Stop 7. Stress Responses of Kentucky Bluegrass Varieties in Blends and Monostands

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The background for this particular project deals with traditional recommendations for athletic field construction and the blending of *Poa pratensis* (Kentucky bluegrass) cultivars. Originally, the idea of blending was to protect turfgrass stands, particularly in high stress environments. As Kentucky bluegrass breeding techniques have advanced in the last 50 years, the necessity of these blends is left in question. This particular project looks at four distinct studies to test the differences in blends and monostands of several Kentucky bluegrass varieties. New and old varieties were selected based on traffic tolerance, disease resistance, bispyribac-sodium (Velocity) resistance, and aggressive tillering. Data collected in the first year of research showed that the blends did not out perform any of its constitutive varieties in quality, cover, and surface strength characteristics at any point during traffic applications on native soil. In addition to these findings, identical results were shown on an experiment receiving one-inch of topdressing prior to traffic applications. In most instances, resistant varieties in monostands had reduced dollar spot infection centers and percentage of dollar spot infected turf cover and also showed an increase in quality when compared to blends consisting of resistant and susceptible varieties. The only discrepancy was associated with a blend of two resistant varieties. Lastly, tolerant varieties to Velocity in monostands had significantly greater quality and NDVI ratings and showed significantly reduced injury in comparison to the other blends. These results suggest that a single-variety planting can provide the same traffic tolerance and greater disease control than a blend, while also offering field managers another means to suppress *Poa annua* (annual bluegrass) invasion. This research is the framework in reducing the skepticism associated with replacing Kentucky bluegrass blends with monostands in performance turf situations. As breeding efforts continue to advance and genetically manipulated turfgrasses become introduced, the idea of monostands in athletic field turfgrass settings will become more prevalent.