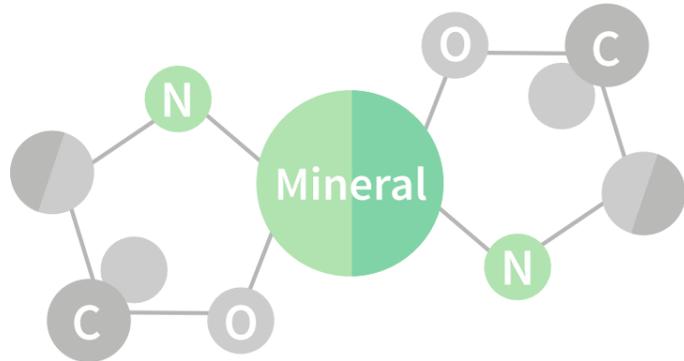
Chelated Macro & Micronutrients

Approved for organic use

## BIOMIN®

### Organic Chelated Minerals

The unique chelation process we developed for our Biomin line helps increase your yields by improving nutrient absorption, preventing nutrient precipitation, deterring nutrient leaching, and more. Derived from the chelation of mineral nutrients with amino acids, plants can utilize these fully chelated nutrients for optimal nutrition.



|                               | B    | Ca | Cu | Fe | Mg | Mn | Mo | K <sub>2</sub> O | Zn |
|-------------------------------|------|----|----|----|----|----|----|------------------|----|
| <b>Biomin® Boron</b>          | 3%   |    |    |    |    |    |    |                  |    |
| <b>Biomin® Cal-Boro</b>       | 1%   | 5% |    |    |    |    |    |                  |    |
| <b>Biomin® Cal-Boro Light</b> | 0.5% | 5% |    |    |    |    |    |                  |    |
| <b>Biomin® Calcium</b>        |      | 5% |    |    |    |    |    |                  |    |
| <b>Biomin® Copper</b>         |      |    | 4% |    |    |    |    |                  |    |
| <b>Biomin® Iron</b>           |      |    |    | 5% |    |    |    |                  |    |
| <b>Biomin® Magnesium</b>      |      |    |    |    | 3% |    |    |                  |    |
| <b>Biomin® Manganese</b>      |      |    |    |    |    | 5% |    |                  |    |
| <b>Biomin® Molybdenum</b>     |      |    |    |    |    |    | 3% |                  |    |
| <b>Biomin® Potassium</b>      |      |    |    |    |    |    |    | 25%              |    |
| <b>Biomin® Zinc</b>           |      |    |    |    |    |    |    |                  | 7% |

## BIOMIN® BOOSTERS

### Organic Chelated Multimineral Combinations

We designed Biomin Boosters with chelated mineral combinations to prevent and correct micronutrient deficiencies. This chelation process allows plants to flourish from better nutrient absorption. The completely bioavailable and non-phytotoxic multiminerals enhance soil nutrients and overall plant growth during critical and fast-growing periods.

|                            | B      | Ca | Cu   | Fe   | Mg   | Mn   | Mo | K <sub>2</sub> O | Zn   |
|----------------------------|--------|----|------|------|------|------|----|------------------|------|
| <b>Biomin® Booster 11</b>  |        | 1% | 0.5% | 0.5% | 1%   | 0.5% |    |                  | 0.5% |
| <b>Biomin® Booster 126</b> | 0.025% |    | 0.1% | 0.5% | 0.8% | 1%   |    |                  | 3%   |
| <b>Biomin® Booster 153</b> | 0.025% |    | 0.1% | 0.5% | 0.8% | 2.5% |    |                  | 1.5% |
| <b>Biomin® Booster 212</b> | 0.1%   |    | 0.5% | 2%   | 0.5% | 1%   |    |                  | 2%   |
| <b>Biomin® Booster 221</b> | 0.25%  |    | 0.5% | 2%   | 0.5% | 2%   |    |                  | 1%   |
| <b>Biomin® Booster 235</b> | 0.025% |    | 0.5% | 1%   | 0.5% | 1.5% |    |                  | 0.5% |
| <b>Biomin® Starter</b>     | 0.025% |    | 0.1% | 0.5% | 0.8% | 2.5% |    |                  | 1.5% |



# PLANT NUTRITION

## Phosphorus Fertilizers

Approved for organic use

### PHOSGARD® PRODUCTS

#### Slow-Release Phosphorus Fertilizer

Phosgard products are soil and foliar applied phosphorus fertilizers derived from phosphorous acid. Utilizing our patented phosphite technology, plants quickly take up ready to absorb phosphite. Once absorbed, plants then convert the phosphite into usable phosphate. By this process, Phosgard improves crop maturation, root development, flowering and fruiting, and crop quality.

Popular Formulations:

- Phosgard 0-28-25
- Phosgard 0-60-0
- Phosgard 2-40-16
- Phosgard 4-25-15

Phosgard stimulates early growth and root formation

Snapdragon



Control

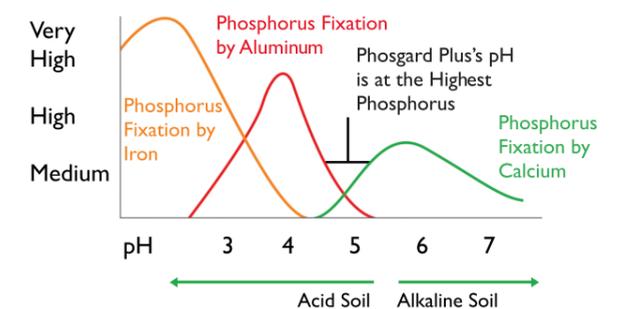
Phosgard

### PHOSGARD® PLUS

#### Readily Available and Slow-Release Phosphorus Fertilizer

Phosgard Plus contains both phosphate and phosphite for an immediate and long-lasting phosphorus supply. The phosphate is readily available to plants upon application, while the phosphite converts over time to an available form. This combination provides plants with a continuous phosphorus supply for optimum growth.

Amount of Phosphorus Fixation in the soil



### PHOSGARD® COPPER

#### Copper and Slow-Release Phosphorus Fertilizer

Phosgard Copper is our new liquid fertilizer that fulfills a plant's delicate copper needs. Along with copper, it contains both nitrogen and phosphorous acid to aid in photosynthesis and chlorophyll formation. Additionally, it stimulates root development, promotes flowering and fruiting, and benefits crop yield.

### PHOSGARD® ULTRA

#### Slow-Release Phosphorus with Extraordinary Mineral Compatibility

Phosgard Ultra is a nutritional supplement with extraordinary mineral compatibility. We developed this fertilizer to avoid the biggest problem most phosphorus-based fertilizers have: precipitation. It mixes with mineral nutrients without forming precipitates for strong plant growth and crop yields.



# PLANT NUTRITION

## Organic NPK Fertilizers



NPK Fertilizers

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### BIOMIN<sup>®</sup> N

#### Organic Vegetable-Based Nitrogen Fertilizer

BioMin N is an organic fertilizer derived from hydrolyzed vegetable proteins to supply nitrogen to plants. As a fertilizer free of animal byproducts, this new and exciting product is low in salinity and contains no offensive odor. BioMin N is an excellent source of nitrogen, environmentally friendly, and made for all crop types.

### AQUA POWER<sup>™</sup> 5-1-1

#### Organic Fish-Derived Nitrogen Fertilizer

Aqua Power is an organic liquid fertilizer derived from hydrolyzed fish protein, a natural source of essential nutrients. This is an extremely popular fertilizer in hydroponic systems due to its mass of beneficial ingredients, which include readily available organic nitrogen, phosphorus, potassium, 20 amino acids, 13 vitamins, and 8 minerals.

### BIG K<sup>™</sup>

#### Organic Potassium Fertilizer

Big K is an organic crop fertilizer high in potassium. The perfect fertilizer for fruit crops, its high potassium content increases crop sweetness by aiding in the forming of sugars and starches. Additionally, Big K is high in solubility and ideal for the final stage of plant growth.

## ENDURANCE<sup>™</sup> PRODUCTS

#### Liquid Slow Release Nitrogen Fertilizer

Endurance is a line of professional NPK liquid fertilizers with the micronutrients iron, manganese, and zinc. Endurance products contain a balance of quick release nitrogen for initial green-up and slow release nitrogen for continuous feeding. The entire line is water soluble as well as non-clogging and non-corrosive.

## SYNERGIZER<sup>®</sup> PRODUCTS

#### Liquid Multimineral Fertilizer with Humic Acid

Synergizer products are liquid NPK fertilizers specially designed to enable crops to reach their balanced nutritional status. We formulated this series to enable crops to overcome critical stages in plant growth by providing the plants with vital nutrients when they cannot access them from the soil, thus improving growth and uptake.

## NUTRI-AID<sup>™</sup> PRODUCTS

#### Soluble NPK Fertilizers

Nutri-Aid is a line of completely water-soluble powder fertilizers containing macro and micronutrients in varied formulations. We designed this product line to fit a variety of growing conditions and nutrient requirements to treat each crop's specific needs for optimal growth.



# PLANT PROTECTION

## Biopesticides & Fungicides

Approved for organic use

### FOSPHITE®

Systemic Phosphite Fungicide



Fosphite is the most effective phosphite fungicide on the market. Utilizing phosphorous acid, this systemic fungicide controls Downy Mildew, Phytophthora, Pythium, and various other diseases on crops, ornamentals, and bedding plants. It is a reduced risk fungicide that provides safe and superior disease protection to your crops.

### MILDEW CURE®

Organic Botanical Fungicide

Mildew Cure is a natural botanical fungicide. It contains essential oils to provide excellent powdery mildew control on crops and ornamental plants, while remaining nontoxic to humans. With little room for disease resistance build up, no re-entry interval, and no pre-harvest interval, Mildew Cure is the perfect addition to any IPM program.

### BIOREPEL®

Organic Insect Repellent

BioRepel is an all-natural active insect repellent formulated with garlic oil. Within minutes of application, the garlic odor dissipates; however, it remains offensive to insects for days. It is safe to handle and use as it is absent of chemicals that may be hazardous to humans, animals, and beneficial insects.



### PEST OUT®

Organic Botanical Insecticide

Pest Out is a natural, organic miticide and insecticide that provides fantastic pest control. Our patented formula controls difficult pests, while remaining gentle to beneficial fauna. This curative and preventative product kills insects on contact, effectively meeting all your miticide and pesticide needs.

### WEED ZAP®

Organic Botanical Herbicide

Weed Zap is an all-natural non-selective herbicide that kills broad leaves and grassy weeds. A contact herbicide, it binds to plant surfaces and translocates into the cells, effectively killing plants up to six inches in height. In addition to its effective power, Weed Zap is 100% biodegradable and an environmentally safe product.

### NEMAOUT™

Nematicide

NemaOut is a concentrate essential oil nematicide for plant parasitic nematodes. NemaOut is a contact nematicide for controlling egg masses, infective juveniles, and adult nematodes in the soil.



# AGRICULTURAL BIOLOGICALS

 Approved for organic use

## BIO-ACTIVATE™

### Natural Plant Growth Factor

Bio-Activate is a natural plant growth factor derived from microbial cultures and kelp. It contains a mixture of cytokinin precursors which are known to regulate plant growth.

\* Not Available in California

## BIO-ACTIVATE™ PLUS 5-0-0

### Fertilizer with Fermentation Substances and Kelp

Bio-Activate Plus is a fertilizer with natural plant growth factors derived from microbial cultures and seaweed extracts. The specific beneficial enzymes and amino acid complexes are produced through a unique fermentation process. These complexes are combined with high quality extracts of *Ascophyllum nodosum* the most biologically active seaweed. Bio-Activate Plus stimulates the plant to produce flowers, set fruit, increase sugar and solids content, make a more uniform fruit size and color, and reduce the effects of environmental stress.

## BIOACT SD®

### Biological Stubble Digester

BioAct SD is a stubble digester that accelerates the degradation process of field stubble and crop residue. Our latest in stubble composting, BioAct SD contains humic acid and over one billion functional microorganisms. These microorganisms produce enzymes that quickly breakdown crop residues and field stubble for improved soil properties, nutrient availability, and fertility.

## FULZYME PLUS™

### Beneficial Bacteria Growth Promoter

Fulzyme Plus is an innovative biofertilizer containing the beneficial bacteria *Bacillus subtilis*. Fulzyme Plus utilizes *Bacillus subtilis* for its natural production of powerful enzymes that release tied up phosphorus and trace elements within the soil to naturally increase soil health and crop growth.

\*Not Available in California

## SEAMAX™

### Natural Kelp Fertilizer

Seamax is a new kelp fertilizer to increase your yield potential while protecting the environment. Its fresh approach of delivering optimal nutrition through humic acid and kelp extracts supply nutrients to crops for enhanced quality. Seamax provides improved nutritional value, earlier harvest, improved root development, and increased plant productivity.

## MYCORMAX™

### Mycorrhizal Root Inoculant

Mycormax contains Vesicular-Arbuscular Mycorrhizal Fungi and Ectomycorrhizal Fungi, beneficial fungi that help plants absorb nutrients and water. The mycorrhizal fungi play a key role in plant growth. Mycormax contains spores, colonized root fragments and other propagules of beneficial root colonizing fungi species. It restores the necessary levels for soil stabilization and an optimal growing environment.





# AGRICULTURAL BIOLOGICALS

## PROMOT PLUS®

### Biological Starter Fertilizer

Promot Plus is a natural growth promoter produced by the fermentation of selected *Trichoderma spp* microorganisms. When applied, the microorganisms multiply in the soil producing growth factors that stimulate seed germination and root growth, thereby increasing the plant's ability to resist drought.

## PROMOT MZM®

### Biological Starter Fertilizer with Specially Selected Micronutrients

Promot MZM is a starter fertilizer that you can use to increase transplant survival. Containing magnesium, zinc, and manganese, Promot MZM creates a strong rhizosphere dominated by beneficial micronutrients for maximized plant survival and growth.

\*Registered for Sale in CA, CO, ID, MN, and NV Only.

## RHIZONE®

### Natural Root Establishment Biofertilizer

Rhizone is a natural root establishment product that allows transplanted crops to flourish from the start. This new and natural root dip establishes a strong root system for vigorous plant growth. Strengthen your transplant survival and root system with Rhizone, a key product to any transplanted crop.

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## SEEDUP®

### Biological Seed Treatment

SeedUp is a new powder form microbial inoculant containing plant growth promoting rhizomicroorganisms specially formulated for seed treatment. These advanced microorganisms develop an ideal root system for a vigorous crop establishment. By better developing the root system, SeedUp's microorganisms optimize early season growth rates and maintain high yield potential.

## SOLUPHOS SP®

### Biological Phosphorus Enhancer

Soluphos SP is an innovative and new powder form phosphate solubilizing microbial inoculant. Though phosphorus is a major nutrient for plant growth and root formation, most soil has it locked in an unusable form. Soluphos SP frees locked-up phosphate from non-absorbable forms, releasing it so plants can use it to improve fertilizer efficiency and increase yield.

## SUPERZYME® 1-0-4

### Microbial Enzymatic Growth Promoter

Superzyme is a biological fertilizer containing a unique group of beneficial microorganisms. These extraordinary microorganisms can create an optimal plant environment thanks to their ability to prevent pathogen establishment, increase phosphorus and trace elements availability.

\*Not Available in California





 Approved for organic use

## SOIL AMENDMENTS

### FULMAG™

#### Fulvic Acid with Magnesium

Fulmag is a natural plant amendment product that utilizes fulvic acid and chelated magnesium sulfate. The magnesium sulfate corrects magnesium deficiencies, while the fulvic acid enhances crops' natural processes, increases nutrient bioavailability, and promotes plant growth. You can apply Fulmag by soil, hydroponics, or foliar applications for all crops.

### FULMAX®

#### Fulvic Acid

Fulvic acid is a powerful input for crops growing in any environment as it enhances cell permeability for a rapid absorption of nutrients. Fulmax is a concentrated fulvic acid soil amendment that grants these benefits to crops enabling greater access to nutrients, improved uptake, and amplified growth.

\*Not Available in California

### HUMAX®

#### Humic Acid

Humax is an organic concentrated liquid humic acid product extracted from the mineral Leonardite. Humic acid is ideal for sandy and drought affected soil as it greatly increases soil's water and nutrient holding capacity. By achieving this, Humax prevents nutrient leaching and promotes nutrient uptake.



### MIXWELL™

#### Organic Acidifier and Complexing Agent

MixWell is a multipurpose, multifunction product that you can use as a soil conditioner, water conditioner, acidifier, and complexing agent. It enables products to mix together in tanks without forming precipitates, while also preventing clogs in tanks, irrigation lines, or any other application equipment.

### NATURAL WET®

#### Wetting Agent

Natural Wet is a wetting agent designed to facilitate water absorption. When utilized as a foliar spray application, it enables product and micronutrient applications to spread and stick to plant surfaces for better absorption. Natural Wet enhances product efficiency to ensure crops reach their full potential.

### PENEX®

#### Soil Conditioner

Penex is a 100% biodegradable soil conditioner that breaks up soil particles locked together through compaction or poor soil structure. By unlocking these particles, Penex increases water penetration, reduces runoff, increases aeration, allows root systems to move down the soil profile, and allows salt to wash out.



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