

Performance of Kentucky Bluegrass Cultivars in Michigan: 2001-05

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Kentucky bluegrass is the most widely used turfgrass in Michigan. It is used in home lawns, institutional grounds, parks and athletic fields. The species is persistent and attractive and has a medium to fine leaf texture and medium to dark green color when properly fertilized. Plants produce extensive underground stems, called rhizomes, which provide good sod-forming characteristics and recuperative potential superior to that of most other turfgrasses. It is cold and wear tolerant but has only moderate heat and drought tolerance. Optimum growth observes during the spring and fall, but without irrigation it will likely turn dormant during hot, dry periods in the summer. Kentucky bluegrass will recover quickly with the advent of cooler temperatures and adequate soil moisture.

Plants perform best when grown on well-drained soils in open, sunny areas. This grass species does not tolerate poorly drained soils or extensive shade. Kentucky bluegrass generally requires more nitrogen (N) fertilizer than other cool-season grasses and tends to produce a significant amount of thatch. Mowing height should be maintained at 2.5 to 4 inches except during hot, humid conditions when the mowing height should be raised to 3 to 5 inches. It is difficult to maintain at 2-3 inches without irrigation. When planted from seed, Kentucky bluegrass requires up to two weeks for seed emergence.

The National Turfgrass Evaluation Program (NTEP) Kentucky bluegrass test was established in September 2000 at the Hancock Turfgrass Research Center at Michigan

State University. The test comprised of 172 commercial cultivars (see table). The trial was mowed three times per week at a height of 2.5 inches. Three to four pounds of N per 1000 square feet were applied each growing season. Plants were irrigated whenever necessary to prevent wilting. The plots were visually evaluated once per month during the growing season for turfgrass quality and other parameters. "Quality" means the overall appearance of the turf plots. Components include density, texture, uniformity, color, and freedom from disease and insect damage. Quality was rated using a scale of 1 to 9, where 9 equals the highest quality. Entries are listed in order of highest seasonal average quality for 2001, 2002, 2003, 2004 and 2005 to lowest seasonal average quality for the five years combined. Percent living ground cover in the summer was rated based on surface area covered by the originally planted species. It is used to express damage caused by disease, insects, weed encroachment, or environmental stress. Percent living ground cover is often measured in the spring, summer, and fall rated using percentage. The summer allows us to track the turfgrass response to various stresses during the growing season. For comparison, average turfgrass quality and percent living ground cover of Kentucky bluegrass grown at 11 locations at US (IL, IN, KY, MA, MO, OH, OK, RI, UT, WA, and WY) are included in the table. Turfgrass quality of Kentucky bluegrass grown under artificial shade at Bowling Green, KY was included also (see the table).

Differences between two entries are statistically significant only if the numerical difference between two entries exceeds the LSD value listed in the table. For example, if cultivar 'Award' is 0.5 units higher in quality than cultivar 'Allure', this difference is significant because the LSD value is smaller (0.4). If the LSD is greater than the numerical difference between the two cultivars then the differences is not significant.

Coefficient of variation which indicates the percent variation of the mean, smaller variation indicates good data validation.

Few differences in turfgrass quality were found among the Kentucky bluegrass entries in this test during 2001- 05. In spite of differences in growing conditions between 2001, 2002, 2003, 2004 and 2005 the average turfgrass quality of some improved cultivars varied little among seasons. The entries showing the best seasonal average quality over the five-year test period are listed in the table.

For more information, visit: <<http://www.ntep.org>> under Michigan State University data.

Mean turfgrass quality and percent living ground cover of Kentucky bluegrass cultivars and selected lines grown at Michigan State University (Hancock Turfgrass Research Center) and 11 other locations in the US for the years of 2001-2005. Mean turfgrass quality of Kentucky bluegrass grown under artificial shade at Bowling Green, KY was included.

Entry	Quality 2001-2005		Percent living ground cover 2001-2005		Quality under artificial shade 2001-2005
	MI	At 11 U.S. locations	MI	At 11 U.S. locations	in KY
AWARD	6.8	6.2	73	85	5.3
BEDAZZLED	6.8	6.3	77	86	5.5
BOUTIQUE	6.8	5.4	83	82	5.4
LANGARA	6.8	5.9	75	87	5.3
NORTH STAR	6.8	5.9	67	87	5.1
ALPINE	6.7	5.6	77	82	4.8
BARRISTER (J-1655)	6.7	6.0	77	84	4.3
BLUE KNIGHT	6.7	5.4	77	69	4.7
COURTYARD (J-1838)	6.7	6.1	70	86	5.5
GLENMONT (H94-293)	6.7	5.6	78	79	5.2
IMPACT	6.7	6.2	73	82	5.3
KINGFISHER (SRX 2394)	6.7	5.8	73	74	5.2
MOONLIGHT	6.7	5.6	77	83	5.3
NU DESTINY (J-2695)	6.7	6.1	77	85	5.6
NUGLADE	6.7	6.0	75	85	5.3
*SORBONNE DLE76 9037	6.7	5.6	73	91	5.3
TOTAL ECLIPSE	6.7	6.0	75	90	5.5
TSUNAMI (J-2487)	6.7	6.0	65	81	5.4
UNIQUE	6.7	5.8	77	87	5.2
ARCADIA	6.6	6.1	82	87	5.5
ARROW (A97-1567)	6.6	5.5	77	88	5.1
BLACKSTONE	6.6	5.8	75	84	5.3
BLUE VELVET (J-1513)	6.6	6.1	73	86	5.7
DIVA (PRO SEEDS-453)	6.6	6.1	73	85	5.3
EAGLETON	6.6	5.5	77	87	4.7
EXCURSION (J-1648)	6.6	6.0	72	85	5.6
FREEDOM II	6.6	5.6	68	84	5.3
GINNEY (J-1368)	6.6	6.0	70	85	5.5
HALLMARK	6.6	5.5	77	86	5.0

*J-2885	6.6	5.8	73	89	5.2
KATIE (A96-451)	6.6	5.3	75	78	5.4
MOONSHADOW PICK 113	6.6	5.6	67	88	5.3
ODYSSEY	6.6	6.0	68	88	5.5
PERFECTION (J-1515)	6.6	5.9	67	88	5.6
*PP H 6366	6.6	5.9	75	79	4.8
PRINCETON 105	6.6	5.9	72	81	4.9
QUANTUM LEAP	6.6	5.9	75	85	5.7
ROYCE (A98-304)	6.6	5.8	73	89	5.0
RUGBY II	6.6	6.0	73	88	5.2
SERENE	6.6	5.9	77	86	5.0
SR 2284 (SRX 2284)	6.6	5.5	80	81	4.6
VALOR (A97-1330)	6.6	5.8	80	88	5.2
WILDWOOD	6.6	5.5	78	84	4.8
*A98-1028	6.5	5.3	78	79	5.5
A98-183	6.5	4.9	72	83	5.0
A98-365	6.5	5.2	75	88	5.1
APOLLO	6.5	5.7	77	88	5.4
AVALANC	6.5	5.9	77	91	5.1
*B4-128A	6.5	5.8	75	85	4.9
*BA 82-288	6.5	5.1	75	82	4.9
*BA 83-113	6.5	5.1	73	85	6.3
BARIRIS	6.5	5.6	72	88	4.6
BARONETTE 9 BA 81-058	6.5	5.2	75	80	4.7
BARONSS (BAR PP 0648)	6.5	5.8	72	86	5.2
BEYOND (J-1880)	6.5	6.0	73	85	5.6
BLUEMAX (PST-B5-89)	6.5	5.4	78	83	5.6
BLUESTONE (PST-731)	6.5	5.9	87	84	5.4
BORDEA	6.5	5.5	80	79	5.4
CABERNET	6.5	5.3	73	86	5.3
CASABLANCA (B3-171)	6.5	5.7	78	87	5.0
CHAMPLAIN (A98-1275)	6.5	5.6	72	86	4.8
DELIGHT (A97-1432)	6.5	5.7	73	84	5.6
EVEREST	6.5	5.7	72	84	5.6
EVERGLADE	6.5	5.8	75	83	5.3
FREEDOM III (J-2890)	6.5	5.8	75	87	5.4
*HV 238	6.5	5.5	80	88	5.1
JEFFERSON	6.5	5.6	77	84	5.0
JULIA	6.5	5.3	83	89	4.9
LIMOUSINE	6.5	5.8	83	85	4.8
MALLARD (A97-1439)	6.5	5.4	82	90	5.2
MOONSHINE (PST-1804)	6.5	5.6	80	81	5.4
*PST-161	6.5	5.2	82	88	5.1
*PST-B5-125	6.5	5.5	70	82	4.9
*PST-H6-150	6.5	5.6	75	89	4.8
RAMBO	6.5	5.6	73	87	5.1
RAMPART (PICK 417)	6.5	5.3	75	80	4.8
SHOWCASE	6.5	5.6	77	86	5.3
*SI A96-386	6.5	5.3	80	85	4.9
SKYE (A97-1715)	6.5	5.6	80	85	5.1

SONOMA	6.5	5.6	75	78	5.2
VOYAGER II (PST-1QG27)	6.5	5.8	74	87	5.2
A96-742	6.4	4.8	78	88	4.9
A97-857	6.4	5.0	67	83	4.9
ALEXA (J-2561)	6.4	6.0	70	89	5.5
ASCOT	6.4	5.5	72	81	4.9
*BA 84-140	6.4	5.5	80	70	5.0
*BAR PP 0566	6.4	5.2	73	86	5.2
BAR PP 0573	6.4	5.3	70	86	5.0
BARNIQUE (BAR PP 0671)	6.4	5.8	65	83	5.0
BLACK SBURG II	6.4	5.1	78	83	4.9
BLUE RIDGE (A97-1449)	6.4	5.1	77	77	5.1
BLUE SAPPHIRE (NAK99)	6.4	4.9	77	80	4.6
BOOMERANG	6.4	4.8	73	79	4.7
CHATEAU	6.4	5.7	75	81	5.1
CHEETAH (PP H 6370)	6.4	5.6	78	87	5.4
CHELSEA	6.4	5.6	83	82	5.0
COVENTRY	6.4	5.6	78	82	4.8
CVB-20631	6.4	5.0	73	77	4.4
*DLF 76-9032	6.4	5.5	77	87	5.0
DURHAM (A96-427)	6.4	5.3	75	83	5.3
DYNAMO (B3-185)	6.4	5.7	75	87	5.1
GOLDRUSH	6.4	5.1	77	84	4.8
GOLDSTAR (A98-296)	6.4	5.3	73	83	4.8
*H92-203	6.4	5.6	78	88	4.7
*H92-558	6.4	5.4	78	79	4.7
*HV 140	6.4	5.3	78	85	4.3
LAKESHORE (A93-200)	6.4	5.4	77	79	5.3
LIBERATOR	6.4	5.7	75	85	5.1
*LIMERICK	6.4	5.2	78	85	4.4
MERCURY (PICK-232)	6.4	5.2	82	86	5.4
MIDNIGHT II (A98-739)	6.4	6.0	77	86	5.6
MIDNIGHT	6.4	6.2	78	87	5.6
*NA-K992	6.4	4.3	80	80	4.4
*PICK 453	6.4	5.4	80	83	4.5
PP H 7907	6.4	4.9	73	72	4.2
PP H 7929	6.4	4.8	72	77	4.5
*PST-108-79	6.4	5.5	70	84	4.9
*PST-B3-170	6.4	5.6	73	84	5.1
*PST-B4-246	6.4	5.5	73	81	4.7
PST-YORK HARBOR 4	6.4	5.0	75	81	4.6
RITA	6.4	5.3	70	81	4.9
ROYALE (A97-1336)	6.4	5.5	77	79	5.3
SHAMROCK	6.4	5.4	70	78	5.0
*SRX 2114	6.4	5.5	77	80	5.4
ULYSSES (PP H 7832)	6.4	5.4	78	78	4.9
A96-739	6.3	5.2	70	85	5.1
A97-1409	6.3	4.9	73	78	5.2
ALLURE	6.3	5.6	75	77	5.0
AWESOME (J-1420)	6.3	5.9	78	86	5.3

*B5-43	6.3	5.6	75	77	4.9
*B5-45	6.3	5.5	77	81	5.0
*BA 00-6001	6.3	5.5	73	83	5.4
BARITONE	6.3	5.4	73	85	4.8
BARON	6.3	5.2	75	81	4.9
BARONIE	6.3	5.1	75	79	4.9
*BH 00-6002	6.3	5.1	82	82	5.1
*BH 6003	6.3	4.3	77	80	4.6
BLUE-TASTIC (187-308)	6.3	5.5	77	83	5.4
BRILLIANT	6.3	5.9	75	86	5.3
BROOKLAWN	6.3	5.5	73	81	5.6
CHAMPAGNE	6.3	5.5	77	82	5.3
CHICAGO II	6.3	5.7	73	81	5.6
ENVICTA	6.3	5.1	73	81	4.8
FAIRFAX	6.3	5.6	77	81	5.0
*GO-9LM9	6.3	4.2	78	71	4.3
JEWEL	6.3	4.9	70	81	4.8
JULIUS	6.3	5.7	72	77	4.4
*LILY	6.3	5.5	80	79	4.6
MARQUIS	6.3	5.3	82	85	4.8
MONGOOSE (A98-881)	6.3	5.3	82	79	5.1
MONTE CARLO (A96-402)	6.3	5.2	73	78	5.4
*PST-222	6.3	5.1	78	73	5.4
*PST-H5-35	6.3	5.4	75	76	5.3
*SRX 26351	6.3	5.3	68	75	4.9
SRX 27921	6.3	5.0	72	70	5.2
SRX QG 245	6.3	4.9	75	77	4.1
WASHINGTON	6.3	5.2	75	88	4.5
99AN-53	6.2	4.7	73	74	4.9
*A98-407	6.2	5.1	67	75	5.2
ABBNEY	6.2	5.1	83	82	4.4
APPALACHIAN (A98-139)	6.2	4.6	72	83	5.1
BARTITAIA	6.2	5.4	73	78	5.5
BARZAN	6.2	4.9	75	83	4.5
*DLF 76-9036	6.2	5.1	82	83	4.6
KENBLUE	6.2	4.1	73	83	4.3
MISTY	6.2	5.2	73	82	5.6
*PST-604	6.2	5.1	75	79	5.2
WELLINGTON	6.2	4.3	73	76	4.1
*B5-144	6.1	5.6	73	80	5.0
BODACIOUS	6.1	4.8	83	77	4.6
RAVEN	6.1	5.2	78	84	4.8
DLF 76-9034	6.0	4.4	80	83	4.7
LSD value	0.4	0.3	13.2	12.2	0.7
C. V. (%)	4.3	9.7	10.3	15.2	15.8

* Commercially not available yet