Establishing faster-growing, durable football fields

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A study published in the February 2008 issue of *HortScience* offers new information that can help schools and contractors get outdoor athletic fields ready for fall sports more quickly. Results of the research study will help schools and communities pare down the usual 9- to 12-month waiting period between planting new fields and opening the fields to autumn football traffic.

Dr. John Stier, Associate Professor of Horticulture at University of Wisconsin-Madison, led the 2-year study of seed mixtures and planting times. He noted that football fields are usually planted using slow-establishing Kentucky bluegrass seed mixed with a lower proportion of perennial ryegrass seed. The objective of this study, explained Stier, was to evaluate the effects of planting time and seed mix on three different blends of the two seeds.

The researchers also studied each seed blend's ability to stand up to "football-type traffic". "We were interested in determining the amount of time needed for athletic fields to establish before they could successfully support autumn sports. We also wanted to see if the amount of time (to establish the fields) was affected by grass types and mixtures, and how planting time affected the relative proportions of different grass species that became established.", stated Stier.

During each year of the project, field plots were seeded three times: in late summer, as a dormant planting in late fall, and in the following spring. Each plot was subjected to simulated football traffic (simulating

either one or four weekly games) from mid-August through mid-November of the year in which spring seeding occurred.

According to Stier, all planting dates provided acceptable turf quality by September, regardless of seed type. However, Kentucky bluegrass-based mixtures planted during the summer provided better turf quality than mixtures planted in the spring. Dormant-seeded mixtures provided the poorest turf quality. The team found that turf seeded with 100% perennial ryegrass was less sensitive to planting dates than Kentucky bluegrass turf. Summer and spring plantings provided similar quality and dormant seedings resulting in superior quality to Kentucky bluegrass-based dormant seedings.

Additionally, simulated traffic studies revealed that different levels of traffic did not affect turf species proportions. The most consistently desirable results were obtained with a mixture containing 70%-80% Kentucky bluegrass and 30%-20% perennial ryegrass. The best results for mixtures dominated by Kentucky bluegrass came from fields seeded in late summer.

Stier added that perennial ryegrass could be planted in spring and provided ideal ground cover with few weeds, but mixtures in which Kentucky bluegrass seed comprised 50% or more of the turf needed to be planted the preceding summer. Dormant seedings did not perform well, leading to relatively poor ground cover and significantly higher weed populations.

Summarizing the impact of his team's research, Stier said: "The research outcomes can allow school systems to prepare better bids for construction and renovation of sports fields, making the fields more likely to meet expected performance standards and ultimately reduce costs to the school districts."

Source: American Society for Horticultural Science