

Breeding For The Future Of Sports Turf

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Sport turf areas will continue to improve in the future as a result of turfgrass breeders' efforts to improve perennial ryegrass, tall fescue and Kentucky bluegrass. Our turf and wear trials in the Willamette Valley of Oregon have shown that the new improved varieties of these species, especially the perennial ryegrasses, have very good potential for athletic fields. The fine fescues have not shown good wear tolerance in our trials.

Perennial Ryegrasses

The new turf-type perennial ryegrasses such as Manhattan II, Omega II, Citation II, Prelude, Palmer, Tara and Repell have shown improvements in density, mowing qualities color and disease resistance. They have shown good wear tolerance and the ability to survive under compacted soil conditions better than Kentucky bluegrass and tall fescue. Perennial ryegrasses are well known for their excellent seedling establishment rate. They have been used successfully for the renovation of many worn athletic fields and for the southern overseeding of dormant bermudagrass. They are able to tolerate a cutting height of 1/4" or less and do not form thatch. Perennial ryegrasses have the ability to grow actively in the fall later than Kentucky bluegrass and tall fescue.

Future breeding programs for perennial ryegrass will include improvements in overall disease resistance and winter hardiness in many northern areas of the U.S. On athletic fields the perennial ryegrasses should be used at a 30% level by weight in mixtures with improved Kentucky bluegrass.

Tall Fescues

In the last six years there have been many new turf-type tall fescues released that have shown improved turf quality and wear resistance compared to the old standard KY 31. Net Blotch caused by *Helminthosporium* is a serious disease. on tall fescues under wear and the varieties Apache, Bonanza, Cimarron, Mustang, Olympic, Jaguar, Trailblazer and Rebel II have shown improved resistance.

Tall fescues do not establish as rapidly as perennial ryegrass, but once they are established they form a stable turf with good lateral strength. Tall fescues are noted for their drought avoidance due to their deep root systems. They also are able to maintain density under lower fertility levels than perennial ryegrass. Tall fescues are not thatch prone like Kentucky bluegrass.

Improvements in tall fescue now being developed include a dwarfier growth habit, improved density, more vigor during establishment and improved brown patch resistance. The new tall fescues have given athletic field managers another viable choice, especially where 12 1/2" cutting heights are acceptable and where available irrigation is less than that needed for perennial ryegrass and Kentucky bluegrass.

Kentucky bluegrass

Kentucky bluegrass has been a popular athletic field grass for many years because of its extensive rhizome system. These underground rhizomes give bluegrass good sod strength and regrowth potential to repair divots. The main disadvantage of Kentucky bluegrass is its slow seedling establishment rate. Where scheduling is tight on an athletic field, sodding is usually the only viable option to establish Kentucky bluegrass.

Kentucky bluegrasses do not recover as rapidly from severe defoliation and do not tolerate compaction as well as the improved perennial ryegrasses. There is also a need to control thatch by aeration or vertical mowing on Kentucky bluegrass.

In the 1980 National Kentucky trials after five years, the top 24 commercial varieties in this trial, with 84 entries, were as follows: Midnight, Enmundi, Bristol, Classic, Eclipse,



Aspen, Trenton, Glade, Majestic, Haga, Victa, Plush, Cheri, Rugby, Sydsport, Columbia, Adelphi, Baron, Merit, Banff, Ram I, Challenger, Bonnieblue and Gnome. The varieties A-34 and Touchdown have been used successfully in athletic fields mixtures because of their leafy aggressive growth habit. Usually three to five varieties of Kentucky bluegrasses are used in a blend to broaden the genetic base of a new planting. As stated earlier, combinations of perennial ryegrass and Kentucky bluegrass have worked well, especially where summer blight is a problem on pure bluegrass stands.

Future improvements in Kentucky bluegrass must include varieties with stronger rhizomes, better establishment rates and improved tolerance to close mowing. Improvements are also needed in summer patch disease resistance and consistent seed production.

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SPECIFICATIONS

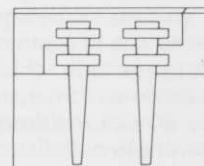
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THICKNESS	1/4"	3/16"
DEPTH	5"	4"
LENGTH	20'	20'
COVERAGE	19'-4"	19'-4"
STAKES	8	8
CURVATURE	60"	48"
STAKE DEPTH	18"	18"
APPROX. WT (INCL. STAKES)	93 LBS.	58 LBS.



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