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Research Summary

Competitive Ability of Creeping Bentgrass Cultivars Against Annual Bluegrass

This investigation assessed the relative competitive ability of 6 and 7-old turfs of thirteen creeping bentgrass (*Agrostis stoloniferous*) cultivars to annual bluegrass (*Poa annua*) under a closely mowed putting green cultural regime of 1/8 inch (3.2 mm). Competitive ability was assessed by transplanting 108 mm diameter, mature turf monostands of annual bluegrass into the creeping bentgrass turfs. The relative competitive ability of the 13 cultivars segregated into four distinct groups. **Ranking best was Penn G-2 with no lateral annual bluegrass invasion during a full growing season in each of two years. In the second grouping, in order from lowest to highest were Penn G-6, Seaside II and Penn A-1, ranging from 3.9 to 8.7% annual bluegrass.** In the third group were Southshore, Penn G-1, SR 1020, Putter, Cobra, and Penneagle ranging from 20.1 to 36% annual bluegrass. The largest annual bluegrass lateral encroachment occurred in Providence, PennLinks and Penncross ranging from 37.3 to 58.4%. **Basically those creeping bentgrass cultivars with shoot densities above 2,000 per square decimeter usually exhibited the most vegetative competitiveness in suppressing the lateral invasion of annual bluegrass in mature polystands.**

Comments. More recently Dr. Karl Danneberger reported similar creeping bentgrass cultivar rankings in an Ohio study. These findings suggest that significant cultural control of annual bluegrass can be accomplished on closely mowed putting greens by the selection of certain creeping bentgrass cultivars that can sustain very high shoot densities under extraordinarily close mowing regimes.

Source. The Comparative Competitive Ability to Thirteen *Agrostis stolonifera* Cultivars to *Poa annua*. by J.B Beard, P. Croce, M. Mocioni, A. De Luca, and M. Volterrani. International Turfgrass Society Research Journal 9:828-831. 2001.

Ask Dr. Beard

Q. *Am faced with a strong possibility that there will not be sufficient water to irrigate the fairways and roughs this summer. Would an application of gibberellin prove beneficial?*

A. The answer is no. In fact, it would prove negative. The primary shoot response to a gibberellin application is increased vertical leaf growth which results in greater leaf area and a higher evapotranspiration rate. In addition, there typically is a reduction in shoot density which will cause a decrease in the resistance to outward water vapor diffusion that also will increase the evapotranspiration rate. Finally, a gibberellin application typically will result in reduced root growth, which means a more limited capability to absorb water from a large portion of the soil profile. Actually, an application of a plant growth regulator effective in reducing the vertical leaf extension rate of grasses will lower the leaf area available for evapotranspiration and thus would be beneficial in terms of water conservation. Investigations have shown that flurprimidol can reduce the water use requirement in the order of 10 to 30%, depending on the turfgrass species.

Ask Dr. Beard: **TURFAX**
c/o Ann Arbor Press
P.O.Box 20
Chelsea, MI 48118
E-mail: skip@sleepingbearpress.com