

Photo by Yan Xu

A PGR and biostimulants affect summer bentgrass decline

The objectives of this study were to investigate if applications of Primo Maxx (trinexapacetyl) and biostimulants to a creeping bentgrass green would enhance turf quality during the summer months and alleviate summer bentgrass decline. The study was performed on a 4-year-old Penncross creeping bentgrass green built to USGA recommendations in North Brunswick, N.J., in 2006-2007. Turf Vigor, CPR (a seaweed extract containing cytokinins) and Primo Maxx were sprayed on the turf canopy every two weeks from late June to early September. All treatments improved summer turf quality compared with both a nutrient control (half-strength Hoagland's nutrient solution) and a water control. Leaf senescence was mitigated by the biostimulant and Primo treatments during the summer stress period (July and August). Our results suggest that proper use of certain biostimulants or PGRs may help alleviate summer bentgrass decline during periods of heat stress. — Yan Xu and Bingru Huang, Ph.D. (huang@aesop.rutgers.edu), Rutgers University

Quantifying the complexity of sand particle shape

Sands used to construct putting green root zones are subjected to laboratory tests to evaluate their suitability. Sand particle shape is currently evaluated subjectively. The objective of this research was to quantify differences in particle shape complexity using digital imaging technology, and to determine if these quantitative values correlate with root-zone strength. Seven sands of various shape complexities (well-rounded to very angular) were separated into the medium size class (0.25-0.50 millimeter). We used two cameras under controlled light conditions to take

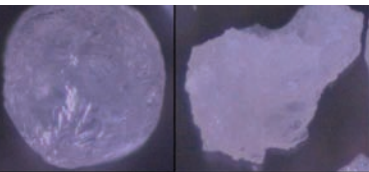


Photo by N. Miller

Clark Throssell, Ph.D.

60 images per second of the particles as they fell randomly. The images were analyzed for sphericity, symmetry and aspect ratio. We observed significant differences among all sands for all three shape parameters. This technology provides a method to quantitatively assess particle shape complexity. Sphericity also showed a strong correlation with bearing capacity. — Nathaniel Miller and Jason Henderson, Ph.D. (jason.henderson@uconn.edu), University of Connecticut

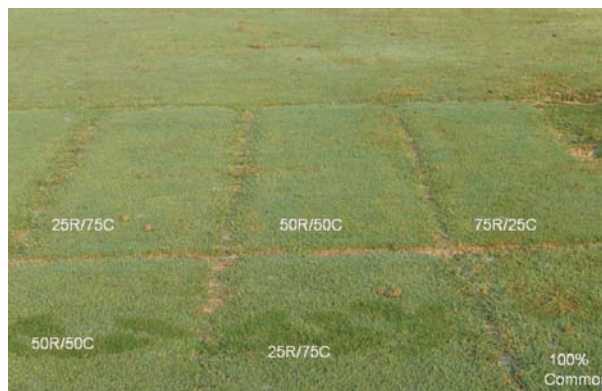


Photo by M. Goatley

Seeded bermudagrass blends for the transition zone

The use of seeded bermudagrass cultivars with enhanced cold tolerance is expanding in the transition zone. However, high seed cost and slower establishment rates can limit use of these varieties. This research was conducted to determine if Riviera, an improved variety, could eventually dominate the turf stand when blended with the less expensive, less adapted bermudagrass cultivars Wrangler and Arizona Common. Riviera seed was blended with Wrangler or Arizona Common at 0%, 25%, 50% or 75% by weight and seeded at either 0.5 or 1.0 pound/1,000 square foot (24.5 or 49 kilograms/hectare) in Blacksburg, Va., in 2004 and 2005. The 50%/50% and 75%/25% combinations of Riviera plus Wrangler or Arizona Common were similar to 100% Riviera plots in quality over time. Under the conditions in these trials, blending Riviera with lower-quality, faster-establishing bermudagrasses resulted in Riviera-dominated stands regardless of the blending percentage of Riviera after two growing seasons. — Mike Goatley, Ph.D. (goatley@vt.edu), Virginia Tech University



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