

2002 NTEP Bermudagrass Cultivar Evaluation – 2002

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Objective

The objective of this study was to determine the survivability and performance of seeded and vegetatively established bermudagrass for use on golf courses and athletic fields in Indiana.

Rationale

With genetically improved cultivars, bermudagrass is being used or considered for golf course fairways and athletic fields in southern IN. There has been tremendous genetic improvement in winter survivability and leaf texture for bermudagrass and so this species may now be better adapted to Southern IN than it has been in the past. However, the Achilles heel of bermudagrass is winter survival and West Lafayette is more suitable for evaluating this trait.

How It Was Done

Forty-six varieties of bermudagrass were established in June 2002 at the William H. Daniel Research and Diagnostic Center on a silt loam soil. The experiment area was tilled and fumigated prior to establishment to minimize competition from annual grasses and broadleaf weeds. The area was then smoothed and leveled to prepare the seedbed. A starter fertilizer (8-22-16) was applied prior to seeding at 1.5 lbs P₂O₅/1000 ft². Seed rate was approximately 0.5 lb/1000 ft² for the 32 seeded cultivars and the 14 vegetative cultivars were established with 1.5 in by 1.5 in plugs on 12 inch centers. The seeded varieties were covered with AgroFabric to encourage germination, and then the entire area was watered 2 to 3 times daily to encourage germination and establishment. Maintenance on the area is typical of fairways and includes mowing at 0.5 inch 3 times per week, irrigation to prevent moisture stress, and 3 lbs N/1000 ft²/yr (1 lb in June, July, and August).

Results to Date

This test was started last summer so there are very few results to report at this time. The seeded cultivars generally covered faster than the vegetative cultivars, but this is primarily a factor of seed rate vs the spacing of vegetative plugs. We would expect little genetic difference in spread between seeded and vegetative cultivars when seeded or sprigged at equivalent rates. Almost all cultivars reached 100% cover by the first frost, except Tifway and OKC 70-18. With a fairly open, dry, and cold winter in West Lafayette, we expect significant winterkill in these bermudagrasses. Not only is West Lafayette on the far north boundary for bermudagrass survival, bermudagrass is especially susceptible to winterkill in its first winter after establishment.

- When making cultivar selections, it is best to consult the NTEP web page at www.ntep.org for complete performance data from around the country on cultivars, placing special emphasis on how cultivars perform in IN, IL, KY, MI and/or OH (depending if you are located in northern, central, or southern IN) under the specific maintenance regime you intend for that grass.

Table 4. Percent cover and visual quality of 46 bermudagrass cultivars.

		% Cover		Quality ^a 20 Sep
		8 Aug	20 Sep	
SWI-1003	Seed	100	100	5.3
SWI-1012	Seed	100	100	5.3
SWI-1041	Seed	100	100	5.7
SWI-1045	Seed	100	100	6.0
SWI-1046	Seed	100	100	5.3
Tift No1	Seed	100	100	4.7
Princess 77	Seed	98	100	4.7
Sundevil	Seed	98	100	4.7
Celebration	Veg	97	100	4.7
CIS-CD5	Seed	97	100	4.3
CIS-CD6	Seed	97	100	5.0
FMC-6	Seed	97	100	4.7
Patriot	Veg	97	100	6.3
Riviera	Seed	97	100	5.0
SWI-1001	Seed	97	100	4.7
Southern Star	Seed	97	100	5.0
Transcontinental	Seed	97	100	4.7
PST-R6LL	Seed	95	100	4.7
Panama	Seed	95	100	5.0
SR 9554	Seed	95	100	4.3
SRX 9500	Seed	95	100	4.0
Sunstar	Seed	95	100	5.0
Yukon	Seed	95	100	5.0
B-14	Seed	93	100	4.7
Mirage	Seed	93	100	3.7
Mohawk	Seed	93	100	4.3
NuMex Sahara	Seed	92	100	5.0
SWI-1044	Seed	92	100	6.0
Arizona Common	Seed	90	100	5.3
PST-R6U95	Seed	88	100	4.0
Tift No2	Seed	85	100	4.7
Midlawn	Veg	82	100	6.3
SWI-1014	Seed	82	100	4.3
Ashmore	Veg	78	100	6.3
PST-R68A	Seed	77	100	4.7
GN-1	Veg	72	100	4.7
Tift No3	Veg	70	100	6.3
CIS-CD7	Seed	67	100	4.0
Quickstand	Veg	67	100	3.7
Aussie Green	Veg	53	100	6.3
MS-Choice	Veg	47	100	6.3
OR 2002	Veg	42	100	7.0
Tift No4	Veg	32	100	6.3
Tifsport	Veg	20	100	5.7
Tifway	Veg	23	97	5.3

OKC 70-18	Veg	25	83	5.0
LSD (0.05)		18	4	1.2

^a Quality was visually rated on a scale of 1 to 9 where 1 = dead, 5 = acceptable, and 9 = perfect.