



NorthBridge® Bermudagrass White Paper

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Introduction

NorthBridge® Bermudagrass is a product of the renowned Oklahoma State University Turfgrass Breeding Program. Selected for its exceptional cold tolerance among other standout traits, NorthBridge is often described as more versatile and tougher version of the old standard Tifway 419.

NorthBridge has a denser canopy, better winter color retention, better cold tolerance and better wear tolerance. It has made its mark in research testing along with real world applications, where it often performs under a national spotlight, being used in high profile stadiums and golf courses around the country and throughout the world.



Arrowhead Stadium | Kansas City, MO

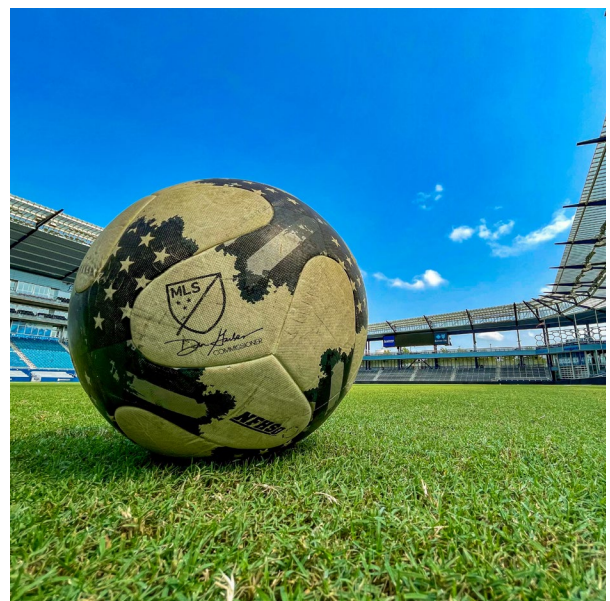
Why Bermudagrass and Why NorthBridge?

Bermudagrass is commonly used for its high traffic tolerance and sturdy roots that anchor deep into the ground that make it perfect for rough play in areas of high traffic. Additionally, bermudagrass has a quick growth rate so that spots caused by wear and tear from foot traffic, divots or cart traffic can recover from excessive damage quickly. Bermudagrass has a high visual appeal in home lawns, parks and other commercial landscapes. It features a fine texture and is often cited as one of the “softer” grass varieties in the world.

NorthBridge Bermudagrass in particular performs well on golf course tee boxes, roughs and fairways. NorthBridge’s early spring green-up means less time without “green” on a course and gives a better option should the superintendent decide not to overseed the course with a winter rye. NorthBridge also features a high level of “playability”, which serves to hold the ball up with upright, compact blades. NorthBridge’s grass blades also serve to deliver more distance to golfers of all levels. Reduced lasting divots is a feature as NorthBridge is quick to recover from divot injury on the course, filling in holes in just a couple of days.

Ball roll is very important in other sports like baseball, softball and soccer. That is why NorthBridge is used on fields and in stadiums across the country. In stadiums where television appearance is important, sports field managers value the way its tight, compact growth and color make it stand out on screen and from the stands. Like with golf, the option of forgoing overseeding is another cost saving option with a longer green season.

For a residential lawn or commercial landscape, the key sought-after traits include a fine appearance, rapid recovery rate and an ability to stand up to traffic from sports, kids and pets. NorthBridge also provides a pleasurable surface to live on. The fine blades make for a great natural cushion for playing and for just walking without shoes. NorthBridge is one of the more drought tolerant turfgrasses that doesn’t need as much water as other varieties. This allows for managers or homeowners to save money in the process of maintaining a beautiful landscape. 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 Latitude 36®.



Sporting Kansas City | Kansas City, MO

Origins

Originally designated OKC 1134, NorthBridge is a clonally propagated F₁ hybrid from a cross of *Cynodon dactylon* and *C. transvaalensis*. It is sterile 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 spring 1999 on 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 1134.

In summer 2004, NorthBridge (OKC 1134) 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 NorthBridge (OKC 1134) was selected to move on for potential commercial release. NorthBridge (OKC 1134) 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 Latitude 36®.



"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."

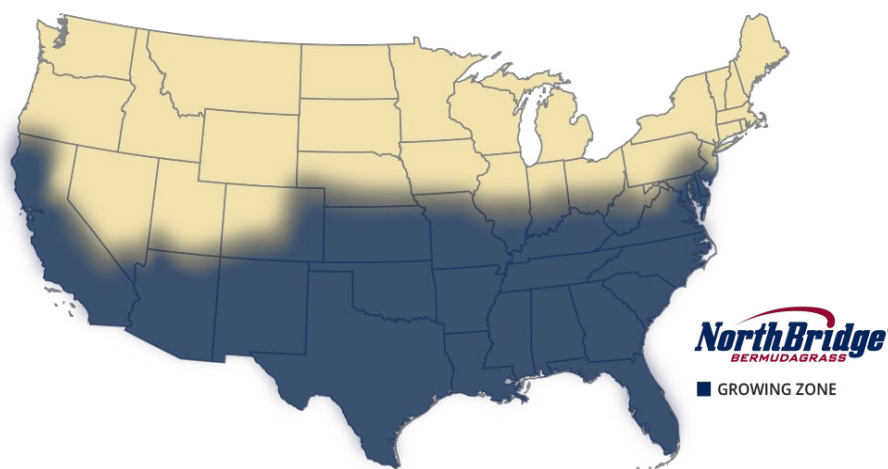
- Yanqi Wu - Oklahoma State Turfgrass Breeder



Myriad Botanical Gardens | Oklahoma City, OK

Characteristics & Features

NorthBridge Bermudagrass was originally developed for superior cold tolerance. The better 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 NorthBridge 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. NorthBridge also features rugged sod strength and a fine texture and can be found from the upper stretches of the transition zone to as far south as South Florida, with its annual warm weather. Its traffic tolerance is exceptional, and it is one of the most shade tolerant bermudas on the market today.



**Soft
Texture**



**Cold
Tolerant**



**Disease
Resistant**



**Rapid
Recovery**



**Drought
Tough**



**Early Spring
Green-Up**



**Fall Color
Retention**



**Wear
Tolerant**

Case Studies

Arrowhead Stadium

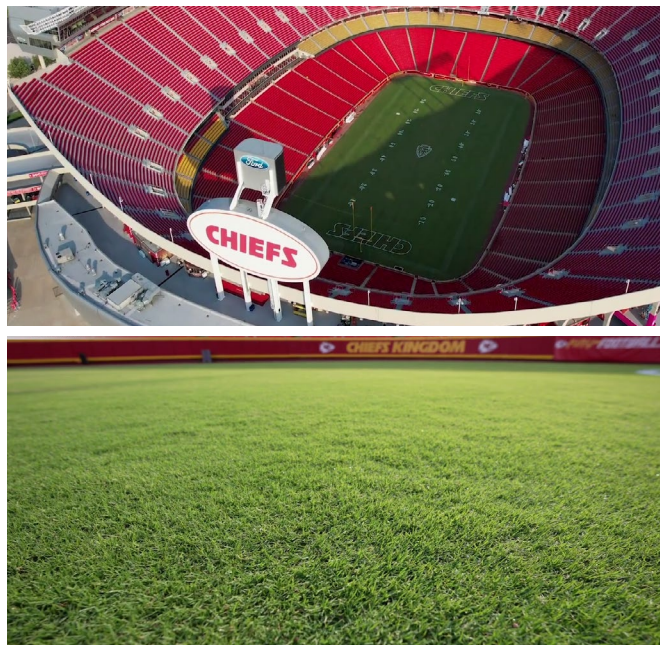


Home of the Kansas City Chiefs | Kansas City, MO

Arrowhead Stadium made the switch to NorthBridge® Bermudagrass in 2013. NorthBridge has excellent cold tolerance, aggressive rooting, rapid recovery, and early green-up which makes it a great choice for Kansas City Chiefs. Each year Arrowhead Stadium hosts 8 or more NFL games and other sporting events throughout the year, NorthBridge has held up and continues to perform well and maintain a safe playing surface for professionals.

"We've had extreme success here with NorthBridge with the dormant traffic and the cold tolerance and everything that we get out of it. There's really no reason to change until something can prove that it can beat it."

— Travis Hogan, Head Groundskeeper



Northwood Club

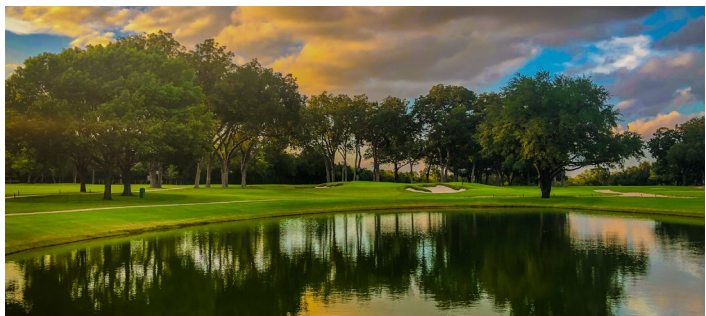


Golf | Dallas, TX

After a lengthy trial process of looking for the best choice for renovating its course, Northwood Club in Dallas, TX decided on NorthBridge Bermudagrass for its full course makeover. The project was completed after 18 months by architect Tripp Davis and Associates and re-opened in 2018. The renovation transformed the club, built in 1946 and re-energized this championship course. Northwood was the site of the 1952 U.S. Open.

"We trialed it for about five years and compared it to other bermudagrasses and zoysiagrasses and we just noticed that NorthBridge exceeded all those."

— Kevin Carpenter,
Superintendent



Christopher Newport University



College / University | Newport News, VA

Christopher Newport is a 5,000 student, four-year public university. Located in Newport News, Virginia, the university deals with transition zone cold weather part of the year and the coastal humidity of being near the ocean. These climate variations make for some complex grass choices and have made NorthBridge Bermuda a perfect choice for handling student traffic on a daily basis no matter the season.

"It (NorthBridge) will grow back and bounce back. It's in places where we may have to replace our 419 because of traffic but we don't have to replace our NorthBridge."

— Christopher Webb,
Associate Director of Grounds



Golden Horseshoe - Gold Course



Golf | Williamsburg, VA

The Gold Course at Golden Horseshoe Golf Club in Williamsburg, VA is one of the top courses in the state annually. NorthBridge® Bermudagrass has been helping create a championship-level playing surface for over half a decade in one of the USA's most historic locales. NorthBridge blends the perfect mix of cold-hardiness and playability for the Virginia climate.

"The lie of the ball, the playing surface itself is far superior to the 419. A NorthBridge fairway when maintained properly is about as close as you can get to bentgrass without having bentgrass."

— Jeremy Waddell,
Gold Course Superintendent



Summary

For longer seasons of green and a reduced need to overseed, NorthBridge Bermudagrass is the choice. NorthBridge is a tough bermuda cultivar known for cold tolerance and early spring green-up. The tensile strength and aggressive rooting of NorthBridge make it a durable choice for golf, sports, residential and commercial applications in the U.S. and abroad.



Christopher Newport University | Newport
News, VA

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 temperatures 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 stimp meter.

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.



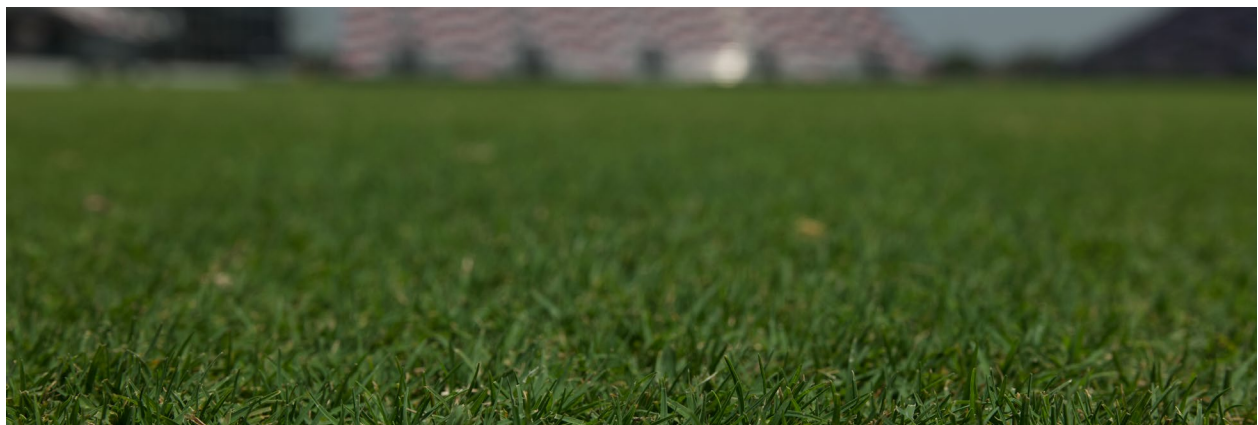
Aussie origins explain why Celebration is one of the toughest bermudagrasses on the market today for sports. Celebration features some of the most rapid recovery on the market today. It also has the highest level of shade tolerance for a bermuda variety, which makes play possible with shade from stadium 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.