

Uniola paniculata

Sea Oats; seaside oats; araña; arroz de costa

Family: Poaceae



Sea oats naturally help prevent beach erosion.

Sea Oats

Syn: None found

Origin: Atlantic Coast from Virginia to Florida.
The Gulf Coast from Florida to Tabasco, Mexico.
Bahamas and Northwest Cuba

USDA Zone: 8a -12 (down to 10°F)

Growth Rate: Moderate

Flowering Months: Spring through Fall in Florida

Leaf Persistence: Evergreen

Salt Tolerance: High

Drought Tolerance: High

Soil: Acid; alkaline; sand

Nutritional Requirements: Low

Potential Pests: None known

Typical Dimensions: 3-8 feet tall

Propagation: Buds around stems; seeds

Human hazards: None known

Uses: Dune stabilizer; landscape



Sea oats leaf with inflorescence that commonly reach 7 to 8 feet high.



Sea oats spikelets make up the inflorescence of the plant.

Natural Geographic Distribution

Sea oats, *Uniola paniculata*, is often the most recognized plant in Florida's coastal dune systems. It grows throughout Florida. Sea oats occurs on the coastal sands and beach dunes along the Atlantic coast from southern Virginia to Florida and on the Gulf coast from Florida to central Mexico. It is also found in Cuba and the Bahamas.

Ecological Function

The species is often the dominant plant in beach and dune communities. It is an excellent pioneering species. Dense colonies are frequently observed in the coastal beach areas. Its wide spreading fibrous roots allow the plant to utilize minute amounts of moisture in the soil. Its clumping habit collects, traps and holds sand blown by the wind. This results in dune formation and erosion control. It also provides excellent habitat and food source for small birds, mammals and insects.

Growing Conditions

Sea oats is highly drought, salt and heat tolerant. It thrives in full sun and in sandy, calcareous, well-drained soils. The species flourishes in disturbed areas that may be subjected to strong winds, tropical storms, drought and inundation by sea water. While highly tolerant of drought conditions, sea oats does not tolerate water logging of roots; which can kill sea oats after only a few days. Sea oats can be found interspersed with other grasses and competing vegetation. It gains mineral nutrition from salt spray and beach sand as well as its own decaying organic matter.



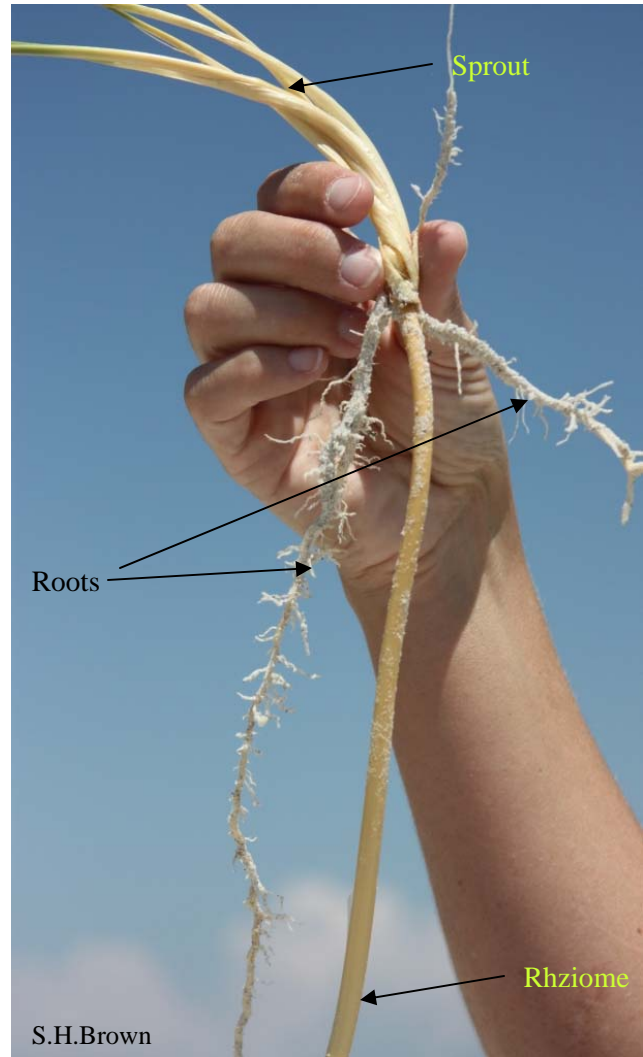
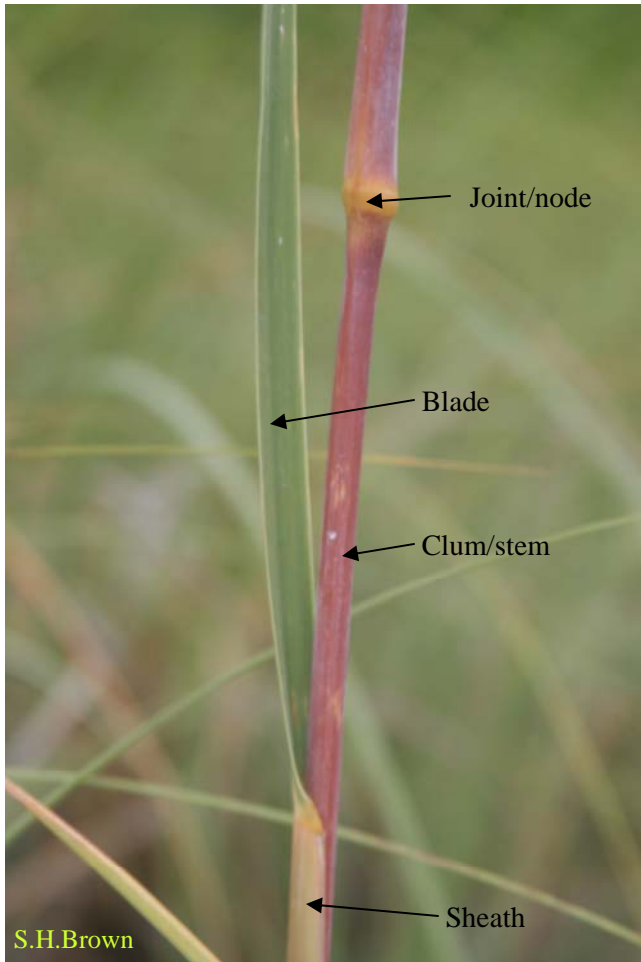
Sea oats traps and holds sand in coastal communities.



Dense colonies of sea oats are observed in coastal beach areas.

Growth Habits

Unlike many grasses, sea oats does not produce many seeds. It predominately spreads asexually by strong extensively creeping underground rhizomes. It forms clumps three to eight feet tall. Buds are formed around the stem base, and the formation angle of the buds determines whether a shoot or lignified rhizome develops. Acutely angled buds become tillers and right angled buds become rhizomes. Internodal portions of the rhizome decay leaving the nodal regions with associated clumps to root and become new plants. Less frequently it reproduces sexually by seeds. Pollination is accomplished by wind. Plants can grow from one to two feet in the first year after establishment. A dense cover is possible in three growing seasons. Flowering occurs in the second or third year after establishment. In Florida, sea oats flowers from spring to fall. The large nodding inflorescent panicles are showy and are 12 to 20 inches long. The inflorescence is made up of many spikelets each contains 30 or more florets. The flat or convolute leaves are tapered into pointed tips. They are 12 to 18 inches long and approximately 1/4 inch in width. The inflorescence are held on stems up to five feet tall which are significantly longer than the surrounding leaves. The panicles produce 0.5 to one inch brown fruit kernels from which the grass gets its name.



Uses

Sea oats is valued as a dune stabilizer and less so as an ornamental grass. It is protected in the wild due to its superiority at preventing erosion. Collection of seeds and plants is strictly prohibited. Because sea oats spreads successfully by rhizomes, it can become invasive in the landscape. It can be easily cut back or surrounded by an underground barrier that the rhizomes cannot penetrate. However, the authors know of no ornamental landscape use of this plant. Indigenous people in the U.S. may have used the seeds as food, and some people in Central America still utilize them in the same way today. Cattle will graze it, but it is seldom grazed because of the critical nature of the sites on which it occurs.

Planting and Maintenance Guidelines

Plant from March through November south of Tampa Bay and Cape Canaveral and April through October northward. Plant above the limits of wave uprush. Space plants from four-inch pots one and one-half feet on center. Increase the spacing to three feet on center for plants from one-gallon pots. Plant in alternate staggering rows.



A sea oats inflorescent panicle is made up of many spikelets

Plant deep; the top of the root-ball should be four to six inches below the soil surface. Many plantings have failed because plants were not set deep enough. Fertilization is not required at planting as the plant can survive with virtually no nutrients. The plants should be watered immediately after planting and then weekly for the first few months. Although seas oats can be planted through much of the year, planting during the rainy season will reduce supplemental watering. Seedlings can be purchased from nurseries around Florida.



New planting of sea oats on Bowman's Beach, Sanibel, in July. Plants are from one gallon pots planted four feet apart.

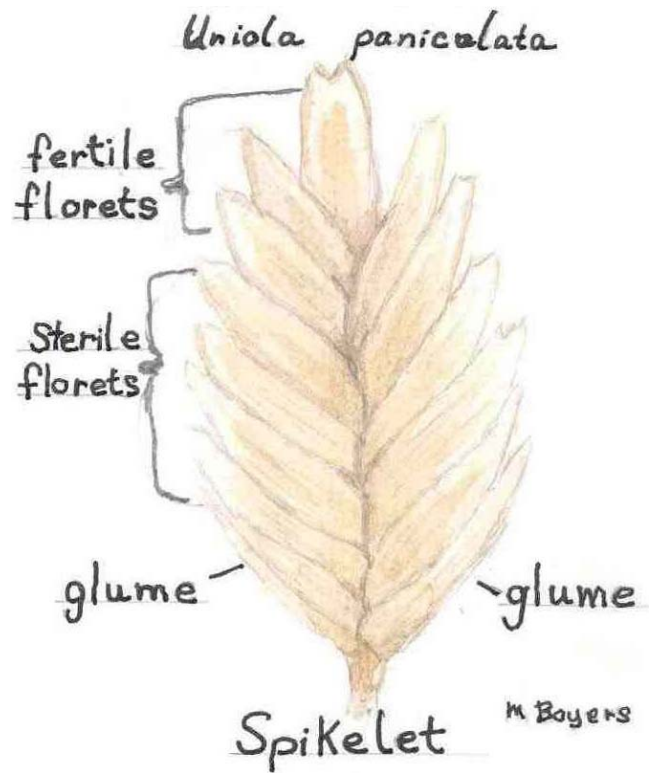


See the sprouts follow the rhizome. Sprouts arising from rhizomes. Rhizomes are horizontal subterranean plant stems.



From the top of the root ball, plant four to six inches below the soil surface.

A sea oats spikelet



Scale: each scale has a floret.



The floral structure of grasses is unique. The inflorescence unit is called a spikelet. Each spikelet is composed of many scales called lemmas. In sea oats, each of the scale has a flower (floret); except the bottom two which are called glumes. A sea oats spikelet may have up to 30 or more florets. However, the lower 2 to 8 florets are sterile. Once it has been pollinated a caryopsis (seed) develops under each of the scales.

This fact sheet was reviewed by Keith Bradley, Institute for Regional Conservation, Miami; Holly Downing, City of Sanibel Natural Resources; Jenny Evans, Sanibel-Captiva Conservation Foundation; Peggy Cruz, Lee County Extension Service; John Sibley, Lee County Master Gardener and owner of All Native Garden Center, Nursery & Landscapes, Fort Myers.

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