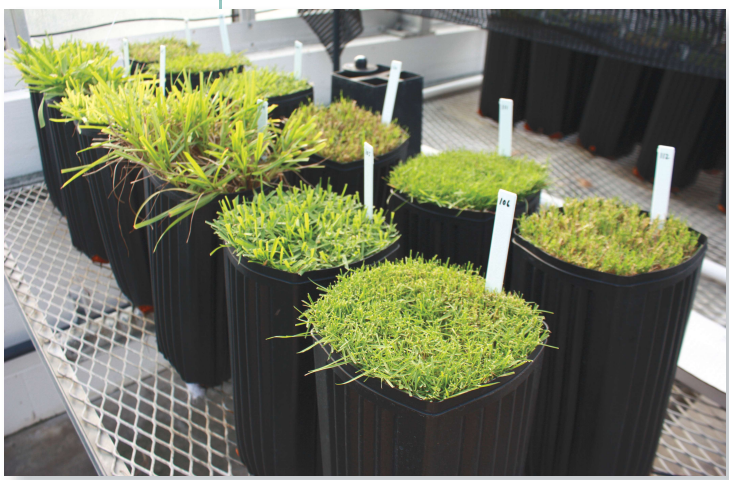

Photo by B. Glenn

DLI requirements for 12 cultivars

When required inputs of turfgrass growth and development (water, temperature, nutrition) are met, light interception becomes a growth-limiting factor. Daily light integral (mol/square meter/day) quantifies total light intensity accumulated during the course of a day. Because incoming solar radiation changes due to sun movement and atmospheric screening, DLI may be a better parameter to evaluate available light. Greenhouse trials were conducted to evaluate minimum DLI requirements to maintain acceptable turfgrass quality for 12 warm-season turfgrasses. Four treatments (0%, 30%, 60% and 90% shade) were used. All treatments simulated summer temperatures in South Florida (31 C average temperature). Under glasshouse conditions, minimum DLI levels for acceptable turf quality ranged from 23.3 to 10.5 mol/square meter/day. The cultivars ranked from highest to lowest DLI requirements are: Tifway, TifGrand and Celebration bermudagrass; Argentine bahiagrass; SeaDwarf seashore paspalum; TifBlair centipedegrass; Palisades zoysiagrass; Floratam St. Augustinegrass; Diamond and PristineFlora zoysiagrass; Captiva St. Augustinegrass; and JaMur zoysiagrass. Monitoring DLI requirements in reduced light over time could result in improved turfgrass selection for a site. **— Brian Glenn and Jason Kruse, Ph.D. (jkk@ufl.edu), University of Florida, Gainesville, Fla.; and J. Bryan Unruh, Ph.D., University of Florida, Jay, Fla.**

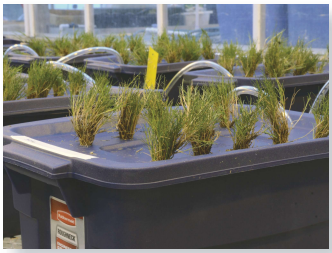

Photo by J. Brosnan

Pre-emergence herbicides affect nutrients in hybrid bermuda

Negative effects of pre-emergence herbicides on turfgrass root development may reduce nutrient accumulation in foliar tissue. Research was conducted in 2012 to determine the effects of applications of Specticle 20WP (2.5 and 3.75 ounces/acre), Barricade 65WG (18.4 ounces/acre), Ronstar 50WSP (96 ounces/acre) and Gallery 75DF (21.3 ounces/acre) on nutrient content in Tifway hybrid bermudagrass tissue. Hybrid bermudagrass was transplanted from washed sod into polyethylene containers filled with 2.64 gallons of Hoagland's nutrient solution. Plants acclimated for three weeks before herbicide treatment. Barricade, Gallery and Specticle reduced visual root mass relative to non-treated plants and consequently reduced phosphorus, sulfur and potassium content in foliar tissue. Specticle reduced magnesium and manganese in foliar tissue compared to non-treated plants. This response was not observed with Barricade and could explain the significant foliar injury (>70%) observed with both rates of Specticle. This study illustrates that pre-emergence herbicide applications affect hybrid bermudagrass nutrient content. **— Patrick A. Jones; James Brosnan, Ph.D. (jbrosnan@utk.edu); Gregory Breeden, Ph.D.; Dean Kopsell, Ph.D.; and Greg Armel, Ph.D., University of Tennessee, Knoxville, Tenn.**

Bermudagrass suppression in tall fescue

Photo by D. Sandor

To determine the effects of mowing height and herbicide treatment in suppressing bermudagrass in tall fescue plots, we seeded KY 31 and Bullseye tall fescue into an established stand of bermudagrass on Sept. 8, 2011. Roundup was applied at 5 quarts/acre one day before fescue seeding. Mowing heights were 3, 4 and 5 inches. On April 7 and April 30, 2012, the herbicides Tenacity, Acclaim Extra and Fusilade II were applied at 8, 20 and 6 fluid ounces/acre, respectively, to selected plots, including those treated with or without Roundup. On July 11, 2012, Fusilade II had reduced turf quality and reduced bermudagrass cover by 37% in KY 31 and by 32% in Bullseye; and Tenacity alone did not suppress bermudagrass, but provided significantly greater broadleaf weed control in each cultivar. By July, mowing height had no significant effect on bermudagrass cover within a cultivar. Turf quality was highest in KY 31 mowed at 5 inches and in Bullseye at 3 inches. First-year data suggest mowing height and herbicide treatments affect turf quality and bermudagrass suppression. **— Daniel Sandor and Paul Woosley, Ph.D. (paul.woosley@wku.edu), Western Kentucky University, Bowling Green, Ky.**

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