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Which Kentucky Bluegrass Cultivars Perform Better with Less Water?

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Field research at Kansas State University indicates that water requirements may differ significantly among cultivars of Kentucky bluegrass (*Poa pratensis* L.) (KBG), depending upon desired turfgrass quality. Given the certainty of periodic drought, limited water availability, and increasing irrigation costs, having choices of KBG cultivars that may maintain better quality with less water is an attractive option. Ideally it would be helpful to select a turfgrass that can perform well with less water.

A helpful concept when discussing KBGs is their classification into phenotypic groups. Individual cultivars of KBG are classified into phenotypic groups based on common growth and stress performance characteristics gathered from field trials (Bonos et al., 2000). Previous research

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has indicated that such groupings may be useful in predicting drought tolerance. Because cultivar turnover is rapid in the turfgrass industry, determining the relative irrigation requirements of phenotypic groups may enable researchers to predict irrigation requirements of cultivars not

OTS HIGHLIGHT

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included in any particular study.

Using a rainout shelter (Fig. 5), we compared seasonal irrigation amounts among 28 KBG cultivars for two growing seasons. By shielding plots from rainfall, water could be withheld until wilt symptoms were evident. Our objectives were to identify KBG cultivars and phenotypic groups that maintain better visual quality with less irrigation, using wilt-based irrigation. We hypothesized that if visual quality was good at the beginning of the season, we could maintain minimally



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