

Turfgrass Selection Bermudagrass

**Tom Samples, Professor and John Sorochan, Associate Professor
Plant Sciences**

Bermudagrass is an aggressive, low-growing and very persistent sod-forming turfgrass. The species is native to Africa. Many of the turf-type bermudagrasses are hybrids of the two *Cynodon* species, *C. dactylon* (L) Pers. and *C.*



transvaalensis Burt-Davy. Plants spread by both aboveground (stolons) and belowground (rhizomes) stems. Bermudagrass grows best in full sun and is, most often, intolerant of shade. Leaves and stems become straw-brown as plants enter dormancy each fall. A healthy, actively growing bermudagrass turf is dense, resistant to weed invasion and capable of recovering from injury very quickly.

Bermudagrass is adapted to soils ranging in texture from sand to clay. Plants do not usually grow well in infertile, poorly drained soils. The nitrogen (N) fertility requirement of bermudagrass ranges from 0.5 to 1.5 pounds of N per 1,000 square feet per growing month. Bermudagrass turfs require routine dethatching and are susceptible to several patch diseases, including pink snow mold, brown patch and spring dead spot.



Varieties

Vegetative, Clonal Types. Vegetative, clonal-type bermudagrass varieties vary in overall quality, vertical and lateral growth rate, disease resistance and low-temperature hardiness. 'Midlawn,' 'Patriot,' 'Quickstand,' 'Tifsport,' 'Tifway II' and 'Vamont' have improved low-temperature hardiness and are maintained across the state. 'Tifton 10,' a relatively coarse-textured, bluish-green variety introduced from China, is marketed for home lawns, parks, sports fields and golf course roughs. Although 'Tifway' (Tifton 419) has limited cold hardiness, it is resistant to frost and remains a popular choice for lawns and parks. 'Tifgreen' (Tifton 328), a dense and relatively low-growing hybrid, usually requires more intensive management than Tifway. 'GN-1,' a recent introduction with patents in the U. S. and Australia, is darker green and has wider leaves than Tifway. Due to its aggressive lateral growth rate, GN-1 recovers quickly from damage. These clonal bermudagrasses do not produce viable seeds and must be established from sprigs, plugs or sod.



Tifway Bermudagrass

Descriptions of several vegetatively propagated, clonal-type bermudagrasses.

Variety (Experimental Designation)	Description
GN-1 (CT-2)	A hybrid bermudagrass bred and developed in 1989, GN-1 is the result of seven years of breeding and three generations of crosses of bermudagrasses from Africa, Australia and the U.S. The dark-green variety has medium-fine texture, good low-temperature tolerance, excellent wearability and improved nematode resistance. The variety is intended for use in commercial and home lawns, athletic fields, fairways and tees. GN-1, known as CT-2 in Australia, is a product of Greg Norman Turf Company.
Midlawn	Midlawn was developed by the Kansas Agricultural Experiment Station and cooperatively released by the Kansas and Oklahoma Agricultural Experiment Stations through the Kansas State University Research Foundation in June 1991. This slow-growing, dark-green hybrid ranks high for overall turf quality, texture, density, spring green-up and spring dead spot resistance. Cold tolerance is much better than that of Tifgreen but may be less than that of Vamont. The variety is similar in quality to Tifgreen and Tifway when maintained at a medium-high level of management intensity.
Patriot (OKC 18-4)	Patriot was developed by the Oklahoma State University Bermudagrass Breeding and Development Team. In the upper region of bermudagrass adaptation where cold winters are an issue, the overall quality of Patriot is usually equal to or better than that of Tifway. This low temperature-hardy variety establishes rapidly from sprigs and has improved resistance to spring dead spot. Excellent aerial shoot survival during winter, relatively short internodes and high shoot density may result in a need for routine dethatching under intensive management.
Quickstand	Quickstand was released jointly in 1993 by the USDA-Natural Resources and Conservation Service [formerly, SCS, the USDA-Agricultural Research Service (ARS)] and the University of Kentucky Agricultural Experiment Station (AES). The variety, selected from an old stand of unknown origin at the Plant Material Center in Quicksand, KY, establishes and spreads very rapidly. Plants have medium-green leaves and do not appear to produce viable pollen. Overall turf quality of Quickstand is similar to that of Vamont, but Quickstand has thinner leaves. The variety has good winter hardiness and demonstrates a low incidence of spring dead spot.
Tifgreen (Tifton 328)	Created in 1951 and released jointly in 1956 by the Georgia AES and ARS Crops Research Division, this cross between a fine-textured Common bermudagrass from the fourth green on the Charlotte Country Club and African bermudagrass is low-growing, rapidly spreading and disease-resistant. Although Tifgreen may produce a few yellowish-green seed heads, no viable seeds are produced. Plants are forest green and have soft, narrow leaves. Tifgreen withstands very short (e.g., < 3/16-inch) mowing heights.
Tifsport (Tift 94)	Tifsport was cooperatively released by the USDA-ARS and the University of Georgia Coastal Plain Experiment Station in April 1995. This hybrid, one of 66 finer-textured mutants induced by gamma-radiation of Midiron, was selected for overall turf quality, tolerance to close mowing, resistance to southern mole cricket and spring green-up characteristics. Tifsport is similar to Tifgreen and equal to Tifway II in turf quality. Cold tolerance allows the variety to be grown as far north as Stillwater, OK and Lexington, KY.

Variety (Experimental Designation)	Description
Tifton 10	Tifton 10, a drought-resistant, high-temperature-tolerant variety, was originally collected in Shanghai, China in 1974. Plants are coarse-textured and have dark bluish-green foliage. The variety was selected for ease of establishment by stolons and overall turf quality. Tifton 10 was released in 1988 by the Georgia Coastal Plain AES and ARS. Tifton 10 is recommended for home lawns, parks, sports turfs and golf course roughs.
Tifway (Tifton 37 or Tifton 419)	Tifway was selected and cooperatively tested by the USDA, the Georgia Coastal Plain Experiment Station, and the U. S. and Southern Golf Associations. Found in a seed lot of African bermudagrasses from Johannesburg, South Africa in the spring of 1954, this chance hybrid between African and Common bermudagrass will shed no pollen and set no seed. The dark-green, disease-resistant variety spreads faster than Tifgreen, is not nearly as soft and is more resistant to sod webworm. Tifway has cold hardiness superior to Tifgreen. Tifway was released to growers of certified sprigs in 1960.
Tifway II	Tifway II was developed cooperatively by the USDA SEA/AR, the Georgia Coastal Plain Experiment Station and the Department of Energy. The variety was produced in 1971 by irradiating dormant sprigs of Tifway. Tifway II has many of the same desirable characteristics of Tifway and is more resistant to root knot, ring and sting nematodes and more tolerant of frost. Tifway II may green-up a little earlier in the spring than Tifway.
Vamont	Evaluated as VPI C-1 and released to sod producers in 1980, this vigorous, medium-green bermudagrass was observed in 1972 growing on a golf course fairway. The region of adaptation of this winter-hardy variety extends throughout the northern transition zone. Tolerates traffic well and, because of its openness, is easily overseeded.

Vegetative, Ultradwarf, Clonal Types.

Tifgreen, a valued lawngrass in West Tennessee, is still maintained on a limited number of golf greens at cutting heights of 3/16 inch or less. Very few 'Tifdwarf' greens remain in Tennessee. Newer, ultradwarf varieties such as 'Champion,' 'Mini-Verde,' 'Mississippi (MS) Supreme' and 'TifEagle' are replacing Tifgreen and Tifdwarf as varieties of choice for newly constructed or renovated bermudagrass greens. Ultradwarf bermudagrasses generally have shorter internodes, higher shoot densities, better turf quality and the ability to withstand lower mowing heights than Tifdwarf and many other clonal bermudagrasses. Along with the improved turf quality of the ultradwarf bermudagrasses at lower cutting heights comes the need for a change in 'standard' Tifgreen and Tifdwarf maintenance practices. Research demonstrates that the ultra-dwarf bermudagrasses may quickly produce excess thatch and, due to their high shoot densities, may be challenging to topdress and overseed.



Photo: Courtesy of Dr. Wayne Hanna

Tifeagle Bermudagrass

Descriptions of several vegetatively propagated, ultra-dwarf bermudagrasses for golf greens.

Variety (Experimental Designation)	Company	Description
Champion	Coastal Turf Inc.	A vegetative selection from Tifdwarf collected in Texas; often produces greater root mass than TifEagle; relatively low N requirement; thatch accumulation comparable to TifEagle.
MiniVerde	Thomas Brothers Grass / Turfgrass America	A vegetative selection from what is believed to be a mutant of Tifdwarf; the variety, first produced in 1992, has very fine leaves, a rapid lateral growth rate, improved stand density and uniform green color.
MS Supreme (MSB40)	Mississippi Agricultural and Forestry Experiment Station	Discovered growing in a Tifgreen green on the Gulf Shores Country Club, Gulf Shores, AL.; a forest green variety with a very fine leaf blade length and width, excellent aerial shoot density and a highly prostrate growth habit; maintains uniform color under cloudy conditions in the fall; taxonomically identified as <i>Cynodon</i> x <i>magennisii</i> .
TifEagle	United States Department of Agriculture and Georgia Agricultural Experiment Station	This sterile, fine-textured, medium green variety is a cobalt-induced (gamma-irradiation) mutant of Tifway II; grows well and displays very little purple discoloration in cool weather.



Seeded Types.

Seeds of common bermudagrasses are often used to establish home lawns, sports fields and utility turfs. Much of the bermudagrass seed marketed in Tennessee is harvested and

processed in Arizona where two seed harvests per year are possible. The improved, common bermudagrasses 'Riviera' and 'Yukon' have better quality, low-temperature tolerance, rooting and spring dead spot resistance than 'Arizona Common' and several other seeded and clonal bermudagrasses. Other improved, common bermudagrasses marketed in Tennessee include 'Mirage,' 'Pyramid,' 'Southern Star,' 'Sundance II,' 'Sundevil I' and 'II,' 'Sunstar' and 'Transcontinental.' Several bermudagrass seed blends are also marketed in Tennessee. These include Enviro-Bermuda ('Mohawk,' 'Sydney' and 'Panama' or 'Yuma'), LaPrima ('SR9554' and

'LaPaloma'), Oasis ('Blackjack,' 'Savannah' and 'Sundevil II') and Triangle (Mohawk, 'Sultan' and 'Sydney').



Riviera Bermudagrass

Turfgrass breeders continue to develop new, improved bermudagrasses that can be established from seed. Seven of the 28 entries in the 1986

NTEP National Bermudagrass Test, 16 of the 26 entries in the 1991 NTEP National Bermudagrass Test and 18 of the 28 entries in the 1997 NTEP National Bermudagrass Test were seeded types. Of the 42 total entries in the most recent NTEP National Bermudagrass Test started in 2002, 29 produce viable seed. For information regarding the performance of individual bermudagrass varieties, please visit the National Turfgrass Evaluation Program Web site, <http://www.ntep.org>

Characteristics of several varieties of seeded, turf-type bermudagrasses.

Variety (Experimental Designation)	Color	Texture	Intended Use	Company / Agriculture Experiment Station
Mirage (CD90173)	Light	Medium	Fairways, lawns, parks, roughs, sports turfs	International Seeds
Pyramid (CD90183)	Light	Medium	Fairways, lawns, parks, roughs, sports turfs	Cebeco International Seeds
Riviera (OKS 95-1)	Medium-dark	Medium	Fairways, lawns, parks, roughs, sports turfs	Johnston Seed / Seed Research of Oregon
Savannah (PST-R64)	Medium-dark	Medium	Fairways, lawns, parks, roughs, sports turfs	Turf-Seed
Sonesta (NMS-3)	Light	Medium	Roughs, lawns	O. M. Scott & Sons, 1993
Southern Star (J1224)	Medium	Medium	Fairways, lawns, parks, roughs, sports turfs	Simplot / Jacklin Seed
Transcontinental	Medium	Medium	Fairways, parks, roughs, sports turfs, tees	Turf Merchants / Turf Seed
Yukon	Medium	Medium	Fairways, lawns, parks, roughs, sports turfs	Johnston Seed, Seed Research of Oregon

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