



Performance Nutrition is a division of LidoChem, Inc.



2021

Turf & Ornamental

PRODUCT CATALOG

ABOUT

PERFORMANCE NUTRITION® was established in 1999 to develop new eco-responsible products and programs for the Turf & Ornamental market. The Performance Nutrition product line of specialty performance products is tailored to meet the ever-increasing demand for new and safer plant disease control and nutritional products.

Through the innovation of its staff of technical and product development professionals, the *PERFORMANCE NUTRITION* division has assembled an ever-expanding array of unique and powerful bio-pesticides, patented chelated micronutrient solutions, specialty fertilizers, soil inoculants, plant hormones, organic supplements and fertilizer additives that are not only effective but environmentally and applicator friendly as well.

PERFORMANCE NUTRITION fertility and specialty products are sold across the country by local independent distributors familiar with local growing practices and problems.

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LidoChem, Inc.

PROFILE

LidoChem®, Inc., a family-owned business, was established in 1981 to secure and distribute water-soluble nutrients and related products for the specialty fertilizer industry from new off-shore sources. LidoChem, Inc. takes great pride in its role in facilitating the growth of the water-soluble fertilizer industry from its infancy to its current predominance.

LidoChem, Inc.'s Industrial Division continues to distribute raw materials for the specialty fertilizer, detergent and related industries from strategically located distribution centers, and, remains a trusted name for almost four decades.

LidoChem, Inc. established the Performance Nutrition® Division in 1999 to pursue its vision of more sustainable and eco-responsible practices in the agricultural, turf and ornamental markets. Performance

Nutrition's unique patented and proprietary specialty products allow growers to "bio-rationalize" their fertility and pest control programs by integrating organic and microbial-based products into conventional programs. Performance Nutrition was a pioneer in Sustainable Agriculture, beginning in 2000 with chemical-free NutriSmart® Soil Inoculants that deliver season-long N, P, K and Si through microbial activity.

Performance Nutrition® has assembled an ever-expanding array of specialty performance fertilizers, chelated micronutrient solutions, bio-pesticides, soil inoculants, soil amendments and organic-based products that correct conditions that inhibit plant health and support conditions that enhance plant health and productivity, while utilizing and protecting the ecosystem.

These products are used together in an ecosystem management program comprising patented Performance Treatments, which address the critical parameters of healthy ecosystems. Performance Treatments are available for soil health, plant health and seed treatments. Custom programs are also developed to deliver season-long fertility and pest management.

Performance Nutrition products are sold throughout the USA by local dealers familiar with local growing practices and challenges.



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The Right Time for NUTRIENT STEWARDSHIP *IS RIGHT NOW**



- ✓ *Right Fertilizer Source*
- ✓ *Right Rate*
- ✓ *Right Time*
- ✓ *Right Place*

4R Nutrient Stewardship represents an innovative approach to fertilizer best management practices (BMPs). The 4Rs imply there are four aspects to every fertilizer application and it provides a framework to assess whether plants have access to the necessary nutrients. Asking “Was the plant given the right source at the right rate, at the right time, and in the right place?” helps identify opportunities to improve fertilizer efficiency and prevent nutrient movement from each property.

Benefits of using the 4Rs include:

Improving plant productivity

- Optimizing nutrient management is key when dealing with fertilizer and other input price fluctuations.
- Improved plant health has been documented with better plant and soil management

Minimizing the impact to the environment

- Adopting nutrient stewardship contributes to the preservation of natural ecosystems.
- Retaining nutrients within the applied area greatly reduces the amount that is not utilized by plants and escapes into the environment as pollution.



PERFORMANCE

Ecosystem Management® Programs

The *PERFORMANCE* Ecosystem Management® Program

(PEMP) is a pro-active, comprehensive system for turf management that is safe, effective, easy-to-use and simple to manage. PEMP consists of our patented Performance Treatments, each of which targets specific components of an ecosystem:

- *Soil*
- *Turf Nutrition and Micronutrition*
- *Microbial Populations*
- *Water & Soil Solutions*

Each *PERFORMANCE* Treatment corrects conditions that negatively impact the ecosystem, and, enhances conditions that favor vigorous, more stress resistant and sustainable turf.

With continued use, the *PERFORMANCE* Treatments will balance plant nutrition and micronutrition, support healthy populations of diverse microorganisms, and reduce the need for chemical fertilizers and pesticides. In addition, *PERFORMANCE* Treatments improve availability and uptake of soil nutrients, increase levels of soil organic matter, enhance the soil's water-holding capacity, build thick, deep roots and maintain healthy, stress-resistant turf.



Product Options

NutriSmart®-B Soil Inoculant

For the replacement of 25 - 50% of nitrogen applications and the addition of humic substances.

For use as an aerification

amendment: Broadcast 4.5 - 8.0 lb. per 1,000 ft² (200 - 350 lb. per acre) and drag into holes. Top-dress as normal and irrigate.

For use with conventional and

organic fertilizers: Replace 20 - 50% of soil applied granular NPK with an equal amount by weight of NutriSmart®-B.

Ormanica® Plant Compost

For improved C.E.C., soil structure and water holding capacity.

Organic amendment (alternative to peat) for sand based root zone

mixes: To meet USGA guidelines, blend Ormanica with sand at a 95:5 to 90:10 ratio of Ormanica:sand for the desired root zone mix.

Green and Tee Renovation and

Construction: Add 5% Ormanica by volume to topdressing sand or broadcast after aerification at topdressing rate.

About the Performance Aerification Treatment

The *PERFORMANCE* Aerification Treatment® fortifies the root zone with enriched permanent and semi-permanent Eco-stations and soil amendments.

PERFORMANCE Eco-stations release organic nitrogen and organic extracts that unlock P and K in the soil and make micronutrients more bio-available for turf uptake. *PERFORMANCE* Eco-stations also absorb plant nutrients, micronutrients and organic compounds whenever soil applications are made; re-charging and releasing beneficial compounds all season long.

Treatment Benefits

- Improves Nutrient-Use Efficiency by supplementing or replacing up to 50% of soil-applied NPKs.
- Improves Water-Use Efficiency by increasing the water-holding capacity of the soil, keeping moisture in the root zone longer.
- Improves soil structure to help water movement and facilitates gas exchange within the root zone.
- Adds organic matter where it is needed to supply carbon to living organisms.
- Increases root mass for enhanced nutrient uptake.



Product Options

KaPre® ExAlt

Polyelectrolyte Solution

Maintenance Rate: Apply KaPre ExAlt at a rate of 16 - 32 fl. oz. per acre (0.35 - 0.70 fl. oz. per 1,000 ft²) every 2 - 4 weeks throughout the growing season.

Apply labeled rates of KaPre® RemeD8 WSP Soil Inoculant as a tank mix with KaPre ExAlt or within 3 - 7 days after the application.

KaPre® RemeD8-WSP

Microbial Soil Inoculant

Greens, tees and other low-cut turf: Apply one 8 oz. packet of KaPre RemeD8-WSP per 1.0 - 1.25 acres. Apply every 14 days throughout the season.

Fairways, roughs, sports turf and other high-cut turf: Apply one 8 oz. packet of KaPre® RemeD8-WSP per 2.0 - 2.5 acres. Apply every 14 days throughout the season.

Pennamin® High-K

(6-0-15 + 9% Ca) with 40% Amino Acids

Apply 0.4 - 2 oz. per 1000 ft² (1 - 5 lb. per acre). Substitute other Pennamin® products depending on turf or soil requirements.

Kelpene® GPX

Plant Extract Solution

Maintenance Rate: Make 4 applications of Kelpene GPX at a rate of 15 fl. oz. per acre (0.3 fl. oz. per 1,000 ft²) during the spring and early season every 2-3 weeks, followed by 1 mid-season application and 1 fall dormancy application.

Recovery/High Stress Rates: Make 12 - 18 applications of Kelpene GPX at a rate of 15 fl. oz. per acre (0.3 fl. oz. per 1,000 ft²) during the season. Apply every 2 weeks during the key growing period and then every 30-60 days at other times.

Kelpene® Ca-T

(3-0-0 + 4% Ca) with Plant Extracts

Soil applications: Apply 1-2 quarts per acre (0.75 - 1.5 fl. oz. per 1000 ft²) as a soil spray or 1-2 pints per acre (0.36 - 0.75 fl. oz. per 1000 ft²) through soil injection systems.

Foliar applications: Apply 1-2 pints per acre (0.36 - 0.75 fl. oz. per 1000 ft²) as needed.

About the Performance Soil Treatment

The *PERFORMANCE* Soil Treatment® improves the condition and composition of the soil, enhances microbial populations, improves nutrient efficiency and delivers an arsenal of amino acids, enzymes, sugars and organic substances. Incorporating PST® into turf management regimens supports a vigorous ecosystem and enhances conditions that contribute to turf quality and sustainability.

The *PERFORMANCE* Soil Treatment contains several beneficial active ingredients that work together to maintain a healthy and productive soil environment. PST products include KaPre® ExAlt Polyelectrolyte Solution, KaPre® RemeD8-WSP Soil Inoculant, and Pennamin® Amino Acid products.

Treatment Benefits

- Provides a solid foundation for building healthy turfgrass and will enhance any nutrient program
- Unlocks nutrients found in the soil (Ca, P, Mg, etc.)
- Increases the bio-availability of minerals
- Provides organic nitrogen with free amino acids
- Improves the diversity of beneficial soil microbes
- Provides food sources for native microbial populations
- Helps balance the sodium to potassium ratio of the soil to aid in the prevention of sodium-induced wilt
- Alleviates compacted soils, reduces bicarbonates and eliminates black layer



Product Options

KaPre® KelpPlus

Fertilizer Solution with Sea kelp

Turfgrass: Apply 1.5 to 6 fl. oz. per 1,000 ft² every 2 weeks throughout the season.

Ornamental Plant Maintenance: Dilute 1 to 100 in water (1 oz./gal.) and apply as a soil drench for stressed plants or spray diluted solution on foliage to runoff every 30 - 60 days to promote flowering.

Apply 6 fl. oz. KaPre KelpPlus per 1000 ft².

Prudent® 44 & Prudent® 42CW or Prudent® 40PLUS

Phosphite Fertilizers

Apply 0.5 - 2 fl. oz. per 1,000 ft². Begin applications in the spring and continue on a 7 to 14 day schedule throughout the season.

Vibrant® Foliar Fertilizer Solution

Vibrant® Red: Apply 3 - 6 fl. oz. per 1,000 ft² every 2 weeks throughout the season.

Vibrant® Green: Apply 4 - 8 fl. oz. per 1,000 ft² every 2 weeks throughout the season.

Krystal Klear®

Chelated Micronutrient Solution

Krystal Klear® Fe: Apply 0.75 - 2 fl. oz. per 1,000 ft² every 2 weeks throughout the growing season.

Krystal Klear® Turf Mix: Apply 0.75 - 2 fl. oz. per 1,000 ft² every 2 weeks throughout the growing season.

Krystal Klear® ResQ: Apply 3 - 6 fl. oz. per 1,000 ft² every 2 weeks throughout the season.

NUTROL® Biopesticide

Nutritional Applications:

Apply 2 - 4 oz. per 1,000 ft² (6 - 11 lb. per acre) per application. Apply every 7 to 14 days throughout the season. If used as a starter fertilizer during transition periods to cool season grasses, apply 4 - 6 oz. per 1,000 ft².

Disease Control Applications:

Mix 8 - 11 lb. of Nutrol® with labeled rates of Prudent® fertilizers per 100 gal. and apply as necessary. DO NOT exceed one application every 7 days.

About the Performance Foliar Treatment

The *PERFORMANCE* Foliar Treatment® safely and efficiently delivers foliar nutrition, micronutrition and disease suppression. Turf treated with the PFT® develops highly fibrous and branched root systems, stays greener longer and is more stress tolerant.

As with other *PERFORMANCE* Treatments, PFT is easy to use and apply. No pre-mixing or pre-soaking is required and all of the products are compatible with each other and most fertilizers and chemicals. Most PFT applications require 5 products or less – KaPre® KelpPlus, Nutrol®, Prudent® and the choice of Vibrant® Foliar Fertilizers and Krystal Klear® Chelated Micronutrients. Treatments can be tailored to meet the specific requirements of the turf.

Treatment Benefits

- Controls and suppresses foliar and soil-borne pathogens
- Supports turf's natural defenses with organic supplements
- Prevents alkaline hydrolysis and optimizes pesticide applications
- Provides quicker uptake of nutrients through foliar application
- Delivers a wide array of micronutrients and trace elements to quickly correct micronutrient deficiencies for optimum turf growth
- Increases integrity of plant cell walls, improving plant strength and resistance
- Provides long lasting turf color and quality



PERFORMANCE LAWN CARE TREATMENT (PLT)

The *PERFORMANCE* Lawn Care Treatment delivers foliar nutrition, beneficial microbes as well as stress management with the application of plant extracts and terpenes for healthy soil and lush, greener lawns.

Benefits of the Performance Lawn Care Treatment

- Improves stress tolerance
- Supports turf's natural defenses with organic supplements
- Enhances root development and germination rates
- Nitrogen fixation to supplement applied nitrogen

PERFORMANCE LAWN CARE TREATMENT PRODUCT OPTIONS

LidoQuest® 30-0-0 or LidoQuest® 18-3-6

Fertilizer Solution

Apply at rates of 1 - 4 fl. oz. per 1,000 ft²

KaPre® RemeD8-LCP

Microbial Soil Inoculant

Apply one 4 oz. packet per 0.5 to 0.75 acres. Apply as needed throughout the season.

KaPre® Embella

Fertilizer Additive

Foliar-apply 0.2 – 0.36 fl. oz. per 1,000 ft² every 14 – 28 days.

Kelpene® GPX

Plant Extract Solution

Apply at rates of 0.34 fl. oz. per 1,000 ft²

Kelpene® Ca-T

Calcium Solution with Plant Extracts

Apply at rates of 0.5 fl. oz. per 1,000 ft² every 2 - 4 weeks or as needed.

Korban® SC

Concentrated Humic Acid Solution

Apply at rates of 1 - 2 fl. oz. per 1,000 ft²

Korban® 12-0-0

Korban SC with LidoQuest 30-0-0 & Krystal Klear Turf Mix

Apply at rates of 1 - 4 fl. oz. per 1,000 ft²

Korban® 0-0-13

Korban SC with Krystal Klear Turf Mix & KaPre K29

Apply at rates of 2 - 8 fl. oz. per 1,000 ft²



PERFORMANCE ORNAMENTAL TREATMENTS (POT)

PERFORMANCE Ornamental Treatments deliver nutrition, beneficial microbes and organic supplements designed specifically for ornamental plants, shrubs and trees.

Flowers and Shrubbery:

Foliar applications:

Vibrant® Red – Applications should be made at rates of 1.0 - 1.5 gallons of Vibrant Red per 100 gallons of spray solution. Apply 5 gallons of spray solution per diameter inch.

Prudent® 44 - Use a minimum of 1 gallon of water per 1 ounce of Prudent 44

Nutrol® - For control of powdery mildew, including but not limited to *Microspheari alni* and *Erysiphe cichoracearum* on woody and herbaceous ornamentals, use 8 to 40 lb. of Nutrol per acre.

Kelpene® GPX - Apply 7.5 - 15 fl. oz. per acre

Soil applications – products can be tank mixed and applied as a drench to the treatment area:

KaPre® RemeD8-LCP – Apply 4 oz. per 50 gallons

KaPre® Tree & Flower Mix – Apply 1 lb. per 100 gallons

KaPre® Embella – Apply 16 fl. oz. per 100 gallons

Tree Care:

KaPre® RemeD8-LCP – Apply 4 oz. per 50 gallons

KaPre® Tree & Flower Mix – Apply 1 lb. per 100 gallons

KaPre® Embella – Apply 16 oz. per 100 gallons



PERFORMANCE SEED TREATMENT

The patented *PERFORMANCE* Seed Treatment is designed to promote and support thorough and more uniform seed germination and supplement seeds early stage nutrient and micronutrient requirements.

The *PERFORMANCE* Seed Treatment is customized to suit the specific requirements of the customer. Several patented technologies, including Krystal Klear® chelated micronutrients, Prudent® phosphite fertilizers, and KaPre® Seed Treatment Additives are available to create the right product for the seeds being treated.

Contact your Performance Nutrition® representative for more details.

Benefits of the Performance SEED Treatment

- Initiates faster germination
- Improves uniformity of seed germination
- Supplements nutritional need of young seedlings





CONCENTRATED SOIL SURFACTANT

Guaranteed Analysis

Active Ingredients

Humic Acids.....	35%
Water.....	65%

Application Instructions

Maintenance Rate (To prevent and correct mineral buildup):

Apply KaPre ExAlt at a rate of 16 - 32 fl. oz. per acre (0.35 - 0.70 fl. oz. per 1,000 ft²) every month throughout the growing season.

Curative Rate (For the treatment and rejuvenation of highly compacted soils, salt-contaminated soils, damaged soils affected by hydrophobicity and to aid in the recovery of soil damaged by soil borne pathogens):

Apply KaPre ExAlt at a rate of 16 - 32 fl. oz. per acre (0.35 - 0.70 fl. oz. per 1,000 ft²) every week for the first month followed by applications every month throughout the season.

Apply labeled rates of KaPre Remed8-WSP Soil Inoculant as a tank mix with KaPre ExAlt or within 3 - 7 days after the KaPre ExAlt application.

Note: Do Not Mix With Selective Herbicides

About KaPre ExAlt

KaPre® ExAlt electrolyte solution improves the availability of nutrients in the soil and enhances the performance of fertilizer applications. KaPre ExAlt corrects compacted soils and eliminates soil “crusting”, making it easier for newly germinated seeds to pop through the soil. KaPre ExAlt flushes sodium from the soil profile while keeping needed micronutrients in the root zone. KaPre ExAlt provides a natural, eco-safe solution for the long-term health of the soil.

For General Maintenance:

KaPre ExAlt may be used in maintenance applications to improve nutrient uptake, correct mineral build up, improve drainage, reduce black layer and stimulate plant growth.

For Curative Application:

For the treatment and rejuvenation of highly compacted soils, salt-contaminated soils, damaged soils affected by hydrophobicity and to aid in the recovery of soil damaged by soil borne pathogens.

Benefits of KaPre ExAlt

- Solubilizes and releases soil-bound ions, such as calcium, magnesium, iron, manganese, phosphorus and sulfur
- Flushes sodium from the root zone without indiscriminately stripping the soil of nutrients
- Improves soil drainage
- Stimulates deeper root systems
- Reduces crusting and penetrates hard pan
- Reduces soil compaction
- Increases soil aggregation
- Improves efficiency of fertilizers and other chemicals
- Improves soil aeration



FERTILIZER ADDITIVE

Application Instructions

Turf: Apply with fertilizer at a rate of 8 - 16 fl. oz. per acre (0.18 - 0.36 fl. oz. per 1000 ft²) at planting or sod-laying. Follow with foliar fertilizer applications at a rate of 16 fl. oz. per acre every 30 - 45 days.

DO NOT EXCEED 16 OZ. PER ACRE WHEN APPLYING WITH SELECTIVE HERBICIDES.

Restore the soil by feeding the microbes!

Of all processes involving sugars in soil, microbial uptake and utilization exceeds plant uptake. This makes sugars especially important for maintaining soil microorganisms and their activities. Microbes can take a simple compound like sugar and transform it into the thousands of complex molecules found in soils. When microbes break down plant matter, they use some of the material they consume for building new biomass - to fuel their own growth, and exhale the rest as carbon dioxide. To maximize the proportion of plant carbon that is transformed into soil organic matter, it is necessary to support and enhance microbial communities that quickly and efficiently transform dead plant materials into soil organic matter.

The rapid uptake of sugars by microorganisms and intensive recycling clearly demonstrate the importance of sugars for microbes in soil. It is speculated that the most important function of sugars in soil is to maintain and stimulate microbial activities in the rhizosphere leading to mobilization of nutrients by accelerated soil organic matter decomposition. For this reason, KaPre Embella has been reformulated to include three sources of carbohydrates: a monosaccharide, disaccharide and oligosaccharides for immediately available, quickly available and slowly available food sources designed to sustain and grow microbial communities.

About KaPre Embella

KaPre® Embella promotes beneficial microbial activity. It feeds the microbes that enhance the breakdown of nutrients to make them more available to the plant. KaPre Embella increases the water holding capacity of the soil, which decreases watering requirements. KaPre Embella grabs moisture, along with some negatively charged nutrients, and attaches them to soil particles. This allows for slower release and helps prevent groundwater and downstream contamination.

Benefits of KaPre Embella

TO THE SOIL

- Provides nutrition for native microbial populations, the driving force of any ecosystem
- Improves soil conditions and nutrient availability by unlocking nutrients that may be tied-up in the soil
- Encapsulates nutrients and keeps them in the root zone for plant uptake
- Improves the water holding capacity of the soil
- Reduces leaching
- Nutrients stay in the root zone where plants can use them and out of ground water, aquifers and other waterways
- Improves soil aeration

TO THE PLANT

- Improves nutrient uptake
- Strengthens cell walls
- Increases root depth and mass
- Enhances drought, disease and stress tolerance
- Supports plant's immune response



SEAWEED EXTRACT FERTILIZER SOLUTION

0.2-0.25-3.0

Guaranteed Analysis

Total Nitrogen (N).....	0.2%
0.2% Water Soluble Nitrogen	
Available Phosphate (P ₂ O ₅).....	0.25%
Soluble Potash (K ₂ O).....	3.0%
Derived from fermented seaweed extract	

Application Instructions

Turf

Apply 0.1-0.3% solution of KaPre AlgaMar per acre every 2 weeks throughout the season. Apply to the root zone or as a foliar spray.

Trees and Bushes:

Apply 40 to 80 ounces of KaPre AlgaMar per acre starting at re-growth in the Spring. Repeat applications every 14 days.



About KaPre AlgaMar

KaPre® AlgaMar is a fermented seaweed product, extracted from marine brown seaweed found off of the Brittany coast of France. It is formulated through a proprietary technology that preserves compounds that occur naturally in seaweed such as auxins, cytokinins, amino acids, oligosaccharides and essential trace elements.

Applications of KaPre AlgaMar are rich in osmolytes, which result in greener turf and increased tolerance to environmental stresses.

KaPre AlgaMar can be blended with other water soluble fertilizers and is compatible with most pesticides.

Benefits of Seaweed Extract Application

Stress resistance

- Plants treated with seaweed are better able to tolerate physiological and environmental challenges and use water and nutrients more efficiently. Trees and vines treated following harvest exhibit enhanced recovery from the stress of harvest and are better prepared for dormancy

Root growth and plant development

- Application of seaweed has been proven to increase root and plant development

Nutrient uptake

- Seaweed applications aid in the uptake of nutrients by enhancing root growth. This encourages microbial populations by creating sugars, which serve as natural chelators

KaPre® KELP Plus

FERTILIZER SOLUTION with Sea Kelp & Amino Acids

1-1-1

Guaranteed Analysis

Total Nitrogen (N).....1.0%
 1.0% Water Soluble Nitrogen
 Available Phosphate (P₂O₅).....1.0%
 Soluble Potash (K₂O).....1.0%
 Derived from kelp and amino acids.

Application Instructions

Turfgrass:

Apply 1.5 to 6 fl. oz. per 1,000 ft² every 2 weeks throughout the season.

Ornamental Plant Maintenance:

Dilute 1 to 100 in water (1 oz./gal.) and apply as a soil drench for stressed plants or spray diluted solution on foliage to runoff every 30 - 60 days to promote flowering.

Apply 6 fl. oz. KaPre KelpPlus per 1000 ft².

Tree Maintenance:

Mix 1 gallon per 400 gallons of water and apply with fertilizer to root zone with injection feeding equipment.

About KaPre Kelp Plus

KaPre® KelpPlus is a concentrated liquid fertilizer containing sea kelp in addition to an array of seventeen (18) water-soluble free L-amino acids.

Benefits of KaPre Kelp Plus

- Provides a nutritional supplement through the release of naturally occurring plant nutrients and trace minerals.
- Accelerates and improves seed germination
- Promotes vigorous rooting and overall plant health

The KaPre KelpPlus Advantage

Amino Acids - 100% of these amino acids are free amino acids so they are quickly available to the plant

Amino acids can complex micronutrients tied up in the soil, making them available for plant uptake

Vitamins - play important roles in plant health and growth, nutrient transport systems in cold temperatures and root regeneration.

A, B, B1, B12, C, E, K and PP

Naturally Occurring Growth Promoters

Gibberellins, Auxins, Cytokinins, Glycol kinetin, Betaines and Carotene

AMINO ACID PROFILE

Amino Acid	Content	Amino Acid	Content	Amino Acid	Content	Amino Acid	Content
Alanine	0.22%	Glycine	0.37%	Phenylalanine	0.23%	Tryptophan	0.002%
Arginine	0.27%	Histidine	0.05%	Methionine	0.03%	Tyrosine	0.06%
Aspartic Acid	0.33%	Isoleucine	0.13%	Proline	0.49%	Valine	0.2%
Cystine	0.06%	Leucine	0.32%	Serine	0.56%	Total Amino Acids	4.15%
Glutamic Acid	0.49%	Lysine	0.07%	Threonine	0.21%		

CONCENTRATED FULVIC ACID SOLUTION

Non-Plant Food Ingredients

Fulvic Acid.....	20%
Other Ingredients.....	80%
Total.....	100%

Application Instructions

With Herbicides

Apply KaPre Spectra at rates of 2 - 12 fl. oz. per acre with NON-SELECTIVE herbicides only.

Transplanting and Cuttings

Blend 2 - 4 fl. oz. of KaPre Spectra per 20 gal. of solution.

Cool Season Grasses

Include KaPre Spectra with all foliar nutrient applications at a rate of 2 fl. oz. per 25 gal. of spray solution.

Use KaPre Spectra alone to reduce plant stress before, during or after stressful periods at a rate of 0.5 fl. oz. per 1,000 ft² or 2 - 6 fl. oz. per 25 gal. of spray solution.

Trees, Shrubs, Woody Ornamentals and Bedding Plants

Include KaPre Spectra with all foliar nutrient applications at a rate of 2 fl. oz. per 25 gal. of spray solution.

Use KaPre Spectra alone to reduce plant stress before, during or after stressful periods at a rate of 0.25 fl. oz. per 1,000 ft² or 2 - 6 fl. oz. per 25 gal. of spray solution.

Warm Season Grasses and Ornamentals

Inject into irrigation or broadcast spray at a rate of 10 - 20 fl. oz. per acre 1 to 3 times during the growing season.

Mix with root injections at a rate of 4 - 6 fl. oz. per 10 gal. of injection solution.

About KaPre Spectra

KaPre® Spectra improves the foliar uptake of nutrients and micronutrients and can improve fertilizer performance when added to starter or foliar fertilizer applications.

Benefits of KaPre Spectra

Increases nutrient absorption

- Makes nutrients more absorbable by complexing them into organic, ionic forms that are easily transported through cell membranes

Improves fertilizer efficiency

- Increases plant uptake of soil and foliar applied nutrients. The low molecular weight formulation improves mobility through cell walls to plant growth points

Improves tank mix compatibility.

- KaPre Spectra is compatible with foliar applications of non-selective herbicides, fungicides, insecticides and other pesticides. In fact, it provides tank mix compatibility of fertilizer/pesticide combinations.

Detoxifies pollutants.

- Fulvic acid is vital in helping form new species of metal ions, binding with organic pollutants such as pesticides and herbicides, and catalyzing the breakdown of toxic pollutants.

Helps transport nutrients.

- KaPre Spectra also plays a role in helping transport nutrients into plant foliage and roots. The highly active low-molecular weight formulation improves mobility of solution through cell walls to plant growth points. This results in a more productive and impactful application.



POTASSIUM ACETATE

0-0-29

Guaranteed Analysis

Soluble Potash (K_2O).....29%
Derived from potassium acetate

Application Instructions

Ornamental Plants and Trees:

Apply 2 to 6 quarts/100 gallons of water foliarly every 14 to 21 days as needed.
Apply 6 quarts/100 gallons of water as a drench or in transplant water.

Turfgrass and Sod (including greens, fairways and lawns):

Apply 2 to 8 quarts/acre every 14 to 21 days as needed. Greens and Tees:
Apply 2 to 8 ounces per 1000 sq. ft. every 14 to 21 days as needed.

About KaPre K29

KaPre® K29 is a unique source of potassium, having superior foliar absorption over traditional forms of potassium. Potassium acetate is a more desirable choice for foliar fertilization because of its small molecular size and the plant's natural affinity for organic acids.

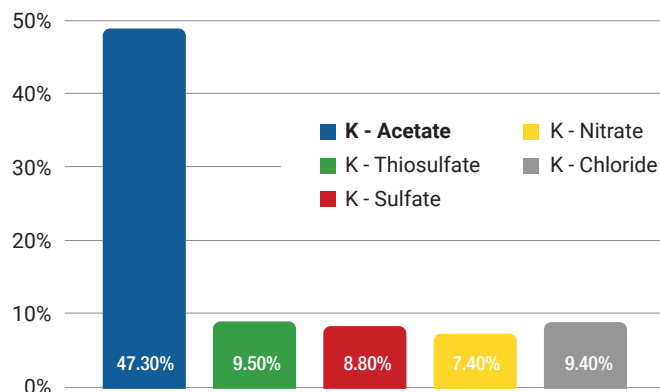
KaPre K29 has been demonstrated to have up to 5X the foliar uptake of traditional forms of potassium like potassium nitrate, potassium thiosulfate, potassium sulfate and potassium chloride.

KaPre K29 is manufactured with organic acids, making it an excellent and safe tank mix partner with most plant inputs including other NPK and micronutrient products. KaPre K29 has a very low salt index in comparison to many popular potassium sources due to its organic nature, allowing it to have a high degree of plant safety, even at higher rates. Plant tissue has a high affinity for this near neutral, non-aggressive, organic form of nutrient, which allows for greater and more efficient foliar uptake of nutrients.

KaPre K29 is an excellent foliar source of potassium that is quickly absorbed into the plant increasing potassium levels and providing the energy needed during rapid growth periods, fruit development and sizing, when potassium requirements are greatest.

FOLIAR ABSORPTION OF POTASSIUM SOURCES

Department of Horticultural Sciences Texas A&M University



Benefits of KaPre K29

- Unmatched foliar absorption
- Lower use rates than other forms of potassium
- Foliar uptake is up to 5 times greater than other sources

Excellent Tank Mix

- Organic acid derived nutrient aids in tank mixing
- Highly compatible, non aggressive form of potassium

Plant Safety

- Reduced risk of phytotoxicity
- Safe for stressed plants



KaPre®

TREE & FLOWER MIX^{WSP}

CONCENTRATED BLEND

Fish hydrolysate, amino acids, humic acid, sea kelp and mycorrhizae

3-1-3

Guaranteed Analysis

Total Nitrogen (N).....3.0%

3.0% Other Water Soluble Nitrogen

Available Phosphate (P_2O_5).....1.0%

Soluble Potash (K_2O).....3.0%

Derived from feather meal, kelp, potassium hydroxide and fish protein hydrolysate

NON PLANT FOOD INGREDIENTS

Humic acids11.28%
(derived from leonardite)

Endomycorrhizae (55 propagules/gram each):
Glomus intraradices, *Glomus mossaeae*, *Glomus aggregatum*, *Glomus etunicatum*

Ectomycorrhizae (2,750 propagules/gram each):
Glomus intraradices, *Glomus mossaeae*, *Glomus aggregatum*, *Glomus etunicatum*

Pisolithus tinctorius: (200,000 propagules/gram)

Sclerotinia cepa and *Sclerotinia citrinum*:
(5,500 propagules/gram each)

Application Instructions

Tree and Shrub Maintenance:

Mix 1 pound of KaPre Tree & Flower Mix^{WSP} per 200 gallons of water. Inject every 3 to 4 feet for 4 seconds at 150 PSI at the drip line and halfway between the drip line and trunk as practical.

Tree and Shrub Revitalization:

Mix 1 pound of KaPre Tree & Flower Mix^{WSP} per 100 gallons of water. Inject every 3 to 4 feet for 4 seconds at 150 PSI at the drip line and halfway between the drip line and trunk as practical.

Drench Applications: Mix 1 pound of KaPre Tree & Flower Mix^{WSP} per 200 gallons of water. Thoroughly drench soil in treatment area.

About KaPre Tree & Flower Mix^{WSP}

KaPre® Tree & Flower Mix^{WSP} is a concentrated, long-lasting blend of fish hydrolysate, amino acids, humic acid, sea kelp and mycorrhizae, specifically designed to be easily absorbed and to support and maintain healthy and productive trees. KaPre Tree & Flower Mix^{WSP} is rich in protein, enzymes, oils and trace elements, and, has a fresh fish scent, unlike fish emulsions.

Benefits of KaPre Tree & Flower Mix^{WSP}

- Feeds beneficial soil microbes and creates a more fertile soil environment
- Encapsulates and protects the roots with mycorrhizae for improved absorption of water & minerals
- Increases root mass
- Builds organic matter in soil
- Rich in natural enzymes, oils and trace elements for improved plant health
- Helps protect trees against drought and dehydration
- Fortifies trees with naturally occurring phyto-hormones
- Results in a thicker, greener canopy, which provides a larger area for photosynthetic activity.
- Low odor compared to fish emulsions



BLEND PHYTOHORMONE SOLUTIONS



Agra-Rouse contains:

.09% Indole-3-Butyric Acid (IBA) – Auxin
.05% Gibberellins
.05% Cytokinins

Application Instructions

Foliar and Soil: Ornamentals, Trees and

Turf: 4 - 8 fl. oz. per acre

Seed Treatment: 1 - 4 fl. oz. per 100
pounds of seed

Transplant and Rooting Solutions,

Nursery/Container Use: 1 - 2 fl. oz. per 5
gallons of solution

About Agra-Rouse

Agra-Rouse™ is a blend of bio-stimulants containing naturally-occurring and synthetic plant growth regulators and plant hormones known to encourage root development and propagation, promote cell division and enhance plant yields. The phytohormones work with the plant's own natural physiology to stimulate growth, increase vigor and improve overall plant health.

Benefits of Agra-Rouse

- Faster seed germination
- Plants are more tolerant of heat, cold and drought
- Deeper roots
- Promote healthier turf that is more resistant to disease



Incite contains:

.05% Indole-3-Butyric Acid (IBA) – Auxin
.05% Gibberellins
.09% Cytokinins

Application Instructions

Foliar and Soil: Ornamentals, Trees and

Turf: 4 - 8 fl. oz. per acre

Seed Treatment: 1 - 4 fl. oz. per 100
pounds of seed

Transplant and Rooting Solutions,

Nursery/Container Use: 1 - 2 fl. oz. per 5
gallons of solution

About Incite

Incite™ is a blend of bio-stimulants containing naturally-occurring and synthetic plant growth regulators and plant hormones known to promote cell division, shoot initiation, and bud formation, and, stimulate chlorophyll synthesis and leaf expansion from cell enlargement. They work with the plant's own natural physiology to stimulate top growth, increase vigor and improve overall plant health.

Benefits of Incite

- Increase leaf growth in turf grass
- Help recovery from both winter and summer damage
- Increase turf growth during the season
- Accelerate growth in newly seeded areas



40% WATER SOLUBLE PLANT GROWTH REGULATOR

For use on Bermudagrass ONLY

Guaranteed Analysis

Active Ingredients

Gibberellic Acid GA₃.....40.0% w/w
OTHER INGREDIENTS.....60.0% w/w
TOTAL.....100.0% w/w

Application Instructions

Bermudagrass

(Tifdwarf, Tifgreen):

To maintain or enhance regrowth of Bermudagrass during summer months. Under hot conditions apply 1 - 3 grams a.i. per acre weekly in 25 - 100 gallons of water per acre.

Bermudagrass (Tifdwarf,

Tifgreen and other cultivars):

To initiate or maintain growth and prevent color change during periods of cold stress and light frosts. Under cool conditions apply 10 grams a.i. per acre weekly or 25 grams a.i. per acre biweekly in 25 - 100 gallons of water per acre.

About VitaGib

VitaGib® products deliver growth-inducing gibberellic acid that increases growth on bermudagrass.

Benefits of VitaGib

- Increases stem elongation through the elongation/enlargement of plant cells.
- Initiates or maintains growth
- Prevents color change during periods of cold stress and light frosts

*VitaGib is a powerful addition to certain
Performance Nutrition programs.*

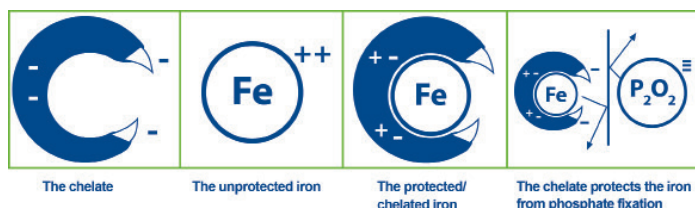
*VitaGib stimulates plant growth and improves the
plant's nutrient uptake capacity.*

CHELATED MICRONUTRIENT SOLUTIONS



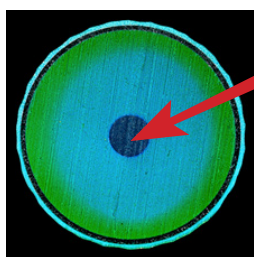
WHAT ARE CHELATES?

The word chelate (pronounced: “key-late”) is derived from the Greek word “chele” which literally means “claw”. Hence, chelate refers to the pincer-like manner in which a metal nutrient ion is encircled by the larger organic molecule (the claw), usually called a ligand or chelator.



Chelated micronutrients are protected from oxidation, precipitation, and immobilization in certain conditions because the organic molecule (the ligand) can combine and form a ring encircling the micronutrient. The pincer-like manner in which the micronutrient is bonded to the ligand changes the micronutrient's surface property and favors the uptake efficiency of foliarly applied micronutrients.

Chelation occurs when certain large molecules form multiple bonds with a micronutrient, protecting it from reacting with other elements in the nutrient solution and increasing its availability to the plant.



Chelated metal being protected from attraction to other materials.

Why are Krystal Klear micronutrient solutions so effective?

Dual Chelation: Utilizes patented, biodegradable LidoQuest® IDS-40 in conjunction with EDTA to maximize the benefits of both chelating agents.

Stability Constant: Refers to the equilibrium state of a metal cation and a ligand to form a chelating complex: A good stability constant is one in which the bond is strong enough to hold the metal in solution but not so strong that it doesn't release the metal when applied.

Number of ligands: This refers to the ligands or “legs” that bond the metal to the chelating agents. For example, EDTA has 6 and LidoQuest® IDS-40 has 5 ligands while citric acid has 3 carboxylic ligands and glucoheptonate has 1. The higher the number of legs means more cation surface area is covered.

That is why both EDTA and LidoQuest® IDS-40 chelated metals are stable in orthophosphate solutions for an extended period while others fall apart and precipitate over time.





PATENTED CHELATED MICRONUTRIENT SOLUTIONS

Krystal Klear® micronutrient solutions are produced using a patented “dual-chelation” system for optimal performance. Krystal Klear micronutrient solutions have excellent tank-mix compatibilities, provide quick uptake of micronutrients, and deliver a sustained response.

CHELATED MICRONUTRIENTS FOR TURF & ORNAMENTALS	
Krystal Klear® Fe 4% chelated Fe	Maintenance Applications: Apply at a rate of 0.75 - 2 fl. oz. per 1,000 ft ² each spray. Begin applications in the spring on a 14 to 21 day interval.
Krystal Klear® Turf Mix Chelated 3% Fe, 1% Mn, 0.25% B, 0.25% Cu & 0.25% Zn solution Provides turf with a balanced chelated micronutrient package and helps support photosynthesis.	Maintenance Application: Apply 0.75 - 2 fl. oz. per 1,000 ft ² every 2 weeks. Moderate Deficiency: Apply 2 - 3 fl. oz. per 1,000 ft ² every 2 weeks. Severe Deficiency: Apply 4 fl. oz. per 1,000 ft ² every 2 weeks.
Krystal Klear® ResQ 8-0-2 solution with chelated 2% Fe, 0.5% Mg, 0.5% Mn, 0.25% B, 0.25% Cu, 0.25% Zn plus kelp Provides a complete micronutrient package with the additional benefits of sea kelp and other proprietary ingredients that increase tolerance to drought and stress.	Turf Applications: Apply 3 - 6 fl. oz. per 1,000 ft ² every 7 to 14 days throughout the season. Trees, Shrubs and Ornamentals Applications: Apply 1 gal. of Krystal Klear ResQ per 100 gal. of spray solution. Apply as needed throughout the season.
Krystal Klear® B 5% complexed boron solution	Complexed boron for quick corrections of boron deficiency. Boron is essential for optimal root and tissue levels.
Krystal Klear® Cu 5% chelated copper solution	Quickly corrects copper deficiencies. Copper is essential for crop growth and the activation of many enzymes.
Krystal Klear® Mg 3% chelated magnesium solution	Magnesium is essential for photosynthesis in plants and prevents yellowing of leaves.
Krystal Klear® Mn 5% chelated manganese solution	Quickly corrects manganese deficiencies. Manganese activates enzymes required for amino acid production.
Krystal Klear® Zn 9% chelated zinc solution	Quickly corrects zinc deficiencies. Zinc controls the synthesis of indoleacetic acid, which regulates plant growth.

READ THE LABEL:

Don't be fooled by products with trade names that sound as if they contain only chelated or complexed micronutrients. All Krystal Klear micronutrients, except boron, which is complexed, are completely chelated.



PATENTED CHELATED MICRONUTRIENTS

LidoQuest® is designed for use on golf course fairways, sports turf and commercial and residential lawns. Applications can quickly correct mineral deficiencies and maintain turf color for several weeks. Economical, compatible and easy to use.

PATENTED LIDOQUEST® LIQUIDS

LidoQuest® 18-3-6	18-3-6 with 0.1% Fe, 0.01% B & 0.05% Mn and 9% Slow Release Nitrogen
LidoQuest® 30-0-0 SRN	30-0-0 with 15% SRN
Application Instructions Turf applications: Applications should begin in early spring and continue through the late fall at rates of 1 - 4 fl. oz. per 1,000 ft ² (0.34 - 1.36 gal. per acre). Ornamentals: Apply 1 - 4 fl. oz. per gallon of spray mix throughout the growing season as a foliar spray.	

PATENTED LIDOQUEST® POWDERS WITH KRYSTAL KLEAR® MICRONUTRIENTS

LidoQuest® 20-20-20	20-20-20 with 0.05% Mg, 0.025% B, 0.055% Cu, 0.14% Fe, 0.06% Mn, 0.0005% Mo, 0.055% Zn
LidoQuest® 21-3-31	21-3-31 with 0.025% B, 0.055% Cu, 0.24% Fe, 0.12% Mn, 0.0005% Mo, 0.055% Zn
LidoQuest® 25-0-25	25-0-25 with 0.025% B, 0.055% Cu, 0.14% Fe, 0.07% Mn, 0.0005% Mo, 0.055% Zn
LidoQuest® 28-8-18	28-8-18 with 0.05% Mg, 0.025% B, 0.055% Cu, 0.14% Fe, 0.07% Mn, 0.0005% Mo, 0.055% Zn
LidoQuest® 12-6-36	12-6-36 with 0.5% Mg, 0.025% B, 0.055% Cu, 0.5% Fe, 0.15% Mn, 0.0005% Mo, 0.05% Zn
Application Instructions Foliar Spray: Apply 25 pounds per 100 gallons per acre. Do not exceed a concentration of 10 lb. of LidoQuest per 10 gallons of water. For best results, repeat every 7 to 10 days.	

LIDOQUEST® POWDERS

LidoQuest® Fe&Mn	10% Fe and 3% Mn
LidoQuest® Mg&Fe&Mn	2% Mg, 4.33% Fe and 4.33% Mn
Application Instructions Apply 1 to 2 pounds per acre using a minimum of 30 gallons of solution per acre. Apply every 14 to 21 days.	

PATENTED PHOSPHITE FERTILIZERS

Prudent Products are Unique.....

- Contain one of the highest percentages of PO_3 of any phosphite fertilizer
- Formulated with very little water allowing the PO_3 to remain stable in the jug; won't convert to PO_4 the way other phosphites can
- Can be used at much lower rates per acre than most phosphite fertilizers, making them more economical and effective
- Contain a surfactant for improved spreading and nutrient uptake
- Can be used in combination with Nutrol EPA registered fungicide for effective control of soil borne and foliar diseases

Application Instructions

for Prudent 42cw Prudent 44 and Prudent 40Plus

Apply 0.5 - 2 fl. oz. per 1,000 ft². Begin applications in the spring and continue on a 7 to 14 day schedule throughout the growing season.

Foliar Applications:

Prudent 42CW, Prudent 44 and Prudent 40PLUS may be applied with all types of ground spraying equipment or by air.

DO NOT exceed a rate of fl. oz. of product per gallon of water when using less than 20 gallons of solution per acre.

Benefits of Prudent Products.....

- Improve plant strength and ability to tolerate unfavorable environmental conditions
- Increase integrity of plant cell walls, improving plant strength and resistance
- Improve ability to absorb water and nutrients
- Stimulate key pathways in the plant, which produce compounds responsible for defending the plant against environmental stress
- Keep un-chelated metals stable in solution
- Reduce scale build-up in spray tanks and other equipment

DID YOU KNOW?

Urea phosphite is a eutectic because it contains two solids - urea and phosphorus acid - that form a liquid eutectic composition. This allows for a high concentration of phosphorus acid to be solubilized without the addition of water.

See page 38 for more information on the stability of phosphite in Prudent products!



PRUDENT

CONCENTRATED PHOSPHITE PRODUCTS

15-0-0

Guaranteed Analysis

Total Nitrogen (N).....15%

2.5% Ammoniacal Nitrogen

12.5% Urea Nitrogen

Derived from aqua ammonia and urea phosphite



Prudent® 42CW and Prudent® 44 highly concentrated phosphite fertilizer are effective at very low use rates. They are ideal partner products with Nutrol® EPA registered fungicide for control of soil borne and foliar diseases.

Prudent 42CW and Prudent 44 (15-0-0 with 42% PO_3) fertilizers are formulated with patented urea phosphite. Urea phosphite is a “eutectic”, which allows a high concentration of phosphite in the Prudent family of specialty fertilizers.

13-0-0

Guaranteed Analysis

Total Nitrogen (N).....13%

0.5% Ammoniacal Nitrogen

12.13% Urea Nitrogen

0.37% Other Water Soluble Nitrogen

Derived from aqua ammonia, amino acids and urea phosphite



COMBAT
ENVIRONMENTAL STRESSES
WITH AMINO ACIDS

Prudent® 40PLUS highly concentrated phosphite fertilizer (40% PO_3 , expressed as P_2O_5), is formulated with patented urea phosphite and Pennamin Driver-P amino acids. The amino acids aid in building tolerance against environmental stresses, help move nutrients into the plant, and, play important roles in almost every plant function. And, since they are free amino acids they are readily plant-available. This saved energy can then be used for other plant functions.



PATENTED SOIL INOCULANTS

How do NutriSmart products work?

- NutriSmart products elicit higher populations of native N-fixing microbes
- The yeast contained in each NutriSmart product form a symbiotic community of mutually interdependent, nutrient-releasing microbes
- When the yeast are signaled by the plant that it requires nutrients, NutriSmart products initiate the conversion and delivery process

NutriSmart products supply nutrients by:

- Nitrogen fixation – microbial conversion of nitrogen into available forms
- NutriSmart yeast have shown higher N-fixing ability than common free-living N-fixing microbes
- Microbial solubilization of phosphate into soluble forms of phosphorus
- Unlocking potassium in the soil into exchangeable potassium
- Solubilizing silicon and trace minerals for better plant uptake

Plant Benefits from NutriSmart applications

- Provide consistent, uniform slow-release of nitrogen
- Eliminate growth surges – nitrogen is released gradually throughout the plant's growth cycle, which results in precise feeding that lasts up to 18 weeks
- Improve plant growth, quality and yield
- International and U.S. commercial use and trials have demonstrated equivalent or better performance with NutriSmart-B applications vs. conventional fertilizer programs

Soil and Environmental Benefits from NutriSmart applications

- Improve the Nutrient Use Efficiency (NUE) of chemical fertilizers blended with NutriSmart-B. Can effectively replace up to 20-50% of soil applied fertilizer
- Improve soil fertility
- Reduce the leaching of chemical fertilizers
- Increase soil organic matter
- Improve the soil environment for beneficial microbes



PATENTED OMRI LISTED SOIL INOCULANT & HUMATE GRANULES

NutriSmart®-B is a patented, environmentally friendly granular soil inoculant and humate soil amendment that fixes nitrogen from the atmosphere, solubilizes phosphate and unlocks potassium from the soil.

Application Instructions

Turf and Ornamentals:

1. For use as an Aerification Amendment:

Aerify surface to be treated. Broadcast 5 - 10 lb. of NutriSmart B per 1,000 ft² (218 - 436 lb. per acre)

Drag NutriSmart B into holes. Top dress as normal.

Note: Apply NutriSmart B at each aerification.

2. For use with conventional and organic fertilizers:

Replace 20 - 30% of soil applied granular NPK with an equal amount by weight of NutriSmart B.

Apply as normal and follow same application method and schedule as normal fertility program.



PATENTED WATER SOLUBLE POWDER

NutriSmart® WSP is a patented, water soluble yeast powder for liquid formulations. NutriSmart WSP should be applied with humic acids and can be used as a re-inoculation tool after application of NutriSmart-B.

Application Instructions

Nursery and Ornamentals: Drip irrigation or drench applications: Apply NutriSmart WSP at a rate of 3 - 6 oz. per acre every 2 - 4 weeks.

Trees and Bushes:

Transplant Water: Apply NutriSmart WSP at a rate of 3 - 6 oz. per acre (0.07 - 0.15 oz. per 1,000 ft²)

Drip irrigation/Drench applications: Apply NutriSmart WSP at a rate of 2 to 6 oz. (0.05 - 0.15 oz. per 1,000 ft²) per acre every 2 - 4 weeks.

Turf:

Initial Application: Apply NutriSmart WSP at a rate of 6 - 9 oz. per acre (0.15 - 0.21 oz. per 1,000 ft²). Product should be applied using flood jet nozzles.

Follow-up Applications: Apply NutriSmart WSP at a rate of 3 - 6 oz. per acre (0.07 - 0.15 oz. per 1,000 ft²) every 2 - 4 weeks, preferably every 2 weeks. For monthly applications, use the high rate. Product should be applied using flood jet nozzles.

*NutriSmart is a registered
trademark of CK Life Sciences*

KaPre® RemeD8

MICROBIAL SOIL INOCULANT

KaPre RemeD8-WSP

Active Ingredients

5.3 X 10⁹ cfu *Bacillus amyloliquefaciens* per gram
2.4 X 10⁹ cfu *Bacillus licheniformis* per gram
1.1 X 10⁹ cfu *Bacillus megaterium* per gram
4.5 X 10⁹ cfu *Bacillus subtilis* per gram

Inactive Ingredients:

Sucrose based culture medium

Applications Instructions

Greens, tees and other low-cut turf:

Apply one 8 oz. packet of KaPre RemeD8-WSP per 1.0 - 1.25 acres.

Apply every 14 days throughout the season.

Fairways, roughs, sports turf and other long-cut turf:

Apply one 8 oz. packet of KaPre RemeD8-WSP per 2.0 - 2.5 acres.

Apply every 14 days throughout the season.

KaPre RemeD8-LCP

Active Ingredients

2.6 X 10⁹ cfu *Bacillus amyloliquefaciens* per gram
1.2 X 10⁹ cfu *Bacillus licheniformis* per gram
5.3 X 10⁹ cfu *Bacillus megaterium* per gram
2.2 X 10⁹ cfu *Bacillus subtilis* per gram

Inactive Ingredients:

Sucrose based culture medium

Application instructions

Residential and commercial lawns, ornamentals and shrubbery:

Apply one 4 oz. packet of KaPre RemeD8-LCP per 0.5 - 0.75 acres.

Apply as needed throughout the growing season.

About KaPre RemeD8 WSP & LCP

KaPre® RemeD8-WSP and RemeD8-LCP water-soluble soil inoculants are designed to improve nutrient use efficiency, maintain turf health and vigor, and, improve stress tolerance.

KaPre RemeD8 WSP & LCP microbes are.....

- **Durable and sustainable:** All are spore formers, which can survive adverse conditions such as heat, cold, low/high pH, etc.
- **Rhizosphere competent:** All were sourced from the soil, so they can thrive in soil.
- **Quality Assured:** All are professionally fermented, identified through DNA analysis and backed by Certificate of Analyses documenting cfu/gram counts.
- **Prolific Enzyme Producers:** Together, they produce a wide range of beneficial enzymes and bio-active compounds that offer a number of plant health benefits.

What to expect from KaPre RemeD8 WSP & LCP.....

- A more vigorous soil ecosystem
- Higher Cation Exchange Capacity (C.E.C.)
- Enhanced root development, germination rates and stress tolerance
- Faster nitrification process for better uptake of nitrogen
- Nitrogen fixation to supplement applied nitrogen
- Enhanced stress tolerance
- Quicker recovery from pathogen attack
- Prevention of excessive hydrophobic organic matter
- And much more



PATENTED AMINO ACID SPRAYABLE POWDERS

Application Instructions

Pennamin Ca, CaMg, Fe&Mn, Mg, Driver-P, High K, Perfect K

Apply 0.40 – 2 oz. per 1000 ft²
(1 – 5 lb. per acre).

Apply every 14 to 28 days as needed.
Applications on turf and ornamentals
can be made throughout the
growing season.

Pennamin Si

Cool Season – Apply 0.2 - 0.5 oz. per
1,000 ft² (0.5 - 1.5 lb. per acre)

Warm Season – Apply 0.2 - 0.9 oz.
per 1,000 ft² (0.5 - 2.5 lb. per acre)

*See Appendix C for Complete Amino
Acid Profiles for Pennamin Products*

About Pennamin

Pennamin® amino acids and micronutrients safely and efficiently deliver foliar micronutrition and non-leaching organic nitrogen. Pennamin products improve the efficiency of fertilizers, support turf & ornamental vigor, enhance root development

The Pennamin Advantage

- Pennamin products are readily absorbed by turf and ornamental foliage.
- Pennamin products have a low C:N ratio (6:1), which assures that the organic nitrogen is utilized by turf and ornamentals.
- Pennamin products help chelate soil micronutrients, making them more available

CHOOSE THE RIGHT PENNAMIN PRODUCT TO SUIT SPECIFIC TURF NEEDS

Products	Analysis	Total Amino Acid %
Pennamin® Ca	7-0-0 with 14% Ca	48%
Pennamin® CaMg	8-0-0 with 8% Ca and 8% Mg	51%
Pennamin® FeMn	9-0-0 with 4% Fe & 3% Mn	57%
Pennamin® Mg	10-0-0 with 12% Mg	64%
Pennamin® Driver- P	12-0-0	80%
Pennamin® High - K	6-0-15 with 9% Ca	40%
Pennamin® Perfect-K	8-0-9+5% Ca with 2% Mg, 0.1% Fe, 0.05% Cu, 0.05% Mn, 0.05% Zn and 0.02% B	64%
Pennamin® Si	10-0-0 with 4% Si	64%

See Complete Amino Acid Profile on page 39



RAIN-FAST POLYMER ADJUVANT

Ingredient Disclosure

Inert ingredients	4.32%
Water	95.68%
TOTAL	100.00%

Application Instructions

Apply as a 0.125 to 1.25 % solution
(1 pint to 1.25 gallons per 100
gallons of solution)

See product label for complete
directions for use.

Evaluation of chemical compatibility
is the sole responsibility of the user.

*Draws ambient
moisture from
atmosphere to leaf....*



WITHOUT ARGOSY-RF



WITH ARGOSY-RF

About Argosy-RF

Argosy® RF is a rain-fast, soluble, environmentally safe polymer matrix composed of inert ingredients. It encapsulates pesticides keeping them on the leaf even through rain events and irrigation. When tank mixed, Argosy® RF enhances wetting and adhesion, as well as facilitates uniform foliar distribution of the pesticide.

Benefits of Argosy-RF Applications

STICKER

When sprayed on the leaf surface, Argosy RF enhances the adhesion of spray droplets to the leaf. Argosy RF also keeps the pesticide on the leaf surface even when irrigation or rainfall occurs, extending the life of chemical applications. This means fewer applications and longer efficacy.

SPREADER

When combined with a pesticide, Argosy RF encourages uniform coverage of the product across the leaf allowing the active ingredient to be better absorbed by the plant.

ELASTICITY

The revolutionary elastic nature of Argosy RF allows the material to stretch as the plant leaf grows, keeping the application of the pesticide on the plant longer. This means fewer applications and longer efficacy.

DROUGHT TOLERANCE

Argosy RF is a retention agent. It has the ability to bind with water, keeping moisture on a targeted substrate longer.

DRIFT CONTROL

Argosy RF forms heavier, larger drops that reach the target wet and holds it there. Trials have shown that up to 100% of applied aerial applications hit their target.



Nutrol®

BIO-PESTICIDE - WATER-SOLUBLE PK FERTILIZER - TANK BUFFER

0-50-32

Guaranteed Analysis

Available Phosphate (P_2O_5).....50%

Soluble Potash (K_2O).....32%

Derived From: Monopotassium phosphate

Application Instructions

Turf:

Nutritional (Cool and Warm Season):

Apply 2 - 4 oz. per 1,000 ft² (6 - 11 lb. per acre). Apply every 7 to 14 days throughout the season. If used as a starter fertilizer during transition periods to cool season grasses, apply 4 - 6 oz. per 1,000 ft².

Powdery Mildew Control:

Apply 8 - 40 lb. Nutrol per acre. Start sprays in early spring when conditions become favorable for disease development and continue sprays every 7 to 14 days for the entire season.

Control of diseases caused by *Pythium*, *Fusarium* and *Rhizoctonia* when applied with Prudent® fertilizers:

Mix 8 - 11 lb. of Nutrol with labeled rates of Prudent fertilizers per 100 gal. and apply as necessary. DO NOT exceed one application every 7 days.

See Full label for additional instructions

About Nutrol

Nutrol® is a biopesticide effective against powdery mildew, a true tank buffer that can prevent alkaline hydrolysis and a highly concentrated, yet very gentle, water soluble PK fertilizer.

Nutrol, when used with any Prudent® fertilizer, can also control soil borne and foliar pathogens.

Fungicide

- Bio-pesticide labeled for use to control and eradicate powdery mildew and other soil-borne and foliar diseases
- Prevents the formation of resistant strains of powdery mildew when used in alternation with other labeled fungicides

Tank Buffer

- Ensures optimal performance by preventing alkaline hydrolysis, which is the breakdown of pesticides by alkaline pH
- True buffer and can maintain the pH of tank solutions (The pH of a 1% aqueous solution of Nutrol in distilled water is 4.5 +/- 0.3)

Nutrient

- Highly concentrated, water-soluble fertilizer containing over 50% P_2O_5 and 32% K_2O
- Safe to use, has the lowest salt index of any fertilizer and will not cause phytotoxicity even at high concentrations
- Suitable for foliar, soil and drip irrigation applications

IS ALKALINE WATER COSTING YOU MONEY?.....

Nutrol is an excellent tank buffer that will acidify and buffer distilled water to a pH range of 4.5 - 5.5. Many pesticides can start to lose their efficacy immediately if they are mixed with alkaline solutions. By adding Nutrol to the tank, you can buffer the tank solution and ensure that pesticide applications are effective and are delivered to the target pest at the manufacturer's desired activity. This means fewer re-sprays, more consistent performance, and reduced chemical usage and labor costs.

PATENTED FOLIAR FERTILIZER SOLUTIONS



About Vibrant

Vibrant® fertilizer solutions are designed to support healthy turf throughout the growing season. Vibrant fertilizer solutions can be blended together to create a variety of analyses.

Vibrant patented foliar fertilizer solutions are formulated with premium sources of NPK, Krystal Klear® micronutrients and proprietary organic supplements.

Benefits of Vibrant

- Independent university studies have demonstrated that Vibrant fertilizer solutions provide long lasting turf color and quality, even during the height of summer stress periods.
- Vibrant fertilizer solutions are compatible with most fungicides, herbicides and insecticides.
- Vibrant fertilizer solutions have exceptional tank mix capabilities.

VIBRANT PORTFOLIO OF PRODUCTS

Vibrant® Blue

15-3-5 - with 0.5% Fe, 0.1% Mn, Cu and Zn & 0.025% B plus organic extracts

Provides quick green-up and turf color and quality, even during the height of summer stress.

Applications: Apply at a rate of 4.0 – 7.0 fl. oz. per 1,000 ft² (1.4 – 2.4 gallons per acre) every 2 – 4 weeks throughout the season.

Vibrant® Green

18-3-4 - with 10% SRN and 1% Fe, 0.1% Mn and Zn, 0.025% B plus organic extracts

Designed to deliver a significant color response with a limited growth response.

Maintenance Applications: 4 - 5 fl. oz. per 1,000 ft² (1.4 - 1.7 gallons per acre)

Severe Deficiencies: 6 - 8 fl. oz. per 1,000 ft² (2 - 2.7 gallons per acre)

Timing: Apply throughout the growing season beginning in the early spring and continue through the late fall.

Vibrant® Red

3-6-12 - with 0.1% Cu, Fe, Mn and Zn, 0.05% Si, 0.025% B plus organic extracts

Formulated to help tolerate environmental conditions such as heat and drought stress during tough summer months.

Maintenance Applications: 3 - 6 fl. oz. per 1,000 ft² (1 - 2 gallons per acre)

Timing: Apply throughout the growing season beginning in the early spring and continue through the late fall.

Trees, Shrubs and Ornamentals Rates for all Vibrant Products: Apply as needed throughout the year. Apply at rates of 1 - 1.5 gal. of Vibrant per 100 gal. of spray solution. Apply 5 gal. per diameter inch.



CONCENTRATED HUMIC ACID SOLUTION

0-0-4+2S

Guaranteed Analysis

Soluble Potash (K₂O).....4%
Sulfur (S).....2%

Derived from elemental sulfur and
potassium hydroxide

Active Ingredients

Humic acids.....2%

Derived from leonardite

Application Instructions

Korban-SC Liquid Humate can
be used with any liquid fertilizer
application with a pH of 3.2 or higher.

It blends well with both Ortho and
Polyphosphates, micronutrient
solutions, and any commonly used
NPK fertilizers.

It can be applied on fairways
and greens, on trees, shrubs and
ornamentals.

Soil Applications:

Korban-SC Liquid Humate may be
applied with any typical broadcast
spray or mixed with deep root
injection solutions at a rate of 2 - 4
quarts per 10 gallons solution.

Fertigation Applications:

Korban-SC Liquid Humate may be
blended into fertigation solutions to
provide 1.5 - 3.0 ounces per 1,000
ft² (2 - 4 quarts per acre) up to twice
monthly.

Foliar Applications:

Korban-SC Liquid Humate may be
applied at a rate of 1.5 - 6.0 ounces
per 1,000 ft² (0.5 - 2 gallons per acre)
monthly or 1 to 3 times at random
intervals during the growing season.

About Korban SC

Korban-SC Liquid Humate (0-0-4+2S) is formulated with PERFORMANCE Organic Acids™, a blend of a wide range of humic acids that are sourced from Leonardite. Derived using a proprietary extraction and separation process, these natural organic acids are selected for their ability to perform in both the soil and the plant. This extraction and stabilization process yields a high carbon (greater than 7%) humic acid solution that remains soluble over a wide pH range and in solutions with a high ionic load with other nutrients. In addition, Korban-SC Liquid Humate can be used as a recovery tool where turf has been stressed from soil imbalances, including residual herbicide buildup.

Korban-SC Liquid Humate provides turf managers with a sustainable tool for improving both plant nutrition and soil health by increasing nutrient uptake, complexing phosphorus for extended availability, aiding in nitrogen retention and providing a beneficial environment for soil microbes.

Benefits of Korban SC

- Promotes a sustainable approach to soil health by supplying organic carbon
- Protects phosphate fertilizers from binding up into unavailable soil minerals
- Provides a readily available source of potassium
- Aids in nitrogen efficiency and retention in the soil
- Enhances solubility, availability, and plant uptake of important ions
- Improves cation exchange in soil solutions
- Supports populations of beneficial soil bacterial and fungi
- Combines readily with most liquid fertilizers, which can help reduce fertilizer induced foliar and/or root burn
- Safe for use in all applications from established turf to new plantings and over-seeding
- Will not precipitate in tank mixes or plug screens/spray nozzles during field applications
- Blends with most solutions, including those with a high ionic load, even in solutions as low as pH 3.2



PLANT EXTRACT SOLUTION

0-3-2

Guaranteed Analysis

Available Phosphate (P_2O_5).....3.0%

Soluble Potash (K_2O).....2.0%

Derived from monopotassium phosphate and kelp.

NON PLANT FOOD INGREDIENTS

Plant extracts.....3.5%

Application Instructions

Maintenance Rate:

Make 4 foliar applications of 15 fl. oz. of Kelpene GPX per acre during spring and early season every 2 – 3 weeks, followed by 1 application mid-season and 1 fall dormancy application.

Recovery/High Stress Rates:

Make 12 – 18 foliar applications of 15 fl. oz. of Kelpene GPX per acre during the season. Apply every two weeks during the key growing period and then every 30 – 60 days at other times.

Nursery Crops:

Foliar apply or soil drench 7.5 – 15 fl. oz. of Kelpene GPX every other month.

About Kelpene GPX

Kelpene® GPX applications have been shown to support plant health, improve nutrient uptake and encourage robust root development.

Turf, ornamentals and nursery crops become more resilient and adaptive during periods of environmental stress, such as high heat, intense sunlight, shade, unexpected cold, drought, salinity, anaerobic conditions and water stress, etc.

What is Kelpene GPX?

Kelpene GPX is a blend of sea kelp extracts, and, plant extracts, primarily terpenes, derived via a unique proprietary extraction process. Kelpene GPX plant extracts are derived from plants that thrive in diverse environments.

Benefits of Kelpene GPX

- Establishes environmental adaptability
- Improves stress management
- Increases plant and turf resilience
- Increases root mass and root tips
- Improves nutrient uptake
- Enhances tissue responsiveness
- Elevates Nutrient Use Efficiency
- Allows better allocation of energy
- Fortifies turf and plants with naturally-occurring phyto-hormones
- Nourishes turf, plants and soil microbes with organic carbon



CALCIUM SOLUTION WITH PLANT EXTRACTS

3-0-0

with 4% Calcium

Guaranteed Analysis

Total Nitrogen (N).....3.0%

3.0% Nitrate Nitrogen (N)

Calcium (Ca).....4.0%

Derived from calcium nitrate

NON PLANT FOOD INGREDIENTS

Plant extracts.....6.0%

Fulvic acid.....0.25%

Application Instructions

Kelpene Ca-T can be tank mixed with most nutrients and chemicals but is NOT COMPATIBLE with ortho-phosphate or sulfate containing fertilizers. Jar testing for compatibility is recommended.

Application Instructions for Turf and Ornamentals:

Soil Applications: Apply 1 - 2 quarts per acre (0.75 - 1.5 fl. oz. per 1,000 ft²) as a soil spray or 1 - 2 pints per acre (0.36 - 0.75 fl. oz. per 1,000 ft²) through soil injection systems every 2 - 4 weeks or as needed.

Foliar Applications: Apply 1 - 2 pints per acre (0.36 - 0.75 fl. oz. per 1,000 ft²) every 2 - 4 weeks or as needed.

About Kelpene Ca-T

Kelpene® Ca-T efficiently delivers calcium and plant-based biochemistry to support calcium utilization and absorption in both foliar and soil applications. It is designed to correct calcium deficiency and improve growth where additional calcium may be needed.

Benefits of Kelpene Ca-T

- Improves calcium uptake through plant tissue for more efficient nutrient delivery
- Supports cell wall formation and root development
- Corrects calcium deficiencies, which can lower the severity of certain diseases such as *Pythium* blight
- Utilizes calcium nitrate for a quickly available source of nitrogen
- Contains nitrate, which is a complementary ion that promotes Ca uptake by plants
- Satisfies turf's need for calcium during critical stages of development, helping maintain turf quality and overall health

EXPECT MORE
FROM YOUR CALCIUM



Argosy®-O

RAIN-FAST POLYMER ADJUVANT

Argosy-O is a polymer adjuvant, which when placed into solution with water and mixed with appropriate agricultural chemicals, enhances adhesion, wetting, and facilitates distribution with ambient moisture, thereby increasing protection during plant growth. Argosy-O reduces or eliminates re-sprays due to rain events and allows longer intervals between applications, saving time and money. Argosy-O should be applied with the first and all subsequent sprays.

KaPre® AG^{WSP-O}

MICROBIAL SOIL INOCULANT

The microorganisms contained in KaPre AG^{WSP-O} have been shown to increase nutrient availability, enhance nutrient cycling, as well as, improve soil structure and support root development.

KaPre® ProHuma

LIQUID HUMATE

KaPre ProHuma is rich in humic acids and complex organic molecules, which provide a slow-release source of carbon. Unlike many humic derived from leonardite, which are often contaminated with heavy metals, KaPre ProHuma is an extract derived from fossilized plant matter.

KaPre ProHuma improves soil texture and water holding capacity, improves soil structure and texture (increasing aggregation and water infiltration), helps break down soil primary minerals, provides an environment and a stimulus for microbial activity and serves as a natural chelator.

KaPre® CSL

WATER SOLUBLE FERTILIZER

KaPre CSL (7-8-6) is a water soluble fertilizer derived from organic, non-GMO corn during the steeping process. It can be applied by irrigation as well as by foliar spray in combination with a nutrient management program determined by soil or tissue tests.

NutriSmart®-B

PATENTED SOIL INOCULANT

NutriSmart-B is a patented, environmentally friendly granular soil inoculant and humate soil amendment that fixes nitrogen from the atmosphere, solubilizes phosphate and unlocks potassium and silica from the soil.

Black Sea Kelp

Black Sea Kelp (1-1-10) organic liquid sea kelp is derived from sustainably farmed seaweed that is rich in potassium, trace minerals and naturally occurring phytohormones.

Black Sea Kelp nourishes plants and soil microbes with organic carbon, strengthens cell walls with potassium, fortifies plants with naturally-occurring phyto-hormones, chelates micronutrients with mannitol (a natural sugar) into forms that are readily available for plant uptake and stimulates root growth and beneficial microbe activity, allowing plants to absorb nutrients more efficiently.

JustFischen®

LIQUID FISH HYDROLYSATE

JustFischen liquid fish hydrolysate is produced through a specialized, cold-process enzymatic digestion of fresh water fish (rainbow trout). There are no chemicals used in this process, resulting in a 100% natural, liquefied fish, with none of the beneficial oils and proteins removed.

It is a rich source of natural protein and mineral nutrients for both plants and soil microbes. Just Fischen has a fresh fish scent, unlike the offensive odor of fish emulsions.

Ormanic® Castings

PREMIUM WORM CASTINGS

Ormanic Castings are mother nature's purest form of slow release natural organic plant food that is produced by earthworms. Derived from a proprietary process, Ormanic Castings are raised in a controlled vermiculture feeding process resulting in a consistent, bio-diverse, living organic fertilizer and conditioner. It is safe to use on everything that grows: no human, animal or food wastes are used in the process. Ormanic Castings pose no risks to the end user.

Ormanica®

PLANT COMPOST SOIL AMENDMENT

Ormanica Plant Compost (1% N, 0.3% P₂O₅ and 0.7% K₂O) is an all natural, low odor, non-compacting refined premium plant compost. It is manufactured with a proprietary process that utilizes earthworms, vegetable matter, agricultural grade mulch and beneficial bacteria. This process generates easy-to-apply, uniform small particles. The small particle size combined with a large surface area delivers a product that breaks down rapidly and releases stored nutrients easily.

Ormanic® XTRAKT

LIQUID WORM CASTING EXTRACT

Ormanic XTRAKT premium low-salt organic fertilizer is derived exclusively from earthworm castings, and, is rich in a proprietary blend of soil microbes and mycorrhizae that rejuvenate the soil and support healthy plants. Our worms are raised indoors in a climate-controlled environment and fed a consistent diet free of animal and yard waste, assuring consistent quality all season long.

Ormanic XTRAKT is safe and easy to use for both soil and foliar applications – the low salt formulation will not burn or damage plants. In addition, it is free of pathogens, and, produced without any animal or yard waste.



PERFORMANCE NUTRITION® PROTOCOLS*

Warm Season Monthly Fairway Program

KaPre® ExAlt – 16 fl. oz. per acre (0.37 fl. oz. per 1,000 ft²)

Pennamin® Perfect K, Pennamin CaMg or Pennamin® High K – 1 - 5 lb. per acre (0.4 - 2.0 oz. per 1,000 ft²)

SRN Source – 4.4 - 11 lb. per acre (0.10 - 0.25 lb. per 1,000 ft²)

Cool Season Monthly Fairway Program

KaPre® ExAlt – 16 fl. oz. per acre (0.37 fl. oz. per 1,000 ft²)

Pennamin® High K – 1 - 5 lb. per acre (0.4 - 2.0 oz. per 1,000 ft²)

KaPre® RemeD8-WSP – One 8 oz. packet per 2.15 acres

Kelpene® GPX – 15 fl. oz. per acre (0.35 fl. oz. per 1,000 ft²)

Seed Establishment Programs

Seeding

Ormanica Plant Compost (prior to seeding) – 10 - 20 lb. per 1,000 ft² (435 - 870 lb. per acre)

Agra Rouse™ – 4 fl. oz. per acre (0.1 fl. oz. per 1,000 ft²)

Nutrol® – 8 lb. per acre (3 oz. per 1,000 ft²)

Prudent® 44 – 1.4 qt. per acre (1 fl. oz. per 1,000 ft²)

Krystal Klear® – 1.4 qt. per acre (1 fl. oz. per 1,000 ft²)

Overseeding

Ormanica Plant Compost (prior to seeding) – 10 - 20 lb. per 1,000 ft² (435 - 870 lb. per acre)

Agra Rouse™ – 4 fl. oz. per acre (0.1 fl. oz. per 1,000 ft²)

Nutrol® – 8 lb. per acre (3 oz. per 1,000 ft²)

Kelpene® GPX – 5 gal. per acre (15 fl. oz. per 1,000 ft²)

Construction/New Seeding

Ormanica Plant Compost – 100 lb. per ton of sand

Nutrol® – 8 lb. per acre (3 oz. per 1,000 ft²)

Agra Rouse™ – 4 fl. oz. per acre (0.1 fl. oz. per 1,000 ft²)

Saline, Compacted and Bicarbonate/Black Layer Solution

KaPre® ExAlt – 32 fl. oz. per acre (0.75 fl. oz. per 1,000 ft²) per month

Tournament Program

Tournament conditions can be maintained on a daily basis with the use of our programs and overall Ecosystem Management Approach.

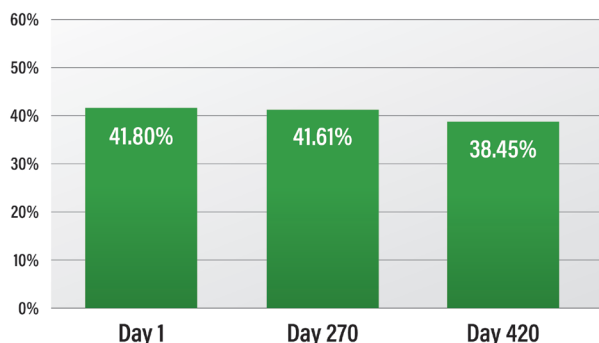
PENNAMIN® PRODUCTS AMINO ACID PROFILE

Amino Acid	Pennamin® Driver-P	Pennamin® Fe&Mn	Pennamin® High K	Pennamin® Mg	Pennamin® Perfect-K	Pennamin® Si
Alanine	4.2%	3.0%	0.6%	1.0%	2.7%	3.4%
Arginine	5.3%	3.8%	2.1%	3.4%	3.4%	4.3%
Aspartic Acid	6.3%	4.5%	2.7%	4.3%	4.0%	5.0%
Cystine	1.3%	0.9%	3.2%	5.1%	0.8%	1.0%
Glutamic Acid	9.3%	6.6%	4.7%	7.5%	6.0%	7.4%
Glycine	7.3%	5.1%	3.6%	5.8%	4.7%	5.8%
Histidine	0.9%	0.7%	0.5%	0.8%	0.6%	0.8%
Isoleucine	2.5%	1.8%	1.3%	2.0%	1.6%	2.0%
Leucine	6.2%	4.4%	3.1%	5.0%	4.0%	4.9%
Lysine	1.4%	1.0%	0.7%	1.2%	0.9%	1.1%
Methionine	0.4%	0.3%	0.2%	0.4%	0.3%	0.4%
Phenylalanine	4.4%	3.1%	2.2%	3.5%	2.8%	3.5%
Proline	9.6%	6.8%	4.8%	7.7%	6.2%	7.7%
Serine	11.1%	7.8%	5.5%	8.8%	7.1%	8.9%
Threonine	4.1%	2.9%	2.0%	3.3%	2.6%	3.3%
Tryptophan	0.0054%	0.0054%	0.0054%	0.0054%	0.0054%	0.0054%
Tyrosine	1.1%	0.8%	0.6%	0.9%	0.7%	0.9%
Valine	4.9%	3.5%	2.5%	4.0%	3.2%	4.0%
Total Amino Acids	80.4%	56.8%	40.3%	64.4%	51.6%	64.4%

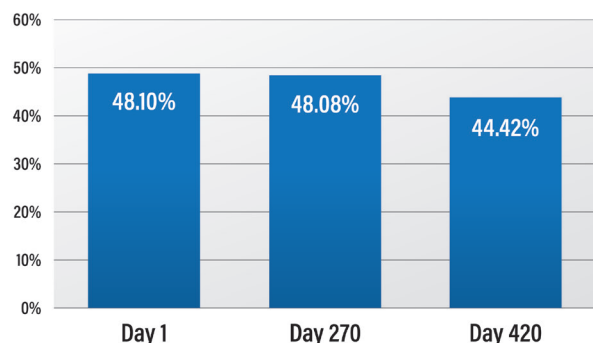
PRUDENT® PHOSPHITE STABILITY

It is a common knowledge that the phosphite (PO_3) content of fertilizers can convert to phosphate (PO_4) while stored in their jugs or containers. This is because most phosphite fertilizers are formulated with added water, and, phosphite (PO_3) can convert to phosphate (PO_4) in the presence of water, beginning shortly after production. The Prudent® family of phosphite fertilizers* are the exceptions. They are produced without any added water, keeping the phosphite stable in the jug.

PO_3 (Phosphite) % (expressed as P_2O_5) in Prudent 44/42CW



PO_3 (Phosphite) % in Prudent 44/42CW



To document the stability of Prudent® 44 (aka Prudent 42cw), we commissioned Stillmeadow Labs, an independent EPA-qualified lab, to test the PO_3 content of Prudent 44 samples taken the day of production and taken more than 9 and 14 months after production. As the graphs above show, the PO_3 in Prudent® 44 (aka Prudent 42cw) remained the same after 9 months, with only a minor conversion after 14 months.

Proven PERFORMANCE



Steve Keller has been superintendent at **Juliette Falls Golf Course** in **Dunnellon, Florida** since it opened in 2007. He has been using a variety of Performance Nutrition® products over the past several years. *"When I had stressed turf, my sales representative recommended KaPre® RemeD8; I have also used their Vibrant® products and KaPre® ExAlt."*

After using other similar products on the market, Steve decided to try some of the Performance Nutrition® products as they are easy to apply, have beneficial amino acids and are more cost effective. He is on a regular program of Pennamin® High K and LidoChem Inc.'s Chelated Iron and Manganese product. He applies them, usually together, about every 7 – 10 days. *"I plan on continuing to use LidoChem's Performance Nutrition® products as they have a lot of great formulations and they are easy to use. They use the best resources to give us the best products. I am excited to see what they have coming next."*

Sam Mueller is the Superintendent at **Vasari Country Club** in **Bonita Springs, Florida**. In 2010, the entire course was renovated and rebuilt, which included some very unique greens construction with elevation changes of 2 to 3 feet. Just one year later, Sam began observing problems in the health and growth of the greens. Sam was introduced to the Performance Soil Treatment® by the local Performance Nutrition® sales rep and began regularly applying KaPre® RemeD8, KaPre® ExAlt and Pennamin® products.

"I noticed my greens getting better and better and I had not made any other changes in my management regimen. There is now 100% turf coverage and the members are happy."

John Stach is Golf Course Superintendent at **Olde Hickory Golf and Country Club** in **Fort Myers, Florida**. "We have enjoyed working with the Performance Nutrition® products for almost a year as they have shown to give very positive results with our Tiff Eagle Greens. Specifically, KaPre® ExAlt, Prudent® 44, Nutrol®, Krystal Klear® ResQ, and Vibrant® Green have proven to give a better, more consistent color and excellent turf health.

"We have received good technical support from the Performance Nutrition® technical team to address specific issues we face here at Olde Hickory on a daily basis. I would recommend all of these products to anyone who works with professional grade turf who is looking for dependable products, cost effective applications as well as excellent technical support."

Rum Pointe Seaside Golf Links is an 18 hole straight sand greens, mostly bay front, course in the **Ocean City, Maryland** area. Joel McTavish has been superintendent there since 2000.

Over the years Joel used foliar programs incorporating NutraMaxx® and more recently Florantine® products. About two seasons ago, Joel was looking for a change as he wasn't totally happy with his program *"It didn't seem that the benefit of the program was lasting more than 4-5 days."*

Joel started using Vibrant® Green in the spring and fall and Vibrant® Red in the summer. He also uses Krystal Klear® Turf Mix every two weeks from May to September. In addition, he uses the Pennamin® High K product for his calcium application and applies Prudent® 44 every two weeks with his fungicide throughout the season.

"Last year I started to see better overall turf health and playability; the ball rolls nice and smooth on the green. Aesthetically the color and conditions of the greens are nice without a lot of extra growth. I don't have the localized dry spots that I had in the years before using Performance Nutrition®'s products. In addition, Performance Nutrition®'s products last as long as they say they will, where other products seemed to wear off too soon."

Stonecrest Golf Club located in **Summerfield, Florida** is a semi-private, 18 hole course with modified push up greens. Rick Watts has been the Superintendent there for 10 years. A few years ago, Rick did some Performance Nutrition® product trials on 9 of his greens. *"There was an overall improvement on disease control and nematode pressure, without me having to spray fungicides."*

Over the past two seasons, Rick has implemented Performance Nutrition®'s PST® - Performance Soil Treatment® on his course which includes a bi-monthly application of KaPre® ExAlt, KaPre® RemeD8 and Pennamin® High K. He continues to see good results and an overall decrease in disease pressure on his greens.

In addition to the products in the PST®, Rick uses Prudent® 44, Nutrol®, Vibrant® Green and Krystal Klear® ResQ. *"I'm very pleased with the performance of the products and the look of the course."*

PERFORMANCE
NUTRITION®

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