



Bioburst™ Turf

Product Information Sheet

Effective and efficient grow-in of turfgrass includes optimum fertility, moisture, and sound cultural practices as well as a complex balancing act among several hormones. Using natural plant extracts **Bioburst™ Turf** utilizes the hormonal properties of indigenous growth promoters, also known as biostimulants, to augment and accelerate essential hormonal activity in grasses.

Biostimulants are plant hormones that stimulate growth in a very specific way. Using cytokinins and cytokinin-like materials, biostimulants stimulate cell division, delay senescence, improve photosynthesis and help seeds break dormancy. In effect, biostimulants alter a plants reaction to its environment in a beneficial way.

The biostimulants in **Bioburst™ Turf** stimulate root growth and development, promote cell division and lateral bud development, delay senescence, and increase tillering and nutrient uptake. In addition, regular applications enhance the ability of grasses to resist environmental stress (e.g., water or salt stress among others) by increasing the hormonal activity which environmental stresses normally restrict. Other benefits include less phytotoxicity from herbicides, faster establishment for seed or sod, and better color (especially on warm-season turfgrasses in late season).

"There's no doubt about it," says Dr. Dick Schmidt of Virginia Polytechnical Institute. "There's definitely a positive turfgrass response to biostimulants, especially when the turfgrass is under some kind of environmental stress." Dr. Schmidt's research has also "demonstrated increased photosynthetic rates and reduced senescence of Kentucky bluegrass, greater emergence and root growth of bentgrass seedlings, superior establishment of transplanted sod and increased drought and salt tolerance of biostimulant-treated turfgrasses." Dr. Schmidt concludes that biostimulants are "a potentially very valuable tool for golf course superintendents." (*Golf Course Management*, March 1993).

Microorganisms living in the soil rhizosphere cannot make their own food as green plants do because photosynthesis does not take place. Therefore they require a source of carbon as well as essential minerals for their growth and reproduction. In turfgrasses the natural die back of roots and their decomposition provide the necessary food source. "Thus, grass roots are not only essential for the functioning of sports turf but they are also essential for the persistence of soil biological activity" (Dr. Eliot Roberts, "Turfgrass Roots Modify Sports Turf Soils," *Park/Grounds Management*, November 1992). Consequently emphasis must be placed on root growth to develop a more biologically active soil and thus a healthier turf.



Bioburst™ Turf possesses the decomposition properties that enhance soil macro- and microbiological processes and promote root growth in turfgrass.

Bioburst™ Turf is a suspension fertilizer containing plant nutrients that permit a higher and more complex analysis in conjunction with its biostimulants than would be possible in a true solution. Also **Bioburst™ Turf** is compatible with most fertilizers and pesticides, and is non-phytotoxic (Always pilot test compatibility of any chemical mixes.)

Regular use of **Bioburst™ Turf** in turfgrass maintenance will:

- Increase nutrient uptake and availability
- Stimulate growth and metabolism of beneficial soil microorganisms
- Improve soil tilth and general soil conditions
- Boost turfgrass vigor
- Increase tillering
- Promote blade nutrition and development
- Improve color
- Increase performance during environmental stress

Utilizing naturally occurring components, **Bioburst™ Turf** contains:

- Nitrogen from ammoniacal, urea and organic sources
- Chelated Copper, Iron, Manganese, Magnesium and Zinc
- Sulfur, Boron and Molybdenum
- Natural surfactants
- Humic and Amino Acids
- Liquid Fermentation Product (a source of enzymes, amino-acids vitamin-B complex and microbial metabolites)
- Selected plant extracts

DIRECTIONS FOR USE

Regular and deep watering is necessary to maintain quality turf and to place nutrients in an available solute form. During periods of drought or hot, dry weather, do not use fertilizer or pesticide products until rain occurs or when the grass is being watered.

- For application simply add through irrigation system (fertigation) or dilute products in water and apply.
- Apply **Bioburst™ Turf** during the middle of an irrigation cycle so as to leach the product into the root zone.



TURFGRASS MAINTENANCE

- **Newly Planted Grass:**
Apply 10 oz/acre of **Bioburst™ Turf** when turf is ½"-1" in height.
- **Established Grass:**
Warm season grasses—Apply 24 oz/acre of **Bioburst™ Turf** at 4-6 week intervals throughout growing season.

Cool season grasses—Apply 24 oz/acre of **Bioburst™ Turf** at 4-6 week intervals from break of dormancy in spring and ending prior to winter dormancy.

TURF GRASS TROUBLE SPOTS

Apply **Bioburst™ Turf** at the rate of 1½ oz./1,800 square feet (36 oz./acre), followed by a repeated 1½ oz./1,800 square feet application 2 weeks later and at 4 week intervals until turf health is restored. Then follow maintenance applications as indicated above.