



The First Granular Rootzone Biostimulant for Cool and Warm Season Grasses

Effective On Sodded, Seeded Or Sprigged Turf; Warm And Cool Season Grasses

Incorporating GroWin™ when building, rebuilding or renovating high-sand-content tees and greens will deliver dramatically better, faster, turfgrass establishment and save money. In research conducted at the University of Rhode Island, the University of Arkansas and Chenal Country Club, GroWin produced more rapid, robust leaf growth, improved stress tolerance and established turfgrass dramatically better and faster.

GroWin is a scientifically proven, natural, organic biostimulant. It produces a true biostimulant response—that is, an additive response over and above fertilizers and amendments. And yet, it saves more than it costs.

GroWin's benefits include:

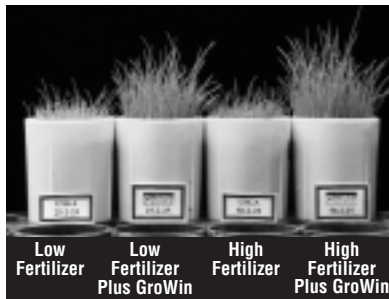
- ♣ Faster establishment
- ♣ Significantly better rooting
- ♣ Significantly better stress tolerance
- ♣ Turf ready for play sooner

GroWin Improves Stress Tolerance

"Turf with larger, deeper root systems will be more tolerant of drought conditions and foliar diseases, will probably be more resistant to damage from traffic (because of carbohydrate resources in the roots that can be utilized for production of new shoots.)"

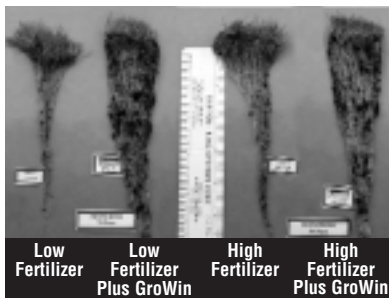
A BREAKTHROUGH IN TURFGRASS ESTABLISHMENT

GroWin Produces More Rapid, Robust Leaf Growth



"On average, addition of GroWin resulted in approximately a 300% increase in the foliar growth of Pennncross...and an 83% increase in the foliar growth of Bermuda...The range of increases in foliar biomass was from 40% to 679%."

GroWin Builds Bigger, Deeper, Denser Roots



"The results mirrored those of the foliar measurements...In the untreated USGA turf only, 11-18% of the total root system occurred below 3 inches...In USGA turf treated with GroWin, 22-25% of the roots were produced below 3."

GroWin Is A True Rootzone Biostimulant

Independent University research proves GroWin is much more than a fertilizer...much more than a soil amendment...it produces an additive response over and above fertilizers and amendments.

"Soil analysis indicated that the benefits do not result from increased amounts of any of the major plant nutrients."

"It is noteworthy...that the tremendous increases in shoot growth observed...did not occur at the expense of root growth. In summary, a highly significant increase in shoot growth and establishment rates were observed when [the product GroWin was] incorporated into bentgrass greens."

Less Nitrogen Needed

"Both root and foliar biomass were greater in turf grown in the USGA mix amended with GroWin than in the USGA mix alone. Over a wide range of Nitrogen levels, the effects of GroWin could not be duplicated in the USGA mix."

- ♣ Less N needed to produce response
- ♣ Less potential for N leaching
- ♣ Lower disease risk for those diseases associated with higher N fertility

Simple Application

Apply GroWin to the top 4-6 inches of the rootzone before seeding, sodding or sprigging.

Research Results

“Exceedingly Dramatic Results Occurred”

— Bridget Ruemmele, Ph.D.

University of Rhode Island

Field trials conducted at the University of Rhode Island during 1998 on washed creeping bentgrass sod and seeded plots (70/30 mix) by Bridget Ruemmele, Ph.D.

Penncross and Signature blends (sodded)

Penncross (seeded)

“This experiment was initiated to determine whether...GroWin would benefit turfgrass establishment under the least recommended conditions (mid-summer)...Ratings included quality, color, vigor, seedling establishment, root lengths and root weights.”

“The addition of GroWin significantly enhanced quality even two months after establishment ...”

“Significantly better quality occurred on GroWin-treated [sod] plots on all dates, except 6 October.”

“Exceedingly dramatic results occurred on the seeded plots, with GroWin-treated sections far superior to untreated portions.”

“Table 6 shows color, vigor, and establishment ratings during August averaged across sodded and/or seeded plots as indicated ...For all ratings, GroWin-treated plots were superior to untreated plots.”

“Table 8 and 9 indicate results for Penncross sod plots. All dates and ratings for color and vigor showed GroWin significantly enhanced sod performance.”

“Table 10 results for seedling vigor and establishment of Penncross seed...Vigor was highly significantly enhanced with incorporation of GroWin.”

University of Rhode Island

Trials conducted at the University of Rhode Island during 1997 and 1998 on Penncross (80/20 mix) by R.E. Koske, Ph.D. and J. N. Gemma, Ph.D.

Penncross (seeded)

Leaf Growth

“On average, addition of GroWin resulted in approximately a 300% increase in the foliar growth of Penncross...and an 83% increase in the foliar growth of Bermuda... The range of increases in foliar biomass was from 40% to 679%.”

Better Results with Less Fertilizer

“A trial using N concentration equivalent to 1 to 8 lbs. per 1,000 sq. ft. of readily available N per month was set up to determine if the stimulating effects of GroWin could be replaced by addition of N to the USGA mix.”

“Addition of N at levels of up to 8 lbs./1,000 sq. ft. per month did not result in turf growth equal to that made by turf grown in GroWin amended USGA mixes receiving 1 lb. per month...”

“At the end of the experiment turf grown in GroWin-containing media produced 361% more leaf mass than did the USGA turf.”

Root Growth

“The results mirrored those of the foliar measurements...In the USGA turf only, 11-18% of the total root system occurred below 3 inches.” In turf treated with GroWin, 22-25% of the roots were produced below 3.”

“The basis of GroWin’s stimulation to plant growth is unknown. Soil analysis indicated that the benefits do not result from increased amounts of any of the major plant nutrients.”

“Both root and foliar biomass were greater in turf grown in the USGA mix amended with GroWin than in the USGA mix alone. Over a wide range of Nitrogen levels, the effects of GroWin could not be duplicated in the USGA mix.”

“Turf with larger, deeper root systems will be more tolerant of drought conditions and foliar diseases, will probably be more resistant to damage from traffic (because of carbohydrate resources in the roots that can be utilized for production of new shoots.”

University of Arkansas

1998 trials conducted at the University of Arkansas and Chenal Country Club, Little Rock, AR, by M.D. Richardson, Ph.D.

Penn A-1 (seeded)

“It is noteworthy...that the tremendous increases in shoot growth observed in Table 2 did not occur at the expense of root growth. In summary, a highly significant increase in shoot growth and establishment rates were observed when [the product GroWin was] incorporated into bentgrass greens.”

“Although there may be some level of fertility response to the [product] our observations would suggest that fertility responses failed to generate all of the increases.”

SR-1020 (seeded)

“The product GroWin again demonstrated a highly significant effect on establishment of creeping bentgrass. Clipping weights and plant height were up to 9-fold greater in treated plots relative to controls.”

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