



Photo by R. Carrow

### Salt tolerance of seashore paspalum during vegetative establishment

Seashore paspalum genotypes vary greatly in salt tolerance as mature stands, but salt tolerance during establishment may differ from salt tolerance in mature plants. Seashore paspalum genotypes (Sea Isle 1, Sea Isle Supreme, Sea Spray, Adalayd, GA 03.527.8) and TifSport bermudagrass were evaluated in a greenhouse study under irrigation using water containing 0 to 18,000 ppm (28.8 deciSiemens/meter) soluble salts. Sea Isle Supreme and Sea Isle 1 exhibited best coverage when irrigated with water containing 3,000 and 6,000 ppm soluble salts. These grasses have a greater overall growth rate even under nonsaline conditions, and this result does not appear to have been caused by an adaptive salt-tolerance mechanism at establishment. TifSport exhibited the least salt tolerance during establishment. Results show salt tolerance is considerably lower at vegetative establishment than for mature stands, and establishment is difficult above 3,000 to 6,000 ppm salts for all paspalums. — Robert Carrow, Ph.D. (rcarrow@griffin.uga.edu), University of Georgia

### Effect of humic substances on moisture retention of putting greens

Humic substances have been reported to increase soil water-holding capacity and provide other benefits to turfgrass, but little information is available on specific effects of these compounds. Our study evaluated the effects of pure humic acid and four commercial humic substance products on soil water content and tissue phosphorus of creeping bentgrass

in a greenhouse study and on putting greens. At one field site, we included three irrigation levels: 80%, 70% and 60% of reference ET (ET<sub>0</sub>). Humic substances did not improve moisture retention or phosphorus uptake. The humic substances we used decreased soil water content because of the hydrophobic tendencies of these products. No differences in turf quality were observed for any treatment or irrigation level. Humic substances may offer other benefits, but they may have no or little effect on water conservation and reducing phosphorus fertilization. — Adam Van Dyke and Paul Johnson, Ph.D. (paul.johnson@usu.edu), Utah State University



Photo by B. Sladek

### Evaluation of zoysiagrass genotypes for shade tolerance

Establishing turfgrass in shade can lead to a reduction in plant growth and development. Recent research identified several zoysiagrass (*Zoysia* species) genotypes that express shade tolerance. Greenhouse studies were conducted in 2006 and 2007 to evaluate the shade tolerance of six zoysiagrass genotypes. One-inch plugs of each cultivar were planted in 1-gallon containers and grown under full sunlight or in 50% shade or 90% shade using shade canopies. Compared to plants grown in full sunlight four months after planting, plants grown in 50% shade expressed the following reductions in lateral growth: 0%, Meyer; 11%, Shadow Turf; 19%, Zorro; 21%, Diamond; 22%, Emerald; and 25%, DALZ 0501. Lateral growth was further reduced when plants were grown in 90% shade. Four months after planting, reductions in growth were: 34%, Shadow Turf; 41%, DALZ 0501; 50%, Diamond; 62%, Emerald; 80%, Zorro; and 99%, Meyer. Evidence of increased shade tolerance among zoysiagrass genotypes may further expand its use as a viable turfgrass option. — Bradley Sladek (Bradley.s.sladek@ttu.edu); Dick Auld, Ph.D.; and Gerald Henry, Ph.D., Texas Tech University



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