

# SPECIALTY PRODUCTS

TURF /// ORNAMENTALS /// NURSERY







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## OUR PHILOSOPHY

### **People...Products...Knowledge®...**

Helena is dedicated to providing the best, most cost-efficient solutions for our customers. We achieve our goals every day by delivering friendly customer service by knowledgeable, experienced professionals who supply innovative, proven formulations and the information you need to maximize the benefits of our products.

In addition to distributing a wide range of inputs from basic manufacturers and other companies that supply the turf and ornamental industry, Helena has an impressive line of its own products. In this catalog, we have outlined many of our branded products.

Innovative and useful products, along with professional service and advice, help Helena maintain its reputation for excellence in the turf and ornamental industry. Our company theme "People...Products...Knowledge..." drives our commitment to customers. Our People are professionals whose primary goal is to exceed customer expectations. We do this by offering Products that provide customers with the benefits they expect. We also serve as a source of technical Knowledge that we transfer to customers to help them improve and grow their business.

At Helena, we know that our success depends on the success of our customers. That's why we will continue to serve you with the best People who provide effective Products and valuable Knowledge to help you continue to succeed.







## OUR SERVICES

Soil Testing, Tissue Analysis and Nematode and Disease Diagnosis

Water Testing

Custom Fertilizers

### EXTRACTOR<sup>®</sup>

ADVANCED TISSUE SYSTEM

**Extractor** is an advanced tissue management system comprised of custom recommendations that fit the needs of turf and plants. Using a system of key observations, select tissue samples are extracted. These samples are analyzed by approved labs that meet strict requirements and quality guidelines that result in the most accurate and consistent data. Results are processed through an advanced system that identifies key factors that affect plant health and performance. Upon final analysis, a Helena representative delivers the results and findings, with specific agronomic recommendations that optimize the health of plants and turf. While other systems simply provide a general recommendation, Extractor delivers custom-tailored recommendations detailing turf or plant needs that can help maximize investments for better returns.



**Rx360** is the most advanced turf management program on the market. Through the use of highly efficient and cost effective smart sampling methods, Rx360 provides an accurate picture of environmental variabilities by selecting the most representative sampling locations. After analysis, recommendations are made by experienced professionals to address these variabilities across your turf. This can easily be turned into app-ready controller files for both traditional and variable rate application methods. Rx360 users are able to manage turf in ways not previously possible or available using other systems. Rx360 sharpens and fine tunes agronomic solutions so that users can make better decisions for the future.



# PRODUCT APPLICATION KEY

Helena produces a comprehensive range of protection and production inputs that can be utilized across different markets. Use the icons below to determine the appropriate product application for the Helena products in this catalog.

AQUATICS



FORESTRY



SPORTS TURF



GOLF



NURSERY



TURFGRASS



ROW\* / VM\*



ORNAMENTALS



\*Rights of Way, Industrial Vegetation Management



## OUR PRODUCTS

### NUTRITIONALS

For years, Helena has had a growing and impressive line of high-quality, specialty nutritional products that provide essential nutrition to plants. These products range from micronutrients that can be applied to the plant or soil and foliar fertilizers that supply growth-promoting components to controlled-release nitrogen and soil and foliar phosphite products that promote root and bud development. In all cases, Helena's goal in our nutritional product line is to supply high-quality products that are easy to use and result in vibrant agronomic results.

### BIOSCIENCE

Helena's goal in the bioscience arena is to discover and isolate modes of action of newly discovered compounds that provide positive agronomic solutions. In developing new bioscience products, we are researching and developing compounds and organisms that can help improve the long-term productivity of soil and water. Plus, we continue to isolate and analyze bio-active components that are environmentally compatible.

### VALUE-ADDED PRODUCTS

Helena's lineup of value-added products includes many familiar chemistries that are made more unique with our technologies. Throughout our 50+ years of experience in pest management, Helena has been one of the country's premier formulators. Our expertise includes combining active ingredients into unique and useful products and creating new patented chemistries and formulation technologies. The common goal in creating Helena value-added products is to provide users with superior products and demonstrable results that stand out among other products.

### ADJUVANTS

Enhance the effectiveness of your fertilizers, pesticides and other applications with Helena's proven selection of adjuvants. These products help you maximize your chemical investment in a variety of ways: improving uptake, reducing drift and run-off, promoting uniform spread, decreasing the amount of water required and more. Adjuvants include surfactants, water conditioners, deposition agents, utility products and colorants/spray pattern indicators.

### WATER MANAGEMENT TOOLS

Water management products by Helena help regulate the irrigation needs of plants in the garden or landscape, ornamentals, golf course fairways, athletic fields, commercial lawns and more. By conditioning the soil with these products, you can effectively manage localized dry spots (LDS), increase overall moisture availability to the plants and reduce irrigation costs due to water savings. Water management tools include moisture management agents.

# NUTRITIONALS

## Axilo

Axilo is a broad line of 100% EDTA-chelated, dry micronutrients that promote growth in turf and ornamental plants. The soluble micro-granules in Axilo prevent and treat a wide range of micronutrient deficiencies. Axilo products provide superior availability, enhanced uptake, easy dispersion and excellent compatibility.

\*Axilo BMZ and Axilo Mix 5 do not contain chelated forms of boron, magnesium or molybdenum.

# AXILO®

## HIGHLIGHTS

- 100% EDTA-chelated dry micro-granules
- Highly soluble for easy dispersion
- Curative & preventative action

Axilo Product	Ca	Mg	Fe	Mn	Zn	B	Cu	Mo
Calcium	10.0%							
Copper							15.0%	
Magnesium		6.0%						
Manganese				13.0%				
Iron			13.0%					
Zinc					15.0%			
BMZ*				4.5%	10.0%	0.9%		0.5%
Mix 5*		3.0%	4.0%	4.0%	1.5%	0.5%	1.5%	0.1%
RMZ			5.6%	2.6%	2.6%		2.6%	

## Brexil

Brexil is a line of chelated micro-granule products that provide highly effective foliar treatment of micronutrient deficiencies. It is fully reacted with plant-derived ligninpolycarboxylic acid (LPCA), giving it a strong biological affinity for plant tissues. Compared to standard chelation, LPCA chelation is a softer process, allowing for quick absorption of the highly soluble micro-granules.

# BREXIL®

## HIGHLIGHTS

- Fully chelated with 100% plant-derived chelating agents (LPCA)
- Quick absorption & use of micronutrients by plants
- Excellent tank mix compatibility
- Low use rates provide ease of handling

Brexil Product	Ca	Mg	Fe	Mn	Zn	B	Cu	Mo
Calcium	15.0%						0.5%	
Magnesium		5.0%						
Manganese				10.0%				
Iron			10.0%					
Zinc					10.0%			
Combi			6.8%	2.6%	1.1%	0.9%	0.3%	0.2%
Multi		5.0%	4.0%	4.0%	1.5%	0.5%		



## Ferrilene



Ferrilene is chemically reacted 100% EDDHA-chelated 6% iron. Compared to EDTA-chelated iron, the stronger and more stable ortho-ortho chelate bonds in Ferrilene provide superior results and work better in high pH soils. It should be applied to the root zone through drip line, drench, injection or conventional sprayers.

# FERRILENE®

### HIGHLIGHTS

- 100% EDDHA-chelated 6% iron
- Highly effective in alkaline soils
- Stronger & more stable ortho-ortho chelate bonds
- Water-soluble micro-granules disperse quickly

### GUARANTEED ANALYSIS

Iron (Fe) ..... 6.00%  
 6.0% Chelated Iron (Fe)  
 Derived from Iron EDDHA.

## MicroMerge

55441SP



MicroMerge is a micronutrient blend ideal for use with mixed granular fertilizers for soil and plant applications. The granule size and bulk density of MicroMerge closely matches other fertilizer ingredients, providing uniform distribution of nutrients.

# MICROMERGE® 55441SP

### HIGHLIGHTS

- Balanced nutrient formula containing various micronutrients to match the needs of the plant
- Ideal for blending with mixed fertilizers
- Matches size & bulk density of dry fertilizers for a more uniform application



# NUTRITIONALS

## Ele-Max Precision Nutrition Products

Ele-Max is a line of high-quality micronutrients and foliar nutritional blends formulated specifically for plant nutrition. Comprised of primary, secondary and micronutrients, these products are manufactured from high-purity raw ingredients, with balanced nutrition and plant safety as the primary concern. High-analysis Ele-Max products are available in liquid concentrates (LC) and liquid flowables (FL) that provide easy mixing, handling and application. Flowables have optimum particle size with metered release of nutrients over time that reduces spiking and nutrient imbalances. Liquid concentrates are based on orthophosphoric acid, which makes phosphate immediately available when applied to the leaf.

- Superior plant safety
- Extensively researched for over 30 years
- Consistent performance
- Excellent efficacy



### LIQUID CONCENTRATES

- Clean, transparent formulations
- Efficient acidifiers of spray tanks
- High degree of plant safety
- Easy to mix & apply

Ele-Max Product	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Ca	Mo
K-Leaf®			30%		

### LIQUID FLOWABLES

- Ultra high-analysis single- & multi-nutrient products designed for foliar application
- High degree of compatibility due to unreactive nature
- Particle size is optimum for metered uptake & feeding over time
- May be soil applied for added flexibility

Ele-Max Product	N	P <sub>2</sub> O <sub>5</sub>	Ca	Mg	Mn	Zn
Calcium FL	4.0%		23.8%			
Magnesium FL	4.0%			20.0%		
Manganese FL	3.0%				27.4%	
ManZinc FL	1.0%				13.9%	19.5%
PhosCal-Zin FL	4.0%	15.0%	13.0%			7.7%
Super Zinc FL	1.0%					40.0%





### Ele-Max Foliar Phosphite

0-28-26

Ele-Max Foliar Phosphite products are designed to provide high-analysis phosphorus and potassium nutrition in safe, easy-to-use foliar-applied formulations. They utilize true phosphite technology to provide phosphorus for stronger and healthier root growth and potassium for improved crop vitality.



#### HIGHLIGHTS

- True phosphite technology
- Highly soluble
- Improves root development
- Increases nitrogen utilization

### Ele-Max Phosphite Max

0-0-30

0-30-30

Ele-Max Phosphite MAX offers a high phosphite load to correct nutrient deficiencies and improve plant health. Available in 0-0-30 and 0-30-30\* formulations, these high-analysis potassium phosphite products contain Helena's NutraSyst® Formulation Technology and Goëmar® Formulation Technology. In addition to addressing nutrient deficiencies, it is formulated to provide maximum uptake for stronger root development and improves tolerance to disease in plants.

\*0-30-30 is only available in California and Arizona.



#### HIGHLIGHTS

- Strengthens plant immune system
- Improves disease tolerance
- Improves root development
- Maximizes nutrient uptake & utilization

#### 0-0-30 ANALYSIS

Soluble Potash (K<sub>2</sub>O) ..... 30.00%

#### 0-30-30 ANALYSIS

Total Phosphoric Acid (P<sub>2</sub>O<sub>5</sub>) ..... 30.00%

Soluble Potash (K<sub>2</sub>O) ..... 30.00%

Derived from potassium phosphite and kelp.

**NUTRASYST** | FORMULATION TECHNOLOGY



NUTRITIONALS

# NUTRITIONALS

## Ele-Max Turf Nectar AC 15-0-0 Plus 6% Fe

Ele-Max Turf Nectar AC is a nutrient product that contains iron combined with nitrogen and sulfur to produce quick greening in turf. It is amine compatible (AC) and can be mixed and applied with amine-based herbicides.



### HIGHLIGHTS

- Fast turf green-up without excessive growth
- Improves plant health
- Speeds up recovery from dormancy
- Compatible with amine-based herbicides

### GUARANTEED ANALYSIS

Total Nitrogen (N) .....	15.00%
15.00% Urea Nitrogen	
Sulfur (S) .....	3.40%
3.40% Combined Sulfur (S)	
Iron (Fe) .....	6.00%
6.00% Water-Soluble Iron (Fe)	

Derived from urea and ferrous sulfate.

## Ele-Max Turf Mag AC 10-0-0 Plus 4% Fe & 2% Mg

Ele-Max Turf Mag AC is a liquid nutrient product that contains iron, nitrogen, sulfur and magnesium. It provides quick greening in turf, while providing the benefits of magnesium. It is amine compatible (AC) and can be mixed and applied with amine-based herbicides.



### HIGHLIGHTS

- Fast turf green-up without excessive growth
- Improves overall plant health
- Improves absorption & translocation of soil phosphorus due to magnesium component
- Compatible with amine-based herbicides

### GUARANTEED ANALYSIS

Total Nitrogen (N) .....	10.00%
10.00% Urea Nitrogen	
Magnesium (Mg) .....	2.00%
Sulfur (S) .....	3.40%
5.50% Combined Sulfur (S)	
Iron (Fe) .....	6.00%
4.00% Water-Soluble Iron (Fe)	

Derived from urea, ferrous sulfate and magnesium sulfate.





**ENC**      
**Ele-Max Nutrient Concentrate**

ENC is a complete foliar fertilizer that supplies a balance of 11-8-5 NPK plus boron, iron, manganese, copper, zinc, cobalt and molybdenum. It improves overall plant health and is a valuable tool to supplement soil fertility programs, especially where soil conditions interfere with the uptake of needed nutrition. ENC can be used to improve plant health in nurseries, greenhouses, commercial turf and as a nutritional supplement in transplant slurries. It can be foliar applied with spray applications and irrigation systems.



**HIGHLIGHTS**

- Balanced foliar nutrition
- Chelated micronutrients for quick absorption
- Quick plant response, particularly under stressful conditions
- Excellent plant safety

**GUARANTEED ANALYSIS**

Total Nitrogen (N) .....	11.00%
2.40% Ammoniacal Nitrogen	
8.60% Urea Nitrogen	
Available Phosphate (P <sub>2</sub> O <sub>5</sub> ) .....	8.00%
Soluble Potash (K <sub>2</sub> O) .....	5.00%
Boron (B).....	0.02%
Cobalt (Co).....	0.0005%
Copper (Cu).....	0.05%
0.05% Chelated Copper (Cu)	
Iron (Fe) .....	0.10%
0.10% Chelated Iron (Fe)	
Manganese (Mn).....	0.05%
0.05% Chelated Manganese (Mn)	
Molybdenum (Mo) .....	0.0005%
Zinc (Zn).....	0.05%
0.05% Chelated Zinc (Zn)	

Derived from potassium hydroxide, ammonium polyphosphate, urea, sodium tetraborate, cobalt sulfate, ammonium molybdate, iron EDTA, copper EDTA, manganese EDTA and zinc EDTA.

Not more than 0.70% Chlorine (Cl).

The chelating agent is EDTA (ethylenediaminetetraacetic acid).

Contains 2.45 lbs. of plant nutrients per gallon.

**NUTRITIONALS**

# NUTRITIONALS

CoRoN     

CoRoN is a unique controlled-release nitrogen foliar fertilizer that contains polymethylene urea solution. Its low burn potential, wash-off tolerance, reduced drift and low surface tension make CoRoN a valuable addition to any nutritional program. When CoRoN is applied to foliage, the plant stores the nitrogen and releases it according to the plant's nutritional needs. CoRoN gives plants a consistent, stable source of nitrogen for weeks, reducing nutrient run-off concerns and helping solve over- or under-application problems.

CoRoN was developed to address the following issues with conventional nitrogen fertilization:

**Leachability:** CoRoN will maintain longer nitrogen availability due to its polymethylene urea forms compared to urea or nitrate based sources.

**Solubility:** Nutrients must be dissolved in order to be used by plants. CoRoN's polymethylene ureas are very soluble in water. High solubility means easier handling, mixing and application.

**Nitrification:** Plants utilize ammonium and nitrate nitrogen. CoRoN first goes through a microbial breakdown before it can go through nitrification. This allows for the slower release of nitrogen and reduced leaching.

**Plant Growing Ability:** The ability to grow and maintain healthy growing plants depends upon steady release of mineral nitrogen from the polymethylene urea chains. The lengths of the eight different polymethylene urea chains in CoRoN are designed to release nitrogen up to a maximum duration of 10 weeks depending upon the soil type.

**CoRoN**  
Controlled-Release Nitrogen

## HIGHLIGHTS

- Unique liquid fertilizer with true controlled-release qualities
- Provides nitrogen when plants needs it
- Excellent plant uptake & translocation
- Low burn potential
- Minimal volatilization
- Good carrier for many plant protection products
- Low wash-off potential
- Improves your nitrogen management

### CoRoN Product Formulations

CoRoN 18-3-6 Plus 0.5% Fe (50% CRN\*)

CoRoN 12-0-12 (50% CRN)

CoRoN 18-24-4 (50% CRN)

CoRoN 22-3-3 (50% CRN)

CoRoN 14-2-14 Plus micro pack (60% CRN)

CoRoN 14-0-14 Plus micro pack (60% CRN)

CoRoN 28-0-0 (70% CRN)

CoRoN 25-0-0 Plus 0.5% Fe (50% CRN)

\*Controlled-release nitrogen

Check with your local Helena sales representative for availability in your area.





## CoRoN Gold

CoRoN Gold is a unique and effective tool to improve turf quality and appearance. It contains a uniform and highly stable formulation of high-quality 12-3-12 NPK and the reliable controlled-release nitrogen used in the extensive CoRoN product line. CoRoN Gold can increase nutrient- and moisture-holding capacity in the soil and help produce a larger root mass, resulting in better stress tolerance.



### HIGHLIGHTS

- Uniform feeding of nitrogen over a period of weeks
- Increases fertilizer uptake
- Improves turf quality
- Reduces leaching of nutrients

### GUARANTEED ANALYSIS

Total Nitrogen (N) .....	12.00%
7.80% Urea Nitrogen	
4.20% Slowly Available, Water-Soluble Nitrogen*	
Available Phosphate (P <sub>2</sub> O <sub>5</sub> ) .....	3.00%
Soluble Potash (K <sub>2</sub> O) .....	12.00%
Boron (B).....	0.02%
Derived from urea, methylene diurea, methylene ureas, dipotassium phosphate and potassium hydroxide.	
* 4.2% Slowly available nitrogen from methylene diurea and methylene ureas.	
Lbs N/Gal.....	1.248
Lbs P <sub>2</sub> O <sub>5</sub> /Gal .....	0.312
Lbs K <sub>2</sub> O/Gal .....	1.248

NUTRITIONALS



# NUTRITIONALS

## Nucleus 0-0-15 0-0-21-13S

Nucleus 0-0-15 and 0-0-21-13S are concentrated, water-based solutions that help correct or prevent potassium (K) deficiencies. They deliver K to the root zone for quick, efficient uptake and stronger growth. Nucleus 0-0-15 and 0-0-21-13S provide K without the limitations of conventional K sources, such as soil tie-up, high rates, clogged filters, corroded fittings, etc.

## Nucleus Ortho-Phos 6-21-2 Plus 0.2% Fe

Nucleus Ortho-Phos Fe is a low salt, 100% orthophosphate fertilizer that provides vital NPK and iron for vigorous root growth resulting in a strong growth foundation. Nucleus Ortho-Phos Fe contains a 6-21-2 plus 0.2% Fe formulation with a neutral pH. Its low-rate, non-corrosive formulation is compatible with most liquid fertilizers and plant protectants. Nucleus Ortho-Phos Fe can be applied via conventional spray applications and is gentle to application equipment.



### HIGHLIGHTS

- Superior forms of potash with low application rates
- Aids in maximizing plant health
- Won't clog irrigation emitters & filters
- Elevates potassium levels in plant tissue

### 0-0-15 ANALYSIS

Soluble Potash ( $K_2O$ ) ..... 15.00%  
Potash derived from potassium chloride.

Not more than 10.00% Chlorine (Cl).

### 0-0-21-13S ANALYSIS

Soluble Potash ( $K_2O$ ) ..... 21.00%  
Sulfur (S) ..... 13.00%  
13.00% Combined Sulfur (S)

Derived from potassium thiosulfate.



### HIGHLIGHTS

- Excellent iron source
- Strong, uniform early plant growth
- Stronger, healthier root system
- Contains fertilizer additives





## Nucleus Ortho-Phos

8-24-0



Nucleus Ortho-Phos is a low salt, 100% orthophosphate, 8-24-0 fertilizer with a neutral pH. Nucleus Ortho-Phos can be used as a maintenance application in your spray program or as a starter fertilizer. The unique fertilizer blend enhances plant health and gives emerging plants a head start on growth. By providing vital phosphorus, it helps plants achieve vigorous root growth. Nucleus Ortho-Phos is effective at low rates, non-corrosive to application equipment and compatible with insecticides and other fertilizers.



### HIGHLIGHTS

- Better plant health
- Strong, uniform early plant growth
- Stronger, healthier root system
- Contains fertilizer additives

## Helena 19-1-6



Helena 19-1-6 foliar fertilizer promotes quick turf green-up while improving nitrogen uptake efficiency. It is an effective and economical mix of urea and nitrate nitrogen and potassium, which also acts as a buffer.



### HIGHLIGHTS

- Fast green-up
- Quick recovery of stressed turf
- Enhances fertilizer uptake
- Improves plant & soil health

### GUARANTEED ANALYSIS

Total Nitrogen (N) .....	19.00%
17.2% Urea Nitrogen	
1.8% Nitrate Nitrogen	
Available Phosphate (P <sub>2</sub> O <sub>5</sub> ) .....	1.00%
Soluble Potash (K <sub>2</sub> O) .....	6.00%

Derived from urea, potassium polyphosphate and potassium nitrate.

NUTRITIONALS



# BIOSCIENCE

## MZ 'O'



MZ 'O' is a foliar-applied nutrient combined with Goëmar Formulation Technology, zinc and magnesium. MZ 'O' increases photosynthesis and plant metabolic activity and strengthens plant health. It can also be applied during vegetative growth to boost plant vigor and enhance shoot and root development.

Formulated With



### HIGHLIGHTS

- Increases plant health & sturdiness
- Enhances production of polyamines & other substances that are necessary for a wide range of metabolic reactions
- A unique blend of nutrients & Goëmar Formulation Technology that promotes chlorophyll production
- Strengthens plants for better disease tolerance

### GUARANTEED ANALYSIS

Magnesium (Mg) .....	1.76%
1.76% Water-Soluble Magnesium (Mg)	
Sulfur (S) .....	5.19%
Soluble Zinc (Zn) .....	5.47%

Derived from magnesium sulfate and zinc sulfate.

## Utilize



5-0-0

Utilize is a foliar nutrient system that boosts plant performance during the vital reproductive stage. Its primary component is a concentrated form of Goëmar Formulation Technology. Utilize increases chlorophyll production and photosynthesis in plants, providing extra energy during critical growth periods.

Formulated With



### HIGHLIGHTS

- Increases chlorophyll production & photosynthesis
- Enhances nutrient acquisition & utilization
- Compatible with most fungicides, insecticides & herbicides
- Improves plant health & quality

### GUARANTEED ANALYSIS

Total Nitrogen (N) .....	5.00%
5.00% Urea Nitrogen	

Derived from urea and kelp extracts (*Ascophyllum nodosum*).





## KickStand PGR



KickStand PGR, containing Asset® Formulation Technology, is an EPA-registered plant growth regulator. As a root enhancer, KickStand PGR improves germination, emergence, root mass, plant vigor and stress tolerance, while increasing nutrient uptake. The components in KickStand PGR enhance early plant development through cell division, elongation and plant maturation and increase plant metabolism for improved nutrient uptake.

EPA Reg. No. 5905-540



## KickStand RTU



Kickstand RTU is an easy-to-use clear liquid fertilizer that contains Asset Formulation Technology and Goëmar Formulation Technology for improved plant health. It improves the ability of plants to utilize fertilizer for stronger root health and increases the tolerance of plants under stressful growing conditions. It can be applied through irrigation systems, conventional sprayers or in transplant water.



### HIGHLIGHTS

- Improves seedling emergence
- Enhances root & shoot growth
- Increases tolerance to growing stresses
- Improves plant vigor

### GUARANTEED ANALYSIS

Indole-3-butyric Acid .....	0.0135%
OTHER INGREDIENTS .....	99.9865%
TOTAL .....	100.0000%

Contains 4.26 mg of indole-3-butyric acid/fluid ounce.



### HIGHLIGHTS

- Improves diffusion of product ingredients into the soil from the organic carrier
- Improves stability of product ingredients that have been diffused into the soil
- Increases availability of existing soil nutrients
- Increases turf's root mass & stress tolerance

### GUARANTEED ANALYSIS

Total Nitrogen (N) .....	4.00%
4.00% Ammoniacal Nitrogen	
Available Phosphate (P <sub>2</sub> O <sub>5</sub> ) .....	13.00%
Soluble Potash (K <sub>2</sub> O) .....	3.00%

Derived from ammonium polyphosphate, potassium phosphate, phosphoric acid and kelp (*Ascophyllum nodosum*).

BIOSCIENCE

# BIOSCIENCE

## KickStand DG + Fe

### Greens Grade

KickStand DG + Fe is a greens grade product that flows smoothly with low-dust qualities. It enhances shoot growth and density and increases carbohydrate reserves in turf, which results in better tolerance to wear and weather extremes. KickStand DG + Fe can be applied to turf, ornamentals, trees, vines and garden landscaping for quick, visual greening and additional agronomic benefits.



### HIGHLIGHTS

- Provides quick visual green up
- Enhances shoot & root growth
- Improves carbohydrate reserves
- Increases wear & weather tolerance

### GUARANTEED ANALYSIS

Iron (Fe) ..... 0.50%

Derived from iron humates.

## Myco-Sol

Myco-Sol is a powdered soil drench that allows plants greater access to soil nutrients and water by expanding the surface absorbing area of plant root systems in porous soils. This is achieved because the mycorrhizal fungi in Myco-Sol grow and intertwine with plant roots, resulting in a larger surface area to absorb water and nutrients. Myco-Sol contains specifically selected ecto- and endo-mycorrhizal fungal species in combination with humic and kelp extracts that increase plant productivity, quality and sustainability, while protecting plants from environmental stress.



### HIGHLIGHTS

- Improves water absorption & nutrient uptake
- Increases plant vigor, quality & sustainability
- Strengthens root development
- Improves drought resistance

### GUARANTEED ANALYSIS

Contains eight (8) species of mycorrhizal fungi:

Glomus intraradices..... minimum 17 propagules/cm<sup>3</sup>

Glomus mosseae ..... minimum 17 propagules/cm<sup>3</sup>

Glomus aggregatum ..... minimum 17 propagules/cm<sup>3</sup>

Pisolithus tinctorius .. minimum 3.2 million propagules/cm<sup>3</sup>

Rhizopogon villosulus minimum 80,000 propagules/cm<sup>3</sup>

Rhizopogon luteolus minimum 80,000 propagules/cm<sup>3</sup>

Rhizopogon amylopogon minimum 80,000 propagules/cm<sup>3</sup>

Rhizopogon fulvigneabamini minimum 80,000 propagules/cm<sup>3</sup>

Kelp Extract (*Ascophulum nodosum* powder)..... 35.0%

Humic Acids (Derived from Leonardite) ..... 35.0%





## Myco-Vam Plus

Myco-Vam Plus contains a balanced fertilizer along with specifically selected mycorrhizal species to increase plant vigor and strength of turf and horticultural plants. Myco-Vam Plus can be spread or incorporated into the soil in sod farms, nurseries, greenhouses and restoration areas for fine and commercial turf.



### HIGHLIGHTS

- Improves water & nutrient uptake
- Balanced organic fertilizer
- Protects plants from environmental issues
- Increases plant productivity & sustainability

### GUARANTEED ANALYSIS

Total Nitrogen (N) .....	6.00%
6.00% Water-Insoluble Organic Nitrogen	
Available Phosphate (P <sub>2</sub> O <sub>5</sub> ) .....	3.00%
Soluble Potash (K <sub>2</sub> O) .....	3.00%
Iron (Fe) .....	0.10%

Plant nutrients derived from blood meal, feather meal, meat meal, bone meal, sulfate of potash and iron sulfate.

Also contains non-plant food ingredient (87.9%).

Contains the following species of vesicular arbuscular mycorrhizae:

Glomus intraradices .....	20 propagules / cm <sup>3</sup>
Glomus etunicatum.....	5 propagules / cm <sup>3</sup>
Glomus clarum.....	5 propagules / cm <sup>3</sup>

- Aerification: 3-5 lbs/1,000 sq ft
- Divot Mixes: 12.5 lbs/cubic yard to sand mix
- New Seeding or Sod Installation: 5 lbs/1,000 sq ft
- New Construction or Color Beds: 7.5 lbs/cubic yard



BIOSCIENCE

# BIOSCIENCE

## ECe-X K

ECe-XK is a blend of polyacrylic acids designed to correct or minimize soil problems related to salinity and compaction. ECe-XK uses potassium as a counter-ion, not sodium. When used with a thorough irrigation program, ECe-XK improves the mobility of salts, moving them down and away from plant roots, allowing the roots to grow without interference from saline conditions. It may also correct soil wetting problems caused by compaction or soils with high-clay content.



### HIGHLIGHTS

- Moves salts down & away from the root zone
- Corrects soil problems related to salinity & compaction
- Reduces the build-up of mineral deposits in irrigation systems
- Can be applied through irrigation systems or as a soil spray

### GUARANTEED ANALYSIS

Soluble Potash ( $K_2O$ ) ..... 8.00%

Derived from potassium hydroxide.

Also contains non-plant food ingredients:

Active Ingredients ..... 30.00%

Polyacrylic Acid Salt (As Line Cleaner and Soil Conditioner)

INERT INGREDIENTS ..... 62.00%

## Liquid Chisel

Liquid Chisel is a blend of soil conditioning agents and potash that increases the solubility of calcium and magnesium salts. The resulting sodium displacement enhances soil tilth, increases irrigation efficiency and improves the availability of soil nutrients. Unlike similar products, Liquid Chisel includes soil wetting agents that improve water movement in the soil.



### HIGHLIGHTS

- Improves soil tilth
- Improves nutrient availability
- Enhances soil microbial activity
- Improves seed germination environment

### GUARANTEED ANALYSIS

Soluble Potash ( $K_2O$ ) ..... 4.00%

Also contains non-plant food ingredients:

Polyaliphatic acid salts ..... 63.00%

Alkyl aryl sulfonates (as line cleaner and soil conditioning agents) ..... 5.00%



## Essence 6

Essence 6 is a concentrated organic acid complex. Its low pH, clear amber liquid formulation will also clear drip irrigation lines. Essence 6 contains NutrAsyst Formulation Technology, a high-quality blend of organic acids that is designed to improve the performance of liquid fertilizers.

**NUTRASYST** | FORMULATION TECHNOLOGY



### HIGHLIGHTS

- Easy to apply through irrigation systems or as a tank mix with common fungicides
- Maximizes nutrient availability & investment
- Can be used in all soil types

## TraFix Es CAL Eight

TraFix Es CAL Eight is a combination of 8% calcium, organic acids and tri-carboxylic acids. When applied through irrigation or as a soil application, its 100% water-soluble formulation provides quick availability of calcium. The organic acids solubilize existing soil calcium and provide a food source for soil microorganisms. The tri-carboxylic acids in TraFix Es CAL Eight promote better root health and can improve root uptake of nutrients and moisture.



### HIGHLIGHTS

- Liquid formulation is easy to apply through irrigation systems or conventional sprayers
- Provides rapid calcium availability to roots of calcium deficient plants
- Organic acid component solubilizes soil calcium & is a food source for microorganisms

## N-Fixx XLR

N-Fixx XLR is a patented nitrogen stabilizing fertilizer additive that protects your fertilizer investment by reducing nitrogen volatilization by ammonia loss. When added to urea or UAN, it keeps nitrogen in the ammonium form for plants to use during key growth stages. N-Fixx XLR contains FLOWTECH™ Formulation Technology which reduces application rates, minimizes the potential for buildup and improves handling by allowing for faster fertilizer treatments and storage of less product.



### HIGHLIGHTS

- Controls nitrogen loss
- Provides economical protection of fertilizer investment
- Easy to use with urea or UAN solutions
- Contains FLOWTECH Formulation Technology

**FLOWTECH** | FORMULATION TECHNOLOGY



# BIOSCIENCE

## Renova



Renova is a foliar-applied nutritional that contains amino acids and other natural plant compounds. These components are naturally extracted through enzymatic hydrolysis from vegetative matter. These extracts help to activate plant growth mechanisms after stressful situations. Research has shown that Renova increases plant production and improves plant growth by activating plant metabolism and supplying readily available nutrients. In fact, Renova has proven especially effective in enabling plants to resume normal growth following a wide range of external stresses, such as nutritional deficiencies, temperature extremes, moisture extremes or damage from foot or mechanical traffic, chemicals, diseases or insects.

## Renova iNEM



Renova iNEM is designed for the management of turf and soils affected by nematodes. Its unique action works directly on the root system by increasing its energy and vigor, while improving the aesthetic quality of the turf even in the presence of nematodes. Renova iNEM helps strengthen turf with root vigor improvement, root system recovery and by providing nutrition.



### HIGHLIGHTS

- Increases nutrient uptake during naturally stressful growth periods
- Enables plants to resume natural growth following growing stresses
- Acts as a carrier for foliar nutrients & chemicals
- No phytotoxicity problems

### GUARANTEED ANALYSIS

Total Nitrogen (N) .....	3.00%
2.0% Urea Nitrogen	
1.0% Other Water-Soluble Nitrogen	
Soluble Potash (K <sub>2</sub> O) .....	8.00%

Derived from urea, protein hydrolysate and potassium acetate.



### HIGHLIGHTS

- Precision blend of plant extracts improves plant root recovery & vigor in turf affected by nematodes
- Compatible with nematicide products
- Labeled for warm & cool season grasses
- No residues







**Kendal**  
3-0-15



Kendal is a foliar nutrient supplement that contains oligosaccharides composed of refined cell wall fragments. It also features potassium to strengthen cell walls. Kendal improves the ability of plants to handle stresses and maximize nutrient utilization. The result is improved overall color and quality of turf and stiffening of leaf blades for increased turf durability.

# KENDAL®

**HIGHLIGHTS**

- Increases plant metabolism & root development
- Improves growth uniformity, plant quality & color
- Enhances disease tolerance

**GUARANTEED ANALYSIS**

Total Nitrogen (N) ..... 3.00%  
 2.7% Urea Nitrogen  
 0.3% Other Water-Soluble Nitrogen  
 Soluble Potash (K<sub>2</sub>O) ..... 15.00%  
 Derived from urea, protein hydrolysate and potassium hydroxide.

**Viva**



Viva is a liquid fertilizer specifically formulated to help transplants overcome shock while improving their quality, vigor and health. Viva is intended to supplement a standard fertility program and may be used on ornamental plants and turfgrass.

# VIVA®

**HIGHLIGHTS**

- Enhances root development & activity
- Increases soil nutrient uptake
- Strengthens plant vitality
- Reduces transplant shock

**GUARANTEED ANALYSIS**

Total Nitrogen (N) ..... 3.00%  
 2.0% Urea Nitrogen  
 1.0% Other Water-Soluble Nitrogen  
 Soluble Potash (K<sub>2</sub>O) ..... 8.00%

BIOSCIENCE

**Hydra-Hume** products come in liquid and dry formulations. For turf and ornamental uses, two products are highlighted below that provide the following agronomic and soil benefits. Hydra-Hume 0-0-1 provides all the benefits listed below and can be applied alone or with liquid fertilizers and plant protectants.

## HIGHLIGHTS

- Enhances the effectiveness of inorganic fertilizers by improving fertilizer uptake
- Helps prevent nutrient tie-up
- Helps reduce nutrient leaching
- Can help chelate metal ions
- Promotes greener, more vibrant plants
- Improves soil biology
- Enhances root development

## Hydra-Hume 0-0-1

Hydra-Hume 0-0-1 is a liquid that is rich in humic acids, containing perhaps the highest concentration of humic acids available from raw leonardite. It can be applied alone or with liquid fertilizer to improve fertilizer efficiency.



## GUARANTEED ANALYSIS

Soluble Potash (K <sub>2</sub> O) .....	1.00%
Derived from potassium hydroxide.	
Also contains non-plant food ingredients:	
Humic Acid (Derived from leonardite) .....	12.00%
INERT INGREDIENTS .....	88.00%
TOTAL.....	100.00%

## Hydra-Hume DG Coated

Hydra-Hume DG Coated is a unique organic acid compound that increases fertilizer efficiency and helps improve soil biology for extended agronomic benefits. It is designed specifically for precise and efficient application with or without dry fertilizer.



## HIGHLIGHTS

Humic Acid (Derived from leonardite) .....	70.00%
INERT INGREDIENTS .....	30.00%
TOTAL.....	100.00%



## NutrAsyst

Products containing fulvic acids, such as NutrAsyst, can increase uptake of nutrients. NutrAsyst can be applied to trees, ornamental plants, turf and garden landscaping. It can be mixed with almost all liquid fertilizers, nutrients, fungicides and insecticides. NutrAsyst can be applied to all soil types and pH ranges through transplant solutions, dips and all watering solutions.



### HIGHLIGHTS

- Improves fertilizer efficiency by increasing plant uptake
- Increases early-season root development
- Helps offset early-season moisture or heat stress
- Improves soil & plant moisture retention

### GUARANTEED ANALYSIS

Fulvic Acid.....	5.00%
Other Ingredients.....	95.00%
TOTAL.....	100.00%

## Receptor

Receptor is an advanced nutrient catalyst that enhances root system development and contributes to a stronger, faster growing plant. This results in increased nutrient and moisture uptake and improved tolerance of in-season growing stresses. Receptor can be used with fertilizers, plant nutritional products and pesticides.

EPA Reg. No. 5905-594

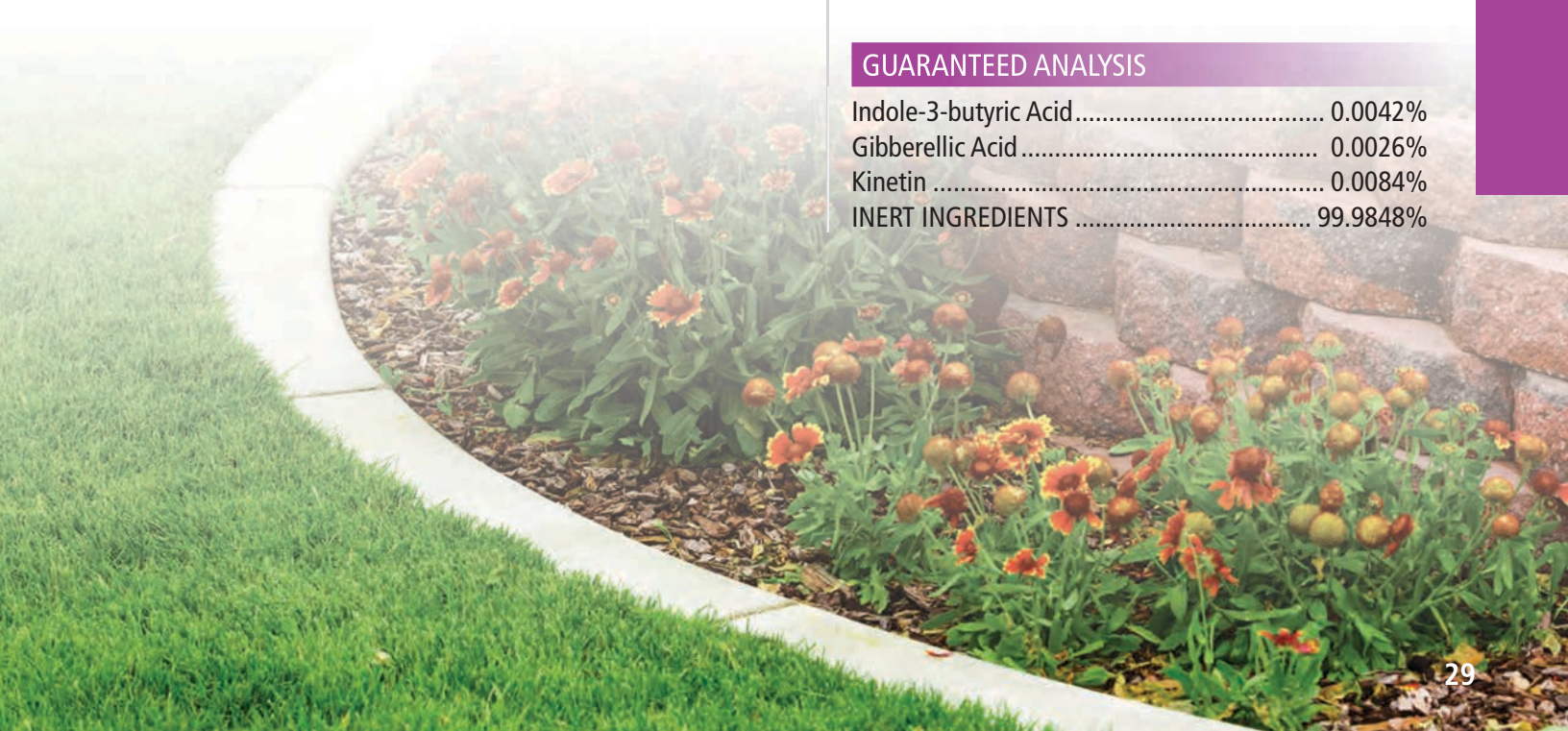


### HIGHLIGHTS

- Enhances fertilizer use efficiency
- Enhances root system development
- Improves water utilization in plants
- Enhances tolerance to in-season stress

### GUARANTEED ANALYSIS

Indole-3-butyric Acid.....	0.0042%
Gibberellic Acid.....	0.0026%
Kinetin.....	0.0084%
INERT INGREDIENTS.....	99.9848%



BIOSCIENCE



## Pro-Mate Throw-Paks 3-1-1

Throw-Paks are biodegradable packets of humic acids, mycorrhizal fungi and specially-formulated fertilizers that jump-start early seedling growth and development. When placed into each hole at planting, the beneficial fungus inside sets up a symbiotic system that improves moisture and nutrient uptake, enhances soil structure, increases disease and drought resistance and reduces plant loss in the first year. Throw-Paks are not intended for annual or perennial flowers or established plants.



### HIGHLIGHTS

- Better & faster root establishment
- Improves uptake of moisture & nutrients
- Greater drought & disease tolerance
- Fewer first year losses

### GUARANTEED ANALYSIS

Total Nitrogen (N) .....	3.00%
3.00% Water-Insoluble Organic Nitrogen	
Available Phosphate (P <sub>2</sub> O <sub>5</sub> ) .....	1.00%
Soluble Potash (K <sub>2</sub> O) .....	1.00%
Calcium (Ca) .....	2.50%

Derived from feather meal, meat meal, bone meal, blood meal, fish meal and langbeinite..

Also contains non-plant food ingredients:  
Mycorrhizal Inoculant

Glomus intraradices .....	40 propagules per gram
Humic Acid (derived from Leonardite) .....	28.00%

Pro-Mate Throw-Paks are designed for soil applications. Pro-Mate Throw-Paks contain humic acids and mycorrhizal fungi that may aid in the uptake of nutrients.

## Avanti RZ

Avanti RZ, a unique solution of carboxylic and polyphenolic acids, is a nutrient uptake efficiency additive that helps extract more value from your liquid fertilizer. When applied with liquid fertilizers, Avanti RZ enhances their solubility and subsequent absorption by plants, resulting in improved tolerance of growing season stresses.

For Use in California and Arizona Only



### HIGHLIGHTS

- Improves fertilizer efficiency
- Improves nutrient uptake
- Improves moisture uptake
- Blends easily with most liquid fertilizers

### GUARANTEED ANALYSIS

Carboxylic acids .....	44.00%
Polyphenolic acids.....	36.00%
Other INERT INGREDIENTS.....	20.00%



## Asset RTU

6-20-5



Asset RTU is a plant nutrient solution that contains a unique fertilizer additive. When used in conjunction with sound fertility and agronomic practices, Asset RTU can increase plant root development. This can result in more productive growth and greater tolerance to stressful environmental conditions. Asset RTU can be used in transplant solutions, in ornamentals as a soil drench or directed spray and applied directly to turf.

Asset RTU 50G is a dry granular formulation of Asset RTU. This product delivers nutrients over time, minimizing run-off. When used as directed, it can be applied with other granular products, such as pesticides.

# Asset RTU

### HIGHLIGHTS

- Increases plant root development
- More productive growth
- Increases tolerance to stressful growing conditions

### GUARANTEED ANALYSIS

Total Nitrogen (N) .....	6.00%
6.00% Water-Insoluble Organic Nitrogen	
Available Phosphate (P <sub>2</sub> O <sub>5</sub> ) .....	20.00%
Soluble Potash (K <sub>2</sub> O) .....	5.00%
Boron (B).....	0.02%
Copper (Cu).....	0.05%
0.05% Chelated Copper (Cu)	
Iron (Fe) .....	0.10%
0.10% Chelated Iron (Fe)	
Manganese (Mn).....	0.05%
0.05% Chelated Manganese (Mn)	
Moybdenum (Mo) .....	0.0005%
Zinc (Zn).....	0.05%
0.05% Chelated Zinc (Zn)	

Derived from polyammonium phosphates, ammonium carboxylates, potassium phosphates, phosphoric acid, copper EDTA, manganese EDTA, zinc EDTA, iron HEDTA, sodium octaborate and sodium molybdate.

The chelating agent is EDTA (ethylenediaminetetraacetic acid) and HEDTA (hydroxyethylenediaminetetraacetic acid).

Contains 3.38 lbs. of plant nutrients per gallon.

Contains protected technology.

### ALSO AVAILABLE



BIOSCIENCE

# VALUE-ADDED PRODUCTS

## HERBICIDES

### Battleship III

Battleship III is a premium post-emergent, selective broadleaf herbicide that provides superior control of hard-to-kill species. Battleship III combines the activity of triclopyr, fluroxypyr and methyl chlorophenoxyacetic acid (MCPA) and is especially useful for weed control in markets that may be 2,4-D sensitive.

EPA Reg. No. 228-453-5905  
Registered for Use in California



#### HIGHLIGHTS

- Controls tough weeds like Oxalis, Clover, Black Medic, Thistle & Knotweed
- Contains triclopyr, fluroxypyr & MCPA
- Contains a patented adjuvant system that helps overcome the typical problems seen with fluroxypyr, while providing excellent mixing & coverage
- Excellent product choice in 2,4-D sensitive areas

#### ACTIVE INGREDIENTS

Dimethylamine Salt of 2-Methyl-4-Chlorophenoxyacetic Acid*	37.84%
1-Methylheptyl Ester of Fluroxypyr: ((4-amino-3-5-dichloro-6-fluoro-2-pyridinyl)oxy) acetic Acid, 1 -methylheptyl ester**	4.45%
Triethylamine Salt of 3,5,6-Trichloro-2-Pyridinyloxyacetic Acid***	4.07%
Other Ingredients	53.64%
TOTAL	100.00%

By Isomer Specific AOAC Method, Equivalent to:

*2-Methyl-4-Chlorophenoxyacetic Acid	30.90%	2.85 lbs/gal
**((4-amino-3-5-dichloro-6-fluoro-2-pyridinyl)oxy) acetic Acid	3.09%	0.29 lbs/gal
***3,5,6-Trichloro-2-Pyridinyloxyacetic Acid	2.92%	0.27 lbs/gal





## On Deck



On Deck is an advanced concentrated formulation of dicamba and 2,4-D acids. It is designed to maximize weed control in a variety of environmental conditions, while minimizing spray application and mixing problems. On Deck has minimal volatility and far less odor than standard auxin-based products. The co-formulated adjuvant system in On Deck improves deposition, spreading and plant absorption.

EPA Reg. No. 42750-144-5905  
Not Registered for Use in California

# ONDECK

### HIGHLIGHTS

- Enhanced broadleaf weed control due to unique dual-acid technology
- Minimal volatility & no phenoxy odor
- Ester-free formulation
- No petroleum solvents

### ACTIVE INGREDIENTS

3,6-Dichloromethoxybenzoic Acid.....	10.80%
2,4-Dichlorophenoxyacetic Acid.....	24.16%
Other Ingredients .....	65.04%

## EndRun



EndRun is a surfactant-loaded, three-way herbicide containing 2,4-D, methyl chlorophenoxypropionic acid (MCP-p) and dicamba. The product is designed to provide increased performance at a lower rate and spray volume over typical three-way herbicides.

EPA Reg. No. 2217-656-5905  
Registered for Use in California

# ENDRUN

### HIGHLIGHTS

- Broadleaf weed control in turf at lower rates than similar products
- Rapidly absorbed by weeds
- Contains a co-formulated adjuvant system

### ACTIVE INGREDIENTS

Dimethylamine salt of 2,4-dichlorophenoxyacetic acid.....	30.56%
Dimethylamine salt of (+)-(R)-2-(2-methyl-4-chlorophenoxy) propionic acid .....	8.17%
Dimethylamine salt of dicamba: 3,6-dichloro-o-anisic acid.....	2.77%
INERT INGREDIENTS .....	58.50%
TOTAL.....	100.00%

# VALUE-ADDED PRODUCTS

## HERBICIDES

### Vision

Vision is a specially formulated dicamba acid herbicide that provides control of annual, biennial and perennial broadleaf weeds, woody brush and vines. Vision mixes easily with water, and in many applications, requires no additional adjuvants. Because it's application time is flexible, Vision can be used in summer.

EPA Reg. No. 5905-576

Not Registered for Use in California



#### HIGHLIGHTS

- Controls or suppresses more than 150 different weeds
- Contains co-formulated adjuvant system for enhanced wetting, spreading & compatibility
- Minimal volatility
- No antagonisms due to hard or soft water & carbonates

#### ACTIVE INGREDIENTS

Dicamba Acid*	40.00%
Other Ingredients	60.00%
TOTAL	100.00%

\*Contains 3.8 pounds Dicamba acid per gallon or 450 grams per liter.

\*CAS No. 1918-00-9





## HardBall



HardBall is the perfect tool for effectively controlling broadleaf weeds, especially where odor and volatility are important considerations. Due to its unique dual-acid technology, it provides excellent weed control at lower rates and with less odor and volatility than conventional 2,4-D products. Even in cool conditions, Hardball provides effective control of broadleaf weeds.

EPA Reg. No. 5905-549  
Registered for Use in California

## TapOut



TapOut is a unique clethodim, selective post-emergence grass herbicide. It offers rapid and complete control of tough, annual and perennial weedy grasses.\* Its co-formulated adjuvant system increases coverage, adhesion, absorption and uptake, ensuring enhanced overall activity.

\*For control of grasses only.

EPA Reg. No. 5905-578  
Registered for Use in California



### HIGHLIGHTS

- Enhanced weed control due to unique acid technology
- Petroleum solvent- & ester-free formulation
- Co-formulated adjuvant system enhances uptake, improves spreading/wetting & reduces spray droplet bounce & evaporation
- Contains pH reduction & buffering agents to prevent hard water problems

### ACTIVE INGREDIENTS

2,4-Dichlorophenoxyacetic Acid*	19.60%
INERT INGREDIENTS	80.40%
TOTAL	100.00%



Selective Grass Herbicide

### HIGHLIGHTS

- Clethodim chemistry with co-formulated adjuvant system
- Selective control of annual & perennial grasses
- Enhanced activity & faster kill
- Improved coverage, adherence, absorption & uptake

### ACTIVE INGREDIENTS

*Clethodim	12.60%
Other Ingredients	87.40%
TOTAL	100.00%

Contains petroleum distillates.

\*(E)..2..[1 -[[[3-chloro-2-propenyl)oxyjimino]propyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1 -one

Contains 0.97 lbs. clethodim per gal.



# VALUE-ADDED PRODUCTS

## HERBICIDES

### Trycera



Trycera is a specialized, patented triclopyr acid formulation designed to maximize weed control in a variety of environmental conditions, while minimizing spray application and mixing problems for industrial vegetation management. It features enhanced absorption, low volatility, good compatibility with most fertilizers and no phenoxy odor.

EPA Reg. No. 5905-580

Not Registered for Use in California



#### HIGHLIGHTS

- Outstanding control of tough broadleaf weeds, even under environmental extremes
- Extremely low odor & very low volatility for applications in sensitive areas
- Optimized pH & water conditioning properties improve performance by reducing antagonisms
- Non-flammable (no petroleum solvents or alcohol)

#### ACTIVE INGREDIENTS

Triclopyr: 3,5,6-trichloro-2-pyridinyloxyacetic acid .....	29.40%
INERT INGREDIENTS .....	70.60%
TOTAL.....	100.00%

## PLANT GROWTH REGULATORS

### Oskie



Oskie is an enhanced, three-pound per gallon ethephon-based product. It features a co-formulation system that enhances uptake and efficiency of ethephon. Oskie's unique formulation prevents the ethephon from breaking down into ethylene gas before it is applied, while its co-formulation system maintains a low pH in the spray application mixture. Oskie can be used to suppress the formation of seedheads of various plants including *Poa annua* and white clover.

EPA Reg. No. 66330-363-5905



#### HIGHLIGHTS

- Faster uptake for improved performance
- Minimizes antagonisms of poor spray water quality
- Exclusive three-pound/gallon formulation
- 100% water-soluble for no residues or film



# FUNGICIDES

## Quanta

Quanta is a unique potassium phosphite, systemic fungicide/ root enhancer used to help control diseases such as Downy Mildew, Phytophthora and Pythium in turf and ornamental plants. It contains Indole-3-butyric acid and is EPA-registered. Quanta is highly soluble and rapidly absorbed by plants, making it an ideal fit for integrated pest management programs.

EPA Reg. No. 5905-566  
Not Registered for Use in California



### HIGHLIGHTS

- EPA-registered fungicide
- Effective control of Pythium, Downey Mildew & Yellow Tuft
- Dual modes of action
- Highly soluble & rapidly absorbed

### ACTIVE INGREDIENTS

Mono-and di-potassium salts of Phosphorus Acid*	56.00%
Indole -3-butyric Acid	0.0139%
Other Ingredients	43.9861%
<b>TOTAL</b>	<b>100.00%</b>

\*Contains 6.87 lbs/gallon of the active ingredients, mono- and di-potassium salts of Phosphorus Acid.  
Equivalent to 5.67 lbs phosphorus acid per gal.

VALUE-ADDED PRODUCTS



# ADJUVANTS

## SURFACTANTS

### Induce

Induce is a special blend of nonionic, low-foam components. It is designed to quickly wet and spread a more uniform spray deposit over plant leaf and stem surfaces. With a high level of free fatty acids, Induce resists wash-off.



#### HIGHLIGHTS

- Excellent spreading qualities
- Increases re-wetting
- Resists wash-off
- Enhances spray deposition
- Low foaming properties

### Agri-Dex

Agri-Dex is one of the most widely used, reliable crop oil concentrates (COC) available. This unique blend of high-quality, paraffin-based mineral oil and nonionic surfactants was designed to boost the performance of herbicides in adverse conditions. Agri-Dex enhances absorption and provides effective coverage for superior weed control.



#### HIGHLIGHTS

- Consistent, reliable results
- Improves coverage & canopy deposition
- Non-phytotoxic
- Reduced evaporation & volatilization, due to high-quality oils

### Joint Venture

Joint Venture is a blend of nonionic organosilicone surfactants and esterified fatty acids designed for use with biological and biorational pesticides. The addition of Joint Venture to a spray tank solution will improve a spray application by physically modifying the deposition and wetting characteristics of the spray solution, resulting in a more uniform spray deposit.



#### HIGHLIGHTS

- Excellent spreading for thorough coverage
- Excellent penetration of plant tissue
- Excellent canopy deposition
- Reduces evaporation





## Kinetic



Kinetic is a nonionic organosilicone-based wetter/spreader/penetrant spray adjuvant. It is designed to provide rapid spreading and absorption of pesticide and nutrient sprays into plant leaves and stems. Because of its unique abilities, Kinetic can be used at much lower rates than conventional surfactants.

## Dyne-Amic



Dyne-Amic is an effective blend of highly refined methylated seed oils in combination with specialized organosilicone-based nonionic surfactants. With its low phytotoxicity qualities, Dyne-Amic is much easier on plants than conventional crop oil concentrates. The oil component of Dyne-Amic provides excellent penetration, while the surfactant provides highly effective spreading and coverage.

## Smoke



Smoke, a unique herbicide activator, is a blend of deposition agents, activators and water conditioners that enhances herbicide efficiency. Smoke improves spray deposition and uptake, while preventing antagonisms caused by poor water quality.



### HIGHLIGHTS

- Superior spreading
- Improves the absorption of systemically active and/or water-soluble pesticides
- Reduces spray droplet bounce
- May allow for the reduction of water volumes



### HIGHLIGHTS

- Excellent canopy deposition & spreading for thorough coverage
- Excellent penetration of plant tissue
- Reduced evaporation
- Low use rate



### HIGHLIGHTS

- Increases ai absorption
- Improves spray deposition
- Good wetting properties
- Corrects hard water antagonisms

# ADJUVANTS

## WATER CONDITIONERS

### Induce pH

Induce pH is a special blend of nonionic, low-foam, buffering and conditioning components. It improves the efficacy of spray applications by increasing coverage, reducing run-off, minimizing evaporation and enhancing absorption and uptake. Induce pH also helps correct mixing problems and prevents water quality problems.



#### HIGHLIGHTS

- Excellent spreading qualities
- Increases re-wetting
- Resists wash-off
- Enhances spray deposition

### Quest

Quest is an effective blend of water conditioning agents and spray adjuvants designed to make pesticide sprays more efficient. It removes carbonates and bicarbonates that can deactivate pesticides. It also sequesters metal cations and modifies the pH of the spray solution. Quest can be used as a liquid replacement and/or a supplement to ammonium sulfate.



#### HIGHLIGHTS

- Compatible with many pesticide formulations
- Conditions spray water by sequestering iron cations, calcium & magnesium salts & carbonates
- Reduces spray deposit evaporation
- Replaces or supplements dry ammonium sulfate



ADJUVANTS



# ADJUVANTS

## DEPOSITION AGENTS

### Grounded



Grounded is a soil and spray deposition agent that improves the efficacy and adsorption of soil-applied herbicides, improves drift control and enhances application efficiency. It provides proven quality and performance that can improve results from your herbicide inputs.



#### HIGHLIGHTS

- Improves adsorption in the soil
- Can improve pre-emergence weed control
- Improves droplet size uniformity
- Reduces evaporation & drift

### Ground Zero



Ground Zero is a drift reduction agent that helps keep spray fertilizers and herbicides on target. By delivering spray applications where they're needed most, Ground Zero helps reduce waste and the potential for complaints.



#### HIGHLIGHTS

- Excellent drift reduction & deposition
- Easy use & dispersion
- Low application rates
- Highly concentrated formulation for mixing efficiency



## Hel-Fire



Hel-Fire is a combination of deposition agents, activators and water conditioners. Hel-Fire is designed to enhance the degree and speed of herbicide performance, particularly with glyphosate. It improves spray deposition and uptake, while preventing antagonisms caused by poor water quality.

# HEL-FIRE

### HIGHLIGHTS

- Improves herbicide activity
- Corrects hard water antagonism
- Improves spray deposition
- Provides good wetting properties

## DLZ



DLZ is a combination of surfactants, paraffinic oil and methylated seed oils that works three ways to improve application delivery. It improves the spreading, wetting and absorption properties of pesticide spray mixes, acts as a buffer in the spray mixture to enhance uptake, and its unique emulsifiers provide extremely stable emulsions when needed.



### HIGHLIGHTS

- Improves deposition & reduces evaporation
- Enhances spreading, wetting & absorption of pesticides
- Acts as a buffer to improve uptake
- Stabilizes through emulsion

## Justified



Justified increases droplet size and reduces driftable fines for a lower risk of off-target drift. With an oil-based formulation, the driftable fine reduction achieved with Justified is not affected by pump shearing. It decreases evaporation and improves deposition and coverage, delivering more ai to the target. Justified also decreases foam and has excellent compatibility with tank-mix partners and equipments. Justified is made with a renewable resource.



### HIGHLIGHTS

- Reduces off-target drift & driftable fines
- Improves deposition & coverage
- Decreases evaporation
- Decreases foam in spray applications

ADJUVANTS

# ADJUVANTS

## SPRAY UTILITY

### WipeOut XS

WipeOut XS is an ammonia-free, sodium hydroxide-based tank cleaner with twice the active ingredient as conventional tank cleaners. It cleans spray tanks and equipment quickly and thoroughly by penetrating and solubilizing residues, while preventing re-adherence during flushing. It is specially engineered to clean application equipment after using multiple mode-of-action tank mixes. It elevates pH faster than other tank cleaners to quickly decompose crop protection products.

### FoamBuster 10

FoamBuster is a blend of foam-prevention agents that prevents or controls foam problems in a spray tank.

### FoamBuster Max

FoamBuster Max is a concentrated blend of foam-eliminating agents that significantly reduces foam once formed in a spray mix and prevents foam from reoccurring.

# WIPEOUT<sup>®</sup> XS

#### HIGHLIGHTS

- Cleans residues from spray tanks & equipment
- Prevents re-adherence after flushing
- Neutralizes acid
- No ammonia odor
- Low foaming

# FOAMBUSTER<sup>™</sup>

#### HIGHLIGHTS

- Prevents & reduces foam in spray applications
- Effective with organosilicone-based surfactant products

# FOAMBUSTER<sup>™</sup> MAX

#### HIGHLIGHTS

- Effective with organosilicone-based surfactant products
- Better knock down of foam once formed in the tank





## SPRAY PATTERN INDICATORS

### Spray Indicator XL

Spray Indicator XL helps applicators avoid costly oversprays and skips with a highly concentrated temporary colorant that shows them where they've sprayed. It dissipates quickly in wet and dry weather and mixes completely with water-soluble pesticides and fertilizers without affecting chemical efficacy.

### Spray Indicator XL

#### HIGHLIGHTS

- Reveals where pesticides or fertilizers have been applied
- Indicates skips & overlaps at a glance
- Easy clean up — won't stain skin
- Dissipates under sunlight, rain or irrigation

ADJUVANTS



# WATER MANAGEMENT TOOLS

## Firm Up



Firm Up is a soil wetter that reduces standing water and saturated or soggy areas in turf. It improves water penetration and infiltration in soil, while enhancing irrigation efficiency and decreasing water usage. It uses a branched alkyl alkoxyate formulation, resulting in consistently well-drained, well-hydrated soil for an extended period of time. It increases vertical and horizontal water movement to penetrate the soil profile, allowing drainage of excess water. It contains polycarboxylic acids to help solubilize micronutrients and break down hydrophobic conditions. Firm Up can also firm the soil surface, reducing wet spots, which can result in decreased incidence of algae and fungal outbreaks.



### HIGHLIGHTS

- Improves water penetration & infiltration in soil
- Improves vertical & horizontal water movement in soil
- Firms the soil surface
- Reduces wet spots

## Aristocracy



Aristocracy is a nonionic wetting agent and soil conditioner that prevents and treats localized dry spots (LDS) and other problem areas in turf. Utilizing a soil penetrant to improve soil wetting, it promotes consistent water flow into and throughout the root zone. By anchoring the wetting agent to the soil, it provides the water-holding power which prevents turf from drying out. Playing surfaces remain firm without leaving the surface too wet. Aristocracy can be applied year round to promote healthy turf. It remains active in the soil for up to 40 days after application and has shown impressive results in turf types such as Bentgrass, Bermuda, *Poa annua* and Paspalum.



### HIGHLIGHTS

- Promotes healthier soils for healthier, high-quality turf
- Corrects water repellency problems
- Works as both a preventative & curative to drying soils
- Improves wetting of soils with vertical & lateral infiltration

## Soaker Plus



Soaker Plus is a nonionic, low foam, wetting agent that utilizes a soil penetrant to improve vertical and lateral infiltration. It works as a preventative and curative for drying soils and corrects water repellency problems. Soaker Plus is designed to be safe for applications to new or existing turf and improves the uniform movement of water into the root zone of soils.



## Injector



Injector is designed to promote better absorption of irrigation water into the soil. It enhances the infiltration and penetration of water, whether applied with conventional spray equipment or through the irrigation system itself.







Reservoir products improve water infiltration and the water-holding capacity of the soil, while also reducing evapo-transpiration and the leaching potential of nutrients and pesticides. Reservoir products enhance the efficiency of the soil/water interface and remain active in the soil for 3-5 weeks.

### Reservoir 50

Reservoir 50 is designed to be injected into high-volume irrigation systems for application to general turf on areas such as golf course fairways, athletic fields, commercial lawns and any other managed turf environments.



### Reservoir DG

Reservoir DG offers the option of spot applying problem areas where localized dry spots (LDS) may be a problem. It can also be applied to large areas if dry application of product is the preferred method. Reservoir DG is an easy-to-spread granular material that is excellent for use on tee surrounds, collars, mounds and greens. It can also be applied to container-grown plants, bedding plants and lawns to increase irrigation efficiency and prevent drought stress.



### Reservoir SP

Reservoir SP, a liquid soil wetting agent, treats localized dry spots and improves the efficiency of water and nutrient programs. This easy-to-use formulation can be injected into irrigation systems or applied with a backpack sprayer for more targeted delivery. It enhances water penetration and reduces evaporation, run-off and soil erosion. Reservoir SP also increases overall irrigation efficiency and promotes water, nutrient and nitrogen availability.



WATER MANAGEMENT TOOLS

















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