

1995 NTEP Kentucky Bluegrass Test

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Objective

Our objective was to evaluate the performance of varieties of Kentucky bluegrass under low mowing height, high maintenance conditions.

Rationale

Sports turf managers need to know which Kentucky bluegrass varieties can best tolerate low mowing heights required on elite quality athletic fields. In addition some golf course superintendents would like to maintain their fairways and tees at a mowing height less than 1 inch but are unable to grow creeping bentgrass or perennial ryegrass for one of many reasons. In these situations Kentucky bluegrass may be a viable option. This experiment was conducted to determine which Kentucky bluegrass cultivars are best adapted to regular mowing at 0.75 inch under Indiana conditions.

How It Was Done

One hundred and three varieties of Kentucky bluegrass were seeded on 1 Sep 1995 at the rate of 2.0 lbs seed per 1000 sq. ft. on a silt loam soil at the Purdue Agronomy Research Center. A starter fertilizer was applied immediately prior to seeding at the rate 0.2 lbs N, 1.0 lbs P₂O₅ and 0.2 lbs K₂O per 1000 sq. ft. After establishment the experiment was fertilized with 4.0 lbs N per 1000 sq. ft. per year using a 4:1:2 nutrient ratio fertilizer. Rates in lbs N per 1000 sq. ft., and dates of application were 1.0 lb N in late May, 0.5 lbs N in late July, 1.0 lb in mid-Sep, and 1.5 lbs N in early Nov. Turf was mowed at 0.75 inches three times per week with clippings returned and irrigated to prevent any sign of drought stress. A preemergence herbicide was applied each spring to control crabgrass and a postemergence herbicide was applied each fall to control broadleaf weeds. No insecticides or fungicides were applied during the experiment.

Data collected in 1995 were seedling vigor to assess rate of establishment. In 1996, 1997, 1998, and 1999, data collected included spring green-up, genetic color, leaf texture, disease incidence, and monthly quality ratings from Apr to Nov. All data taken were visual observations of turf characteristics and performance. Visual quality ratings were taken using a scale of 1 to 9 with 1 = no living turf, 5 = acceptable turf, and 9 = ideal turf.

Results

- The average visual quality rating after four years was 5.6. This provides a benchmark to compare the varieties on the market to the average performance of all Kentucky bluegrass varieties in the test
- Variety average visual quality ratings declined during the last year of the test. This was thought to be due to the negative impact of frequent mowing at 0.75 inches for four years.
- It is apparent that only a few varieties of Kentucky bluegrass are capable of tolerating repeated mowing at 0.75 inches for many years.
- Top performing Kentucky bluegrass varieties in this test were Brilliant, America, Unique, Limousine, Apollo, Showcase, Shamrock and Bartitia.

Table 1. Average yearly visual quality ratings of Kentucky bluegrass varieties for 1996, 1997, 1998, 1999 and four year average visual quality ratings.

Variety	Visual quality ^a				Four year average
	1996	1997	1998	1999	
Brilliant (PST-B2-42)	6.5	7.1	7.1	6.6	6.9
America	6.5	7.0	7.0	6.6	6.8
Unique	6.1	6.7	6.9	6.7	6.6
Limousine	6.3	6.8	6.3	6.5	6.5
Apollo (PST-B3-180)	6.0	6.9	6.7	6.5	6.5
Showcase (PST-BO-141)	6.0	6.5	6.6	6.6	6.4
Shamrock	6.0	6.4	6.7	6.0	6.3
Bartitia	6.6	6.4	6.4	5.9	6.3
ASP200 (HV 130)	6.1	6.3	6.4	6.0	6.2
Absolute (MED-1497)	6.1	6.4	6.5	5.8	6.2
Rambo (J-2579)	5.6	6.6	6.3	6.4	6.2
Ba 81-270	6.4	6.6	6.2	5.8	6.2
North Star (PST-A7-60)	5.9	6.2	6.2	6.4	6.2
Conni	5.8	6.8	6.1	6.2	6.2
NuStar	6.4	5.8	6.3	5.9	6.1
Award	5.5	6.3	6.6	6.0	6.1
SR 2109	5.9	5.9	6.4	6.0	6.1
Coventry	6.2	6.5	6.3	5.6	6.1
Blacksburg	6.2	6.3	6.2	5.6	6.1
Midnight	6.3	6.2	6.3	5.4	6.1
Livingston	6.0	6.2	6.4	5.8	6.1
Princeton 105	5.8	6.3	6.1	5.8	6.0
BAR VB 233	6.3	6.2	5.9	5.6	6.0
NJ-GD	5.8	6.0	6.5	5.7	6.0
Eclipse	5.7	6.2	6.3	5.7	6.0
Wildwood	5.8	6.2	5.8	6.0	5.9
Chateau	6.0	6.3	5.8	5.3	5.9
BAR VB 6820	5.6	6.4	5.5	6.0	5.9
Marquis	6.1	5.8	5.9	5.8	5.9
Classic	6.3	6.3	5.9	5.0	5.9
Total Eclipse (TCR-1738)	5.5	6.3	6.1	5.5	5.9
Ba 73-373	6.1	5.9	6.0	5.7	5.9
Ba 81-220	6.3	6.1	5.7	5.3	5.9
NJ 1190	5.2	5.6	6.3	6.4	5.9
Jefferson	6.2	6.0	6.0	5.7	5.9
Baronie	6.3	6.2	6.0	5.0	5.9
HV 242	6.1	6.1	5.9	5.2	5.8
Rugby II (MED-18)	5.6	6.2	5.9	5.4	5.8
Odyssey (J-1561)	5.6	6.0	6.0	5.6	5.8
NuGlade	5.3	6.2	6.0	5.5	5.8
Liberator (ZPS-2572)	5.4	6.1	5.9	5.7	5.8
Abbey	6.0	5.8	5.8	5.4	5.8

Table 1. Average yearly visual quality ratings of Kentucky bluegrass varieties for 1996, 1997, 1998, 1999 and four year average visual quality ratings. (continued)

Variety	Visual quality ^a				Four year average
	1996	1997	1998	1999	
BA 70-060	6.0	6.0	5.8	5.3	5.8
Ba 76-197	5.2	5.5	5.8	6.7	5.8
PST-P46	6.0	6.0	6.1	5.2	5.8
Serene (PST-A7-245A)	5.5	6.3	6.0	5.5	5.8
Nimbus	6.4	6.1	5.7	5.0	5.8
NJ-54	5.5	6.0	5.8	5.8	5.8
BAR VB 3115B	6.3	5.8	5.9	4.8	5.7
Bariris (BAR VB 5649)	5.5	6.1	5.9	5.0	5.7
Champagne (LPT-621)	5.5	5.8	6.0	5.5	5.7
Envicta (Ba 75-173)	5.8	5.8	5.8	5.4	5.7
Seabring (Ba 79-260)	6.1	6.2	5.7	4.7	5.7
Ba 81-058	5.8	6.0	6.0	5.3	5.7
Jewel (Ba 81-227)	5.6	5.8	5.9	5.5	5.7
Glade	6.2	5.8	5.5	5.5	5.7
Fortuna	6.1	6.0	5.8	4.7	5.7
Ba 77-702	5.4	5.7	5.9	5.5	5.6
Pick 8	5.3	5.9	5.8	5.3	5.6
Impact (J-1576)	5.2	5.8	6.0	5.5	5.6
Chicago (J-2582)	5.6	5.9	5.6	5.1	5.6
Quantum Leap (J-1567)	5.3	5.9	5.6	5.4	5.6
SRX 2205	5.8	6.0	5.5	5.3	5.6
Misty (Ba 76-372)	5.2	5.6	5.9	5.8	5.6
Blackstone (PST-638)	5.6	6.0	5.7	5.0	5.6
Challenger	5.9	6.1	6.0	4.6	5.6
Platini	6.0	5.8	5.8	4.5	5.6
Allure	6.3	6.1	5.2	4.7	5.6
MED-1580	5.8	5.6	5.1	5.5	5.5
Bluechip (MED-1991)	5.3	5.9	5.4	5.3	5.5
Caliber	5.8	5.9	5.5	4.6	5.5
Ba 75-490	5.7	5.5	5.8	5.3	5.5
Goldrush (Ba 87-102)	6.0	5.5	5.7	5.0	5.5
PST-BO-165	5.1	6.1	5.8	5.0	5.5
Baron	5.4	5.5	5.6	5.2	5.4
LKB-95	5.4	5.4	5.4	5.4	5.4
Raven	5.7	5.3	5.5	5.1	5.4
Pick-855	6.0	5.7	5.3	4.8	5.4
Arcadia (J-1936)	5.4	5.7	5.3	4.9	5.3
Ascot	5.3	5.3	5.6	5.0	5.3
ZPS-2183	5.1	5.6	5.4	5.2	5.3
Explorer (Pick-3561)	5.6	5.5	5.2	4.6	5.2
Ba 81-113	5.8	5.3	5.0	4.6	5.2
Moonlight (PST-A418)	5.1	5.7	5.5	4.5	5.2

Table 1. Average yearly visual quality ratings of Kentucky bluegrass varieties for 1996, 1997, 1998, 1999 and four year average visual quality ratings. (continued)

Variety	Visual quality ^a				Four year average
	1996	1997	1998	1999	
Pepaya (DP 37-192)	5.8	5.6	4.9	4.3	5.1
Haga	6.3	6.1	4.2	3.8	5.1
ZPS-309	5.4	5.7	5.1	4.3	5.1
Cardiff	6.0	5.8	5.4	3.5	5.1
SR 2100	5.9	5.2	4.9	4.0	5.0
Sodnet	4.6	5.3	4.9	5.2	5.0
Dragon (ZPS-429)	5.5	5.7	4.6	4.2	5.0
Ba 75-163	5.4	5.6	4.8	3.7	4.9
SR 2000	6.0	5.4	4.7	3.1	4.8
A88-744	5.2	5.1	4.9	3.8	4.7
H86-690	5.1	4.6	4.9	4.2	4.7
Sidekick	5.3	4.6	4.5	3.9	4.6
VB 16015	5.4	4.9	4.5	3.4	4.5
LPT-620	3.8	4.3	5.1	4.4	4.4
Lipoa	5.7	4.7	3.4	2.8	4.1
J-1555	6.0	4.3	2.8	2.7	3.9
Baruzo	4.9	3.3	3.5	3.8	3.9
Compact	5.1	4.3	3.2	2.4	3.7
Kenblue	4.2	2.8	3.1	2.8	3.2
Variety Average ^b	5.7	5.8	5.7	5.2	5.6

^a Visual quality ratings were taken using a scale of 1 to 9 with 1 = no living turf, 5 = acceptable turf, and 9 = ideal turf.

^b Variety average is the average visual quality rating of all 103 varieties of Kentucky bluegrass in the test for a given year and the four year average.