Proven Foliar™ Tournament Program

Generally speaking tournament preparation means a low height of cut to produce faster greens. The challenge to superintendents, who maintain tournament conditions, whether for a special event or year around, is to promote density and quality while producing fast greens. Tournament mowing heights typically are below .125 inches on both cool and warm season turf. Often during a special event greens are double cut in the morning and may be cut again in the afternoon or evening. As mowing heights are lowered, root growth decreases.

During photosynthesis; sunlight, carbon dioxide and water throughout the action of the chloroplasts and chlorophyll yield carbohydrates, oxygen and water. These carbohydrates are both utilized by the plant to sustain growth and life functions as well as be 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 such things as the duration of light, the extent of stress, and the amount of leaf surface. Superintendents, in order to satisfy the wants of their golfers for green speed during tournament play or at all times, simply cut their greens so low and so often that there is very limited leaf surface to photosynthesize.

In an ordinary situation a turf plant will store ½ of all the carbohydrates produced in the root and utilize ½ for sustaining life functions. Around ½ 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 and the microbes in turn make nutrients in the soil available to the plant. This is the way Mother Nature intended to provide for the plants needs. Today's putting green mowed at 1/8 inch or less, regardless of if it is a warm or cool season grass, simple can not photosynthesize enough to ensure adequate carbohydrate reserves and storage. The turf is trying to survive and utilizes all the carbohydrates available to do just that - survive. The plant therefore 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 adapt to help when the turf is being mowed so low. The health of turfgrass being cut so low will depend in large part on the management practices during this period of time. ***One of those inputs is the nutrient level of the plant tissue.***

There are 13 essential nutrients required by all higher plants other than C, H & O_2, which are provided by water and carbon dioxide. Plant health, growth, and development are dependent on all of these elements being present at optimum concentrations. Many scientists believe that plant growth and survival during periods of stress is dependent on these 13 elements being present at optimum concentrations.

In general the utilization level of Grigg Brothers® foliar fertilization is very high, whereas common soil nutrient utilization even in the best conditions, including foliar applied but root uptake products, is very low. Roots only come in contact with a small percentage of the soil and combined with the fact that when soil temperatures are high or low, or soil pH is higher or lower than the optimum range the plant is then not always able to take up through the roots even those nutrients which are available in the soil. 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.

True foliar fertilization bypasses these problems as the applied nutrients are immediately available to the plant!

Gary's Green®..... 4-8 fl oz per 1,000 ft²
Ultraplex® ..... 3 fl oz per 1,000 ft²
Sili-Kal B™ ..... 4 fl oz per 1,000 ft²
Tuff Turf™ ..... 4 fl oz per 1,000 ft²
Magnesium (Mg) 5%..... 2 fl oz per 1,000 ft²
(The Ultraplex® can be increased if desired for enhanced color)

This 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 also contains biostimulants, sugars and amino acids. Both **Tuff Turf™** and **Sili-Kal B™** contain Silicon for added green speed. It is a complete mix and nothing else is required.

Annual Bluegrass and Bermudagrass will require the higher rates of **Gary's Green®** and during the summer months those with annual bluegrass greens will do better to substitute 6 oz per 1,000 ft² of **P-K Plus®**, which contains potassium phosphite, in place of the **Tuff Turf™** for help with "summer Stress Syndrome".

Applications should be from one to two weeks apart. Add to that mix any other minor nutrients that you know are deficient in the plants based on a tissue or soil test. We 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.

Proven by scientific, independent, and university testing, Grigg Brothers® products provide all turf managers, with a better method of fertilization and tournament preparation.