

UNIVERSITY TURFGRASS RESEARCH UPDATE

Over the past 5 years we have periodically published reports from some leading turfgrass researchers in the US on their current studies. Here is our latest update on such research projects.



▲ **Above:** Colorant to improve color of dormant warm-season turfgrasses. **Top Right:** Response & recovery of DBG to severe drought. **Bottom Right:** Turf paint and glyphosate application timing effects on annual bluegrass control and zoysiagrass spring green-up

KANSAS STATE UNIVERSITY

Response and Recovery of Kentucky Bluegrass Cultivars to Severe Drought with No Irrigation.

In a 2-year study, we subjected 28 cultivars of KBG and two hybrid bluegrasses to 81 days without irrigation in the first year and 61 days without irrigation in the second year; plots also received very little precipitation during these periods. Our goals were to evaluate the performance of these KBG cultivars during the dry downs and their recuperative abilities after being rewatered. All 30 of the bluegrasses went completely dormant in the first year and mostly dormant in the second year from prolonged drought stress. Remarkably, all 30 bluegrasses recovered in both years, although the recovery was slower after the first dry down because of longer exposure to drought. There were no consistent differences in the

performance of the 30 bluegrasses. Given increasing pressure to conserve water when irrigating turf, and the possibility of total bans on turf irrigation in some areas, a viable strategy may be to adjust our expectations to allow for some dormancy of KBG during hot, dry summers. (Drs. Tony Goldsby, Dale Bremer, Jack Fry, Steve Keeley).

Irrigation Management and N Fertilization Effects on Water Application Amounts and Nitrate Leaching in Turfgrass.

Urbanization in the US has increased the area covered with turf, causing greater concern about water amounts used for irrigation and the potential for leaching from nitrogen (N) fertilization in urban watersheds. In a 2-year study on a silt loam soil, we compared differences in water applied between traditional frequency-based irrigation and irrigation controlled by soil moisture sensors (SMS) in tall fescue turfgrass. Frequency irrigation cycles ran three times weekly regardless of precipitation amounts, and SMS applied water only when soils dried to a predetermined threshold. Within each irrigation treatment, nitrate leaching was also measured in subplot treatments consisting of N applications of urea and polymer-coated urea, each at

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