

BERMUDAGRASS

Cynodon dactylon (L.) Pers.

Plant Symbol = CYDA

Contributed by: USDA NRCS Plant Materials Program



USDA NRCS National Plant Materials Center
Beltsville, MD

Caution: This plant is considered noxious in several states and invasive by several sources. Please check the Noxious and Invasive portion of PLANTS for additional information. Please consult with your local resource specialist prior to using.

Uses

Erosion control: Bermudagrass is used for critical area planting (including channels and pond banks), grassed waterways, and vegetated flumes.

Turf: This grass is suitable for lawns and public areas, and is recommended for problem soils and heavy traffic areas.

Forage for Livestock: Bermudagrass provides fair to good pasture and hay with proper management. Forage quality is dependent on soil fertility and stage of growth.

Wildlife: Bermudagrass has forage value for deer, geese and ducks in open, sunny areas.

Recreation: Turf types of the grass form attractive, traffic-resistant, weed-free, and low maintenance ground covers for areas with half to full day sun.

Status

Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status (e.g. threatened or endangered species, state noxious status, and wetland indicator values).

Weediness

This plant may become weedy or invasive in some regions or habitats and may displace desirable vegetation if not properly managed. Please consult with your local NRCS Field Office, Cooperative Extension Service office, or state natural resource or agriculture department regarding its status and use. Weed information is also available from the PLANTS Web site at plants.usda.gov.

Description

Bermudagrass, is from South Africa and was documented as an important grass in the United States by 1807. It is a long-lived, warm season perennial that spreads by rhizomes, stolons, and seed. Stems are leafy, branched, and 4 to 6 inches tall. Under favorable conditions, stems may be 12 to 18 inches high. Stems are short jointed. Leaves are flat and spreading. The ligule is a circle of white hairs. Leaves may be hairy or smooth. Seedheads are usually in one whorl of 3 to 7 spikes, each about 1 to 2-1/2 inches long. Some robust forms may have up to 10 spikes in 2 whorls.

Adaptation and Distribution

Although a few hardy strains of Bermudagrass persist in areas with sub-zero winter temperatures (USDA plant hardiness zones 5 and 6), it is most important in areas of relatively mild winters (USDA plant hardiness zones 7 through 10). Once established on moderately deep to deep soils, Bermudagrass maintains dense sod, non-irrigated, with 16 inches of rainfall. It can withstand sedimentation and long periods of inundation. It prefers full sun and can grow rapidly at air temperatures exceeding 100°F.

Bermudagrass prefers deep well-drained soils but produces well on moderately shallow sites under irrigation and good management. It does not tolerate poor drainage (wet soils). It persists on infertile soils but requires high nitrogen levels for best appearance. It withstands pH ranges from about 5.0 to 8.5 and is boron tolerant. It tolerates saline soils with up to 18

millimhos of electrical conductivity in the soil solution.

Bermudagrass is distributed throughout the majority of the United States. For a current distribution map, please consult the Plant Profile page for this species on the PLANTS Website.

Establishment

Stands may be established by use of seed, sprigs, or plugs planted during mid-spring to mid-summer followed by frequent applications of fertilizer and water. Early planting is most important in areas of marginal adaptability.

Seeding or planting sites should be firm, smooth, and free of weed seed. For turf plantings, lawns must be very smooth to allow for close mowing following establishment. Seed, sprigs, or plugs should be placed into moist soil.

Seeding. For pasture, drill 8 to 10 pounds pure live seed per acre at 1/4 inch depth. For turf, use 2 to 3 pounds of seed per 1,000 square feet. Higher seeding rates are advisable if seed must be broadcast. If using sprigs, broadcast by hand or with hydro-equipment. Punching and irrigation, if needed, must be done immediately following spreading to keep the sprigs from drying out. Surface soil moisture must be kept high while roots and shoots develop at the sprig nodes.

Sprigging. If planting sprigs (sprigging) with sprig planting equipment that places the sprig in a furrow, buries and packs it, use twenty bushels of sprigs per acre. When sprigs are established by broadcasting on the soil surface and disking them into the soil, use a minimum of forty bushels of sprigs per acre. Regardless of planting method, the sprigs should be covered with 1-1/2 inches of soil. Sprigging should be followed by an immediate application of 1 inch of irrigation water for enhanced sprig-soil contact. Repeated irrigations may optimize stand development. Bermudagrass typically develops a full stand in its initial growing season.

Plugging. Plugs of 3 inch diameter planted on 15 to 18 inch centers will ordinarily establish complete cover in 1 growing season with adequate fertilizer, moisture and half-day to full sun.

Sodding. Sodding is preferred for critically eroding areas or lawns and athletic fields where immediate foot traffic is contemplated. Care immediately following planting is less critical on plantings of sod or plugs than it is on plantings of sprigs.

Management

Turf. High quality turf will require frequent very low mowing, fertilizer, and water for vigorous growth. Clippings must be removed. A sharp reel-type mower will avoid unsightly scalping. Good to fair quality turf can be maintained on short water and low fertilizer schedules, thereby reducing mowing frequency.

Erosion Control Cover. Bermudagrass will persist as a weed-free ground cover on soils of moderate to high water-holding capacity. Where desirable and permissible, mid-winter controlled burning can be used to reduce thatch. Most herbicides used at recommended rates with reasonable care can be used to control undesirable plants without destroying fully established Bermudagrass. Applications of nitrogen every 2 to 5 years will be needed to maintain vigorous stands on most sites.

Forage. Both pasture and hay production requires a minimum rainfall of 30 inches per year and heavy fertilizer application for high yield and quality. Nitrogen rates of 30 to 40 pounds of nitrogen per acre should be applied in split increments for each ton of anticipated dry forage yield. Highest yields are obtained on good soils in areas of high average annual temperature with ample water. Harvest or graze at 3 to 4 week intervals for best yields of total digestible nutrient and protein. Forage yields of 4 to 5 tons per acre are realistic in the Appalachian Region.

Ryegrass and cool season legumes can be seeded into bermudagrass to extend the grazing season and add nitrogen to the bermudagrass stand. Legumes can add up to 100 pounds of nitrogen per acre that is available to the bermudagrass during the following year.

Pests and Potential Problems

Several white grubs are known to feed on the root system; however they are normally not a major pest.

Weed Control

Please contact your local agricultural extension specialist or county weed specialist to learn what works best in your area and how to use it safely. Always read label and safety instructions for each control method. Trade names and control measures appear in this document only to provide specific information. USDA, NRCS does not guarantee or warrant the products and control methods named, and other products may be equally effective.

Cultivars, Improved, and Selected Materials (and area of origin)

Many cultivars have been developed for use as turf, pasture, and hay. Most of the cultivars have been developed in the Deep South and are not adapted to the Appalachian Region (plant hardiness zones 5 and 6). Cultivars developed for turf and pasture are low-growing and prostrate. Cultivars developed for hay are erect. Most older cultivars are only available as vegetatively, e.g. sprig, propagated plant material. Recently seed-propagated cultivars have been developed.

'Quickstand' is a cultivar that was increased from a single accession that was found on the Quicksand, Kentucky Plant Materials Center. It was released in 1992 for use as a pasture forage and turfgrass. The Quicksand, Kentucky Plant Materials Center has relocated to Alderson, West Virginia and is now known as the Appalachian Plant Materials Center. Breeder sprigs are maintained at the Appalachian Plant Materials Center in Alderson, West Virginia.

Other vegetatively propagated cultivars that are adapted to the Appalachian Region include: 'Vamont' (turf and pasture), 'Tifton-44' (hay), 'Midland' (hay), and 'Hardie' (hay). Seed-propagated cultivars adapted to the Appalachian Region include: 'Wrangler', 'Mohawk', and 'Guymon'. All the seeded cultivars were developed for turf and pasture. Seeds, springs, and sod are all commercially available.

Prepared By:

John Vandevender, Appalachian Plant Materials Center, Alderson, West Virginia

For more information about this and other plants, please contact your local NRCS field office or Conservation District, and visit the PLANTS Web site <<http://plants.usda.gov>> or the Plant Materials Program Web site <<http://Plant-Materials.nrcs.usda.gov>>

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

Read about [Civil Rights at the Natural Resources Conservation Service](#).