

SMOOTH CORDGRASS

Spartina alterniflora Loisel.

plant symbol = SPAL

Contributed by: USDA NRCS Plant Materials Program



USDA NRCS National Plant Materials Center
Beltsville, MD

Uses

Smooth cordgrass is the dominant emergent grass species found growing along tidal salt marshes of the Atlantic and Gulf coasts. It is utilized extensively for shoreline protection and tidal marsh restorations. Under natural conditions on tidal marshes, vigorous stands of this grass will absorb wave energy and screen suspended solids from intertidal waters, while uptaking available nutrients in the sediments. As sediments accumulate, this plant will spread away from the bank. It will tolerate petroleum contaminated soils. This cordgrass also provides food and cover to a number of marsh birds and mammals.

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).

Description

This long-lived, warm season perennial grows to 7 feet tall, and spreads extensively by long hollow rhizomes. Soft, spongy stems up to ½ inch in diameter emerge from the rhizomes. The flat leaf blades are typically 12 to 20 inches long, tapering to a long inward-rolled tip.

In September and October seedheads which are 10 to 12 inches long emerge at the end of the stem. Each spike will hold from twelve to fifteen 2 or 3 inch long spikelets. The flowers are wind pollinated. There are approximately 175,000 seeds per pound.

Adaptation and Distribution

Smooth cordgrass is commonly found growing on open coastal marshes between high and low tides from Newfoundland south to Florida and Texas. This grass can be found growing on sandy aerobic or anaerobic soils with pHs ranging from 3.7 to 7.9. Smooth cordgrass will tolerate regular inundations with 0 to 35 parts per thousand salinity.

For a current distribution map, please consult the Plant Profile page for this species on the PLANTS Website.

Establishment

Due to sparse and irregular seed production, smooth cordgrass is usually propagated by vegetative stem divisions. Depending on the energy effecting the planting site, either containerized (for high impact sites) or bare root (for mild impact sites) plants can be utilized. 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 adequate, 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. Smooth cordgrass grows at elevations ranging from mean high tide and above. Planting at an excessively low elevation will result in failure due to drowning and/or uprooting where wave energy is too high.

In nursery rows plants of smooth cordgrass should be spaced 12 to 24 inches apart. Under ideal nursery conditions, each planting unit will establish stands containing 25 culms per square foot. Extensive weed

control is essential to producing quality nursery grown plants.

Management

Stem and rhizome growth of this grass respond well to applications of well balanced commercial fertilizers. The addition of 300-500 lbs/acre of 10-10-10 fertilizer to a slow growing planting site or nursery bed is adequate to stimulate growth and development. Plants propagated under nursery conditions are easily under cut and uplifted for distribution. On field sites, debris often settles on top of established plants; this material must be removed or the plants will smother.

Pests and Potential Problems

Non-threatening rust-like fungi (orange fruiting bodies on leaves) are commonly found on smooth cordgrass. Flower beetles may limit seed production. The sugar cane borer can cause the decline and death of stems.

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

There are 2 named varieties available on the commercial market. In 1992, 'Bayshore' (Maryland) smooth cordgrass was released for use on Atlantic coastal areas by the Cape May Plant Material Center, in Cape May Court House, New Jersey. In 1989 'Vermilion' (Louisiana) was selected and released by the Golden Meadows Plant Materials Center in Galliano, Louisiana for use in the Gulf coastal areas. Other sources of local ecotypes are available from commercial nurseries.

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

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