



GULF BLUESTEM

Schizachyrium maritimum (Chapm.) Nash

Plant Symbol = SCMA3

Alternative Names

Common Names: Seacoast bluestem

Scientific Names: *Andropogon maritimus* Chapm., *Andropogon scoparius* subsp. *Maritimus* (Chapm.) Hack., *Schizachyrium scoparium* subv. *maritimum* (Chapm.) Roberty

Description

General: Gulf bluestem is a native, warm-season, perennial grass found along coastal dune systems. It spreads by rhizomes and seeds, forming dense colonies. Its stems are decumbent, glaucous, reddish, and flattened at the base, characteristics that contribute to its stabilizing presence. Gulf bluestem has terminal white inflorescences with sessile spikelets that are approximately 0.39 inch long (Allen, 1992). Leaves are clasping and sheathing while being flat at the base. At maturity, leaves are 0.4 inch wide and 6 inches in length and gray with a bronze coloration (Miller et al., 2018a). Plants normally grow 1.3 to 2.6 ft tall (Allain, 2020).

Distribution: Gulf bluestem naturally occurs along the Gulf coast, from Louisiana eastward to the Florida panhandle. Its distribution is restricted to coastal landscapes characterized by sandy substrates and periodic disturbances that maintain open dune habitats (NatureServe, 2006). For current distribution, please consult the Plant Profile page for this species on the PLANTS Web site.

Habitat: Gulf bluestem predominately inhabits upper beach strands, primary and secondary dunes, beach ridges, and interdune swales along the Gulf coast. These dynamic coastal environments are characterized by frequent salt spray, wind erosion, occasional over wash, and shifting sands (Miller et al., 2010). It colonizes and forms thick stands along the coast on the leeward side of dunes (Craig, 1991).

Adaptation

Gulf bluestem thrives in sandy, salty, and wind-exposed dunes and beach ridges. It is well-adapted to environments with salty spray, strong winds, and periodic overwash or inundation. Due to the rhizomatous growth habit, it has a dense growth pattern in the sandy soils found along the Gulf coast. The species withstands sand movement and burial due to its flexible stems and capacity to root at nodes, enabling it to persist in shifting substrates (Miller et al., 2018b).

Uses

Erosion control: Gulf bluestem helps stabilize dunes on shorelines and islands. Thanks to its rhizomatous root system that effectively binds loose sand, it is a primary species used in dune restoration and stabilization, and for reducing erosion along the Gulf coast (Miller et al., 2018b). In plant succession schemes, Gulf bluestem replaces sea oats (*Uniola paniculata*) as the dominate species on leeward side of dunes and in disturbed areas (Johnson, 1997). Thetford et al. (2005) reported Gulf bluestem was a good accumulator of sand and persisted on the interior dunes long after sea oats declined from the dunes. However, Miller et al. (2014) reported that Gulf bluestem was susceptible to sand burial, but instead to wind scouring and excavation of sand substrate, leading to plant death. These results explain the importance of planting on the back dune.



Figure 1-Timbalier Germplasm Gulf bluestem established in a breeder increase block.

Livestock, Wildlife and Forage: Gulf bluestem is generally not suitable for livestock grazing because of its coarse foliage and its occurrence in protected coastal habitats. It is not widely recognized as forage in agriculture systems. However, it provides essential habitat and protective cover for shorebirds, small animals, and migratory birds, supporting ecological diversity within dune systems (Miller et al., 2018b).

Ethnobotany

No traditional or ethnobotanical uses have been documented for Gulf bluestem specifically. However, native American groups have used bluestem species found along the Gulf coast for erosion control to protect land and waterways, wildlife habitats for birds, small animals and pollinators, and forage for grazing animals. The National Park Service reported that the Comanche people burned the stems of bluestem species, using the ashes for syphilitic sores and in ceremonies. Additionally, the Lakota people used the grass as a fur insulation alternative in their moccasins in the winter months (National Park Service, 2024).

Status

Threatened or Endangered: Gulf bluestem is listed in Alabama and Louisiana a S1 (High risk of extirpation or local extinction in its state range/Critically Imperiled) and in Mississippi a S2 Imperiled (Nature Serve, 2006). Global conservation status is listed as G3G4 (middle of scale) moderate risk of extinction or collapse (Louisiana Department of Wildlife & Fisheries, n.d.). Gulf bluestem is potentially imperiled in Louisiana because of its rarity and factors that make it especially vulnerable to extirpation.

Wetland Indicator: Gulf bluestem is an FAC (facultative) wetland indicator in the Atlantic and Gulf Coastal Plain (similar likelihood of occurring in both wetlands and non-wetlands).

Weedy or Invasive: 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, state natural resource, or state agriculture department regarding its status and use.

Please consult the PLANTS Web site (<http://plants.usda.gov/>) and your state's Department of Natural Resources for this plant's current status (e.g., threatened or endangered species, state noxious status, and wetland indicator values).

Planting Guidelines

Establishment methods for Gulf bluestem include container-grown or bareroot plants and vegetative propagation from basal or nodal stem cuttings, due to limited viable seed. Planting is recommended in foredunes, back dunes, and elevated beach zones above routine tidal activity. Depending on site objectives, spacing typically ranges from 18 to 36 inches. Plantings performed from late winter through early summer establish more successfully, benefiting from warming soil conditions (Miller et al., 2018a). Gulf bluestem grows best in full sun and well-drained sandy soils with a pH of 4.5-8.5, and it is highly tolerant salt. Fertilizing at planting and weekly nitrogen feeding during nursery production enhances establishment. Prior to installation, invasive species control and site stabilization, sometimes with sand fencing, are recommended for long-term success (Williams, 2007).

Management

Minimal ongoing maintenance is required for Gulf bluestem. Restricting foot traffic for at least one year after planting supports successful establishment. Once established, Gulf bluestem self-maintains except in ornamental landscapes, where periodic thinning may be beneficial (Miller et al., 2018b).

Pests and Potential Problems

There are no pests of concern associated with this species.

Environmental Concerns

There are no serious environmental concerns with this species.

Control

Currently, there are no known control options for Gulf bluestem. 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 warranty the products and control methods named, and other products may be equally effective.

Seeds and Plant Production

Vegetative propagation is the preferred method for producing Gulf bluestem due to its reliability and rapid establishment in coastal restoration settings (Miller et al., 2018a). Basal or lower-stem (proximal) cuttings root readily, often achieving up to 80% success without hormone treatments when harvested during the growing season (Thetford & Miller, 2002). Distal cuttings (upper stems) root poorly unless treated with approximately 1000 ppm indole-3-butyric acid (Thetford & Miller, 2002). Cuttings should be placed under intermittent mist for 3-4 weeks, after which they are pot-transplanted into a well-drained, sterile potting substrate, typically a peat or coir-based mix amended with perlite, sand or pine bark to enhance aeration and reduce waterlogging. This type of medium supports rapid root expansion and minimizes damping-off risks during early container production (Miller et al., 2018a). After transplanting, cuttings are fertigated with ~150 ppm nitrogen twice weekly to promote root and shoot development (Miller et al., 2018a). Once plants fill designated containers, typically in an additional 4-6 weeks of growth, they are suited for out-planting on dunes (Miller et al., 2018a). This method delivers quick field establishment and reliable performance in dynamic coastal environments, making it the restoration standard.

Gulf bluestem produces viable seed, though seed-based planting has shown inconsistent results compared to vegetative propagation (Miller et al., 2018a). The fertile sessile spikelets mature unevenly, necessitating careful timing or multiple harvests to capture viable seed (Miller et al., 2018a). Field collected seed has germinated successfully in community flats, indicating that seeds may require an after-ripening period before germination (Miller et al., 2018a). While no detailed protocols exist yet, seeds are best sown onto well-drained sandy substrates and kept lightly moist to encourage germination. Due to slower emergence and weak establishment, seed planting currently serves experimental or genetic diversification purposes rather than large-scale dune stabilization (Miller et al., 2018b).

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

Timbalier Germplasm Gulf bluestem originated on Timbalier Island off the Louisiana coast as a tested pre-varietal release. It was selected as a native species for its ability to stabilize back dunes and to provide species diversity on coastal beaches and barrier islands in Louisiana. This is a vegetative release that also spreads by seed and rhizomes.

Cultivars should be selected based on the local climate, resistance to local pests, and intended use. Consult with your local land grant university, local extension or local USDA NRCS office for recommendations on adapted cultivars for use in your area.

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Citation

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