

Latitude 36® Bermudagrass White Paper



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Introduction

In 2011, following years of testing and narrowing down of selections, Oklahoma State University's renowned turfgrass breeding program released two new bermudagrass varieties to the market, NorthBridge® and Latitude 36®. The first one to take off in the public sphere was Latitude



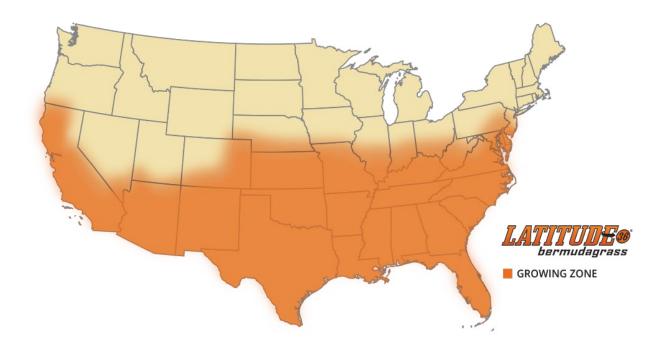
36. It was early adopted by some big-name programs on the east coast, like the University of Virginia football and baseball teams, the Durham Bulls minor league baseball program and Duke University's Wallace-Wade Stadium.

All of this happened within two years of release which is usually unheard of in the sports industry. What made Latitude 36 stand out to those sports field managers is the same thing that continues to make this grass shine over a decade later- it has some of the best appearance and best overall "playability" of any grass on the market today. Latitude 36 is used in college and professional stadiums, golf courses and residential and commercial locations around the globe and continues to set the standard in the industry.



Why Bermudagrass and Why Latitude 36?

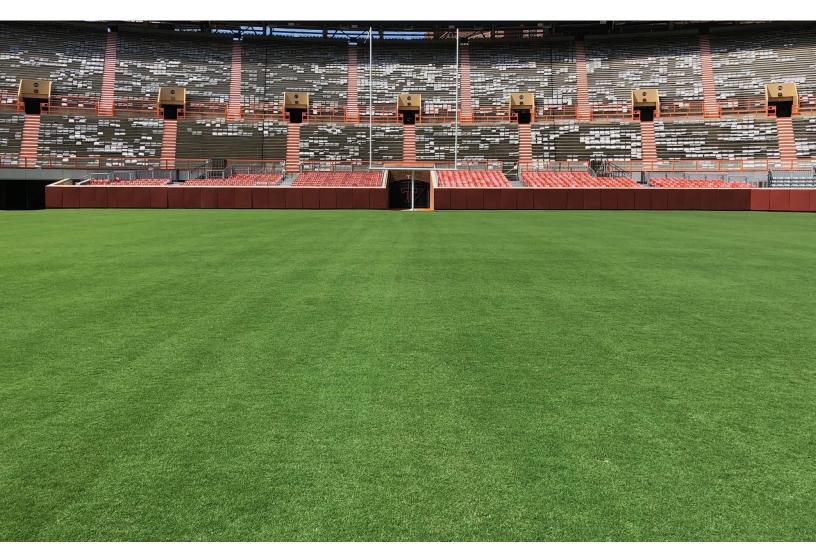
Bermudagrass is commonly used for its high traffic tolerance and sturdy roots and fine blades. The rapid growth rate helps to self-repair quickly from spots caused by normal wear and tear, divots or cart traffic. Bermuda can recover from excessive damage quicker than most ground covers. In addition, bermudagrass has a high visual appeal in home lawns, parks and other commercial landscapes. It is often cited as one of the "softer" grass varieties in the world.



Looking at the map, it is easy to see why Latitude 36 Bermudagrass gained notoriety rapidly. According to Oklahoma State, it was selected to test and stretch the upper limits of the transition zone for bermudagrass adaptability. Latitude 36 is a cold-tolerant, warm season turfgrass variety and has been used as far north as Philadelphia with success. Its extended use range gives the ability to use more drought-hardy varieties further north while maintaining longer seasons of green in the southern parts of the country. Latitude 36 greens up sooner than common bermuda varieties and it holds its color longer into the fall when dormancy typically sets in for warm season cultivars.

Latitude 36 has been utilized for stadiums and golf courses around the country for its appearance. It showcases one of the tightest, fine-bladed looks in the sports and golf industries. For high-profile venues and courses where television cameras pick up all of the action, this is extremely important.

That same compact blade structure gives Latitude 36 some of the best "playability" in the sports and golf industries. Playability includes ball roll, the way the ball sits up on the blades and how the ball interacts with the grass overall. This variety is often the "star" of the television set. In-person, it is no different, giving the fan or in the case of a front lawn, the homeowner the benefit of one of the most spectacular surfaces on the planet.



Neyland Stadium, University of Tennessee | Knoxville, TN

Origins

Originally designated OKC 1119, Latitude 36 is a clonally propagated F_1 hybrid from a cross of *Cynodon dactylon* and *C. transvaalensis*. It is sterile meaning it wont spread from seed and must be propagated vegetatively. Crossing of the two-parent plants was achieved by planting clonal plants of each parent in close proximity in a small nursery isolated from other bermudagrass. Seed harvested in 1998 from plants of the respective parents in the crossing block was used to start 630 individual spaced plants in a screening nursery in the spring of 1999 at the Agronomy Research Station, Stillwater, OK.

In spring 2001, 118 plants from the screening nursery were advanced to a second level two replicate screening test on the Agronomy Research Station. One of the varieties advancing from this test was OKC 1119. In summer 2004, Latitude 36 (OKC 1119) was included in a replicated mowing evaluation test at the Turf Research Center in Stillwater, OK. This test was conducted under a golf course fairway management protocol and evaluated entries for many criteria influencing performance.

After consistent high-performance indications, Latitude 36 (OKC 1119) was selected to move on for potential commercial release. Latitude 36 (OKC 1119) was entered into the 2007 National Turfgrass Evaluation Program (NTEP) bermudagrass test where it performed remarkably well; so much so that it was designated for commercial release in 2011 with its sister bermudagrass NorthBridge.



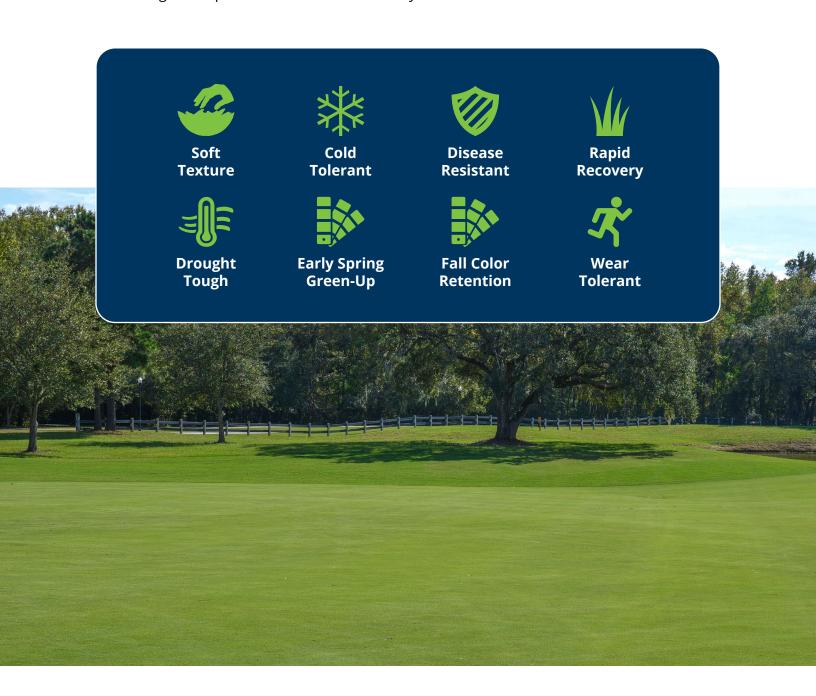
"We submitted these two selections (NorthBridge and Latitude 36) to the 2007–2012 NTEP because the two grasses exhibited exceptional turfgrass quality, early spring green-up, excellent sod tensile strength and some other favorable characteristics."

- Yanqi Wu - Oklahoma State Turfgrass Breeder



Characteristics & Features

Latitude 36 was selected because it featured a characteristic set that is among the best in the turfgrass industry. From texture and resistance to disease to an ability to hold color in the colder months, Latitude 36 really "checks all the boxes" of turfgrass adaptability, both from professional and residential users alike. Latitude 36 has raised the bar for bermudagrass expectations across the country and around the world.



Latitude 36's Cold Tolerance

Latitude 36 Bermudagrass was originally developed for superior cold tolerance. The better the cold hardiness, the less risk of winterkill when bermudagrass is used in the northern portion of the U.S. transition zone. The transition zone is the middle area of the country that incurs hot summers and cold winters. This cold-tolerant genetic trait is prevalent in Latitude 36 as it holds color longer in the cold and has an earlier spring season green-up. This offers the option of "opting out" of overseeding, saving money in areas that have used overseeding on a yearly basis in the past.

Fall Density

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JSC 2013-12S 5.3 6.7 6.4 MSB-1048 6.3 5.7 6.2 SUN QUEEN (PST-R6MM) 5.7 6.7 6.2 TAHOMA 31 6.3 4.7 6.2 MONACO 5.0 6.3 6.2 PST-R6TM 5.0 7.3 6.2 DLF-460/3048 5.0 6.3 6.0 JSC 2013-8S 5.0 5.7 6.0 OKS2015-3 5.0 6.7 6.0 JSC 2013-10S 5.3 5.7 5.9 MSB-1017 6.7 3.0 5.9 MSB-1075 7.0 3.7 5.9 JSC 77V 6.3 4.3 5.9 JSC 77V 6.3 4.3 5.9 ASTRO 5.7 6.0 5.8 FB 1902 6.3 5.7 5.8 OKC1406 7.0 3.3 5.8 OKC1406 7.0 3.3 5.8 OKC1406 7.0 2.3 5.8 OKC2015-1 5.0 6.3 5.8 RIVIERA 5.3 5.0 5.8 OKC2015-1 5.0 6.3 5.8 OKC2015-1 5.0 6.3 5.8 OKC1873 7.0 2.7 5.6 JSC 80V 6.3 2.3 5.2 FB 1630 6.0 4.3 5.2 OKS2015-7 5.0 4.7 5.1 LSD VALUE 0.8 2.6 1.0 C.V. (%) 8.5 29.0 16.9	FB 1903	6.3	7.3	6.7	
JSC 2013-12S 5.3 6.7 6.4 MSB-1048 6.3 5.7 6.2 SUN QUEEN (PST-R6MM) 5.7 6.7 6.2 TAHOMA 31 6.3 4.7 6.2 MONACO 5.0 6.3 6.2 PST-R6TM 5.0 7.3 6.2 DLF-460/3048 5.0 6.3 6.0 JSC 2013-8S 5.0 5.7 6.0 OKS2015-3 5.0 6.7 6.0 JSC 2013-10S 5.3 5.7 5.9 MSB-1017 6.7 3.0 5.9 MSB-1017 6.7 3.0 5.9 MSB-1075 7.0 3.7 5.9 JSC 77V 6.3 4.3 5.9 ASTRO 5.7 6.0 5.8 FB 1902 6.3 5.7 5.8 OKC1406 7.0 3.3 5.8 OKC1406 7.0 3.3 5.8 OKC1406 7.0 2.3 5.8 OKC216-1 5.0 6.3 5.8 RIVIERA 5.3 5.0 5.8 OKC2015-1 5.0 6.3 5.8 OKC2015-1 5.0 6.3 5.8 OKC1873 7.0 2.7 5.6 JSC 80V 6.3 2.3 5.2 FB 1630 6.0 4.3 5.2 OKS2015-7 5.0 4.7 5.1 LSD VALUE 0.8 2.6 1.0 C.V. (%) 8.5 29.0 16.9	OKC1666	5.0	6.7	6.4	
JSC 2013-8S 5.0 5.7 6.0 OKS2015-3 5.0 6.7 6.0 JSC 2013-10S 5.3 5.7 5.9 MSB-1017 6.7 3.0 5.9 MSB-1075 7.0 3.7 5.9 JSC 77V 6.3 4.3 5.9 ASTRO 5.7 6.0 5.8 FB 1902 6.3 5.7 5.8 OKC1406 7.0 3.3 5.8 OKC1876 7.0 2.3 5.8 OKC1876 7.0 2.3 5.8 RIVIERA 5.3 5.0 5.8 OKC1873 7.0 2.7 5.6 JSC 80V 6.3 2.3 5.2 FB 1630 6.0 4.3 5.2 OKS2015-7 5.0 4.7 5.1 LSD VALUE 0.8 2.6 1.0 C.V. (%) 8.5 29.0 16.9	JSC 2013-12S	5.3	6.7	6.4	
JSC 2013-8S 5.0 5.7 6.0 OKS2015-3 5.0 6.7 6.0 JSC 2013-10S 5.3 5.7 5.9 MSB-1017 6.7 3.0 5.9 MSB-1075 7.0 3.7 5.9 JSC 77V 6.3 4.3 5.9 ASTRO 5.7 6.0 5.8 FB 1902 6.3 5.7 5.8 OKC1406 7.0 3.3 5.8 OKC1876 7.0 2.3 5.8 OKC1876 7.0 2.3 5.8 OKS2015-1 5.0 6.3 5.8 RIVIERA 5.3 5.0 5.8 OKC1873 7.0 2.7 5.6 JSC 80V 6.3 2.3 5.2 FB 1630 6.0 4.3 5.2 OKS2015-7 5.0 4.7 5.1 LSD VALUE 0.8 2.6 1.0 C.V. (%) 8.5 29.0 16.9	MSB-1048	6.3	5.7	6.2	
JSC 2013-8S 5.0 5.7 6.0 OKS2015-3 5.0 6.7 6.0 JSC 2013-10S 5.3 5.7 5.9 MSB-1017 6.7 3.0 5.9 MSB-1075 7.0 3.7 5.9 JSC 77V 6.3 4.3 5.9 ASTRO 5.7 6.0 5.8 FB 1902 6.3 5.7 5.8 OKC1406 7.0 3.3 5.8 OKC1876 7.0 2.3 5.8 OKC1876 7.0 2.3 5.8 OKS2015-1 5.0 6.3 5.8 RIVIERA 5.3 5.0 5.8 OKC1873 7.0 2.7 5.6 JSC 80V 6.3 2.3 5.2 FB 1630 6.0 4.3 5.2 OKS2015-7 5.0 4.7 5.1 LSD VALUE 0.8 2.6 1.0 C.V. (%) 8.5 29.0 16.9	SUN QUEEN (PST-R6MM)	5.7	6.7	6.2	
JSC 2013-8S 5.0 5.7 6.0 OKS2015-3 5.0 6.7 6.0 JSC 2013-10S 5.3 5.7 5.9 MSB-1017 6.7 3.0 5.9 MSB-1075 7.0 3.7 5.9 JSC 77V 6.3 4.3 5.9 ASTRO 5.7 6.0 5.8 FB 1902 6.3 5.7 5.8 OKC1406 7.0 3.3 5.8 OKC1876 7.0 2.3 5.8 OKC1876 7.0 2.3 5.8 RIVIERA 5.3 5.0 5.8 OKC1873 7.0 2.7 5.6 JSC 80V 6.3 2.3 5.2 FB 1630 6.0 4.3 5.2 OKS2015-7 5.0 4.7 5.1 LSD VALUE 0.8 2.6 1.0 C.V. (%) 8.5 29.0 16.9	TAHOMA 31	6.3	4.7	6.2	
JSC 2013-8S 5.0 5.7 6.0 OKS2015-3 5.0 6.7 6.0 JSC 2013-10S 5.3 5.7 5.9 MSB-1017 6.7 3.0 5.9 MSB-1075 7.0 3.7 5.9 JSC 77V 6.3 4.3 5.9 ASTRO 5.7 6.0 5.8 FB 1902 6.3 5.7 5.8 OKC1406 7.0 3.3 5.8 OKC1876 7.0 2.3 5.8 OKC1876 7.0 2.3 5.8 RIVIERA 5.3 5.0 5.8 OKC1873 7.0 2.7 5.6 JSC 80V 6.3 2.3 5.2 FB 1630 6.0 4.3 5.2 OKS2015-7 5.0 4.7 5.1 LSD VALUE 0.8 2.6 1.0 C.V. (%) 8.5 29.0 16.9	MONACO	5.0	6.3	6.2	
JSC 2013-8S 5.0 5.7 6.0 OKS2015-3 5.0 6.7 6.0 JSC 2013-10S 5.3 5.7 5.9 MSB-1017 6.7 3.0 5.9 MSB-1075 7.0 3.7 5.9 JSC 77V 6.3 4.3 5.9 ASTRO 5.7 6.0 5.8 FB 1902 6.3 5.7 5.8 OKC1406 7.0 3.3 5.8 OKC1876 7.0 2.3 5.8 OKC1876 7.0 2.3 5.8 RIVIERA 5.3 5.0 5.8 OKC1873 7.0 2.7 5.6 JSC 80V 6.3 2.3 5.2 FB 1630 6.0 4.3 5.2 OKS2015-7 5.0 4.7 5.1 LSD VALUE 0.8 2.6 1.0 C.V. (%) 8.5 29.0 16.9	PST-R6TM	5.0	7.3	6.2	
JSC 2013-8S 5.0 5.7 6.0 OKS2015-3 5.0 6.7 6.0 JSC 2013-10S 5.3 5.7 5.9 MSB-1017 6.7 3.0 5.9 MSB-1075 7.0 3.7 5.9 JSC 77V 6.3 4.3 5.9 ASTRO 5.7 6.0 5.8 FB 1902 6.3 5.7 5.8 OKC1406 7.0 3.3 5.8 OKC1876 7.0 2.3 5.8 OKC1876 7.0 2.3 5.8 OKS2015-1 5.0 6.3 5.8 RIVIERA 5.3 5.0 5.8 OKC1873 7.0 2.7 5.6 JSC 80V 6.3 2.3 5.2 FB 1630 6.0 4.3 5.2 OKS2015-7 5.0 4.7 5.1 LSD VALUE 0.8 2.6 1.0 C.V. (%) 8.5 29.0 16.9	DLF-460/3048	5.0	6.3	6.0	
OKS2015-3 JSC 2013-10S S.3 S.7 S.9 MSB-1017 6.7 3.0 S.9 MSB-1075 7.0 3.7 S.9 JSC 77V 6.3 4.3 S.9 ASTRO 5.7 6.0 S.8 FB 1902 6.3 S.7 S.8 OKC1406 7.0 3.3 S.8 OKC1876 7.0 2.3 S.8 OKS2015-1 5.0 6.3 S.8 RIVIERA 5.3 S.0 S.8 OKC1873 7.0 2.7 S.6 JSC 80V 6.3 2.3 S.2 FB 1630 6.0 4.3 S.2 OKS2015-7 5.0 4.7 S.1 LSD VALUE 0.8 2.6 1.0 C.V. (%) 8.5 29.0 16.9 / TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEAN	TSC 2013-85	5.0	5.7	6.0	
MSB-1075 JSC 77V	OK\$2015=3	5.0	6.7	6.0	
MSB-1075 JSC 77V	TSC 2013=10s	5 3	5.7	5 9	
MSB-1075 JSC 77V	MSB=1017	6.7	3.0	5.9	
JSC 77V 6.3 4.3 5.9 ASTRO 5.7 6.0 5.8 FB 1902 6.3 5.7 5.8 OKC1406 7.0 3.3 5.8 OKC1876 7.0 2.3 5.8 OKS2015-1 5.0 6.3 5.8 RIVIERA 5.3 5.0 5.8 OKC1873 7.0 2.7 5.6 JSC 80V 6.3 2.3 5.2 FB 1630 6.0 4.3 5.2 OKS2015-7 5.0 4.7 5.1 LSD VALUE 0.8 2.6 1.0 C.V. (%) 8.5 29.0 16.9 / TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEAN					
OKS2015-1 5.0 6.3 5.8 RIVIERA 5.3 5.0 5.8 OKC1873 7.0 2.7 5.6 JSC 80V 6.3 2.3 5.2 FB 1630 6.0 4.3 5.2 OKS2015-7 5.0 4.7 5.1 LSD VALUE 0.8 2.6 1.0 C.V. (%) 8.5 29.0 16.9 / TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEAN	JSC 77V	6.3	4.3	5.9	
OKS2015-1 5.0 6.3 5.8 RIVIERA 5.3 5.0 5.8 OKC1873 7.0 2.7 5.6 JSC 80V 6.3 2.3 5.2 FB 1630 6.0 4.3 5.2 OKS2015-7 5.0 4.7 5.1 LSD VALUE 0.8 2.6 1.0 C.V. (%) 8.5 29.0 16.9 / TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEAN	ASTRO	5.7	6.0	5.8	
OKS2015-1 5.0 6.3 5.8 RIVIERA 5.3 5.0 5.8 OKC1873 7.0 2.7 5.6 JSC 80V 6.3 2.3 5.2 FB 1630 6.0 4.3 5.2 OKS2015-7 5.0 4.7 5.1 LSD VALUE 0.8 2.6 1.0 C.V. (%) 8.5 29.0 16.9 / TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEAN	FB 1902	6.3	5.7	5.8	
OKS2015-1 5.0 6.3 5.8 RIVIERA 5.3 5.0 5.8 OKC1873 7.0 2.7 5.6 JSC 80V 6.3 2.3 5.2 FB 1630 6.0 4.3 5.2 OKS2015-7 5.0 4.7 5.1 LSD VALUE 0.8 2.6 1.0 C.V. (%) 8.5 29.0 16.9 / TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEAN	OKC1406	7.0	3 3	5.8	
OKC1873 7.0 2.7 5.6 JSC 80V 6.3 2.3 5.2 FB 1630 6.0 4.3 5.2 OKS2015-7 5.0 4.7 5.1 LSD VALUE 0.8 2.6 1.0 C.V. (%) 8.5 29.0 16.9 / TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEAN	OKC1400	7.0	2 3	5.8	
OKC1873 7.0 2.7 5.6 JSC 80V 6.3 2.3 5.2 FB 1630 6.0 4.3 5.2 OKS2015-7 5.0 4.7 5.1 LSD VALUE 0.8 2.6 1.0 C.V. (%) 8.5 29.0 16.9 / TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEAN	OKS2015=1	5.0	6.3	5.8	
OKC1873 7.0 2.7 5.6 JSC 80V 6.3 2.3 5.2 FB 1630 6.0 4.3 5.2 OKS2015-7 5.0 4.7 5.1 LSD VALUE 0.8 2.6 1.0 C.V. (%) 8.5 29.0 16.9 / TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEAN	DIVIFPA	5 3	5.0	5.8	
LSD VALUE 0.8 2.6 1.0 C.V. (%) 8.5 29.0 16.9 / TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEAN	0201073	7.0	2.7	5.6	
LSD VALUE 0.8 2.6 1.0 C.V. (%) 8.5 29.0 16.9 / TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEAN	OKC1873	6.3	2.7	5.0	
LSD VALUE 0.8 2.6 1.0 C.V. (%) 8.5 29.0 16.9 / TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEAN	DSC 80V	6.0	4.3	5.2	
LSD VALUE 0.8 2.6 1.0 C.V. (%) 8.5 29.0 16.9 / TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEAN	PB 1030	6.U	4.3	5.2	
C.V. (%) 8.5 29.0 16.9 / TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEA	OK52015=7	5.0	4.7	5.1	
/ TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEA	LSD VALUE	0.8	2.6	1.0	
	C.V. (%)	8.5	29.0	16.9	
DIMIDITED DITIBLE OF COOK MICH THIS VALUE IS CARROLL THE CORRESPONDED COOK VALUE (LOD 0.00).					

From the National Turfgrass Evaluation Program 2020 Bermudagrass Report

Latitude 36's Fine Texture

Latitude 36 features a fine texture, making it stand out among other bermuda varieties. Its fine blades and internodes have been a standout feature in the National Turfgrass Evaluation Program (NTEP) trials against commonly used and experimental varieties on the market today.

Leaf Texture, Seed Head, Percent Establishment, Mean Quality Rating

TABLE 35C.	MEAN TURFGRASS QUALITY AND OTHER RATINGS OF BERMUDAGRASS (VEGETATIVE) CULTIVARS
	AT WEST LAFAYETTE, IN 1/
	2019 DATA

TURFGRASS	QUALITY	AND	OTHER	RATINGS	1-9;	9=BEST	2/
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	GENETIC	LEAF	SEEDLING	FALL	FALL COLOR		PERCENT ES	TABLISHMENT	QUAI	ITY RAT	rings
NAME	COLOR	TEXTURE	VIGOR	DENSITY	NOVEMBER	SEEDHEAD	AUG 8	AUG 30	AUG	SEP	MEAN
LATITUDE 36	7.3	7.7		7.7	5.3	8.0	48.3	93.3	7.7	8.0	7.8
MSB-1042	7.7	7.0		7.7	5.3	7.3	58.3	94.7	7.0	8.7	7.8
OKC1876	7.3	7.3		8.0	6.3	8.0	66.7	92.7	7.0	8.7	7.8
FB 1628	7.7	6.7		7.7	6.0	7.0	41.7	85.0	7.0	8.3	7.7
MSB-1017	7.3	7.0	114	8.0	4.7	8.0	65.0	94.5	7.0	7.7	7.3
OKC1666	6.3	7.7		7.7	5.0	8.3	46.7	81.7	7.3	7.3	7.3
TIFWAY	7.3	7.0		7.7	5.7	7.7	46.7	85.0	7.0	7.7	7.3
MSB-1026	6.7	6.3		7.7	5.0	8.7	73.3	93.0	7.0	7.3	7.2
OKC1873	7.0	6.3		7.0	5.7	8.3	38.3	86.7	7.0	7.3	7.2
OKC1406	5.7	6.0	10.	7.0	4.3	6.3	38.3	91.7	7.0	7.0	7.0
TIFTUF	6.7	6.7		7.3	6.7	6.3	53.3	90.0	7.0	7.0	7.0
JSC 77V	7.7	6.7		7.0	3.7	6.0	50.0	90.0	7.0	6.7	6.8
MSB-1048	7.0	7.3		6.7	3.7	7.3	56.7	93.3	6.3	7.3	6.8
MSB-1050	7.3	7.0		8.3	5.3	8.3	66.7	99.0	5.7	8.0	6.8
TAHOMA 31	7.7	7.0		7.7	3.3	7.3	31.7	80.0	6.3	7.3	6.8
FB 1630	7.7	5.0		5.3	3.3	5.7	70.0	96.3	6.7	6.7	6.7
JSC 80V	7.7	6.3		7.0	4.7	7.0	30.0	83.3	6.3	7.0	6.7
OKC1682	7.7	6.3		6.7	4.0	8.0	36.7	83.3	6.3	7.0	6.7
FB 1903	8.0	5.0		6.3	6.3	7.3	43.3	85.0	5.7	7.3	6.5
FB 1902	8.0	5.0		5.3	3.3	8.0	58.3	88.3	6.3	6.0	6.2
ASTRO	6.3	6.0		5.7	4.0	7.0	53.3	85.0	6.0	5.7	5.8
MSB-1075	8.0	6.3		7.0	5.3	7.3	30.0	76.7	5.3	6.0	5.7
LSD VALUE	1.1	0.8		1.1	1.6	2.4	23.5	15.1	1.2	0.9	0.7
C.V. (%)	8.2	7.4		9.6	19.2	14.1	25.7	7.9	9.1	7.4	6.3

^{1/} TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEAN. STATISTICAL DIFFERENCES OCCUR WHEN THIS VALUE IS LARGER THAN THE CORRESPONDING LSD VALUE (LSD 0.05).

From the National Turfgrass Evaluation Program 2020 Bermudagrass Report



^{2/} C.V. (COEFFICIENT OF VARIATION) INDICATES THE PERCENT VARIATION OF THE MEAN IN EACH COLUMN.

Latitude 36's Disease Resistance

Spring Dead Spot

Spring dead spot is a turfgrass disease made more evident when freezing temperatures occur. It is more common in intensely maintained bermudagrass like that found on golf courses and sports fields. This disease attacks the roots, stolons and rhizomes of the grass and then gets worse as time goes on, progressing as the turfgrass matures.

Latitude 36 was developed with resistance to SDS and tested well in the NTEP trials of 2020 as compared to other common and experimental bermudagrass varieties.

TABLE 25A.	SPRING DEAD SPOT RATINGS OF BERMO 2020 DATA	UDAGRASS CULTIVARS 1/
	SPRING DEAD SPOT RATINGS 1-	9; 9=NO DISEASE 2/
	NAME	IN1
	MSB-1017	8.0
	MSB-1075	8.0
	ASTRO	7.3
	LATITUDE 36	7.3
	FB 1902	7.0
	FB 1903	7.0
		7.0
	OKC1682	7.0
	TIFWAY FB 1628	7.0 6.7
	JSC 2013-8S	6.7
	MSB-1042	6.7
	OKS2015-3	6.7
	TAHOMA 31	6.7
	TIFTUF	6.7
	SUN QUEEN (PST-R6MM)	6.5
	JSC 2013-58 JSC 77V JSC 80V	6.3
	JSC 77V	6.3
	JSC 80V	6.3
	OKC1406	6.3
	PST-R6TM	6.3
	OKC1406 PST-R6TM DLF-460/3048 JSC 2013-7S OKC1873	6.0
	JSC 2013-7S	6.0
	OKC1873	6.0
	OKC1876 OKS2015-7	6.0 6.0
	FB 1630	5.7
	MONACO	5.7
	JSC 2013-12S	5.3
	MSB-1026	5.3
	MSB-1050	5.0
	OKC1666	5.0
	RIVIERA	5.0
	OKS2015-1	4.3
		2.2
	C.V. (%)	19.5
	DIFFERENCES AMONG ENTRIES, SUBTRACT ONE OCCUR WHEN THIS VALUE IS LARGER THAN THE	E ENTRY'S MEAN FROM ANOTHER ENTRY'S MEAN E CORRESPONDING LSD VALUE (LSD 0.05).
2/ C.V. (COEFFICIENT OF VAR	IATION) INDICATES THE PERCENT VARIATION	OF THE MEAN IN EACH COLUMN.

From the National Turfgrass Evaluation Program 2020 Bermudagrass Report

Latitude 36's Shade Tolerance

Latitude 36 is among the most shade tolerant bermuda cultivars available today. It was put to the test in a 3-year United States Golf Association (USGA) research study which began in 2014. Latitude was matched up with other top bermuda varieties on the market and two experimental varieties in three plot areas which included severe shade, partial shade and full sun. What was discovered was that Latitude 36 maintained the highest turfgrass quality in both severe and full sun plots followed by its sister grass NorthBridge.

Figure 1. A field nursery used to quantify selfing and outcrossing rates of common bermudagrass plants.

Bermudagrass		Shade			Sun		Shade/sur
	TQ	Rank [‡]	NDVI**	TQ	Rank	NDVI	Decline***
	1-9=best	LSD		1-9=best	LSD		%
Latitude36	6.2	Α	0.7910	7.8	Α	0.8508	-7.0
Yukon	5.8	AB	0.7817	7.1	В	0.8361	-6.5
NorthBridge	5.8	AB	0.7846	7.8	A	0.8446	-7.1
Celebration	5.6	BC	0.7976	6.6	D	0.8318	-4.1
2011-1	5.3	BCD	0.7953	6.6	CD	0.8480	-6.2
Riviera	5.3	CD	0.7790	7.0	BC	0.8389	-7.1
TifGrand	5.1	CD	0.7617	6.9	BCD	0.8273	-7.9
2011-4	4.9	D	0.7667	6.6	D	0.8218	-6.7
Princess77	4.1	E	0.7805	6.5	D	0.8281	-5.7
Patriot	3.6	E	0.6732	6.5	D	0.8293	-18.8
LSD	0.55		0.0348	0.41		0.0126	

^{*} Based on Fisher's protected least significant difference (*P*=0.05); means followed by the same letter do not differ significantly

From USGA Shade Study 2017



^{**} Normalized difference vegetation index (near infrared reflectance - red reflectance) / (near infrared reflectance + red reflectance)

^{***} NDVI in shade compared with NDVI in full sun reported in %; (severe shade - full sun)/full sun*100

Latitude 36 Bermudagrass Comparisons with Other Turfgrass Varieties

Latitude 36 Compared to Tifway 419

Most would describe Latitude 36 as more versatile and a finer-bladed version of the old standard Tifway 419. Latitude 36 has a denser canopy, better winter color retention, better cold tolerance and better wear tolerance. Latitude 36 continues to greatly outperform 419 in the most recent round of the trials from the National Turfgrass Evaluation Program (NTEP).



Spring Green-up







Latitude 36 left, Tifway 419 right

Latitude 36 vs. Tifway 419							
Trait	Latitude 36	Tifway 419					
Turfgrass Quality	Excellent	Good					
Cold Tolerance & Spring Green-Up	Excellent	Good					
Genetic Color	Excellent	Good					
Leaf Texture	Finer	More Coarse					
Sod Tensile Strength	Equal	Equal					
Sod Density	Excellent	Good					
Seedheads	Excellent	Good					
Disease Response	Excellent	Good					
Insect Response	Equal	Equal					
Salinity Response	Excellent	Good					
Traffic Tolerance	Excellent	Good					
Herbicide Tolerance	Equal	Equal					
Establishment	Excellent	Good					

Latitude 36 Compared to Celebration® Bermudagrass

While Tifway 419 has been the industry standard for almost a half-century, another bermuda variety Celebration® has become one of the most-used bermudagrasses in the world over the past 20 years. This Australian-born variety has a much more distinct bluegreen color in comparison to Latitude 36. What that means is Latitude's dark green color blends better with other varieties. Latitude 36 features a comparable shade tolerance and performance to Celebration which once had the distinction of being the most shade tolerant bermuda variety on the market. Latitude 36 has finer leaf blades that Celebration which helps create a more dense canopy that holds a golf ball up well. This compactness also generates better ball roll for other sports. Latitude 36 has also demonstrated less tendency to "scalp" than Celebration. Latitude has superior winter color retention and cold tolerance to this long-standing counterpart.



Latitude 36 Bermudagrass Versatility

Latitude 36 Bermudagrass on Golf Courses

Latitude 36 was "made" for golf, developed to be the best for color retention, ball roll, consistency and playability. It can be found on elite courses throughout the United States and around the world. The USGA helped fund the research that led to the development and selection of Latitude 36 to give golf better surfaces and better answers to common problems superintendents deal with on courses.



Loxahatchee Club | Jupiter, FL

Latitude 36 Bermudagrass on Sports Fields

Early on, big college and pro sports programs realized Latitude 36 provided a better surface for sports. Its dense canopy and tight internodes provided a desirable ball roll and firmer footing for athletes. This grass gives sports field managers reason to consider light overseeding or not overseeding at all in the colder months because of the ability to hold color longer into the fall and return earlier in spring. Latitude 36 is found on sports facilities in South Florida all the way to Kansas City and Virginia. It has been used in Major League Baseball, the National Football League and in all NCAA outdoor venues, including football, soccer, baseball and softball.



Petco Park | San Diego, CA

Latitude 36 Bermudagrass in Residential and Commercial Landscapes

A commercial or residential landscape gets all of the benefits provided to sports and golf applications. Durability and appearance are key in these uses and Latitude 36 stands up to the test. It can be cut with a standard rotary mower to a normal bermudagrass lawn height of one to one and a half inches for optimal performance. Latitude 36 handles kids, pets or large crowds of people with ease because of its rapid recovery from damage while maintaining a fine, compact appearance.



Case Studies



Golf | Jupiter, FL

Just north of Palm Beach, The Loxahatchee Club stands out as one of the most eye-catching courses in all of South Florida. Superintendent James Sprankle has been working with Latitude 36® Bermudagrass for a number of years, shaping it to highlight a spectacular Jack Nicklaus design of 7,240 yards. His constant innovation with the grass has this course in the top 100 in North America on a regular basis.

"The Latitude performs well. We have nine holes of cart paths and there is very little wear and tear that's visible. The members love the Latitude."

— James Sprankle, Superintendent







Golf | Daniel Island, SC

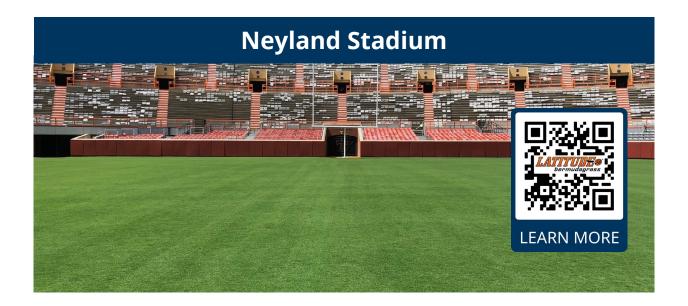
Daniel Island Club has recently renovated both of their 18-hole courses with Latitude 36® Bermudagrass on their tee boxes, fairways and approaches. Beresford Creek Course was renovated in 2018 and in 2019 Daniel Island Club decided to renovate Ralston Creek's tees, fairways and approaches. Membership and management are both happy with the renovations due to the winter color retention, recovery ability and overall toughness of Latitude 36.

"The most impactful aspect of Latitude 36, to me, is the recovery. We have it on our practice facility and the turf recovers so well, so fast. The key is the density of the turf. Latitude 36 has performed very well for us."

— Joey Franco,Director of Agronomy







University of Tennessee Football | Knoxville, TN

After researching different bermudagrass varieties and looking for something that would stay greener longer in the climates of East Tennessee, the University of Tennessee selected Latitude 36 for historic Neyland Stadium. Latitude 36 is a top quality rated, cold-hardy bermudagrass developed by renowned Oklahoma State University that offers high traffic tolerance and excellent tensile strength. Latitude 36 also has a dark green color and fine texture which makes it a good choice for a collegiate sports field aesthetically and functionally.

"As far as cold tolerance, staying greener longer into the season, that is definitely something we noticed."

— Darren Seybold, Director of

Sports Surface Management





CF Stadium | Fort Lauderdale, FL

A top priority for the soccer field of Inter Miami is the ability to hold events 12 months out of the year. They chose Latitude 36® Bermudagrass to avoid overseeding in the winter time. The grass growth is much shorter, the grass leaf blade is much finer, and everything on it stays more compact. The soccer players love this due to a nice, quick surface so the ball can move fast. Although located in Florida, temperatures still drop in the winter and it can be cold for certain types of Bermudagrass. In a tough climate Latitude 36 maintains its color and grows all winter long.

"I would recommend the Latitude to other Sports Turf Managers because of the recovery, the wear tolerance, and the extended growth into colder climates when other Bermuda grasses are kinda struggling and going dormant during those times."

 Matt Bruderek, Director of Turf & Grounds at Inter Miami





Football and Baseball | College Station, TX

Latitude 36® initially performed for Texas A&M athletics on the baseball field, and its success led to the decision to also install it on the football, soccer, and softball facilities. Latitude was chosen because of its excellent cold tolerance, ability to hold color late into the season, and how much better it transitions out of rye than 419. Beyond its performance, the Texas A&M staff appreciates the fine texture, density, and vibrant color of Latitude 36. Players, coaches, and fans agree thatLatitude 36 is a winner for Texas A&M.

"A beautiful, vibrant green color, nice texture, good density and from the first day it went down our players and coaches said they loved it. The one thing we were really sold on was the transition from rye to Bermuda. I think that's our best selling point on this grass."

— Craig Potts, Texas A&MUniversity Athletic Field Manager



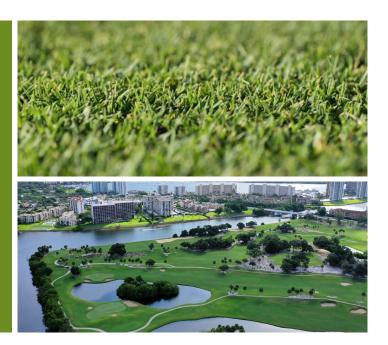


Golf | North Palm Beach, FL

North Palm Beach Country Club recently renovated their course in South Florida with Latitude 36® Bermudagrass. It's upright growth habit requires less cultural maintenance than other grasses. Management and members are both happy with the renovations and agree it is the best surface for golfers that you can possibly provide due to the color retention, playability, and overall surface of Latitude 36.

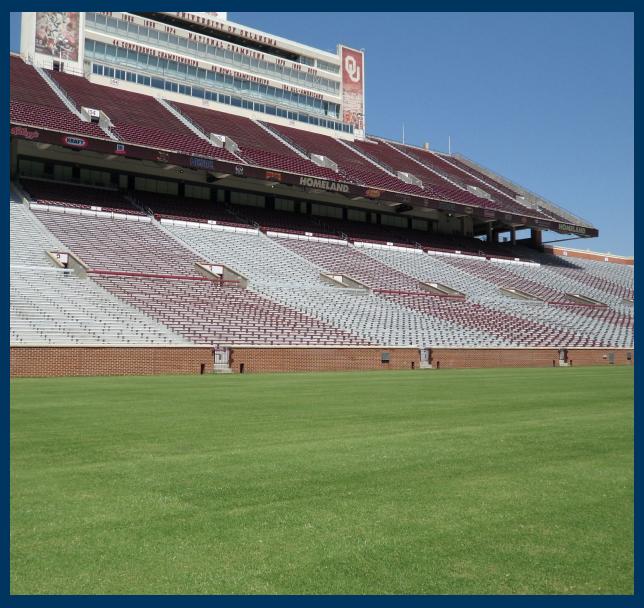
"Without a doubt Latitude 36 has the best color and best playability of any grass on the market today."

— Cory Adams, Superintendent



Summary

Since its appearance on the market in 2011, Latitude 36 Bermudagrass has been a true success across the spectrum. Latitude 36 has been successfully used from the Caribbean up through the upper reaches of the transition zone. This versatile variety has been one of the top performing varieties in expansive research studies and real world applications. Latitude 36 gives longer seasons of green to end-users while providing one of the most compact, soft and beautiful surfaces in the turfgrass world.



Memorial Stadium, The University of Oklahoma | Norman, OK



Sod Solutions Pro

Sod Solutions has been researching, developing and releasing to the market new turfgrass varieties for the past 27 years. Our new professionally focused arm of the company, Sod Solutions Pro takes that industry knowledge and puts it to use, facilitating large-scale turfgrass projects from beginning to end.

From our decades in the industry, we know that choosing a grass for a variety of landscape challenges can make or break a project. Different landscapes, geographies, applications and even soil pH levels could call for different grass varieties. Each cultivar has specific features (like shade tolerance) that make them more suitable for certain applications than others. Our mission is to make sure the right grass is being used in the right location to produce the best long-term success for our clients.

SELECTION CONSULTING:



Our team of turf experts will help inform you of the turfgrass options suitable for your project location, educate you on the pros and cons of each product, answer your technical questions, and connect you with real professional users to provide a complete understanding and confidence in the product you choose to specify. We also offer lunch and learns onsite as well as online webinars to educate your staff on turfgrass options.



SPECIFICATION WRITING:

We will create specifications for submission with the project scope and the grass variety that you have selected.

PRODUCT SOURCING:



No job is too large or too small. Sod Solutions Pro has a dedicated network of over 250 turf farms worldwide. From small parks to entire communities and golf courses, we can source projects from one or multiple farms if need be. Whether you are in the initial budgeting stage or need to order grass immediately, the Sod Solutions Pro team will provide you with availability data and pricing for your project.



DELIVERY / INSTALLATION LOGISTICS:

Sod Solutions Pro will find the farm, schedule the delivery and manage the installation of the grass when you need it. Door to door, we take the burden of grass logistics to a new technological level with our proprietary farm management software, Turf Logistics.



FINANCING:

We work with banking infrastructure to take on the financial strain of financing large grassing projects. Our fees are minimal and worth the headaches it reduces for your team.



MAINTENANCE CONSULTING:

Having issues with the health and vitality of your existing grass? Let our team of experts assist with on-site visits, problem diagnosis, and solutions. We will get to the bottom of the issues and lay out a plan to fix the problems.

Request a Free Lunch & Learn

Our team endorses the use of natural grass whenever possible due to its environmental benefits. But to be successful, the "right grass" needs to be used in the "right place". We can be an asset in this education and would be happy to come out to your offices or virtually host a "lunch and learn" seminar to discuss the different factors that go into finding the right grass. We will share with you both knowledge and widely adopted strategies that can be helpful in your future projects. Also, as part of our "lunch and learn" we will assign one of our team members at



Sod Solutions Pro to be your personal consultant for any future grass questions you may encounter during upcoming projects. Always feel free to reach out to them.

WHAT'S INCLUDED

- 1–2 hour webinar on various grass specific topics
- The benefits of grass and how to select the right grass for the right application
- The options of different grasses such as commodity vs. proprietary grasses
- Grass Growing Zone Map where grasses can grow

KEY BENEFITS

- Keep you and your colleagues up to date on the latest from the turfgrass industry
- Understand trends and what to look for when specifying a grass
- Make sure you get the right grass for the right application

SodSolutionsPro.com/Lunch-and-Learn

Request a Free Quote

The Sod Solutions Professionals team delivers sod and installation services for commercial landscape projects, golf courses, sports fields and housing developments across the globe. Our team can help you select the right products and methods for your project, coordinate delivery and logistics and offer financing options. Our deep industry experience and network of farms and installers ensure that your project is done right the first time with the highest level of quality and service.

SodSolutionsPro.com/Quote-Request



Golf Grasses

From the tee box to the green, Sod Solutions Pro turfgrass varieties cover courses around the world; grasses developed to play at a championship level.



Developed in Australia in the 1990s, Celebration has become one of golf's premiere grasses worldwide. Celebration's pedigree features a two-decade proven track record of success. Its strengths are highlighted in its exceptional root system and rapid recovery time. Celebration has the best documented shade tolerance for a bermuda variety and features a unique, dark blue-green color.



Developed for its cold tolerance by breeders at Oklahoma State University, Latitude 36 is one of the most striking bermudagrasses on the planet. Latitude 36 has a very fine texture and outstanding quality making it a favorite for golfers for ball roll and overall playability. Latitude 36 is found on courses from South Florida to the upper reaches of the transition zone.



Released in 2011, NorthBridge is a tough bermudagrass cultivar known for its cold tolerance and especially its early spring green-up. Its tensile strength and aggressive rooting make it a durable choice for golf courses where rapid damage recovery is important. NorthBridge exhibits a tight, fine-textured appearance and dark green color. Like Latitude 36, NorthBridge will also grow upwards into the transition zone.



Known for its cold tolerance, Innovation Zoysia is a finer bladed zoysia variety that is quick to recover from damage. Innovation was developed to challenge the upper regions of zoysia adaptability to cold temperatires while maintaining exceptional quality and appearance. Innovation is resistant to the bluegrass billbug and is dark green in color.



A staple of the commercial and golf world since the early 2000s, EMPIRE Zoysia has set the standard for a course bladed zoysia variety for golf courses. EMPIRE can be cut down at fairway and tee box heights, but used at taller heights in the roughs to create beautiful, yet challenging links. EMPIRE features drought and heat tolerance that make it a perfect fit for the southern U.S.



If you need a grass for a putting surface, Sunday fits the bill with some of the best genetic stability on the market, meaning that genetic grass mutations won't happen. Getting a consistent look and roll on a green is key and Sunday has proven stable for over 30 years. Its root density and length are hallmark features allowing this grass to survive some low temperatures. Sunday is an ultra-dwarf variety, but can be managed like a dwarf bermuda, which allows for use from low to high end facilities. It can be cut and maintained as low as .080 inches to deliver quick speeds on a stimpmeter.



Sports Grasses

Fields around the country and across the globe have used Sod Solutions Pro grass brands to cover championship events for the past three decades. Exceptional surfaces, impeccable performance and a beautiful appearance elevate our grasses to the forefront of any sports discussion, from the smallest fields to the largest stadiums.



Aussie origins explain why Celebration is one of the toughest bermduagrasses on the market today for sports. Celebration features some of the most rapid recovery on the market today. It also has the highest level of shade tolerance for a bermuda variety, which makes play possible with shade from stadium overhangs. Celebration features an exceptional root system and a unique dark, blue-green color. Celebration has been featured in the Olympics and on fields of the World Cup.



A favorite of college stadiums across the U.S., Latitude 36 was developed for its cold tolerance and texture. Its fine, compact growth habit makes Latitude 36 one of the most striking bermudagrass varieties in the world, both from the field level and in the stands. Latitude 36 is found on fields from balmy South Florida to Pennsylvania and everywhere in-between.



Longer green seasons were in mind when NorthBridge Bermudagrass was released in 2011 by Oklahoma State University. NorthBridge cuts down on overseeding needs thanks to an early spring green-up. But its cold tolerance is only one trait that has made this popular in professional sports stadiums. The tensile strength and aggressive rooting make NorthBridge a durable choice for football or horse racing, where rapid damage recovery is important. NorthBridge exhibits a tight, fine-textured appearance and dark green color.





Commercial and Residential Grasses

For almost three decades, Sod Solutions Pro has focused on research and development of superior turfgrasses for commercial, residential, golf and sports uses. We have found that putting the right grass in the right landscape is the most important factor in its long-term success. Our varieties were developed to solve the needs of end-users across the spectrum.



Palmetto is the most sold patented turfgrass in the world with more than two billion sq. ft. sold. Selected for better color and finer texture, Palmetto demonstrates superior shade, cold, frost, heat and drought tolerance.



CitraBlue, the newest grass from the University of Florida was developed to solve lawn disease issues and to be a dramatic improvement over Florida's most common grass, Floratam St. Augustine. Not only is its disease resistance improved, but it also may be one of the top grasses for shady landscapes and it features a distinct blue color.



Celebration is a deep blue-green turfgrass that has finished best in numerous university research studies for wear tolerance and recovery, drought resistance and tolerance and bermudagrass shade tolerance.



Latitude 36 was developed to stretch the limits of bermudagrass adaptability in the North and is a top quality rated bermudagrass nationally. Latitude 36 shows resistance to spring dead spot and is one of the most cold-hardy bermudagrasses on the market.



NorthBridge is tough. Its tensile and root strength can handle heavy amounts of traffic and recover from damage quickly. NorthBridge features outstanding cold tolerance and early spring green-up. It is fine textured and dark green in color.



EMPIRE is a revolutionary medium-bladed, dark green zoysiagrass. It features excellent wear tolerance, requires less mowing and chemical applications and is chinch bug resistant. EMPIRE truly is "The Proven Zoysia®".



Innovation is a versatile zoysia. Developed by researchers at Kansas State and Texas A&M University, Innovation is very cold tolerant. It is a finer bladed zoysia and is incredibly soft. This grass is suitable for the southern two-thirds of the United States.