



**SPECIALTY  
FERTILIZERS  
FOR TURF**

**2014**  
**PRODUCT INFORMATION**



## **MISSION STATEMENT**

The Mission at Grigg Brothers is to provide the best quality products and top agronomic support in an environmentally responsible manner.

## **VISION STATEMENT**

- Nutritional science and environmental awareness will drive all agronomic solutions, product recommendations, and programs specific to plant fertility and integrated pest management.
- We will educate and provide additional tools of science based technologies.
- We will have the best independent agronomic research program of any fertilizer company in the industry with an emphasis on field testing to aid in the development of high quality products.
- We will diversify and bring new pertinent and proven technologies to the green industries.

## **CORE VALUES**

Built on the founding principles of the original Grigg Brothers Company founded in 1938:

- Integrity & Honesty
- Provide science based top quality products
- Never make unsubstantiated claims
- Provide agronomic solutions and support
- Be a company that is environmentally aware



Grigg Brothers celebrates success founded on a formula of consistent quality and performance. This formula adds to a lasting Grigg Brothers business legacy.

In 1995 Mark and Gary followed in the footsteps of their father Golden and their uncle Nephi who cultivated their combined talents and ventured into many successful business projects together. Starting in 1934, they cleared a patch of sage brush in eastern Oregon and without resources or money grew sweet corn and peddled gunny sacks of the ears door-to-door. By 1946 they had purchased huge transport trucks to supply the demand they had created for their corn and other produce.



Grigg Brothers produce trucks circa 1946

By 1948 Grigg Brothers was the largest distributor of sweet corn in the U.S. using refrigerated rail cars to ship produce to all the major cities. Another growth opportunity came in 1951 when they purchased a frozen food plant on the Oregon Idaho border and in reference to this new location formed the company Ore-Ida®. This acquisition added potato products to their corn business in a major way. Several years later the crown jewel of their success came in the form of Tater Tots®. The following is an excerpt from an H.J. Heinz press release in March 2004:

*"Fifty years ago, the Grigg brothers -- the founding fathers of Ore-Ida® -- were seeking ways to more fully utilize the potatoes grown for their booming french fry business. From their experiments with a few slivers of potatoes, Tater Tots® were born. Little did they know that the bite-sized, golden nuggets would create a 20th century "gold rush," and become an American icon with lasting appeal across many generations."*

The Grigg Brothers of today have spent years developing, producing, and marketing organic and amino acid based fertilizer and liquid nutrients characterized by selected natural organic complexing and chelating agents for true foliar and soil based applications. The foliar fertilizers in the Grigg Brothers product line are uniquely designed for an unprecedented approach to plant growth and health.

In 2005 Grigg Brothers introduced a line of granular fertilizers to the golf course market. It is built on the same proprietary protein technology as the foliar line. This new high performance, high quality homogeneous granular line of fertilizers will provide the same exceptional nutrient uptake ability as the foliar products and is available in both fairway and greens grade granules.

Like their father and uncle before them, Mark and Gary have combined their talents and knowledge together and actively work hard to create and lead a market for another widely successful Grigg Brothers venture.

Mark uses his expertise stemming from over 35 years as a business entrepreneur developing business entities both within and without the agricultural industry. Leading the company as President of Grigg Brothers has honed his skills in marketing, professional relationships, and all other facets of business development and management to help the company grow and expand its markets.

Gary, on the other hand, uses his expertise from many years of golf course construction, grow-in, and maintenance in the development of a product line specifically tailored for the turf market. Gary holds a BS degree in Agriculture and Entomology from Utah State University and a Master of Science degree in Agronomy from Michigan State University. Gary spends much of his time traveling on speaking engagements and seminar opportunities teaching the science and methodology of the Grigg Brothers Foliar Fertilizers.

To date, Grigg Brothers has grown to include many distributors throughout the U.S., Canada, Europe, Asia, and growing.



**Mark (left) and Gary (right) with corporate officers Will Carey (back left) and Bruce Williams (back right) at a BOD meeting in 2002**

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## WHY FOLIAR FEED TURFGRASSES?

- Optimum nutrient use efficiency for overall reduced nutrient inputs
- Better results in unfavorable root-zone conditions
- Better results without optimum soil pH
- Recovery from stress
- Improved response when soil temperatures are cool
- Optimal control over growth
- Bypasses the problem of nutrient soil fixation
- May improve the performance of pesticides
- Minimizes the potential for nutrient leaching
- Nutrient use efficiency means economic efficiency



**Proven Foliar  
Tech Video**

Scan or go to:  
<http://gri.gg/pftv>

## WHY FOLIAR FEED WITH PROVEN FOLIAR PRODUCTS?

Our Proprietary organic chelating and complexing technology makes the following benefits possible for all of our Proven Foliar products:

- Highly compatible with other turf management products
- Highly efficient foliar absorption
- Easy to use
- Predictable results
- No burn risk when used as directed
- Quick response
- Improved uptake & translocation
- Environmental soundness

## UNIQUE CHARACTERISTICS OF GRIGG BROTHERS PROVEN FOLIAR PRODUCTS RESPONSIBLE FOR THEIR SUPERIOR PERFORMANCE INCLUDE:

- All Proven Foliar products contain natural plant and micro-organism based organic compounds, "organic facilitators", that chelate and/or complex nutrients.
- Nutrients are in the proper ionic form for optimal plant utilization.
- Organic facilitators assist in the vascular transport of all nutrients and keep them mobile and available for assimilation.
- Chelates and/or complexes are naturally occurring plant based compounds and are therefore biodegradable by plant cell enzymes. There is no accumulation of residues in the plant or soil as with synthetic chelates including EDTA or HEDTA.
- Natural chelates have high stability constants that permit micronutrients including iron, copper and calcium to be mixed with macronutrients (N, P, K) plus magnesium and sulfur.
- A specific nitrogenous base that enhances absorption through the waxy cuticle of a leaf surface.
- Products may also be applied to the soil, mixed with irrigation water. The natural compounds contained in Grigg Brothers products enhance soil bacteria and may improve soil conditions; however, they are most effective when foliar applied to plants.
- Extensive research and testing by leading university professionals.
- Unmatched customer and industry support.





# **Ultraplex®** 4-0-3 + 2% Fe + micros



**Ultraplex is a sophisticated, proprietary, liquid combination of macro and micronutrients, plant and root promoting stimulators, a buffering agent, and plant and soil wetting agents.**

## **Application Guidelines**

For general Foliar application guidelines please refer to page 43.

## **Turfgrasses:**

Use 3-6 fl. oz. per 1000 ft<sup>2</sup> (10-20 L/Ha) of Ultraplex in combination with other Grigg Brothers products.

Use 6 fl. oz. per 1000 ft<sup>2</sup> (20 L/Ha) rate when Ultraplex is applied 7-14 days as a stand alone product.

## **Qualities**

- An effective non-ionic organic surfactant
- Enhances response of fertilizers and can improve efficiency of plant protectants and plant growth regulators
- Effective water buffering agent designed to resist large changes in spray tank pH
- Provides healthy color and combats stress
- Use Ultraplex with plant growth regulator programs for better color and improved uptake
- Now contains magnesium, increased kelp content and additional plant stimulators

## **GUARANTEED ANALYSIS**

Total Nitrogen (N) .....	4.0%
3.5% Urea Nitrogen	
0.5% Nitrate Nitrogen	
Soluble Potash (K <sub>2</sub> O).....	3.0%
Chelated Magnesium (Mg) .....	0.5%
Boron (B) .....	0.05%
Chelated Copper (Cu) .....	0.05%
Chelated Iron (Fe).....	2.0%
Chelated Manganese (Mn) .....	0.4%
Chelated Zinc (Zn).....	0.4%

**Derived from:** Urea, Potassium, Boric Acid, Iron, Zinc, Manganese and Copper Glucoheptonates.

**Additional Contents:** Plant Based Amino Acids, Natural Saponins, Plant Extracts, Carbohydrates, Fruit Fiber, Protein and Enzyme Precursors.

# Gary's Green®

18-3-4 + Fe + micros

**Gary's Green is specifically designed to provide an efficient form of foliar absorbed nitrogen, phosphorous, potassium and micronutrients for consistent turfgrass growth, recovery and vigor at golf and sports turf sites.**

## Qualities

- Formulated to provide efficient nitrogen utilization for consistency, recovery and green speed management
- Green-up without rapid growth
- Optimizes turf density and color
- Widely used in foliar fertilizer programs



## Application Guidelines

For general Foliar application guidelines please refer to page 43.

## Turfgrasses:

As a foliar maintenance rate 4-8 fl. oz. per 1000 ft (15 - 30 L/Ha).

Deficiency rate 8-12 fl. oz. per 1000 ft<sup>2</sup> (15-30 L/Ha) 7-14 days as needed.

## GUARANTEED ANALYSIS

Total Nitrogen (N) .....	18.0%
2.0% Ammoniacal Nitrogen	
1.5% Nitrate Nitrogen	
14.5% Urea Nitrogen	
Available Phosphoric Acid (P <sub>2</sub> O <sub>5</sub> ) .....	3.0%
Soluble Potash (K <sub>2</sub> O) .....	4.0%
Chelated Magnesium (Mg) .....	0.5%
Chelated Copper (Cu) .....	0.12%
Chelated Iron (Fe) .....	1.0%
Chelated Manganese (Mn) .....	0.1%
Chelated Zinc (Zn) .....	0.1%

**Derived from:** Urea, Ammonium Phosphate, Potassium Phosphate, Potassium Nitrate, Iron, Copper, Manganese and Zinc Glucoheptonates, Magnesium Sulfate.

# Gary's Green Ultra®

13-2-3 + Fe + micros



**Gary's Green Ultra® was created for convenience at the request of many turfgrass managers.**

## Qualities

- Green-up without rapid growth
- A complete analysis fertilizer and is effective at low rates
- Effective non-ionic surfactant
- Contains a buffering agent designed to resist large changes in spray tank pH
- Quick visual response
- Use Gary's Green Ultra with plant growth regulator programs for better color and improved uptake

## Application Guidelines

For general Foliar application guidelines please refer to page 43. Gary's Green Ultra® is a unique formula in which no additional surfactants are required for application.

## Turfgrasses:

As a foliar maintenance rate 6-12 fl. oz. per 1000 ft<sup>2</sup> (20-40 L/Ha)

Severe deficiency rate 9-14 fl. oz. per 1000 ft<sup>2</sup> (30-40 L/Ha) every 7-14 days or as needed.

## GUARANTEED ANALYSIS

Total Nitrogen (N) .....	13.0%
1.3% Ammoniacal Nitrogen	
1.2% Nitrate Nitrogen	
10.5% Urea Nitrogen	
Available Phosphoric Acid (P <sub>2</sub> O <sub>5</sub> ) .....	2.0%
Soluble Potash (K <sub>2</sub> O) .....	3.0%
Chelated Copper (Cu) .....	0.12%
Chelated Iron (Fe) .....	1.4%
Chelated Manganese (Mn) .....	0.2%
Chelated Zinc (Zn) .....	0.2%

**Derived from:** Urea, Ammonium Phosphate, Potassium Phosphate, Potassium Nitrate, Iron, Copper, Manganese and Zinc Glucoheptonates.



# P-K Plus®

3-7-18 + 14% phosphite



**P-K Plus® provides phosphite, derived from potassium phosphite ( $K_2HPO_3$ ), for plant health and phosphate for increased energy transfer and root development, and potassium for cell strength and rigidity.**

## Qualities

- Contains 7% phosphate ( $H_2PO_4$ ) and 14% phosphite ( $H_3PO_3$ )
- Easily absorbed and translocated
- Independent and University tested since 2000
- Potassium phosphite for improved plant health including increased antioxidant and phytoalexin production
- Enhances plant health and resistance to abiotic stress

## Application Guidelines

For general Foliar application guidelines please refer to page 43.

## Turfgrasses:

As a foliar maintenance rate 6 fl. oz. per 1000 ft<sup>2</sup> (20 L/Ha) every 14 days.



**P-K Plus®**

**Tech Video**

Scan or go to:  
<http://gri.gg/pkpv>

## GUARANTEED ANALYSIS

Total Nitrogen (N)	3.0%
2.1% Urea Nitrogen	
0.9% Ammoniacal Nitrogen	
Available Phosphoric Acid ( $P_2O_5$ )	7.0%
Phosphite ( $H_3PO_3$ )	14.0%
Soluble Potash ( $K_2O$ )	18.0%
Boron (B)	0.02%
Cobalt (Co)	0.01%
Molybdenum (Mo)	0.001%

**Derived from:** Urea, Ammonium Sulfate, Ammonium Phosphate, Potassium Phosphite, Boric Acid, Cobalt Sulfate, and Molybdenum Sulfate.

# Nutra Green®

5-10-5 + Fe + micros



**Nutra Green™ remains an extremely versatile product for turf, ornamentals, shrubs, root injection, overseeding and aeration. An excellent tool for spring green up.**

## Qualities

- Green up without rapid growth
- Quick visual response
- Excellent on sand root zones often low in exchangeable phosphorus and fine textured soils where phosphorus is complexed with clay minerals and/or calcium (Ca)
- Nutra Green is a versatile product that can be used on turfgrass, ornamentals and shrubs at the recommended rate for a complete nutrient source.
- Excellent product for turfgrass establishment and interseeding
- 9 Nutrients, 1 product

## Application Guidelines

For general Foliar application guidelines please refer to page 43.

**Turfgrasses:** As a foliar maintenance rate 4 - 9 fl. oz. per 1000 ft<sup>2</sup> (10-30 L/Ha).

Deficiency rate  
6-12 fl. oz. per 1000 ft<sup>2</sup> (20-40 L/Ha) every 7-14 days as needed.

**Trees, Shrubs, & Flowers:** 250X dilution (1/2 fl. oz./gallon).

**Soil Applications:** Greenhouse, Home and Garden Use.

## GUARANTEED ANALYSIS

Total Nitrogen (N)	5.0%
2.7% Ammoniacal Nitrogen	
0.8% Nitrate Nitrogen	
1.5% Urea Nitrogen	
Available Phosphoric Acid (P <sub>2</sub> O <sub>5</sub> )	10.0%
Soluble Potash (K <sub>2</sub> O)	5.0%
Chelated Magnesium (Mg)	1.0%
Boron (B)	0.12%
Chelated Copper (Cu)	0.1%
Chelated Iron (Fe)	1.0%
Chelated Manganese (Mn)	0.5%
Chelated Zinc (Zn)	0.1%

**Derived from:** Urea, Ammonium Phosphate, Potassium Phosphate, Potassium Nitrate, Boric Acid, Magnesium, Iron, Copper, Manganese and Zinc Glucoheptonates.



# Sili-Kal B™

8-0-4 + 10% Ca + Si + B



**Sili-Kal B™ is a high calcium product combined with nitrogen and potassium for increased plant strength, heat tolerance, and turf rigidity.**

## Qualities

- A unique combination product that includes calcium, boron, silicon, potassium and nitrogen.
- Contains proprietary organic facilitators, formulated to keep calcium in solution and plant available. Calcium is important for strong cell walls, abiotic stress tolerance, and biotic pest resistance.
- Calcium is relatively immobile once absorbed by plants, therefore foliar Ca applications ensure adequate concentrations in emerging leaf tissue.
- Sand root zones can be low in plant available calcium. Properly chelated and foliar absorbed calcium is an effective method of increasing calcium tissue content.

## Application Guidelines

For general Foliar application guidelines please refer to page 43. Sili-Kal B™ is compatible with Grigg Brothers phosphates. With severe deficiency use the highest application rate.

## Turfgrasses:

Apply 3-7 fl. oz. per 1000 ft<sup>2</sup> (10-20 L/Ha). Repeat as needed.

## GUARANTEED ANALYSIS

Total Nitrogen (N) .....	8.0%
7.5% Nitrate Nitrogen	
0.5% Urea Nitrogen	
Soluble Potash (K <sub>2</sub> O) .....	4.0%
Soluble Calcium (Ca) .....	10.0%
Boron (B) .....	0.05%
Silicon (Si) .....	0.01%

**Derived from:** Calcium Nitrate, Urea, Potassium Nitrate, Boric Acid, Silicon

# Tuff Turf®

1-0-14 + Si + micros



**Tuff Turf supplies potassium (K) to provide tolerance to cold temperatures, high temperatures, moisture stress, and salinity stress.**

## Qualities

- Contains high levels of available potassium (K), which can be quickly absorbed by the plant tissue and is very effective when applied as a foliar.
- Benefits of high potassium levels in turfgrass plants are well documented and include enhanced resistance to abiotic stress.
- Contains Silicon (Si) for plant strength and Magnesium (Mg) for improved chlorophyll production and turf color.
- Also contains organic and amino acid based chelated micronutrients, including iron (Fe), and manganese (Mn).

## Application Guidelines

For general Foliar application guidelines please refer to page 43.

## Turfgrasses:

Apply 3-8 fl. oz. per 1000 ft² (10-20 L/Ha)

## GUARANTEED ANALYSIS

Total Nitrogen (N)	1.0%
0.75% Urea Nitrogen	
0.25% Nitrate Nitrogen	
Soluble Potash (K <sub>2</sub> O)	14.0%
Chelated Magnesium (Mg)	0.5%
Chelated Iron (Fe)	0.5%
Chelated Manganese (Mn)	0.5%
Silicon (Si)	0.05%

**Derived from:** Urea, Ammonium Nitrate, Potassium Hydroxide, Silicon, Iron, Magnesium and Manganese Glucoheptonates.



**A-O-K®**  
1-0-24



**A-O-K is designed to be foliar applied and completely foliar absorbed while it is drying on the target plant.**

### Qualities

- A-O-K has a positive influence on turfgrass by promoting carbohydrate storage, stolon and rhizome growth, heat, cold, and wear tolerance, while increasing the cell strength and improving salinity stress tolerance.
- Regulates the absorption and retention of water by turfgrass plants.
- Potassium is easily leached from the soil especially in sandy soils. Foliar feeding maximizes (K) absorption and utilization.

### Application Guidelines

For general Foliar application guidelines please refer to page 43.

### Turfgrasses:

Apply 3-8 fl. oz. per 1000 ft<sup>2</sup> (10-20 L/Ha). Repeat as needed.

### GUARANTEED ANALYSIS

Total Nitrogen (N) .....	1.0%
1.0% Urea Nitrogen	
Soluble Potash (K <sub>2</sub> O) .....	24.0%

**Derived from:** Urea, Potassium.

**Additional Contents:** Organic Acids.

# Suprema®

12-0-12 + micros



**Suprema has a one to one ratio of nitrogen to potassium for balanced inputs and micronutrients for optimum growth and health. Great for zero phosphorous fertilizer programs.**

## Qualities

- 20% analysis of plant based amino acids, organic acids and complex polysaccharides
- Completely organic chelated micronutrient package
- A unique form of highly available potassium organic acids that are quickly absorbed
- A pH of 6.3 to promote absorption and reduce burn potential

## Application Guidelines

For general Foliar application guidelines please refer to page 43.

## Turfgrasses:

Apply 3-6 fl. oz. per 1000 ft<sup>2</sup> (10-20 L/Ha) of Suprema in combination with other Grigg Brothers products.

Apply 6 fl. oz. per 1000 ft<sup>2</sup> (20 L/Ha) rate when Suprema is applied every 7-14 days as a stand alone product.

## GUARANTEED ANALYSIS

Total Nitrogen (N)	12.0%
12.0% Urea Nitrogen	
Soluble Potash (K <sub>2</sub> O)	12.0%
Boron (B)	0.005%
Chelated Iron (Fe)	1.0%
Chelated Manganese (Mn)	0.05%
Chelated Zinc (Zn)	0.05%

**Derived from:** Urea, Potassium Nitrate, Potassium Carbonate, Potassium Sulfate, Boric Acid, Iron, Zinc and Manganese Glucoheptonates.



# Kelplex™

1-2-2



**Kelplex contains 75% seaweed extract (*Ascophyllum nodosum*) in a foliar form and is an excellent component of a summer stress management program.**

## Qualities

- 75% foliar seaweed extract (*Ascophyllum nodosum*)
- Contains an active source of plant growth regulators, including cytokinins and auxins
- Contains enzymatic and non-enzymatic antioxidants, limiting oxidative stress
- Supplement to existing foliar and granular fertilizer program
- Improves heat, drought, salinity stress tolerance
- Maximizes Seashore paspalum (*Paspalum vaginatum*) recovery from mechanical and environmental stress
- Increase primary plant metabolism including photosynthesis
- Protects cellular membranes
- Encourages efficient and healthy turfgrass physiology

## Application Guidelines

For general Foliar application guidelines please refer to page 43.

Maintenance on Turfgrasses:

To provide the recommended range of seaweed solids per application, depending on environmental conditions and variety, apply:

## Turfgrasses:

Apply 1-2 fl. oz. per 1000ft<sup>2</sup> (3-6 L/Ha) sequentially every 14 days prior to the onset of stress.

## GUARANTEED ANALYSIS

Total Nitrogen (N) .....	1.00%
0.35% Ammoniacal Nitrogen	
0.65% Urea Nitrogen	
Available Phosphoric Acid (P <sub>2</sub> O <sub>5</sub> ) .....	2.00%
Soluble Potash (K <sub>2</sub> O) .....	2.00%

**Derived from:** *Ascophyllum nodosum* (75%), Phosphoric Acid, Ammonium Phosphate, Urea.

**Additional Contents:** Natural Plant Growth Regulators, Organic Acids, Amino Acids

# Aminoplex®

3-0-0



**Aminoplex is a liquid proprietary mixture of 15 plant based L-amino and organic acids, complex polysaccharides and natural hormones are known to encourage plant growth, health, and stimulate root growth, especially at times of stress. Aminoplex will enhance the performance of non-selective herbicides and improve the performance of liquid and soluble fertilizers.**

## Qualities

- Aminoplex is a multiplex biostimulant, translocator, buffering agent, and solubilizer all in one package.
- Provides energy sources and components to enhance microbial growth and propagation which increase their effectiveness in improving soil conditions and releasing nutrients for plant use.
- Aids in the recovery from heat, shade, or root decline stressed turf by stimulating plant metabolism.

## Application Guidelines

For general Foliar application guidelines please refer to page 43.

Aminoplex may be used alone or mixed with foliar programs.

## Turfgrasses:

Apply 1-3 fl. oz. of Aminoplex per 1000 ft² (3-10 L/Ha). Repeat application every 7-14 days or as needed.

## GUARANTEED ANALYSIS

Total Nitrogen (N) .....	3.0%
Fermentation Products .....	45.0%
Natural Plant & Organic Extracts .....	21.0%
Inert Material .....	31.0%

**Derived from:** Urea.

**Additional Contents:** Proprietary Plant Extracts, Enzyme Precursors, Glycodides, Amino and Organic Acids, Complex Polysaccharides, Sea Plants, and Enzyme Stimulants.



# Microburst™

0-0-1 + micros



**Microburst is an excellent micronutrient package to provide optimum turfgrass color and performance. Microburst also contains magnesium to maximize photosynthetic capacity. Recent Grigg Brothers research has documented its use to mask plant injury from PGR's and herbicide. This product is an excellent addition to any Grigg Brothers program for better color, performance and consistency.**

## Qualities

- Contains 6 micronutrients plus potassium (K) and magnesium (Mg)
- Excellent supplement for turf growing in soil with high pH
- Enhances turf color
- Stimulates chlorophyll production

## Application Guidelines

For general Foliar application guidelines please refer to page 43.

## Turfgrasses:

Apply 2-6 fl. oz. per 1000 ft<sup>2</sup> (6-20 L/Ha).  
Repeat as needed.

## GUARANTEED ANALYSIS

Soluble Potash (K <sub>2</sub> O) .....	1.0%
Chelated Magnesium (Mg) .....	0.3%
Boron (B) .....	0.04%
Chelated Copper (Cu) .....	0.05%
Chelated Iron (Fe) .....	3.4%
Chelated Manganese (Mn) .....	2.4%
Molybdenum (Mo) .....	0.01%
Chelated Zinc (Zn) .....	2.5%

**Derived from:** Potassium Sulfate, Boric Acid, Magnesium, Copper, Iron, Zinc, Manganese, and Molybdenum Sulphates.

# Carboplex®

6-4-4 + micros



**Carboplex is a unique product that can be used as a foliar fertilizer and biostimulant, or watered into the root zone as a carbon based liquid fertilizer.**

## Qualities

- Contains 35% simple carbohydrates plus nitrogen, phosphorus, potassium, micronutrients and other ingredients for improved plant health, soil structure, microbial substrates, nutrient uptake, growth-stimulating and elicitor properties.
- Contains non-fertilizer properties including: fulvic acid, humic acid, glucoheptonates, sea plant extracts, plant sugars, amino acids and organic acids.
- Contains a beneficial and balanced micronutrient package.
- The soluble carbohydrates in Carboplex are readily translocated to metabolic sites in the plant and utilized for growth or stored as reserves.
- Under many stress conditions where carbohydrate supplies are limited, a foliar application of the soluble carbohydrates in Carboplex may be beneficial and allow for continued growth.
- Carboplex watered into the turf can be utilized by microorganisms.
- Can be applied with Grigg Brothers soil stimulator, Bio Blend, for optimum soil and microbial stimulation at a rate of 1 gallon Bio Blend to 4 gallons of Carboplex per acre (45 L/Ha) every 15-30 days.
- A valuable tool for winter preparation.

## Foliar Applications

On greens and tees, apply 6-9 fl. oz. per 1000 ft<sup>2</sup> (20-30 L/Ha) every 14 days

On fairways and sports fields, apply 9-12 fl. oz. per 1000 ft<sup>2</sup> (30-40 L/Ha) every 14-21 days

## Soil Applications

As a carbon based liquid fertilizer and soil drench apply 12-15 fl. oz. per 1000 ft<sup>2</sup> (40-50 L/Ha) with light irrigation, every 14 days or as needed.

## GUARANTEED ANALYSIS

Total Nitrogen (N)	6.0%
0.76% Ammoniacal Nitrogen	
1.24% Nitrate Nitrogen	
4.0% Urea Nitrogen	
Available Phosphoric Acid (P <sub>2</sub> O <sub>5</sub> )	4.0%
Soluble Potash (K <sub>2</sub> O)	4.0%
Chelated Iron (Fe)	0.2%
Chelated Manganese (Mn)	0.05%
Chelated Zinc (Zn)	0.05%

**Derived from:** Urea, Ammonium Nitrate, Potassium Nitrate, Phosphoric Acid, Potassium Phosphate, Iron, Zinc, and Manganese Glucoheptonates.

**Additional Contents:** Non-fertilizer Properties Including: Fulvic Acid, Humic Acid, Glucoheptonates, Sea Plant Extracts, Plant Sugars, Amino Acids and Organic Acids.

# Combo Products

## Qualities

- Completely organically chelated micronutrient package
- Compatible in most solutions containing phosphate
- The nutrients are quickly absorbed for a fast response

### Iron Combo Chelate® 1-0-2+4.5% Iron

Total Nitrogen (N) .....	1.0%
1.0% Urea Nitrogen	
Soluble Potash (K <sub>2</sub> O) .....	2.0%
Combined Sulfur(S) .....	1.0%
Boron (B) .....	0.16%
Chelated Copper (Cu) .....	0.13%
Chelated Iron (Fe) .....	4.5%
Chelated Manganese (Mn) .....	1.0%
Chelated Zinc (Zn) .....	1.0%

**Derived from:** Urea, Potassium Sulfate, Boric Acid, Iron, Zinc, Manganese and Copper Glucoheptonates.

**1 US Gallon • Net Weight 11.93 lbs.**  
**3.78 Liters • 5.41 kg**  
**Specific Gravity 1.43 • pH: 2.7**

### Manganese Combo™

Chelated Magnesium (Mg) .....	1.2%
Chelated Copper (Cu) .....	0.4%
Chelated Manganese (Mn) .....	5.0%
Chelated Zinc (Zn).....	1.0%

**Derived from:** Magnesium, Manganese, Copper and Zinc Glucoheptonates

**1 US Gallon • Net Weight 11.27 lbs.**  
**3.78 Liters • 5.11 kg**  
**Specific Gravity 1.35 • pH 2.38**

## Application Guidelines

For general Foliar application guidelines please refer to page 43.

### Turfgrasses:

Use 2-6 fl. oz. per 1000 ft<sup>2</sup> (6-20 L/Ha) of either product in combination with other Grigg Brothers products.

Use 6 fl. oz. per 1000 ft<sup>2</sup> (20 L/Ha) rate when either product is applied every 7-14 days as a stand alone product.





# Straight Nutrients

**These organic chelates have a high stability constant and are biodegradable.**

## Qualities

- Proven Foliar Chelates are designed to be foliar applied and completely foliar absorbed while drying on the target plant.
- Grigg Brothers micronutrients are a foliar absorbed source that will boost micronutrient levels in any program where extra micronutrients are needed.

Iron Chelate™ 5%	Magnesium Chelate™ 5%	Zinc Chelate™ 5%
<p>Iron (Fe) ..... 5.0% 5.0% Chelated Iron</p> <p><b>Derived from:</b> Iron Glucoheptonate</p> <p>Iron is a component of many enzymes, and is required for chlorophyll formation, nitrogen fixation, and nitrate reduction.</p>	<p>Magnesium (Mg) .....5.0% 5.0% Chelated Magnesium</p> <p><b>Derived from:</b> Magnesium Glucoheptonate</p> <p>Required by plants for the formation of chlorophyll, enzymatic activities, and many other metabolic roles. It is required for photosynthesis, nitrogen fixation, and nitrate reduction.</p>	<p>Zinc (Zn) .....5.0% 5.0% Chelated Zinc</p> <p><b>Derived from:</b> Zinc Glucoheptonate</p> <p>Required as an activator for many enzymes.</p>
<p><b>1 US Gallon</b> <b>Net Weight 11.18 lbs.</b> <b>3.78 Liters • 5.07 kg.</b> <b>Specific Gravity 1.34</b> <b>pH 2.7</b></p>	<p><b>1 US Gallon</b> <b>Net Weight 10.68 lbs.</b> <b>3.78 Liters • 4.85 kg.</b> <b>Specific Gravity 1.28</b> <b>pH 0.90</b></p>	<p><b>1 US Gallon • Net Weight 10.26 lbs.</b> <b>3.78 Liters • 4.66 kg.</b> <b>Specific Gravity 1.23</b> <b>pH 0.6</b></p>

## Application Guidelines

For general Foliar application guidelines please refer to page 43.  
Apply 1-6 fl. oz. per 1000 ft² (3-20 L/Ha). Repeat as needed.

## Turfgrasses:

With severe deficiency use the highest rate of application.



## SOIL SPECIALTY PRODUCTS GENERAL INFORMATION

Grigg Brothers Soil Specialty Products are designed to complement the Proven Foliar products and GreenSpec granular products to provide balanced soil health and optimal turf quality.

Grigg Brothers Soil Specialty Products are used to stimulate microbial activity in the rhizosphere, build soil structure, maintain a balance of water and air in soil pore space, promote strong root growth, generate recovery from biotic and abiotic stress and deliver readily available, stabilized nutrients to the root zone.

Unlike the Proven Foliar products, Grigg Brothers Soil Specialty products should be watered into the root zone soon after application for best results.

Grigg Brothers Soil Specialty Products are diverse and contain soil conditioning agents, biostimulants, wetting agents, macro- and micro-nutrients and/or microbial substrates.

For more information regarding proper use of Grigg Brothers Soil Specialty Products and how they can enhance your turf management programs, contact your Grigg Brothers technical representative and visit [www.griggbros.com](http://www.griggbros.com).





# Rhizonify™

6-4-4



**Rhizonify is designed to improve plant and soil nutrient, carbohydrate and moisture status.**

## Qualities

- Contains a specifically designed wetting agent formulated to improve nutrient placement and uniformity of the wetting front in challenging soil conditions.
- Readily available plant nutrient (N, P, K + minors) plus reactive non-plant food ingredients including fulvic & humic acid, plant sugars, amino and organic acids to enhance and stimulate the rhizosphere.
- Useful to manage and promote recovery from localized dry spot (LDS).
- Promotes root growth and recovery from environmental stress, disease or insect damage.

## Soil Applications

On greens and tees, apply 12 fl. oz. per 1000 ft<sup>2</sup> (38 L/Ha) or 4 gallons per acre per month through the active growing season.

On fairways, apply 7.5 fl. oz. per 1000 ft<sup>2</sup> (24 L/Ha) through the active growing season.

On sportsfields, apply 12 fl. oz. per 1000 ft<sup>2</sup> (38 L/Ha) or 4 gallons per acre per after seedling emerges. Soil temperatures in the root zone should exceed 55° F (13° C) and environmental conditions should favor rapid growth. Monthly applications should be made during the growing season using 7.5 fl. oz. per 1000 ft<sup>2</sup> (24 L/Ha).

## GUARANTEED ANALYSIS

Total Nitrogen (N)	6.0%
4.0% Urea Nitrogen	
1.24% Nitrate Nitrogen	
0.76% Ammoniacal Nitrogen	
Available Phosphate (P <sub>2</sub> O <sub>5</sub> )	4.0%
Soluble Potash (K <sub>2</sub> O)	4.0%
Iron (Fe)	0.2%
0.2% Water Soluable Iron (Fe)	
Manganese (Mn)	0.05%
0.05% Water Manganese (Mn)	
Zinc (Zn)	0.05%
0.05% Water Soluable Zinc (Zn)	

**Derived from:** Urea, Ammonium Nitrate, Potassium Nitrate, Phosphoric Acid, Potassium Phosphate, Iron Sulfate, Manganese Sulfate, and Zinc Sulfate. Complexed with Sodium Glucoheptonates.



# Bio Blend™

10-0-0 + 5% Ca



**Bio Blend contains 15 plant-based proprietary amino acids, organic acids and complex polysaccharides combined with nitrogen and calcium for all soils. Bio Blend aids in water penetration, can function as a microbial substrate, buffers salts, chelates soil nutrients, encourages root growth and biologically buffers toxic chemicals.**

## Qualities

- Designed to stimulate microbial populations within the rhizosphere, to buffer salts with calcium, and to promote plant and microbial health.
- Specifically designed to be used with Carboplex. Bio Blend stimulates the rhizosphere and Carboplex provides a food source.
- Will increase nutrient uptake by turf and may promote decomposition of the thatch layer as a result of increased microbial activity.
- Enhancing nutrient uptake can increase tolerance to midsummer stress.
- Will enhance the establishment of seedlings.

## Application Guidelines

Bio Blend is a root stimulator and should be mixed with Carboplex according to the listed application rate (below) to be watered in to balance soil and rhizospheric health.

### Turfgrasses:

Apply 3-6 fl. oz. (10-20 L/Ha) of Bio Blend in 2 gallons or more of water per 1000 ft<sup>2</sup> to penetrate soil surface. Repeat application 4-8 times per year. Water in within 24 hours.

WHEN APPLIED WITH CARBOPLEX: Apply 3 fl. oz. per 1000 ft<sup>2</sup> (10 L/Ha) Bio Blend with the applicable Carboplex rate and water within 24 hours.

IRRIGATION APPLICATION: Inject 3-6 fl. oz. per 1000 ft<sup>2</sup> (10-20 L/Ha) 4-8 times per year during water cycle.

## GUARANTEED ANALYSIS

Total Nitrogen (N)	10.0%
4.0% Urea Nitrogen	
1.0% Ammoniacal Nitrogen	
5.0% Nitrate Nitrogen	
Soluble Calcium (Ca)	5.0%

**Derived from:** Urea, Ammonium Nitrate, Calcium Nitrate.

**Additional Contents:** Proprietary Plant Extracts and Liquid Fermentation Products that Contain Enzyme Precursors, Microbial Metabolites, Plant Hormones, Organic and Amino Acids, Glycosides and Enzyme Stimulants.

# Displace®

12% Ca

**Displace is a unique combination of readily available calcium and soil surfactant formulated to rapidly displace sodium from the soil and add calcium for improved soil structure and water infiltration. Displace is intended to rapidly exchange sodium with calcium in critical areas of golf and sports turf.**



## Qualities

- Displace is a convenient and easy to use formulation through the combination of a highly effective form of calcium and a proven wetting agent.
- The 12% calcium content in Displace is formulated to limit Ca precipitation by bicarbonates in the water and react directly with the soil and sodium ions.
- The specially designed soil surfactant component enhances product infiltration and facilitates uniform placement of the product throughout the soil profile for optimal efficacy when dealing with sodic issues.
- Proprietary soil surfactant chemistry will improve product placement in difficult soil conditions.
- An excellent tool to address hydrophobic soil conditions (localized dry spots).
- Improves soil structure for better root growth, nutrient uptake, water infiltration, soil oxygenation and overall turf vigor.
- Displace is a two in one product that saves time and additional mixing.

## Application Guidelines

For best results apply Displace with 2 or more gallons of water per 1000 ft<sup>2</sup> (400 L/Ha) and then water Displace into the root zone following application

For irrigation water quality concerns and/or sodic soils, Displace should be applied at 3 to 4 week intervals.

Compatibility: A Jar test should be performed when mixing Displace with any other products.

## Turfgrasses:

As a maintenance rate or for sodium problems apply 6-9 fL. oz. per 1000 ft<sup>2</sup> (20-30 L/Ha).

## GUARANTEED ANALYSIS

Calcium (Ca)..... 12.0%

**Derived from:** Calcium Malate

## MARKERS & PIGMENTS

### GENERAL INFORMATION

Grigg Brothers is committed to offering only the highest quality spray markers and pigments for the turfgrass industry. They are highly concentrated for maximum efficiency and are thoroughly tested and backed by university research just like our Proven Foliar™ line of fertilizer products.

- Markit spray dye indicator provides the applicator with many benefits beyond ensuring even application of material to prevent unsightly streaking or skips.
- GreenPIG pigment can optimize turf color and quality, improve aesthetics for dormant turf, and some may provide a physiological benefit (pigments) by reflecting potentially harmful near infrared (NIR).





# Markit™



**Markit Green and Blue are spray pattern indicators to be used with boom sprayer, row-crop riding equipment, backpack, or wand sprayers.**

## Qualities

- Markit spray dye indicator provides the applicator with many benefits beyond ensuring even application of material to prevent unsightly streaking or skips.
- Contains a proprietary component that will improve uptake of nutrients being applied for better fertilizer efficacy and enhanced longevity.
- Contains saponin, a natural organic yucca extract, which also acts as a spreading agent in a tank mix.
- Markit is non-phytotoxic

## Application Guidelines

Grigg Brothers spray pattern indicators should be added to the spray tank when it is approximately half full. Use 16-32 fl. oz. of the spray pattern indicator for 100 gallons of spray solution. When using hand-held or backpack sprayers (i.e., 3-5 gallons) use only one ounce of spray pattern indicator per gallon. The above rates are an approximation. Turf or weed color, height and individual water conditions such as hardness, pH, iron content, etc., may dictate variations from the above suggested rates. Slight adjustment is recommended. Test for required concentration before use and adjust as needed.

If accidentally spilled, Grigg Brothers spray pattern indicators can be removed from skin or equipment with several washings of soap and water. Avoid letting Grigg Brothers spray pattern indicators concentrate come into contact with fabrics.

# GreenPIG™



**GreenPIG™ is a premium pigment additive specifically formulated for golf courses and sports turf facilities to enhance and extend aesthetic turf appearances. GreenPIG is an excellent additive to enhance turf color during the growing season as well as to mask dormant turfgrass in the winter months. Additionally, university research has shown that tank mixing GreenPIG with Grigg Brothers® Fairphyte® can improve turf performance and quality during times of summer stress.**

## Qualities

- Highly Concentrated for low use rates
- Long lasting means less frequent applications
- Cost competitive fits most budgets
- Natural in color improves visual quality & turf presentation
- Less abrasive on spray pumps than most turf paints
- Improved turf health by reducing oxidative stress during exposure to high heat
- Alternative to overseeding an excellent way to reduce costs and provide superior winter putting surface

## Application Guidelines

- Do not apply to new waterways
- Do not apply to wet turf, it may delay drying of GreenPig
- This product may stain, keep off unwanted areas

## Application Rates

### Cool Season Turgrass- Putting Greens

10-14 oz/Acre (1 L/Ha) maintenance rate

14-16 oz/Acre (1 L/Ha) dormant, semi dormant

### Cool Season Turgrass- Fairways

14-18 oz/Acre (1.25 L/Ha) maintenance rate

16-20 oz/Acre (1.25 L/Ha) dormant, semi dormant

### Warm Season Turgrass

14-18 oz/Acre (1.25 L/Ha) maintenance rate

16-20 oz/Acre (1.25 L/Ha) dormant, semi dormant

# Fairway FertiSprays™

**Proven Foliar amino acid based nutrition specifically designed for golf course fairways and sportsfield applications.**

## Qualities

- Cost effective for fairway application
- Highly efficient
- Low burn potential
- Organically chelated micronutrients
- Recommended for foliar application or fertigation
- Compatible with Grigg Brothers chelated micronutrients, biostimulants and surfactants.
- Contains plant based amino acids and organic acids
- May be applied as a foliar application or through a fertigation system

## Burley Green™

**Slow Release • 18-2-3 + Fe**

**FAIRWAY  
FERTISPRAYS™**

### GUARANTEED ANALYSIS

Total Nitrogen .....	18.0%
12.0% Urea Nitrogen	
6.00% Slow Release (Triazone) Nitrogen	
Available Phosphoric Acid (P <sub>2</sub> O <sub>5</sub> ) .....	2.00%
Soluble Potash (K <sub>2</sub> O) .....	3.00%
Iron (Fe) .....	0.45%

**Derived from:** Urea, Ammonium Sulfate, Ammonium Phosphate, Triazone, Potassium Phosphate, Phosphoric Acid, Iron Sulfate. Complexed with Glucoheptonates.

### Application Guidelines

For additional micronutrients add Grigg Brothers Ultraplex, Microburst, or Iron Combo Chelate to any Grigg Brothers foliar application at the rate of 2-3 fl. oz. per 1000 ft<sup>2</sup> (6-10 L/Ha). Ultraplex is a unique formula, no additional surfactant required.

### Turfgrasses:

As a foliar apply at the rate of 3-9 fl. oz. per 1000 ft<sup>2</sup> (10-30 L/Ha) as needed.

**1 US Gallon • Net Weight 9.93 lbs • 3.78 Liters • 4.50 kg. • Specific Gravity 1.19 • pH 8.8**



# Amino Iron®

12-0-0 + 5% Fe + Mn & Zn

**FAIRWAY**  
**FERTISPRAYS™**

## GUARANTEED ANALYSIS

Total Nitrogen .....	12.0%
12.0% Urea Nitrogen	
Water Soluble Iron (Fe) .....	5.00%
Manganese (Mn) .....	0.50%
Zinc(Zn) .....	0.50%

**Derived from:** Urea, Iron Sulfate, Manganese Sulfate, Zinc Sulfate.

**Additional Contents:** Complexed Amino and Organic Acids.

## Application Guidelines

For additional micronutrients add Grigg Brothers Ultraplex, Microburst, or Iron Combo Chelate to any Grigg Brothers foliar application at the rate of 2-3 fl. oz. per 1000 ft<sup>2</sup>. Ultraplex is a unique formula, no additional surfactant required.

## Turfgrasses:

As a foliar apply at the rate of 3-12 fl. oz. per 1000 ft<sup>2</sup> (10-40 L/Ha) every 14 days or 8-12 fl. oz. per 1000 ft<sup>2</sup> (25-40 L/Ha) every 30 days as needed.

**1 US Gallon • Net Weight 10.77 lbs. • 3.78 Liters • 4.88 kg. • Specific Gravity 1.29 • pH 2.5**

# Fairphyte®

1-0-26 + 26% phosphite

**FAIRWAY**  
**FERTISPRAYS™**

## GUARANTEED ANALYSIS

Total Nitrogen .....	1.00%
1.00% Urea Nitrogen	
Soluble Potash(K <sub>2</sub> O) .....	26.0%

**Derived from:** Urea, Potassium Phosphite (Includes 26% phosphite (H<sub>3</sub>PO<sub>3</sub>))

## Application Guidelines

For additional micronutrients add Grigg Brothers Ultraplex, Microburst, or Iron Combo Chelate to any Grigg Brothers foliar application at the rate of 2-3 fl. oz. per 1000 ft<sup>2</sup>. Ultraplex is a unique formula, no additional surfactant required.

## Turfgrasses:

As a foliar apply at the rate of 3-4 fl. oz. per 1000 ft<sup>2</sup> (10-15 L/Ha) every 14 days or 6-8 fl. oz. per 1000 ft<sup>2</sup> (20-25 L/Ha) every 30 days as needed.

**1 US Gallon • Net Weight 12.35 lbs. • 3.78 Liters • 5.60 kg. • Specific Gravity 1.48 • pH 6.7**





# Foliar Analysis Summary - US

					NUTRIENT CONTENT														
ID#	LIQUIDS	Specific Gravity	lbs per 1.00 gal	pH	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Si	Mo	Co	HPO <sub>3</sub>
255	Ultraplex®	1.280	10.682	2.90	4.0%		3.0%		0.500%		2.000%	0.400%	0.400%	0.050%	0.050%				
			LBS of Nutrient per gal:		0.4273		0.3205		0.0534		0.2136	0.0427	0.0427	0.0053	0.0053				
215	Gary's Green®	1.290	10.766	2.90	18.0%	3.0%	4.0%		0.500%		1.000%	0.100%	0.100%	0.120%					
			LBS of Nutrient per gal:		1.9378	0.3230	0.4306		0.0538		0.1077	0.0108	0.0108	0.0129					
200	Gary's Green Ultra®	1.280	10.682	3.70	13.0%	2.0%	3.0%				1.400%	0.200%	0.200%	0.120%					
			LBS of Nutrient per gal:		1.3887	0.2136	0.3205				0.1495	0.0214	0.0214	0.0128					
285	P-K Plus®	1.370	11.433	7.05	3.0%	7.0%	18.0%								0.020%		0.001%	0.010%	14.000%
			LBS of Nutrient per gal:		0.3430	0.8003	2.0580								0.0023		0.0001	0.0011	1.6006
315	Nutra Green™	1.370	11.433	2.50	5.0%	10.0%	5.0%		1.000%		1.000%	0.500%	0.100%	0.100%	0.120%				
			LBS of Nutrient per gal:		0.5717	1.1433	0.5717		0.1143		0.1143	0.0572	0.0114	0.0114	0.0137				
106	Sili-Kal B™	1.470	12.268	1.50	8.0%		4.0%	10.000%							0.050%	0.010%			
			LBS of Nutrient per gal:		0.9814		0.4907	1.2268							0.0061	0.0012			
310	Tuff Turf™	1.310	10.932	4.30	1.0%		14.0%		0.500%		0.500%	0.500%				0.050%			
			LBS of Nutrient per gal:		0.1093		1.5305		0.0547		0.0547	0.0547				0.0055			
141	A-O-K®	1.260	10.515	7.60	1.0%		24.0%												
			LBS of Nutrient per gal:		0.1052		2.5237												
245	Suprema™	1.310	10.932	6.30	12.0%		12.0%				1.000%	0.050%	0.050%		0.005%				
			LBS of Nutrient per gal:		1.3119		1.3119				0.1093	0.0055	0.0055		0.0005				
225	Iron Combo Chelate	1.430	11.934	2.70	1.0%		2.0%			1.000%	4.500%	1.000%	1.000%	0.130%	0.160%				
			LBS of Nutrient per gal:		0.1193		0.2387			0.1193	0.5370	0.1193	0.1193	0.0155	0.0191				
192	Manganese Combo	1.350	11.266	2.38					1.200%			5.000%	1.000%	0.400%					
			LBS of Nutrient per gal:						0.1352			0.5633	0.1127	0.0451					
196	Microburst™	1.330	11.099	2.00			1.0%		0.300%		3.400%	2.400%	2.500%	0.050%	0.040%		0.010%		
			LBS of Nutrient per gal:				0.1110		0.0333		0.3774	0.2664	0.2775	0.0055	0.0044		0.0011		
330	Aminoplex®	1.160	9.681	2.00	3.0%														
			LBS of Nutrient per gal:		0.2904														
675	Kelplex™	1.100	9.180	4.54	1.0%	2.0%	2.0%												
			LBS of Nutrient per gal:		0.0918	0.1836	0.1836												
180	Fe Chelate 5%	1.340	11.183	2.70							5.000%								
			LBS of Nutrient per gal:								0.5591								
185	Mg Chelate 5%	1.230	10.265	0.60					5.000%										
			LBS of Nutrient per gal:						0.5132										
195	Zn Chelate 5%	1.280	10.682	0.90									5.000%						
			LBS of Nutrient per gal:										0.5341						
240	Carboplex™	1.370	11.433	3.30	6.0%	4.0%	4.0%				0.200%	0.050%	0.050%						
			LBS of Nutrient per gal:		0.6860	0.4573	0.4573				0.0229	0.0057	0.0057						
300	Bio Blend™	1.320	11.016	1.00	10.0%			5.000%											
			LBS of Nutrient per gal:		1.1016			0.5508											
242	Rhizonify™	1.280	10.682	3.74	6.0%	4.0%	4.0%				0.200%	0.050%	0.050%						
			LBS of Nutrient per gal:		0.6409	0.4273	0.4273				0.0214	0.0053	0.0053						
178	Displace™	1.480	12.350	0.75				12.000%											
			LBS of Nutrient per gal:					1.4820											
860	Burley Green™	1.190	9.931	8.80	18.0%	2.0%	3.0%				0.050%								
			LBS of Nutrient per gal:		1.7876	0.1986	0.2979				0.0050								
840	Amino Iron™	1.290	10.766	2.50	12.0%						5.000%	0.500%	0.500%						
			LBS of Nutrient per gal:		1.2919						0.5383	0.0538	0.0538						
800	Fairphyte™	1.480	12.351	6.70	1.0%		26.0%												26.000%
			LBS of Nutrient per gal:		0.1235		3.2113												3.2113



# Foliar Analysis Summary - Metric

ID#	LIQUIDS	kg per 1.00 L	pH	NUTRIENT CONTENT														
				N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Si	Mo	Co	HPO <sub>3</sub>
255	Ultraplex®	1.280	2.90	4.0%		3.0%		0.500%		2.000%	0.400%	0.400%	0.050%	0.050%				
	kg of Nutrient per L:			0.0512		0.0384		0.0064		0.0256	0.0051	0.0051	0.0006	0.0006				
215	Gary's Green®	1.290	2.90	18.0%	3.0%	4.0%		0.500%		1.000%	0.100%	0.100%	0.120%					
	kg of Nutrient per L:			0.2322	0.0387	0.0516		0.0064		0.0129	0.0013	0.0013	0.0015					
200	Gary's Green Ultra®	1.280	3.70	13.0%	2.0%	3.0%				1.400%	0.200%	0.200%	0.120%					
	kg of Nutrient per L:			0.1664	0.0256	0.0384				0.0179	0.0026	0.0026	0.0015					
285	P-K Plus®	1.370	7.05	3.0%	7.0%	18.0%								0.020%		0.001%	0.010%	14.000%
	kg of Nutrient per L:			0.0411	0.0959	0.2466								0.0003		0.0000	0.0001	0.1918
315	Nutra Green™	1.370	2.50	5.0%	10.0%	5.0%		1.000%		1.000%	0.500%	0.100%	0.100%	0.120%				
	kg of Nutrient per L:			0.0685	0.1370	0.0685		0.0137		0.0137	0.0068	0.0014	0.0014	0.0016				
106	Sili-Kal B™	1.470	1.50	8.0%		4.0%	10.000%							0.050%	0.010%			
	kg of Nutrient per L:			0.1176		0.0588	0.1470							0.0007	0.0001			
310	Tuff Turf™	1.310	4.30	1.0%		14.0%		0.500%		0.500%	0.500%				0.050%			
	kg of Nutrient per L:			0.0131		0.1834		0.0065		0.0065	0.0065				0.0007			
141	A-O-K®	1.260	7.60	1.0%		24.0%												
	kg of Nutrient per L:			0.0126		0.3024												
245	Suprema™	1.310	6.30	12.0%		12.0%				1.000%	0.050%	0.050%		0.005%				
	kg of Nutrient per L:			0.1572		0.1572				0.0131	0.0007	0.0007		0.0001				
225	Iron Combo Chelate	1.430	2.70	1.0%		2.0%			1.000%	4.500%	1.000%	1.000%	0.130%	0.160%				
	kg of Nutrient per L:			0.0143		0.0286			0.0143	0.0643	0.0143	0.0143	0.0019	0.0023				
192	Manganese Combo	1.350	2.38					1.200%			5.000%	1.000%	0.400%					
	kg of Nutrient per L:							0.0162			0.0675	0.0135	0.0054					
196	Microburst™	1.330	2.00			1.0%		0.300%		3.400%	2.400%	2.500%	0.050%	0.040%		0.010%		
	kg of Nutrient per L:					0.0133		0.0040		0.0452	0.0319	0.0332	0.0007	0.0005		0.0001		
330	Aminoplex®	1.160	2.00	3.0%														
	kg of Nutrient per L:			0.0348														
675	Kelpex™	1.100	4.54	1.0%	2.0%	2.0%												
	kg of Nutrient per L:			0.0110	0.0220	0.0220												
180	Fe Chelate 5%	1.340	2.70							5.000%								
	kg of Nutrient per L:									0.0670								
185	Mg Chelate 5%	1.230	0.60					5.000%										
	kg of Nutrient per L:							0.0615										
195	Zn Chelate 5%	1.280	0.90									5.000%						
	kg of Nutrient per L:											0.0640						
240	Carboplex™	1.370	3.30	6.0%	4.0%	4.0%				0.200%	0.050%	0.050%						
	kg of Nutrient per L:			0.0822	0.0548	0.0548				0.0027	0.0007	0.0007						
300	Bio Blend™	1.320	1.00	10.0%			5.000%											
	kg of Nutrient per L:			0.1320			0.0660											
242	Rhizonify™	1.280	3.74	6.0%	4.0%	4.0%				0.200%	0.050%	0.050%						
	kg of Nutrient per L:			0.0768	0.0512	0.0512				0.0026	0.0006	0.0006						
178	Displace™	1.480	0.75				12.000%											
	kg of Nutrient per L:						0.1776											
860	Burley Green™	1.190	8.80	18.0%	2.0%	3.0%				0.050%								
	kg of Nutrient per L:			0.2142	0.0238	0.0357				0.0006								
840	Amino Iron™	1.290	2.50	12.0%						5.000%	0.500%	0.500%						
	kg of Nutrient per L:			0.1548						0.0645	0.0064	0.0064						
800	Fairphyte™	1.480	6.70			26.0%												26.000%
	kg of Nutrient per L:			0.0148		0.3848												0.3848





## Fertilizers & Amendments

GreenSpec™ granular fertilizer formulations provide fast and consistent nutrient availability and contain natural compounds that enhance soil microbiology and chemistry. These products were developed with purity in mind and do not contain any waste fillers or heavy metals. The result is an efficient nutrient delivery system with superior performance and environmental safety.

GreenSpec soil amendments offer two different calcium options each combined with potassium and tailored to meet specific soil and environmental needs. Additional amendments include two different zeolite products, one pre-loaded with a nutrient package, both of which are effective tools for increasing cation exchange capacity (CEC) in soils.



## GRANULAR FERTILIZERS GENERAL INFORMATION

GreenSpec™ homogeneous granular fertilizers were developed in response to our customers requests for granular fertilizers that would complement the use of Grigg Brothers Foliar Fertilizers.

The GreenSpec™ line has been engineered using our proprietary "protein" nitrogen (N) source technology to deliver the following results:

- Superior performance with controlled and lasting color response
- Environmental safety and efficient nutrient delivery
- Bridged organic formulations for more dependable response under a variety of agronomic conditions

Our customers can expect the applied granules to spread easily with minimal dust and to dissolve quickly to penetrate dense modern grasses.

### KEY COMPONENTS

#### Protein Technology Fertilizer

##### Organic, bioactive proteins:

Nitrogen and phosphorous components are obtained from specially processed protein used in the food and flavoring industry. These proteins are manufactured differently from by-products found in most pet foods, animal feed, and other fertilizers. Less heat is used, along with specialized enzymes that give the material soluble qualities. For fertilizer, this means that the nitrogen and phosphorous are more available to the plant. Amino acid structures are left intact, giving them the ability to chelate nutrient minerals, increasing plant uptake.

##### Solar Evaporated Sulfate of Potash:

After evaporation, the natural minerals are separated using only hot water. This potassium is in its purest, natural form: no chlorides, no heavy metals and a low salt index.

##### Iron, Manganese and Zinc Sucrates (U.S. patent #3567460):

Plant roots are attracted to the sucates enhancing nutrient uptake. Sucrates are natural chelating agents that improve mineral nutrient uptake by plant roots.

##### Kelp (*Ascophyllum nodosum*):

The proprietary type of kelp used in GreenSpec™ Fertilizers contain high calcium and valuable minerals, and is extremely low in salt and sodium. In addition, it goes through a fermentation process to extract biostimulants. Kelp contains cytokinins, which have been documented to improve turfgrass root stress tolerance.

##### Humic Acid:

This is a unique form containing a high fulvic to humic ratio. Derived from only one deposit of Leonardite, this is the only type of humic acid that is backed by scientific studies. The fulvic acid fraction is extremely bioactive through its molecular structure and influences plant growth by affecting energy transfer and chlorophyll content.

For MSDS information and spreader setting guidelines visit <http://www.griggbros.com>

Most fertilizer products stain. Keep this product off unwanted areas such as sidewalks, patios, driveways, fences, painted surfaces, masonry, stucco surfaces, and siding. As a precaution, sweep or blow off these areas prior to irrigation or rainfall.

**Green  
Spec™**  
**Granular Fertilizers**



# Seven Iron™

7-7-7



## Qualities

- Formulated to produce dark green color and correct nutrient depleted soils.
- Contains micronutrients specially formulated with sugars called "sucrates". As a result, these micros are absorbed much more quickly than those in traditional lawn fertilizers.
- Especially effective to promote recovery from mechanical or environmental stress and during turfgrass establishment.
- A multi-purpose plant food, starter fertilizer, pre-plant, and soil conditioning fertilizer that has been specially designed for use in all seasons. 7-7-7 Seven Iron™ contains 7% iron in both quickly and slowly available forms. Iron sulfate provides a more immediate response, while iron sucrate helps maintain long-term color.
- Nutrient release and subsequent plant uptake determined by microbial activity and will vary based on soil moisture, temperature, pH, and turfgrass species

## Suggested Application Rates

### Fairways:

7-10 lbs. / 1000 ft<sup>2</sup> (34-49 g/m<sup>2</sup>)  
305-435 lbs. / Acre (340-490 kg/Ha)

### Greens:

4-8 lbs. / 1000 ft<sup>2</sup> (20-39 g/m<sup>2</sup>)  
174-348 lbs. / Acre (195-390 kg/Ha)

## GUARANTEED ANALYSIS

Total Nitrogen (N) .....	7.0%
1.40% ammoniacal nitrogen	
4.60% water soluble nitrogen	
1.00% water insoluble nitrogen	
Available Phosphate (P <sub>2</sub> O <sub>5</sub> ) .....	7.0%
Soluble Potash (K <sub>2</sub> O) .....	7.0%
Calcium (Ca) .....	7.0%
Total Sulfur (S) .....	7.0%
7.0% Combined Sulfur (S)	
Iron (Fe) .....	7.0%
2.0% Water Soluble Iron (Fe)	
Manganese (Mn) .....	1.5%
0.5% Water Soluble Manganese (Mn)	
Zinc (Zn) .....	0.20%
0.08% Water Soluble Zinc (Zn)	

**Derived from:** soybean meal, ammonium phosphate, sulfate of potash, ferrous sulfate, iron sucrate, manganese sucrate, zinc sucrate, kelp (*Ascophyllum nodosum*).

### Also contains non plant food ingredient:

3.20% humic acid derived from leonardite



# ZeroPhos™

## 7-0-14



### Qualities

- A special formulation containing no phosphorus for use at environmentally restricted areas.
- Contains micronutrients specially formulated with sugars called "sucrates". As a result, these micros are absorbed much more quickly than those in traditional lawn fertilizers.
- A multi-purpose plant food and soil conditioning fertilizer that has been specially designed for use in all seasons. 7-0-14 ZeroPhos™ contains 7% iron in two release forms. Iron sulfate releases quickly for faster results. Iron sucrate releases more slowly to help maintain long-term color.
- Nutrient release and subsequent plant uptake determined by microbial activity and will vary based on soil moisture, temperature, pH, and turfgrass species.

### Suggested Application Rates

#### Fairways:

7-10 lbs. / 1000 ft<sup>2</sup> (34-49 g/m<sup>2</sup>)  
305-435 lbs. / Acre (340-490 kg/Ha)

#### Greens:

4-8 lbs. / 1000 ft<sup>2</sup> (20-39 g/m<sup>2</sup>)  
174-348 lbs. / Acre (195-390 kg/Ha)

### GUARANTEED ANALYSIS

Total Nitrogen (N) .....	7.0%
1.40% ammoniacal nitrogen	
4.60% water soluble nitrogen	
1.00% water insoluble nitrogen	
Soluble Potash (K <sub>2</sub> O) .....	14.0%
Calcium (Ca) .....	7.0%
Total Sulfur (S) .....	7.0%
7.0% Combined Sulfur (S)	
Iron (Fe) .....	7.0%
2.0% Water Soluble Iron (Fe)	
Manganese (Mn) .....	1.5%
0.5% Water Soluble Manganese (Mn)	
Zinc (Zn) .....	0.20%
0.08% Water Soluble Zinc (Zn)	

**Derived from:** soybean meal, urea, ammonium sulfate, sulfate of potash, calcium carbonate, ferrous sulfate, iron sucrate, manganese sucrate, zinc sucrate, kelp (*Ascophyllum nodosum*).

**Also contains non plant food ingredient:**  
3.20% humic acid derived from leonardite

# Turf Rally™

16-4-8



## Qualities

- Formulated to produce a controlled and lasting color response. It conditions and improves nutrient depleted soils and is formulated to be ground water safe.
- A special nitrogen (N) formula that works in 3 different ways - a small amount of ammoniacal nitrogen N (2%) gives a quick feeding and activates growth. A large percentage (11%) of water soluble, organic nitrogen quickly works its way into the soil where it provides continuous, even feeding. The smaller amount (3%) of water insoluble organic nitrogen, is a slow release form of N that feeds the turf for a longer period of time. This triple action formula offers sustained, even feeding (up to 8-12 weeks) that means more controlled growth with fewer grass clippings.
- Contains micronutrients specially formulated with sugars called "sucrates". As a result, these micros are absorbed much more quickly than those in traditional lawn fertilizers.
- Nutrient release and subsequent plant uptake determined by microbial activity and will vary based on soil moisture, temperature, pH, and turfgrass species.

## Suggested Application Rates

### Fairways:

4-6.25 lbs. / 1000 ft<sup>2</sup> (20-30 g/m<sup>2</sup>)  
174-272 lbs. / Acre (195-305 kg/Ha)

### Greens:

3.13 lbs. / 1000 ft<sup>2</sup> (15 g/m<sup>2</sup>)  
136 lbs. / Acre (150 kg/Ha)

## GUARANTEED ANALYSIS

Total Nitrogen (N) .....	16.0%
2.00% ammoniacal nitrogen	
11.00% water soluble nitrogen	
3.00% water insoluble nitrogen	
Available Phosphate (P <sub>2</sub> O <sub>5</sub> ).....	4.0%
Soluble Potash (K <sub>2</sub> O) .....	8.0%
Calcium (Ca) .....	6.0%
Total Sulfur (S).....	6.0%
6.0% Combined Sulfur (S)	
Iron (Fe).....	3.0%
1.50% Water Soluble Iron (Fe)	
Manganese (Mn) .....	0.20%
0.08% Water Soluble Manganese (Mn)	
Zinc (Zn) .....	0.10%
0.04% Water Soluble Zinc (Zn)	

**Derived from:** soybean meal, urea, ammonium phosphate, sulfate of potash, ferrous sulfate, iron sucrate, manganese sucrate, zinc sucrate, kelp (*Ascophyllum nodosum*).

**Also contains non plant food ingredient:**  
3.20% humic acid derived from leonardite

# Endurance™

## 8-4-16



### Qualities

- Formulated to revitalize and strengthen turf, as well as improve color. It conditions and improves depleted soils while protecting ground water from nutrient leaching and high heavy metal concentrations.
- 8-4-16 Endurance™ is the ideal fertilizer for promoting wear tolerance and stress resistance. Apply early or late fall to maximize overwinter survivability.
- 100% of the potassium source is Sulfate of Potash, derived from solar evaporation ponds. It has the lowest salt index of any raw potassium source.
- Offers sustained, even feeding and color for up to 8-10 weeks, with less frequent mowing.
- Nutrient release and subsequent plant uptake determined by microbial activity and will vary based on soil moisture, temperature, pH, and turfgrass species.

### Suggested Application Rates

#### Fairways:

6-12 lbs. / 1000 ft<sup>2</sup> (29-58 g/m<sup>2</sup>)  
261-522 lbs. / Acre (390-585 kg/Ha)

#### Greens:

3-6 lbs. / 1000 ft<sup>2</sup> (15-29 g/m<sup>2</sup>)  
131-261 lbs. / Acre (150-290 kg/Ha)

### GUARANTEED ANALYSIS

Total Nitrogen (N)	8.0%
2.00% ammoniacal nitrogen	
4.50% water soluble nitrogen	
1.50% water insoluble nitrogen	
Available Phosphate (P <sub>2</sub> O <sub>5</sub> )	4.0%
Soluble Potash (K <sub>2</sub> O)	16.0%
Calcium (Ca)	8.0%
Total Sulfur (S)	6.0%
6.0% Combined Sulfur (S)	
Iron (Fe)	3.0%
1.50% Water Soluble Iron (Fe)	
Manganese (Mn)	0.20%
0.08% Water Soluble Manganese (Mn)	
Zinc (Zn)	0.10%
0.04% Water Soluble Zinc (Zn)	

**Derived from:** soybean meal, urea, ammonium phosphate, sulfate of potash, ferrous sulfate, iron sucate, manganese sucate, zinc sucate, kelp (*Ascophyllum nodosum*).

**Also contains non plant food ingredient:**  
3.20% humic acid derived from leonardite



# All Natural Organic™

## 10-2-4



### Qualities

- Exceptional nutrient availability in an All Natural Organic. It has a great 5-1-2 ratio, is completely ground water safe, and contains no unpleasant odors.
- Excellent spreading and dissolving characteristics. This product is dust-free and designed to penetrate the dense turfgrass canopies. GreenSpec™ Protein Technology assures optimum nutrient release, to facilitate faster visual results from an all natural organic fertilizer.
- Offers sustained, even feeding (up to 10-12 weeks) for controlled growth with less frequent mowing and fewer grass clippings.
- Nutrient release and subsequent plant uptake determined by microbial activity and will vary based on soil moisture, temperature, pH, and turfgrass species.

### Suggested Application Rates

#### Fairways:

10 lbs. / 1000 ft<sup>2</sup> (50 g/m<sup>2</sup>)  
435 lbs. / Acre (490 kg/Ha)

#### Greens:

5-10 lbs. / 1000 ft<sup>2</sup> (25-50 g/m<sup>2</sup>)  
218-435 lbs. / Acre (245-490 kg/Ha)

### GUARANTEED ANALYSIS

Total Nitrogen (N) .....	10%
1.10% water soluble organic nitrogen	
8.90% water insoluble organic nitrogen	
Available Phosphate (P <sub>2</sub> O <sub>5</sub> ) .....	2.0%
Soluble Potash (K <sub>2</sub> O) .....	4.0%
Calcium (Ca) .....	1.5%
Sulfur (S) .....	1.0%
1.0% Combined Sulfur (S)	

**Derived from:** soybean meal, soy protein, sulfate of potash, kelp (*Ascophyllum nodosum*).

**Also contains non plant food ingredient:**  
3.20% humic acid derived from leonardite

## SOIL AMENDMENTS GENERAL INFORMATION

### Importance of Calcium as a Plant Nutrient

Calcium (Ca) is an essential secondary macro nutrient. Uptake by plant roots occurs as a divalent cation ( $\text{Ca}^{2+}$ ) and is considered largely a passive process. Functions of Ca include increasing cell wall strength, improving cell membrane and osmotic functioning, affecting root extension, and as an important signal messenger after injury, pathogen infection, or to light and temperature. Ca applied to soils will provide available  $\text{Ca}^{2+}$ , alkalinity as lime ( $\text{CaCO}_3$ ) (CK Balance<sup>®</sup>), or exchange with soil adsorbed sodium (Na) as gypsum ( $\text{CaSO}_4$ ) (SK Balance<sup>®</sup>), thus increasing sodium ( $\text{NaSO}_4$ ) leaching after irrigation or rainfall. Once taken up by plants,  $\text{Ca}^{2+}$  is relatively immobile. Consequently, a combined soil and foliar targeted nutrient management strategy will provide the most effective supply of Ca to turfgrasses, particularly on high sand content rootzones.

### The Use of Zeolite as an Amendment

Grigg Brothers' zeolite based soil amendments include ZeoPro<sup>®</sup> and Z-Mendit<sup>®</sup>. The natural form of zeolite is clinoptilolite, a microporous tetrahedral arrangement of silica and alumina. Zeopro is zeolite combined with synthetic apatite and essential plant nutrients. The resulting formulation has an ideal chemical structure suited to increase soil cation exchange capacity (CEC) and the pool of nutrients available for plant growth and development. Both Zeopro and Z-Mendit are generally applied pre-plant, topically, or injected into high sand content root zones or unproductive soils with little organic material. When applied to turfgrasses, the scientific benefits of these products include accelerated establishment, limited nutrient leaching, lower fertilizer requirements, improved turf vigor, and increased root development. When incorporated at the recommended rate of 10% by volume, both ZeoPro and Z-mendit provide a greater increase in soil CEC compared to competitive soil amendments.

Green  
Spec<sup>TM</sup>  
Soil Amendments

# C K- Balance™

0-0-24



## Qualities

- C K-Balance™ combines calcium and potassium in a greens grade granule to strengthen and protect turf from environmental stresses and heavy use.
- Can be applied monthly as a management tool to maintain optimum potassium content and consistency in the rhizosphere.
- C K-Balance™ is one-half micronized limestone ground to a tiny particle size that can pass through 200 mesh.
- C K-Balance™ is one-half sulfate of potash in its purest, natural form. It is harvested from solar evaporation ponds.
- Nutrient release and subsequent plant uptake determined by microbial activity and will vary based on soil moisture, temperature, pH, and turfgrass species.

## Suggested Application Rates

### Fairways:

3-4 lbs. / 1000 ft<sup>2</sup> (15-39 g/m<sup>2</sup>)  
134-348 lbs. / Acre (150-390 kg/Ha)

### Greens:

3-4 lbs. / 1000 ft<sup>2</sup> (15-39 g/m<sup>2</sup>)  
134-348 lbs. / Acre (150-390 kg/Ha)

## GUARANTEED ANALYSIS

Soluble Potash (K<sub>2</sub>O) ..... 24.0%  
Calcium (Ca) ..... 18.0%  
Sulfur (S) ..... 8.0%  
8% Combined Sulfur

**Derived from:** sulfate of potash, calcium carbonate (CaCO<sub>3</sub>) Calcium Carbonate Equivalent (CCE) = 48%



# S K- Balance™

0-0-24



## Qualities

- S K-Balance™ combines calcium and potassium in a greens grade granule to strengthen and protect turf from environmental stresses and heavy use.
- Calcium is derived from gypsum ( $\text{CaSO}_4$ ). First choice in calcium amendment options when soil pH is greater than 7.0, or excess carbonate is present.
- Can be applied monthly as management tool to maintain optimum potassium and calcium content and consistency in the profile.
- S K-Balance™ is one-half micronized gypsum ground to a tiny particle size that can pass through 200 mesh.
- S K-Balance™ is one-half sulfate of potash in its purest, natural form. It is harvested from solar evaporation ponds.
- Nutrient release and subsequent plant uptake determined by microbial activity and will vary based on soil moisture, temperature, pH, and turfgrass species.

## Suggested Application Rates

### Fairways:

3-4 lbs. / 1000 ft<sup>2</sup> (15-39 g/m<sup>2</sup>)  
134-348 lbs. / Acre (150-390 kg/Ha)

### Greens:

3-4 lbs. / 1000 ft<sup>2</sup> (15-39 g/m<sup>2</sup>)  
134-348 lbs. / Acre (150-390 kg/Ha)

## GUARANTEED ANALYSIS

Soluble Potash ( $\text{K}_2\text{O}$ ) .....	24.0%
Calcium (Ca) .....	11.0%
Total Sulfur (S) .....	16.0%
16% Combined Sulfur (S)	

**Derived from:** sulfate of potash, gypsum

# Z-mendit™

**Z-mendit™ is a soil amendment that, when added to a root zone improves plant performance. It is a clinoptilolite and when added to other growth media enhances its performance.**

## Qualities

- Use for sports turf, golf greens & tees, in greenhouse-nursery mixes, in garden soils, planting beds and containers, for landscaping, roof gardens, transplants, and horticultural crops.
- Particularly suitable for sandy and coarse textured soils.
- Is a zeolite (clinoptilolite), a natural occurring mineral with microscopic pores. Researchers have reported benefits in water use efficiency, environmental leachate reductions and plant fertility.
- Has a bulk density of 60 lb/cu ft and carries a very high CEC (165 meq/100 grams) so only 8% to 10% in the root zone will increase your nutrient reservoir substantially to better facilitate nutrient availability and plant utilization in the root zone.
- Allows you to load the nutrients in balance where you need them... in the root zone. This by extension will assist efforts in offsetting the detriment constantly imposed by deteriorating water quality and the use of re-claimed effluent.
- Naturally light green in color and is ideal for top-dressing after aeration or for use with a \*DryJect® machine. This will further compliment and enhance your cultural practices by improving air and water movement, and help to prevent surface organic layers from sealing and restricting these vital functions as well as allowing for optimum gas exchange.



## Suggested Application Rates

### Turf Top Dressing:

Apply Z-mendit™ to existing turf. Best results will be obtained if Z-mendit™ is worked into the root zone via aeration, drill and fill, \*Dry-jecting® or other method. Normal application is 275 to 500 lbs per 1000 Ft<sup>2</sup> (120-245 kg/100 M<sup>2</sup>) with aeration or other procedure to enhance placement into the root zone.

### Turf - New Construction:

Z-mendit™ will enhance establishment of seed, sprigs or sod. Apply at least 5% by volume to top 6" (15 cm). Recommended rate is 10% - 15% by volume. Blend with sand prior to placement or lay out a grid of known size and apply the appropriate amount to each grid. Blend with rake or rototiller then proceed with seeding, sprigging or sodding.

### Divot Mix:

Mix Z-mendit™ with divot mix for a 50% ZeoPro™ 50% sand ratio to enhance germination and moisture and nutrient retention capabilities.

## GUARANTEED ANALYSIS

### Soil Amending Ingredients

Zeolite (Clinoptilolite) Ore ..... 100%

\*DryJect is a registered trademark of DryJect, LLC

# ZeoPro™

**ZeoPro™ is a soil amendment that, when added to a root zone improves plant performance. It is a zeoponic material developed by NASA as a growth media already charged with essential nutrients for long term space travel. It can be added to any growth medium to amend the root zone and improve its performance as a growth medium.**



## Qualities

- Is a zeolite (clinoptilolite), a natural occurring mineral with microscopic pores, impregnated with a nutrient package developed cooperatively with NASA. Researchers have reported benefits in water use efficiency, environmental leachate reductions and plant fertility.
- Has a bulk density of 50 lb/cu ft and a high CEC (100 meq/100 grams) with only 10% to 15% by volume needed in the root zone mix to increase your nutrient reservoir substantially and better facilitate plant utilization in the root zone.
- Stimulates the quick establishment of greens
- Is off-white in color and is already charged with a synthetic apatite of essential nutrients making this an ideal product for grow-in and turf establishment. Numerous conclusive studies have been published over the years that validate this claim.

## Suggested Application Rates

Apply ZeoPro™ to any root zone or growth medium. Generally apply 10% by volume to the top 4"-6" (10-15 cm) of the root zone. Mix the ZeoPro™ into the other material to create as much blending as practicable. When applying to existing turf as a topdressing best results will be obtained if the material is worked into the root zone via aeration, drill and fill, \*DryJect® or other method.

## GUARANTEED ANALYSIS

### Soil Amending Ingredients

Zeolite (Clinoptilolite) Ore .....	90%
Total Other Ingredients.....	10%

\*DryJect is a registered trademark of DryJect, LLC



## Real improvements in soil structure

All homogeneous granules are designed to penetrate tight, dense grasses and dissolve before mower pickup.

Always water in thoroughly after application to help speed up breakdown.

Individual product sheets for spreader setting guidelines and MSDS information available at: [www.griggbros.com](http://www.griggbros.com)

GreenSpec Proprietary Protein Technology	Suggested Application Rates	
	Fairways	Greens
<b>7-7-7 Seven Iron™</b> <ul style="list-style-type: none"> <li>• Extreme, dark green promoting formula</li> <li>• All 7's – for mineral depleted soils 7% N, 7% P, 7% K, 7% Ca, 7% S, 7% Fe</li> <li>• Gentle enough for warm weather</li> </ul>	7-10 lbs. / 1000 ft <sup>2</sup> (34-49 g/m <sup>2</sup> ) 305-435 lbs. / Acre (340-490 kg/Ha)	4-8 lbs. / 1000 ft <sup>2</sup> (20-39 g/m <sup>2</sup> ) 174-348 lbs. / Acre (195-390 kg/Ha)
<b>7-0-14 ZeroPhos™</b> <ul style="list-style-type: none"> <li>• No phosphorus(P) for use on environmentally restricted areas</li> </ul>	7-10 lbs. / 1000 ft <sup>2</sup> (34-49 g/m <sup>2</sup> ) 305-435 lbs. / Acre (340-490 kg/Ha)	4-8 lbs. / 1000 ft <sup>2</sup> (20-39 g/m <sup>2</sup> ) 174-348 lbs. / Acre (195-390 kg/Ha)
<b>16-4-8 Turf Rally™</b> <ul style="list-style-type: none"> <li>• Controlled and lasting color improvement for fairways, tee and greens</li> <li>• Promotes growth without excessive clippings</li> <li>• Conditions and improves nutrient depleted soils</li> </ul>	4-6.25 lbs. / 1000 ft <sup>2</sup> (20-30 g/m <sup>2</sup> ) 174-272 lbs. / Acre (195-305 kg/Ha)	3.13 lbs. / 1000 ft <sup>2</sup> (15 g/m <sup>2</sup> ) 136 lbs. / Acre (150 kg/Ha)
<b>8-4-16 Endurance™</b> <ul style="list-style-type: none"> <li>• Long lasting color improvement for fairways, tees and greens</li> <li>• Revitalize and strengthen turf</li> <li>• GreenSpec premier winterizer</li> </ul>	6-12 lbs. / 1000 ft <sup>2</sup> (29-58 g/m <sup>2</sup> ) 261-522 lbs. / Acre (390-585 kg/Ha)	6-12 lbs. / 1000 ft <sup>2</sup> (15-29 g/m <sup>2</sup> ) 131-291 lbs. / Acre (150-290 kg/Ha)
<b>10-2-4 All Natural Organic</b> <ul style="list-style-type: none"> <li>• Exceptional solubility in an All Natural Organic</li> <li>• Faster visual response</li> <li>• Conditions and improves nutrient depleted soils</li> </ul>	10 lbs. / 1000 ft <sup>2</sup> (50 g/m <sup>2</sup> ) 435 lbs. / Acre (490 kg/Ha)	5-10 lbs. / 1000 ft <sup>2</sup> (25-50 g/m <sup>2</sup> ) 218-435 lbs. / Acre (245-490 kg/Ha)
<b>C K-Balance™</b> <ul style="list-style-type: none"> <li>• Strengthen and protect turf from environmental stresses and heavy use</li> <li>• Delivers Potassium(K) and Calcium(Ca)</li> <li>• Deposit small micronized calcium particles and pure, natural potash close to the feeder roots</li> </ul>	3-4 lbs. / 1000 ft <sup>2</sup> (15-39 g/m <sup>2</sup> ) 134-348 lbs. / Acre (150-390 kg/Ha)	3-4 lbs. / 1000 ft <sup>2</sup> (15-39 g/m <sup>2</sup> ) 134-348 lbs. / Acre (150-390 kg/Ha)
<b>S K-Balance™</b> <ul style="list-style-type: none"> <li>• For use on sodic and saline soils and high pH environments</li> <li>• Calcium(Ca2+) derived from gypsum</li> <li>• Deposit small micronized calcium particles and pure, natural potash close to the feeder roots</li> </ul>	3-4 lbs. / 1000 ft <sup>2</sup> (15-39 g/m <sup>2</sup> ) 134-348 lbs. / Acre (150-390 kg/Ha)	3-4 lbs. / 1000 ft <sup>2</sup> (15-39 g/m <sup>2</sup> ) 134-348 lbs. / Acre (150-390 kg/Ha)
<b>Z-mendit™</b> <ul style="list-style-type: none"> <li>• A zeolite (clinoptilolite), a natural occurring mineral with microscopic pores</li> <li>• Increases your nutrient reservoir substantially to better facilitate nutrient availability and plant utilization in the root zone</li> <li>• Allows you to load the nutrients in balance where you need them</li> </ul>	See Page 40	See Page 40
<b>ZeoPro™</b> <ul style="list-style-type: none"> <li>• Accommodates the quick establishment of greens</li> <li>• Already charged with a synthetic apatite so essential nutrients are in place making this an ideal product for grow-in and turf establishment</li> <li>• Has outperformed calcined clay materials in research trials maintaining a higher establishment and quality rating throughout the establishment and grow-in period</li> </ul>	See Page 41	See Page 41

## Fundamental Instructions For Applications & Programs

### VERY IMPORTANT

Products are designed to be foliar absorbed. For maximum performance apply early in the morning or late in the evening with 1-2 gallons of water per 1,000 ft<sup>2</sup> (300-600 L / Ha). Allow the application to dry on plant 3-6 hours before watering.



### SURFACTANT

Grigg Brothers' Ultraplex® contains the non-ionic organic surfactant Intake™. No additional surfactant is necessary. Ultraplex is also an effective water buffering agent designed to resist large changes in spray tank pH. It is a critical foundation product and should be the first thing added to the water of your spray tank mix. The recommended rate for Ultraplex is 3 fl oz per 1000 ft<sup>2</sup> (10 L / Ha). Ultraplex may be used with other manufacturers' products to increase their overall compatibility and spray efficiency.

### COMPATIBILITY

Proven Foliar™ products are compatible with each other and most fungicides, herbicides, and pesticides when tank mixed at recommended rates. A jar test is always recommended as a part of standard operating procedure. The high degree of compatibility of the Proven Foliar line includes the ability to be mixed with other foliar applied fungicides, insecticides and herbicides that do not need to be watered in. When mixing with herbicides consider using the lowest label rate as Grigg Brothers® products may enhance the uptake of the herbicide.

### INTERVALS

Unless otherwise stated, programs should typically be applied every 7-14 days. There is flexibility to accommodate differing management styles and between 1 to 3 weeks is acceptable if rates are adjusted accordingly.

### RATES

Unless otherwise stated, the rates expressed in our suggested programs are expressed as Fluid Ounces Per 1,000 square feet with Litres Per Hectare equivalents. To convert 14 day programs to 7 day programs lower rates by one third (1/3).

### MINORS

Grigg Brothers® chelated straight nutrients or any other Proven Foliar™ can be added to any program as indicated by soil and tissue test results. Typical rates for adding individual micro-nutrients range between 1-3 fl.oz per 1,000 ft<sup>2</sup> (3-10 L / Ha). For severe deficiencies, as much as 6 fl.oz per 1,000 ft<sup>2</sup> (20 L / Ha).

### SOILS BIO-AMENDMENT PROGRAM

For sand based greens, use 1 Gallon per acre (10 L / Ha) of Bio Blend™ and 4 Gallons per acre (40 L / Ha) of Carboplex™ applied monthly and lightly watered in. For soil based greens use ½ Gallon per acre (5 L / Ha) of Bio Blend™ and 2½ Gallons per acre (25 L / Ha) of Carboplex™.

### PROGRAM BALANCE

Our Proven Foliar products are an effective method of providing nutrients to the plant. However, we recommend you use our GreenSpec™ granular fertilizer in the spring and again in the fall as determined by soil testing to complete a total program.

No other brand of products has been proven to enhance the performance of any Grigg Brothers® products.

### EXPERTISE

If you want to create site-specific programs that are tailored to the individual needs and unique factor of a site, contact your distributor or Grigg Brothers technical representative today!

### RESEARCH

Grigg Brothers is committed to participating in ongoing independent university research trials. Our agronomists adjust recommended rates and other application guidelines in accordance with the most recent research findings. Visit our website to find the latest program recommendations. [www.griggbros.com](http://www.griggbros.com)





## Proven Foliar™ Tournament Program

### Shorter Grass, Shorter Roots

To produce faster greens during tournament preparation, turf is continually cut to lower heights. It is challenging to maintain tournament conditions, whether for a special event or year around. Superintendents must promote density and quality while producing fast greens.

As industry standard mowing heights are lowered, root growth decreases. Current tournament mowing heights are typically below 1/8 inch (3-4 mm) on both cool and warm season turf. Often during a special event greens are double cut in the morning and cut again in the afternoon or evening.



During photosynthesis, chloroplasts and chlorophyll use sunlight, carbon dioxide and water to yield carbohydrates, oxygen and water. These carbohydrates are utilized by the plant to sustain growth and life functions as well as stored in the roots for reserve.

Roots are not photosynthetic and are 100% dependent on the photosynthetic energy captured in the leaves and shoots. The amount of energy captured depends on:

- The duration of light
- The extent of stress
- The amount of leaf surface

In order to satisfy the wants of golfers for green speed during tournament play or any other time, superintendents simply cut their greens so low and so often that there is very limited leaf surface to photosynthesize.

### Maintaining Nutrient Level & Health

In an ordinary situation a turf plant will store half of all the carbohydrates produced in the root and utilize half for sustaining life functions. Around half of that carbohydrate reserve in the root is then excreted back into the rhizosphere as a microbial food substance called exudates. These exudates are a combination of protein, carbohydrates and sugars; and these exudates sustain the life of the complex micro-community. The microbes in turn make nutrients in the soil available to the plant. This is the way Mother Nature intended to provide for the plant's needs. Today's putting green mowed at 1/8 inch (3 mm) or less, regardless of season, simply cannot photosynthesize enough to ensure adequate carbohydrate reserves and storage. The turf is trying to survive and needs to utilize all the carbohydrates available to do it. Therefore the plant does a poor job of storing any carbohydrate reserve in the root.

While the genetics of both the bentgrass and bermudagrass species vary, there are fertility practices that the golf course superintendents can adopt to help turf survive and thrive even when it is being mowed so low. The management practices during this period of time will in large part determine the health of turfgrass. **One important practice is maintaining the nutrient level of the plant tissue.**

In addition to C, H & O<sub>2</sub>, which are provided by water and carbon dioxide, there are 13 essential nutrients required by all higher plants. Plant health, growth, and development are dependent on all of these elements being present at optimum concentrations. Many scientists believe that these 13 elements are critical to plant growth and survival during periods of stress.





## Nutrients Available Immediately

Because Grigg Brothers® Proven Foliar™ fertilization penetrates the waxy cuticle of the leaf and is efficiently absorbed and translocated, its utilization level is very high. Even in the best conditions (including foliar applied but root uptake products), common soil nutrient utilization is very low. Roots only come in contact with a small percentage of the soil. When soil temperatures are too high or too low, or soil pH is higher or lower than the optimum range, the plant is less able to take nutrients up through the roots even if available. N, Mg, S, Fe, Mn & Zn are critical nutrients needed for chlorophyll production and thus carbohydrate production. Calcium may also be in short supply as new root growth is restricted, even in a highly calcareous soil or when calcium is being supplied as a granular.

**Grigg Brothers® Proven Foliar™ chelating technology and superior nutrient formulations bypasses typical problems of traditional nutrient applications since our applied nutrients are immediately available to the plant!**



**To initiate your tournament program, spray the following recommend products and rates every 7 days:**

**Gary's Green** ... 6 fl.oz. / 1,000 ft<sup>2</sup> (20 L / Ha)  
**Ultraplex** ..... 3 fl.oz. / 1,000 ft<sup>2</sup> (10 L / Ha)  
**Sili-Kal B**..... 3 fl.oz. / 1,000 ft<sup>2</sup> (10 L / Ha)

Plus, every other spray:

**P-K Plus®** ..... 6 fl.oz. / 1,000 ft<sup>2</sup> (20 L / Ha)

## Nutrient Analysis

Based on the suggested rates, this simple and easy to use tournament mix supplies all nutrients needed for plant growth including those critical for photosynthesis. It also supplies a spreading agent for better leaf contact, a water buffer agent to bring the pH of the mix to the correct level for plant uptake, and contains biostimulants, sugars, phosphites and amino acids.

### Gary's Green® 18-3-4

Lbs of Nutrient per 1,000 ft<sup>2</sup> @ 6 fl.oz.

N	P	K	Mg	Fe	Mn	Zn	Cu
0.0908	0.0151	0.0202	0.0025	0.005	0.0005	0.0005	0.0006

kg of Nutrient per Ha @ 20 L/Ha

N	P	K	Mg	Fe	Mn	Zn	Cu
4.644	0.774	1.032	0.129	0.258	0.0258	0.0258	0.031

### Ultraplex® 4-0-3

Lbs of Nutrient per 1,000 ft<sup>2</sup> @ 3 fl.oz.

N	K	Mg	Fe	Mn	Zn	Cu	B
0.0100	0.0075	0.0013	0.0050	0.001	0.001	0.0001	0.0001

kg of Nutrient per Ha @ 10 L/Ha

N	K	Mg	Fe	Mn	Zn	Cu	B
0.512	0.384	0.064	0.256	0.0512	0.0512	0.0064	0.0064

### Sili-Kal B™ 8-0-4

Lbs of Nutrient per 1,000 ft<sup>2</sup> @ 3 fl.oz.

N	K	Ca	B	Si
0.023	0.0115	0.0288	0.0001	0.00003

kg of Nutrient per Ha @ 10 L/Ha

N	K	Ca	B	Si
1.176	.0588	1.47	0.0073	0.00147

### P-K Plus® 3-7-18 + Phosphite 14%

Lbs of Nutrient per 1,000 ft<sup>2</sup> @ 6 fl.oz.

N	P	K	B	Mo	Co	PHOSPHITE HPO <sub>3</sub>
0.0161	0.0375	0.0965	0.0001	0.00001	0.0001	0.075

kg of Nutrient per Ha @ 20 L/Ha

N	P	K	B	Mo	Co	PHOSPHITE HPO <sub>3</sub>
0.822	1.918	4.932	0.0055	0.00027	0.00274	3.836

Grigg Brothers® chelated straight nutrients or any other Proven Foliar™ product can be added to this program as indicated by soil and tissue test results. We also recommend the addition of Grigg Brothers® GreenSpec™ fertilizer in the spring and again in the fall as determined by soil testing to complete a total program.

## Regional Programs

### Recommendations from the field

In addition to the tournament program recommendations, our technical team have used a variety of regional programs with great success. Used by turfgrass managers across the world, the following regional sample programs have shown good results in previous years and should be considered while building your own programs.

Any program can be adjusted to your specific needs, and your micro climate.

Include Markit™ spray pattern indicator to each tank load at 16-32 oz per 100 gallons of mix (125-250 ml / 100 Litres)

All foliar rates below are expressed as Fluid Ounces Per 1,000 ft<sup>2</sup> with Liters per Hectare (L / Ha) equivalents unless otherwise noted.

All GreenSpec granular rates are expressed in lbs per 1,000 ft<sup>2</sup> with grams per meter squared.

 = Proven Foliar™ Liquids

 = GreenSpec™ Granular

### TRANSITIONAL ZONE - Bentgrass

Coming out of winter

Mar - Apr every 7-10 days:

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Nutra Green	3	10
Sili-Kal B	3	10
Ultrplex	3	10

One week PRIOR to aeration

Apr - May:

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Gary's Green	9	30
OR		
Ultrplex	3	10
Sili-Kal B	6	20

AT aeration Apr - May:

GreenSpec™	Lbs. / 1,000 ft <sup>2</sup>	g / m <sup>2</sup>
7-7-7 Seven Iron	10	40

One week AFTER aeration Apr - May:

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Gary's Green Ultra	9	30

Late Spring / Summer

Jun-Oct every 10 days:

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Gary's Green	6	20
P-K Plus	3	10
Tuff Turf	3	10
Manganese Combo	2	6
Kelplex	1	3

Fall / Oct-Nov:

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Tuff Turf or A-O-K	3	10
AND		
Nutra Green	3	10
Ultrplex	3	10
Sili-Kal B	3	10

Fall

GreenSpec™	Lbs. / 1,000 ft <sup>2</sup>	g / m <sup>2</sup>
7-7-7 Seven Iron	10	40

Late Fall / Winter

Dec - Feb (weather permitting)

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Tuff Turf	3	10
Ultrplex	3	10

## NEW ENGLAND Newer Generation Creeping Bentgrass Swards

Spring Green Up / Root Generation  
(after 2nd mowing):

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Nutra Green	6	20
Gary's Green Ultra	6	20

If using in combination with \*Trimmit® add:

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Microburst	2	6

### 5 Days prior to aeration:

GreenSpec™	Lbs. / 1,000 ft <sup>2</sup>	g / m <sup>2</sup>
7-7-7 Seven Iron	10	40

### Mid-Spring and into Summer:

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Nutra Green	6	20

(P for energy transfer)

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
P-K Plus	6	20
Sili-Kal B	4	15
Gary's Green Ultra	12	40

### Early Fall:

GreenSpec™	Lbs. / 1,000 ft <sup>2</sup>	g / m <sup>2</sup>
16-4-8 Turf Rally	6.25	25

(1 Lb. N)

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Tuff Turf	6	20
Nutra Green	6	20
Gary's Green Ultra	9	30

### Late Fall Until Just Prior to Dormancy

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Tuff Turf	6	20
Gary's Green Ultra	6	20

\* Trimmit® is a registered trademark of the Syngenta® Corporation

## NEW ENGLAND Annual Bluegrass & Creeping Bentgrass Swards

Spring Green Up / Root Generation  
(after 2nd mowing):

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Nutra Green	6	20
Gary's Green Ultra	9	30

If using in combination with PGR's for seed head suppression or Primo add:

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Microburst	1	3

### 5 Days prior to aeration:

GreenSpec™	Lbs. / 1,000 ft <sup>2</sup>	g / m <sup>2</sup>
7-7-7 Seven Iron	10	40

### Mid-Spring and into Summer:

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Tuff Turf	4	15
P-K Plus	6	20
Gary's Green Ultra	12	40

### Early Fall:

GreenSpec™	Lbs. / 1,000 ft <sup>2</sup>	g / m <sup>2</sup>
8-4-16 Endurance	10	40

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Tuff Turf	6	20
Nutra Green	6	20
Gary's Green Ultra	9	30

### Late Fall Until Just Prior to Dormancy

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Tuff Turf	6	20
Gary's Green Ultra	6	20





**DESERT OVERSEEDING**

**At Planting and/or after the 2nd or 3rd mowing of the seedling turf:**

GreenSpec™	Lbs. / 1,000 ft <sup>2</sup>	g / m <sup>2</sup>
7-7-7 Seven Iron	10	40

**1-2 Weeks Later:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
P-K Plus	6	20
Nutra Green	6	20

**1 to 2 Months Later, Every 7-10 Days**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
P-K Plus	6	20
Gary's Green Ultra	6-9	20-30

*Rate should start at 6 fl oz (20 L / Ha) and increase as the turf matures.*

**LOW / HIGH DESERT BENTGRASS****Early Spring:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Gary's Green Ultra	6	20
Nutra Green	4	15
Sili-Kal B	4	15
Tuff Turf	4	15

**Late Spring:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Gary's Green Ultra	6	20
P-K Plus	6	20
Kelplex	1	3

**Summer:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Gary's Green Ultra	6	20
P-K Plus	6	20
Kelplex	1	3
Tuff Turf	3	10

**Fall:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Gary's Green Ultra	6	20
P-K Plus	6	20
Tuff Turf	4	15
Manganese Combo	2	6

**Winter:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Gary's Green Ultra	6	20
Manganese Combo	2	6
Nutra Green	4	15
Sili-Kal B	4	15

**MID-ATLANTIC REGION****Foliar & Granular Programs**

**3-5 days prior to aeration and the week of aeration:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Nutra Green	6	20
Gary's Green Ultra	12	40

**One day after aeration and topdressing:**

GreenSpec™	Lbs. / 1,000 ft <sup>2</sup>	g / m <sup>2</sup>
7-7-7 Seven Iron	10	40

**Late Spring / Early Fall  
Every 7-10 days:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Gary's Green Ultra	6	20
Nutra Green	3	10
Sili-Kal B	3	10

**Summer**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Gary's Green Ultra	6	20
Tuff Turf or A-O-K	3	10
P-K Plus	6	20
Manganese Combo	3	10

**Applied in the "off" weeks:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Carboplex	6	20
Kelplex	1	3

**Late Fall / Winter  
Mid-October to Mid-November  
Every 7-10 days:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Gary's Green Ultra	6	20
Tuff Turf	6	20
Carboplex	6	20



**GREAT LAKES REGION****Spring Aeration****5-7 days prior to aeration:**

GreenSpec™	Lbs. / 1,000 ft <sup>2</sup>	g / m <sup>2</sup>
7-7-7 Seven Iron	10	40

**Spring Mar - Apr****Every 7-10 days:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Nutra Green	6	20
Ultraplex	6	20

**Late Spring Apr - May****Every 7-10 days:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Gary's Green Ultra	6-9	20-30
P-K Plus	6	20

**Summer June - Aug****Every 7-10 days:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Gary's Green Ultra	6-9	20-30
P-K Plus	6	20
Kelplex	1.5	5

**Fall Sept - Nov****Every 7-10 days:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Ultraplex	3	10
P-K Plus or Tuff Turf	6	20
Carboplex	6	20

**Fall Aeration****5-7 days prior to aeration:**

GreenSpec™	Lbs. / 1,000 ft <sup>2</sup>	g / m <sup>2</sup>
7-7-7 Seven Iron	10	40

**SOUTHERN BERMUDA**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Gary's Green	2-6	10-20
Ultraplex	3	10
Manganese Combo	2	6

**Plus, every other spray:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
P-K Plus	6	20

**LOW DESERT BERMUDA****Early Spring:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Ultraplex	3	10
Nutra Green	3	10
Microburst	2	6
Sili-Kal B	3	10

**Late Spring Transition:**

GreenSpec™	Lbs. / 1,000 ft <sup>2</sup>	g / m <sup>2</sup>
7-7-7 Seven Iron	7	30

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Gary's Green Ultra	9	30
Tuff Turf	3	10

**Summer:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Gary's Green Ultra	9	30

**Late Summer / Early Fall:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
A-O-K	6	20
Sili-Kal B	3	10

**Low Desert Overseeding:**

GreenSpec™	Lbs. / 1,000 ft <sup>2</sup>	g / m <sup>2</sup>
7-7-7 Seven Iron	8-12	30-50

**1-2 weeks following granular application, apply on 14 day rotation:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Gary's Green Ultra	3-9	10-30

*(Rate should start at 3 fl. oz. and increase as turf matures)*

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
P-K Plus	6	20
Nutra Green	6	20

**Winter:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Ultraplex	3	10
Nutra Green	3	10
Microburst	2	6

## SPORTS TURF

### Spring Foliar Starter

Every 7-10 days:

Proven Foliar™	Fl.oz / 1,000 ft²	L / Ha
Nutra Green	4-6	15-20
P-K Plus	6	20
Ultraplex	4-6	15-20

### Cool Season Maintenance

Every 7-10 days:

Proven Foliar™	Fl.oz / 1,000 ft²	L / Ha
Gary's Green Ultra	6-9	20-30
P-K Plus	6	20
Tuff Turf	4-6	15-20
Sili-Kal B	4-6	15-20

### Warm Season Maintenance

Every 7-10 days:

Proven Foliar™	Fl.oz / 1,000 ft²	L / Ha
Suprema	6-12	20-40
Ultraplex	3-6	10-20
P-K Plus	6	20
Tuff Turf	3-6	10-20
Kelplex	1-3	3-10

### Cool and Warm Soil Conditioning

Every 7-10 days:

Proven Foliar™	Fl.oz / 1,000 ft²	L / Ha
Carboplex	12	40
Bio-Blend	3	10

*Lightly water in or apply at 132-176 gal / acre*

## FLOWER FOLIAR FERTILITY

### Annual Flowers - Rotate products

Drench every 7 days with one or the other:

Proven Foliar™	Fl.oz / Gallon	ml / L
Nutra Green	0.5	4
P-K Plus	0.5	4

### Annual Flowers

Drench every 14 days:

Proven Foliar™	Fl.oz / Gallon	ml / L
Nutra Green	0.5	4
P-K Plus	0.5	4

### Annual Flowers

Drench every 14 days:

Proven Foliar™	Fl.oz / Gallon	ml / L
Nutra Green	1	8
P-K Plus	0.5	4

## ROCKY MOUNTAIN REGION

### Spring - Every 7-10 days

2-4 apps depending on turf conditions:

Proven Foliar™	Fl.oz / 1,000 ft²	L / Ha
Gary's Green Ultra	6-12	20-40
Nutra Green	6-12	20-40

### Late Spring - Every 10-14 days

2-3 apps:

Proven Foliar™	Fl.oz / 1,000 ft²	L / Ha
Gary's Green Ultra	9	30
Nutra Green	6	20
Manganese Combo	2	6

### At Aeration

Every 7-10 days:

GreenSpec™	Lbs. / 1,000 ft²	g / m²
7-7-7 Seven Iron	10	40

(0.7 lb. N)

### Summer

Every 10-14 days:

Proven Foliar™	Fl.oz / 1,000 ft²	L / Ha
Gary's Green Ultra	9	30
P-K Plus	6	20
Sili-Kal B	3	10

### Late June:

GreenSpec™	Lbs. / 1,000 ft²	g / m²
7-7-7 Seven Iron	7-10	30-40

### Fall

Every 14 days:

Proven Foliar™	Fl.oz / 1,000 ft²	L / Ha
Ultraplex	6	20
Tuff Turf	3	10
P-K Plus	3	20
Manganese Combo	2	6

### Late Aug - Sept:

GreenSpec™	Lbs. / 1,000 ft²	g / m²
7-7-7 Seven Iron	15	60





**PACIFIC NORTHWEST /  
UK, IRELAND****Spring - Feb - Apr**  
**Every 10-21 days:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Gary's Green Ultra	9	30
Nutra Green	6	20

**At Aeration:**

GreenSpec™	Lbs. / 1,000 ft <sup>2</sup>	g / m <sup>2</sup>
7-7-7 Seven Iron	10	40

**Summer - May-Sept**  
**Every 10-21 days:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Gary's Green Ultra	9	30
P-K Plus	6	20
Sili-Kal B	3	10
Microburst	1	4

**Late May:**

GreenSpec™	Lbs. / 1,000 ft <sup>2</sup>	g / m <sup>2</sup>
6-5-6 All Natural Organic	12	45

**Late June:**

GreenSpec™	Lbs. / 1,000 ft <sup>2</sup>	g / m <sup>2</sup>
10-2-4 All Natural Organic	7	30

**Fall - Sept-Nov**  
**Every 14-21 days:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Gary's Green Ultra	9	30
P-K Plus	6	20
Tuff Turf	3	10

**At Aeration:**

GreenSpec™	Lbs. / 1,000 ft <sup>2</sup>	g / m <sup>2</sup>
7-7-7 Seven Iron	10-15	40-60

**Winter:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Ultrplex	3	10
NH <sub>4</sub> Plus	6	20

**NO PHOSPHOROUS SOLUTIONS****Spring:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Ultrplex	4	15
Suprema	12	40
A-O-K	6	20
Manganese Combo	2	6

**At Aeration:**

GreenSpec™	Lbs. / 1,000 ft <sup>2</sup>	g / m <sup>2</sup>
7-0-14 ZeroPhos	10	40

*(Or as needed per N requirements)***Summer:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Ultrplex	4	15
Suprema	9	30
Fairphyte	3	10
Sili-Kal B	4	12

**Monthly:**

GreenSpec™	Lbs. / 1,000 ft <sup>2</sup>	g / m <sup>2</sup>
0-0-24 C K-Balance	3	15

**or:**

GreenSpec™	Lbs. / 1,000 ft <sup>2</sup>	g / m <sup>2</sup>
0-0-24 S K-Balance	3	15

**Fall:**

Proven Foliar™	Fl.oz / 1,000 ft <sup>2</sup>	L / Ha
Ultrplex	4	15
Suprema	12	40
Tuff Turf	6	20

**At Aeration:**

GreenSpec™	Lbs. / 1,000 ft <sup>2</sup>	g / m <sup>2</sup>
7-0-14 ZeroPhos	10	40

*(Or as needed per N requirements)*

## Research Driven, Proven Results™

Grigg Brothers is proud to be a leader in our industry. As such, we are committed to the pursuit of excellence and we strongly believe that this involves a continual effort to test and refine our products. We actively approach research opportunities and participate in a variety of projects that will shed light on the science behind the products and their application.

We are less interested in comparing ourselves against our competition than we are in setting the highest standards of quality and producing products that excel.

We are convinced that we have some of the best products in the marketplace and will continue to involve them in independent research.

You may search the database of research by Institution, or simply use the Search Form to type in keywords like product name, turfgrass type, disease, etc.

If you have any questions or are interested in using our products in your research or studies, contact Grigg Brothers.

**Visit us online for fully searchable details of all our research trials**  
**[www.griggbros.com/edu](http://www.griggbros.com/edu)**



## 2013

- Evaluation of Displace to best manage soil sodium and salinity, including the effect on soil electrical conductivity, soil moisture (LDS), and turfgrass quality.  
-Professional Turf Solutions
- Evaluation of Putting Green Fertilizer Programs on Exchangeable Soil Nutrients, Plant Tissue Concentrations, Microbial Populations, Pests, Playability, and Wear.  
-Michigan State University. Year 5 of a 5 Year Study
- Effect of PK Plus and Fungicide to Manage Anthracnose Disease on an Annual Bluegrass (*Poa annua*) Putting Green.  
-Rutgers University
- Impact of Green PIG, PK Plus, Ultraplex and Various Tank Mixes on Near Infrared (NIR) Canopy Reflectance, Visual Health and Oxidative Stress Status of Creeping Bentgrass (*Agrostis stolonifera*).  
-Virginia Tech University. Year 2 of a 2 Year Study.
- Evaluation of PK Plus and Fungicide(s) to manage Microdochium Patch (*Microdochium nivale*) in OR and WA.  
-Oregon State University

## 2012

- Impact of Green PIG, PK Plus, Ultraplex and Various Tank Mixes on Canopy Reflectance and Visual Health of a Creeping Bentgrass (*Agrostis stolonifera*) Putting Green.  
-Turfgrass Disease Solutions
- Impact of Plant Health Promoters, Including Foliar Fertilizer Programs and Fungicides, on Summer Creeping Bentgrass (*Agrostis stolonifera*) Decline and Associated Diseases.  
-Virginia Tech University
- Evaluation of Foliar Fertilizer Programs, Including those that Containing Elicitors, as Part of a Programmatic Approach to Effectively Manage Salt Stress on an Annual Bluegrass (*Poa annua*) Putting green.  
-University of California Riverside
- Evaluation of Foliar and Granular Nitrogen (N) Sources Combined with Phosphite (H<sub>3</sub>PO<sub>3</sub>) and Silicon (Si) as Components of a Programmatic Approach to Managing Champion Bermudagrass (*Cynodon dactylon* × *Cynodon transvaalensis*) Ultradwarf Quality and Playability.  
-Auburn University.
- Evaluation of Foliar Fertilizers and Fungicides to Manage Anthracnose Disease on an Annual Bluegrass (*Poa annua*) Putting Green.  
-University of California Riverside
- Evaluation Turf Colorants, including GreenPIG, on Northern and Southern California Golf Courses.  
-University of California Riverside
- Management of Rapid Blight Disease (*Labyrinthula*) on Putting Greens in Southern California.  
-University of California Riverside
- Evaluation of Putting Green Fertilizer Programs on Exchangeable Soil Nutrients, Plant Tissue Concentrations, Microbial Populations, Pests, Playability, and Wear.  
-Michigan State University.

## 2011

- Effect of potassium phosphite and fungicides to manage anthracnose disease on an annual bluegrass putting green.  
-Rutgers University
- The effect of potassium phosphite and seaplant extract (*Ascophyllum nodosum*) to manage root-knot nematodes on a Tifeagle bermudagrass putting green.  
-University of Florida
- Evaluation of putting green fertilizer programs on exchangeable soil nutrients, plant tissue concentrations, microbial populations, pests, playability, and wear tolerance.  
-Michigan State University. Year 3 of a 5 year study.
- Evaluation of IPM programs to manage summer decline of creeping bentgrass.  
-University of Nebraska
- Effect of potassium phosphite, fertilizers, and fungicides to manage microdochium patch on an annual bluegrass putting green.  
-Oregon State University
- Evaluation of IPM programs to manage summer decline of creeping bentgrass.  
-University of Tennessee
- Evaluation of nitrogen (N) and iron (Fe) for alleviation of summer turfgrass yellowing in New Mexico.  
-New Mexico State University
- Evaluation of IPM programs to manage summer decline on a creeping bentgrass fairway and an annual bluegrass putting green.  
-Michigan State University
- Effect of potassium phosphite and fungicides on incidence and severity of microdochium patch (*Microdochium nivale*)  
-Curragh, Ireland

## 2010

- Evaluation of putting green fertilizer programs on exchangeable soil nutrients, plant tissue concentrations, microbial populations, pests, playability, and wear tolerance  
-Michigan State University. Year 2 of a 5 year study.
- Field evaluation of potassium phosphite and selected foliar fertilizer nitrogen (N) rate applied in combination with chlorothalonil on anthracnose (*Colletotrichum cereale*) incidence and severity  
-Rutgers University
- Season Long Performance of Various Spray Programs on a Putting Green  
-University of Tennessee
- Effect of nitrogen source/rate and phosphite on creeping bentgrass quality and dollar spot incidence  
-Turfgrass Disease Solutions, LLC
- Effect of nitrogen source/rate and phosphite on creeping bentgrass quality and disease incidence  
-New Dimensions Turf, LLC

## 2010

- A comparison of foliar versus granular fertilization on performance of saline irrigated bermudagrass and seashore paspalum under drip and sprinkler irrigation  
-New Mexico State University
- Evaluation of nitrogen and iron for alleviation of summer turfgrass yellowing in New Mexico  
-New Mexico State University
- Evaluation of potassium phosphite for Suppression and Control of the Root Knot Nematode (*Meloidogyne* sp.) on a Creeping Bentgrass Putting Green  
-Mark Mahady and Associates, Inc.
- Effect of potassium phosphite and fungicides on incidence and severity of microdochium patch (*Microdochium nivale*)  
-Oregon State University

## 2009

- Evaluation of putting green fertilizer programs on exchangeable soil nutrients, plant tissue concentrations, microbial populations, pests, playability, and wear tolerance  
-Michigan State University. Year 1 of a 5 year study.
- Field evaluation of potassium phosphite and selected foliar fertilizer nitrogen (N) rate applied in combination with chlorothalonil on anthracnose (*Colletotrichum cereale*) incidence and severity  
-Rutgers University
- Field evaluation of potassium phosphate and foliar fertilizer nitrogen (N) application interval applied in combination with low label rates of chlorothalonil on anthracnose (*Colletotrichum cereale*) incidence and severity  
-University of California Riverside
- Evaluation of soil conditioning products (Carboplex and Bioblend) applied alone or in conjunction with core cultivation and/or surfactant on creeping bentgrass (*Agrostis stolonifera*) growth, quality, soil nutrient solubility, and rooting  
-Turfgrass Disease Solutions, LLC
- Evaluation of soil conditioning products (Carboplex and Bioblend) applied alone or in conjunction with core cultivation and/or surfactant on Tifeagle Bermudagrass (*Cynodon dactylon*) growth, quality, soil nutrient solubility, and rooting  
-University of Florida
- A moderately aggressive approach to reducing annual bluegrass (*Poa annua*) on a mixed *Poa annua*/creeping bentgrass (*Agrostis stolonifera*) putting green.  
-Turfgrass Disease Solutions, LLC Year 2 of a 2 year study
- Evaluation and Comparison of Slow-Release Nitrogen (N) Sources on Warm-Season Turfgrasses, and Characterization of Release Properties of Slow-Release Fertilizer Sources  
-University of Florida
- Season Long Performance of Various Spray Programs on a Putting Green  
-Virginia Tech University



**2008**

- Assessment of buffering capacity of foliar spray solutions  
-University of Nebraska
- Dollar spot control with a fungicide and Ultraplex  
-Turfgrass Disease Solutions, LLC
- Foliar application effects on leaf thickness of ultra desert Bermudagrass and creeping bentgrass  
-University of Nebraska
- Field evaluation of different fertilizer formulations including various combinations, nitrogen source, and rates on recovery of tifeagle bermudagrass from core cultivation  
-University of Florida
- Field evaluation of phosphate based products challenged with pythium blight  
-Virginia Tech University
- Field evaluation of various fertilizer programs including nitrogen (N) rate application interval, and N source on the establishment of 'Patriot' and 'Riviera' bermudagrass  
-Purdue University
- Influence of post-fertilization irrigation regimes on fertilizer pick-up with a walking greens mower and subsequent creeping bentgrass response to GreenSpec granular fertilizer  
-Purdue University
- Poa annua and white clover control, including bentgrass safety with velocity and foliar fertilizers including  
-Turfgrass Disease Solutions, LLC
- Plant growth regulator programs for the conversion of a Poa annua/creeping bentgrass mixed green  
-Turfgrass Disease Solutions, LLC
- Preventative control of anthracnose with selected fungicides and biorational products on annual bluegrass putting green  
-Rutgers University
- Seed-head suppression and pytoxicity with PGR's, foliar fertilizers, and biostimulants on a simulated fairway  
-Penn State University
- Summer patch control with selected fungicides and manganese combo foliar fertilizer  
-Turfgrass Disease Solutions, LLC
- Take-all-patch control with selected fungicides and manganese combo foliar fertilizer (Fall 2008 and Spring 2008)  
-Washington State University

**2007**

- Nutrient intake of foliar fertilizers  
-Universities of Nebraska & Clemson, and University of Florida
- Impact of chemical biological fungicides for the preventative control of anthracnose and annual bluegrass greens  
-Rutgers University
- Effect of phosphate on pythium suppression  
-Virginia Tech University
- Effect of fertilizers, phosphate, and fungicides on creeping bentgrass summer stress syndrome  
-Virginia Tech University

**2007**

- Seedhead suppression of annual bluegrass on a putting green  
-Penn State University
- Algae suppression in tee height creeping bentgrass  
-Turfgrass Disease Solutions, LLC
- The influence of iron-containing foliar fertilizers on the efficacy of bispyribac & their impact on bentgrass discoloration  
-Turfgrass Disease Solutions, LLC
- Tifeagle and over seeding rough bluegrass response to GreenSpec granular fertilizers  
-University of Florida
- Creeping bentgrass response to GreenSpec granular fertilizers  
-Purdue University

**2006**

- Nutrient intake of foliar fertilizers  
-Universities of Nebraska & Clemson, and University of Florida
- Effect of phosphate & phosphate on turfgrass growth development  
-Michigan State University
- Nitrogen source, rate, timing & fungicides on dollar spot incidence  
-Ohio State University
- Physiological effects of phosphate formulations on turfgrass challenged with pythium and heat stress. Year II  
-Virginia Tech University
- Evaluation of controlled release nitrogen fertilizers on Kentucky bluegrass  
-Olds College, Alberta, Canada

**2005**

- Gary's Green project  
-University of Florida
- Grigg Foliar Fertility Study  
-The Ohio State University
- Efficacy of fungicides for control of dollar spot in a mixed creeping bentgrass/Poa annua soil-based green  
-Virginia Tech University
- Field evaluation of phosphate-based products challenged with heat stress and pythium  
-University of Kentucky
- Influence of spray programs with phosphate fungicides on turf quality in a mixed creeping bentgrass/Poa annua soil-based green  
-University of Kentucky
- Physiological effects of phosphate formulations on turfgrass/challenged with pythium and heat stress  
-Virginia Tech University

**PLEASE NOTE THAT RESEARCH PRIOR TO 2005  
CAN BE FOUND AT [WWW.GRIGGBROS.COM/EDU](http://WWW.GRIGGBROS.COM/EDU)**

# GENE W. MILLER, Ph.D.

## EDUCATION BACKGROUND

Visiting Professor, Institute Whole Body Metabolism, Plant Biochemistry, 1988, 1990 Japan  
 Visiting Professor, Plant Biochemistry, 1981 University Melbourne, Australia  
 Exchange Professor, Environmental Science, 1971, Czechoslovakia  
 Postdoctoral, Electron Microscopy, 1967, Institute Pharmacognosy, University of Muenster, Germany  
 Radioisotope Institute, 1962, University Hawaii Honolulu, Hawaii  
 Postdoctoral, Plant Biochemistry, 1962 Muenster University, Muenster, Germany  
 Ph.D., Plant Biochemistry, 1957, North Carolina State University, Raleigh, North Carolina  
 M.S., Soil Chemistry, 1954, Utah State University, Logan, Utah  
 B.S., Soil Chemistry, 1950, Utah State University, Logan, Utah

## EXPERIENCE

Professor Emeritus, Dept. Biology, 1987-Present  
 Profession, Dept. Biology, Associate Dean, College of Science 1985-1987  
 Head, Dept. Biology, Utah State University, 1974-1985  
 Dean, Huxley College of Environmental Sciences Western Washington State University, 1969-1974  
 Director, Pollution Center, Utah State University, Logan, Utah, 1967-68  
 Acting Dean, College of Science, Utah State University, Logan, Utah, June 1967-March 1968  
 Acting Dept. Head, Botany, 1965-66  
 Associate Professor, Utah State University, 1960-66  
 Associate Professor, Utah State University, 1957-61 (Research on plant biochemistry)  
 Teaching – general plant physiology, mineral Nutrition of higher plants, photosynthesis and plant Biochemistry, 1957-91

## SOCIETY MEMBERSHIPS

Sigma Xi; American Society of Plant Physiologists; AIBS, AAAS, Japanese Society of Plant Physiologists; The Biochemical Society; International Society for Fluoride Research; Society of Plant Nutrition

## PROFESSIONAL MEETINGS & LECTURES

Presented lectures and invited to seminars at many major universities in United States, Japan, Canada, Panama, India, Greece, Italy, Germany (West & East), Russia, Denmark, France, Switzerland, England, Portugal, Spain, Sierra Leone, Czechoslovakia, Hungary, Netherlands, Belgium, Sweden and others.

## HONORS & PROFESSIONAL ASSIGNMENTS

Founder BAICOR, 1988-Current  
 Keynote Address, 1991, 1993, International Iron Symposium  
 Keynote Address, 1992, 1994 International Society for Fluoride Research  
 Chairman – Vith International Iron Symposium, 1991, Logan, Utah  
 Permanent Committee, International Association For Optimization of Plant Nutrition, 1982-Current  
 Editorial Board, Fluoride Journal 1982-Current  
 Secretary, International Fluoride Society, 1975-Current  
 Editorial Board, Toxicology Journal, 1989-Current  
 Editor, Proceedings Plant Nutrition 1989-Current  
 Reviewer, Scientific Articles for Soil Science, Plant Physiologica Plantarium, Etc. 1957-Current  
 Consultant, Albion Chemical Co. 1979-85  
 Consultant & Contractor, Air Quality Control, State of Idaho, 1984-88  
 Consultant & Contractor, Fluoride Analysis, Simplot Chemical Company 1989-Current  
 Recipient of Small Business Grant, Utah Technology Financial Corp., 1990-91  
 Co. Chairman, IInd International Iron Symposium, 1983, Logan, Utah  
 Chairman, Xth International Society for Fluoride Research, 1987, Logan, Utah  
 Major Professor & Thesis Director, Directed over 40 graduate students for MS & Ph.D. degrees

## GARY T. GRIGG, CGCS, MG

Since 1968, Gary Grigg has been involved in over 40 golf courses worldwide. Several are ranked as the best in the world.

His agronomic experience and expertise includes pre-construction, construction, grow-in, renovation, tournament preparation, and daily maintenance.

Gary has collaborated as a team member with many of the world's best golf course architects, builders, and developers.

His turf grass management skills are sought after on worldwide consulting projects.

### PROFESSIONAL EXPERIENCES

#### ROYAL POINCIANA GOLF CLUB

Naples, Florida  
Renovation Manager / Agronomist / Golf Course Superintendent  
36 Holes  
Retired in April, 2000

#### NAPLES NATIONAL GOLF CLUB

Naples, Florida  
Project Manager / Agronomist / Superintendent

#### GENOA LAKES GOLF CLUB

Genoa, Nevada  
Agronomist / Construction Manager

#### SHADOW GLEN GOLF CLUB

Olathe, Kansas  
Agronomist / Project Manager / Golf Course Superintendent

#### LOEWS VENTANA CANYON GOLF & RACQUET CLUB

Tucson, Arizona  
Agronomist / Construction Manager / Grow-in  
Golf Course Superintendent, 36 Holes

#### TANOAN COUNTRY CLUB

Albuquerque, New Mexico  
Agronomist / Golf Course Superintendent

#### LODGE OF THE FOUR SEASONS

Lake Ozark, Missouri  
Agronomist / Construction Manager

#### LAKE ISABELLA GOLF CLUB

Weidman, Michigan  
Agronomist / Golf Course Superintendent / Construction Manager

### EDUCATION

#### UTAH STATE UNIVERSITY

Bachelor of Science  
Agriculture & Entomology

#### MICHIGAN STATE UNIVERSITY

Master of Science Agronomy

### AFFILIATIONS AND HONORS

- Golf Course Superintendent's Association of America member since 1970, Certified status since 1977, BOD 1989-97, President of GCSAA 1996-96
- Recipient GCSAA, 2000 DSA Award
- British and International Golf Greenkeepers Association member, Master Greenkeeper status since 1993
- Everglades GCSA, honorary member
- Florida GCSA, honorary member
- GCAA Environmental Steward Award for Florida, 1992
- Coastal Conservation Association, Florida Chapter member
- Texas Turfgrass Association, member since 1980
- Southwest Turfgrass Association, President, 1981
- Arizona Water Resources Commission, Turfgrass Advisor Committee, 1985-87
- Heart of America GCSA, member of board of directors, 1988-89
- New Mexico GCSA, President, 1981
- Ozark GCSA, former board member
- Sierra Nevada GCSA, former member
- South Texas GCSA, former board member
- Western Michigan GCSA, former board member



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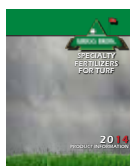


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