Photo by G. Henry

Post-emergence control of field sandbur

The presence of field sandbur (*Cenchrus incertus*) in turfgrass is detrimental because of its prolific production of sharp, shiny burs. Few post-emergence herbicides control this weed. Experiments were conducted in 2008 at the Texas Tech University greenhouse to quantify the efficacy of Revolver (foramsulfuron) with various spray adjuvants to control field sandbur. Treatments were applied to sandbur at the five-leaf stage and consisted of single or sequential applications of Revolver (2 fluid ounces/1,000 square feet [0.64 milliliter/square meter]) alone or in combination with methylated seed oil (1.0% v/v), crop oil concentrate (1.0% v/v) or each of the two plus urea ammonium nitrate (2.5% v/v). Sequential applications for each treatment were made two weeks after initial treatment. All treatments exhibited 43% to 63% control one week after initial treatment. Slightly higher control was observed among treatments containing spray adjuvants one week after initial treatment. All treatments provided 99% control four weeks after initial treatment. **— Gerald Henry, Ph.D. (gerald.henry@ttu.edu), and Brad Sladek, Texas Tech University**

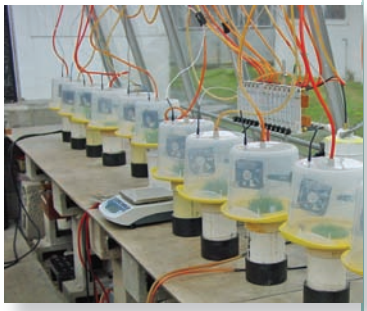

Photo by B. Wherley

Turfgrass ET response to changes in vapor pressure deficit

Poor performance of cool-season grasses often is observed at high temperatures. However, one confounding factor often overlooked is the amount of water vapor or vapor pressure deficit of the atmosphere. Vapor pressure deficit increases exponentially with increasing temperature and has been shown to directly affect stomatal conductance and photosynthesis in many plant species. Experiments are being conducted to measure turfgrass evapotranspiration (ET) over a range of vapor pressure deficits under well-watered conditions and stable temperature. Preliminary results indicate dramatic differences between cool- and warm-season species. Warm-season grasses had up to 40% lower water loss rates than cool-season grasses, but the water loss in cool-season grasses was constrained in many species as vapor pressure deficit increased beyond 0.22 pound/square inch (~1.5 kilopascals). Sensitivity to vapor pressure deficit may be an important trait in understanding and improving cool-season turfgrass performance under elevated temperature. **— Benjamin Wherley, Ph.D. (bwherley@ufl.edu), and Tom Sinclair, Ph.D., University of Florida**

Survival of dormant cool-season turfgrasses without rainfall

Extended droughts in the western U.S. have resulted in water restrictions on landscape irrigation. In severe cases, watering has been banned completely because of shortages. In the event of such water restrictions, turfgrasses often enter summer dormancy and can survive for significant periods without water. However, the extremely dry and warm conditions in the West often exceed the drought tolerance of the grasses even when dormant. Our research is evaluating how long selected turfgrasses can survive without irrigation; variety differences among bluegrasses; and whether small amounts of water can be applied to keep the grasses alive but maintain summer dormancy. We have identified bluegrasses as most tolerant of extremely dry conditions, but with significant varietal differences. Perennial ryegrasses lose significant stands after several weeks, as does prairie junegrass. If able to root deeply, tall fescue has tolerated extended drought well. **— Paul Johnson, Ph.D. (pjohnson@usu.edu), Utah State University**

Photo by P. Johnson

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