

## SALTMEADOW CORDGRASS

*Spartina patens* (Aiton) Muhl.

Plant Symbol = SPPA



USDA NRCS National Plant Materials Center  
Beltsville, MD

Contributed by: USDA NRCS Rose Lake Plant Materials Center.

### Alternate Names

Marshhay cordgrass

### Uses

Saltmeadow cordgrass is used for shoreline protection and tidal marsh restorations, and is often utilized for levee stabilization and dune stabilization plantings near coastal beaches and on barrier islands. It is an important species for dissipating wave energy in low topography relief coastlines (Stallins, 2002). Saltmeadow cordgrass is an effective stabilizer used on interior mud flats, dredge fill sites, and other areas of loose and unconsolidated soils associated with marsh restoration (Burger and Shisler, 1983). However, saltmeadow cordgrass colonies can be barried and killed by sand accumulation of 3 feet or more (Courtemanche et al., 1999). Saltmeadow cordgrass has been observed to inhibit the spread of aggressive rhizomatous species. Encroachment of *Phragmites australis* was blocked by saltmeadow cordgrass in restored marshes in New Jersey (Wang et al., 2006).

Saltmeadow cordgrass may play an important role for remediating and restoring marshes after oil spills. Saltmeadow cordgrass dominated coastal wetlands are predicted to recover from oil spills without additional intervention procedures (DeLaune et al., 2003).

Saltmeadow cordgrass also provides food and cover to many terrestrial and aquatic species of wildlife including muskrats, nutria, rabbits, ducks, white-footed mouse and meadow vole (Stutzenbaker, 1999; Abuzeineh et al., 2007). In Canada, saltmeadow cordgrass is known to be a larval host of the endangered maritime ringlet butterfly (Sei, 2009). Saltmeadow cordgrass is considered an important forage species to livestock producers along the gulf coast (Stutzenbaker, 1999) and is cut and dried for hay in New England and Newfoundland (Stalter, 2003). This species is the primary component of salt hay, which is utilized in the landscape and vegetable trade industry as weed seed free mulch.

### 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. It is considered an invasive plant in Washington and Oregon (Washington Administrative Code, 2005; Oregon Dept. of Agriculture, 2006). 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](http://plants.usda.gov).

### Description

This warm season, native, perennial grows from 1 to 4 feet tall, and spreads extensively by long slender rhizomes. Dark green stems emerge from the rhizomes. The rolled leaf blades are typically 1/2 to 1 foot long, and 0.1 to 0.2 inches wide. Leaf blades are shiny, dark green on the upper surface and rough with prominent veins on the lower surface. Leaves are drooping and wiry in appearance. From late June to October an inflorescence emerges at the end of the stem, which is composed of 2 to 10 two-inch-long spikelets. The numerous florets are 0.3 to 0.4 inches long and arranged in an overlapping scale-like fashion on each spikelet. The flowers are wind pollinated and self-sterile (Barkworth, 2003; Gould, 1975).

### *Distribution:*

Saltmarsh cordgrass has been observed from the Atlantic shorelines in Newfoundland, Canada to the coastlines of Florida and Texas and as far south as Quintana Roo in Mexico (Stalter, 1993; Gould, 1975; Sauer, 1967). Saltmarsh cordgrass has also been observed along Lake Huron in Michigan (Voss, 1972). It also occurs in Oregon and Washington where it is considered invasive. For current distribution, please consult the Plant Profile page for this species on the PLANTS Web site.

### **Adaptation**

Saltmeadow cordgrass is commonly found growing in saline to brackish marshes, sandy beaches and low dunes, tidal flats and marsh ridges. It can inhabit foredunes and primary dunes, and can survive in saturated soil conditions (Stalter, 1974; Stalter and Lamont, 1997; van der Valk, 1975). This grass is adapted to a wide range of soils from coarse sands to silty clay sediments with a pH range of 4.5 to 7.1 (Martin, 1959). Saltmeadow cordgrass will tolerate irregular inundations with 0 to 35 parts per thousand salinity and the concentration required for 50% above ground tissue death is about 65 parts per thousand (Hester et al., 2005). Leaf blades have a thick cuticle and usually are involute when fully developed which helps protect the plant from salt spray injury (Oosting, 1945).

### **Establishment**

Saltmeadow cordgrass is usually established by vegetative means. Depending on the energy affecting the planting site, either containerized (high impact sites) or bare root (mild impact sites) plants can be utilized. Bare root material should contain 3 to 5 stems per planting unit, while containers should have at least 5 to 8 healthy stems. Bare root plugs are generally limited to planting sites that are exposed to little or no wave energy. Since most marsh sites are irregular and difficult to access, hand planting is normally employed, using spades, dibbles, or planting bars. If site conditions are right, planting can be carried out with a mechanical, tractor drawn transplanter. Plant spacing should be between 18 and 36 inches; up to 2 feet of lateral spread can be expected annually (Craig, 1991; USDA, 2007).

### **Pests and Potential Problems**

The toxic ascomycete ergot (*Claviceps purpurea*) has been observed to parasitize the ovaries of saltmeadow cordgrass. The infection can be transferred to other grass species including big cordgrass (*Spartina cynosuroides*) and smooth cordgrass (*Spartina alterniflora*) (Eleuterius and Meyers, 1974).

### **Environmental Concerns**

None at this time.

### **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.

### **Seeds and Plant Production**

Saltmeadow cordgrass is commonly propagated vegetatively. It has little ability to spread through seed production and the seedlings have low vigor. In nursery rows, plants of saltmeadow cordgrass should be spaced 6 to 12 inches apart. Under ideal nursery conditions, each planting unit should be able to yield up to 50 stems in a single growing season. Effective weed control is essential to producing quality plants.

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

Saltmeadow cordgrass is easily found in nurseries, garden stores and other plant dealers and distributors. There are several named cultivars available on the commercial market. In 1986, 'Avalon' (New Jersey) saltmeadow cordgrass was released for use in the coastal area north of the Carolinas by the Cape May Plant Material Center (PMC), in Cape May Court House, New Jersey. Soon after, 'Flageo' (North Carolina) was released by the Americus, Georgia and Brooksville, Florida PMCs for use on southern Atlantic and Gulf coasts. 'Sharp' (Louisiana) was released in 1994 by the Florida and Georgia PMCs for coastal back dune stabilization in the southern Atlantic and Gulf coast counties from Florida to Texas. It is also suited for use in inland areas from southern Georgia to southern Arkansas to stabilize shorelines, gullies, road banks, mine spoils, saline oil seep areas, and for nutrient reclamation in agricultural and municipal waste water irrigated fields. In 2003, 'Gulf Coast' marshhay cordgrass was released from the Golden Meadow PMC near Galliano, Louisiana for marsh restoration, shoreline and levee stabilization, stabilizing dredge fill sites, and restoration of coastal beaches and dunes. 'Gulf Coast' is found to be adapted to the coastal areas of Louisiana, Mississippi, and Texas.

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#### **Citation**

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