

Rutgers Corner – Utilizing and maintaining Kentucky bluegrass as a sports turf

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Kentucky bluegrass (*Poa pratensis* L.) is considered by many to be the “Cadillac” of cool season turfgrass species for use on sports fields in New Jersey and other areas of the United States with a similar climate. The establishment of Kentucky bluegrass from seed is relatively slow; as a result, Kentucky bluegrass turf is frequently established with sod. The aggressive rhizomes of Kentucky bluegrass spread rapidly and produce a dense, strongly knit sod. Improved varieties of Kentucky bluegrass can produce a hardy, persistent, and attractive turf. It is adapted to a wide range of soils and climates and its extensive rhizomes provide excellent survival and recuperative potential, making it a

popular choice for sports fields prone to wear damage. The discovery of ‘Merion’ by Joseph Valentine in the early 1930s greatly increased the usefulness of Kentucky bluegrass as a turf in regions with a humid temperate climate.

The purchase of certified seed from wholesale or retail outlets is strongly suggested. Certified seed is grown in fields inspected by a state-certifying agency for genetic purity, and also must meet standards established for germination and freedom from weeds and other crop seeds. Knowing the variety of seed in the container is important because it allows the buyer to select improved varieties that will produce higher quality turf under traffic with greater persistence and fewer

inputs. Seed that does not identify varieties or is described as variety-not-stated (VNS) presents a great risk to the buyer because the potential turf quality of the seed is unknown. The seed in a container labeled as ‘VNS’ could produce turf quality ranging from extremely poor to good.

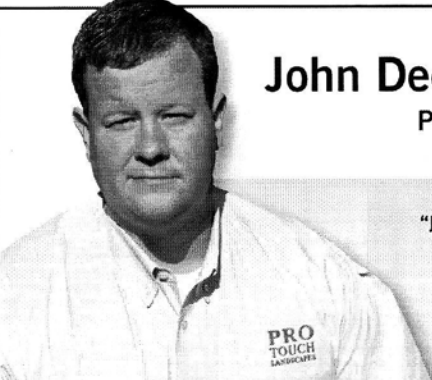
Seed blends of Kentucky bluegrass generally include three or more varieties. Blends of Kentucky bluegrass should be seeded at two to three pounds per 1000 square feet. Kentucky bluegrass is commonly mixed with tall fescue and/or perennial ryegrass to provide greater adaptability on turfs where environmental and management factors vary over the site. Such mixtures should consist of one or more Kentucky bluegrass varieties in combination with two or more varieties of the other species with the following standards (percentage by weight):

(Seed at 4 to 6 pounds per 1000ft²)

85	95%	Turf-type Tall fescue
5	15%	Kentucky bluegrass

(Seed at 3 to 5 pounds per 1000ft²)

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80 - 95% Kentucky bluegrass

5 - 20% Perennial ryegrass

Mixtures including all three species are also used; however, such broad species mixtures have a greater likelihood of becoming non-uniform (clumpiness). Mixtures of all three species are more likely to be uniform when seed weight is greatest for tall fescue followed by Kentucky bluegrass, and least with perennial ryegrass. For information on specific Kentucky bluegrass variety recommendations based on Rutgers traffic tolerance research and a description of the classification system utilized to group Kentucky bluegrass types, see Rutgers Cooperative Extension publication FS 545, Kentucky Bluegrass Varieties for New Jersey Sports Fields (www.rce.rutgers.edu/pubs/).

Kentucky bluegrass is adapted to well-drained fertile soil of slight acidity (optimum pH of 6.5 to 6.7). A soil pH of 6.0 is recommended for Kentucky bluegrass sports fields suffering from summer patch disease. A moderate to high level of fertility will improve

persistence of Kentucky bluegrass grown on poor quality soil; however, the overall appearance will not be of high quality without measures taken to improve the soil. Mowing heights of 1½ to 2 inches can be used when Kentucky bluegrass is maintained with moderate levels of fertility and sufficient water under cool to warm environmental conditions. Mowing heights below 1½ inch are only recommended for sports fields where the demand for playability is very high and management inputs can be optimized for persistence under close mowing (high labor and inputs).

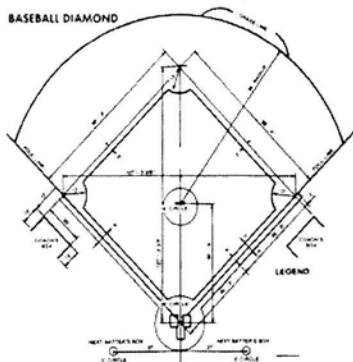
Annual nitrogen fertilization rates vary depending on the soil fertility, desired turf quality, and intensity of field use. Annual nitrogen rates range from 1 to 4 pounds of nitrogen per 1000 square feet of turf area. Higher annual nitrogen rates are needed for establishing turf or intensively trafficked sports fields where recovery from severe wear damage is necessary. Older turf where soil fertility has been built-up will generally require lower rates of nitrogen fertilization. Applying the majority of nitrogen fertilizer in late summer and early fall will improve density and health of the

turf better than spring application of fertilizer. For more information on fertilization of sports fields see Rutgers Cooperative Extension publication FS 105, Maintaining Athletic Fields (www.rce.rutgers.edu/pubs/).

Irrigation may be necessary under severe drought conditions to maintain green vigorous growth; however, a healthy Kentucky bluegrass will survive drought for many weeks by going dormant. Survival during drought-induced dormancy will be best if traffic, insects, or disease is not damaging the turf while the turf is dormant or entering dormancy (under drought stress). Kentucky bluegrass turf grown on shallow or poor quality soils will have a limited root and rhizome system and, therefore, less persistence under severe drought stress. More information on insects and diseases of turf can be found at www.rce.rutgers.edu/pubs/ or your county Extension office.

Literature Cited

Murphy, J.A. and B.S. Park. 2004. Kentucky bluegrass varieties for New Jersey sports fields. Rutgers Coop. Ext. Pub. FS 545 ♦



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