



## 'Vermilion'

### *Smooth cordgrass* *Spartina alterniflora* Loisel.

'Vermilion' smooth cordgrass (*Spartina alterniflora*) is cultivar of smooth cordgrass (*Spartina alterniflora* Loisel.) released by the USDA, Natural Resources Conservation Service (NRCS), Golden Meadow Plant Materials Center in 1989.



Figure 1. 'Vermilion' smooth cordgrass foundation pond at the Golden Meadow Plant Materials Center

#### Description

'Vermilion' smooth cordgrass is an herbaceous, native, warm-season, perennial grass that forms dense colonies along shorelines and intertidal flats in coastal wetlands. 'Vermilion' is a robust and vigorously spreading plant that tolerates diurnal tidal inundation and relatively high salinity. 'Vermilion' spreads primarily by vegetative propagation, producing new above ground biomass from an extensive underground system of rhizomes. 'Vermilion' grows to a height of 24 to 72 inches. Stem height is variable but uniform within stands. Leaves are ¼ to ½ inches wide tapering to a length of 15 inches. The inflorescence is a tightly compressed panicle with sessile spikelets.

#### Source

'Vermilion' smooth cordgrass was originally collected, and vegetative plant stock was taken from an area located in Vermilion Parish, Louisiana (MLRA 151). The collection was assigned and tested under accession number 9054025 and released in 1989 by the Golden Meadow PMC located in Galliano, Louisiana. 'Vermilion' is a performance proven plant material that is needed for use in Louisiana's coastal restoration program. 'Vermilion' has proven superiority to ninety ecotypes assembled and tested. These were collected from every coastal county from Currituck County, North Carolina to Nueces County, Texas representing seven major land resource areas, Vermilion Parish, and six assemblies selected by the Cape May Plant Materials Center, New Jersey.

#### Conservation Uses

'Vermilion' smooth cordgrass is used primarily for erosion control along shorelines, canal banks, levees and other areas of soil-water interface. In addition, 'Vermilion' is an effective soil stabilizer used on interior tidal mudflats, dredge-fill sites and other areas of loose and unconsolidated soils associated with marsh restoration. When established in conjunction with shorelines, smooth cordgrass provides an effective buffer that dissipates energy, reduces shoreline scouring, and traps suspended sediments and other solids. Dense stands of smooth cordgrass are efficient users of available nutrients, producing significant amounts of organic matter. The cumulative effects of organic matter production, sediment trapping and erosion control not only provide shoreline protection but also accelerate sediment accumulation and near-shore building. Consequently, smooth cordgrass is a sustainable and renewable restoration resource, and when properly established and in the appropriate habitat, will persist and potentially remain effective indefinitely.

#### Area of Adaptation and Use

'Vermilion' smooth cordgrass is adapted to a wide range of soils from coarse sands to clays and mucks. The native distribution of smooth cordgrass is coastal intertidal areas of the Atlantic coast and the Gulf of Mexico. 'Vermilion' has proven performance throughout the north central Gulf of Mexico basin. It is not native along the U.S. west coast.

#### Establishment and Management for Conservation Plantings

Plant establishment and productivity appear to be superior on heavier mineral soils such as mucky clays, silty clays, silty clay loams, and fine sands. Soils with very high levels of organic matter pose structural problems and have proven to be problematic in establishing stands of 'Vermilion'. 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. Plant spacing should be between 18 and 72 inches; 2 to 10 feet of lateral spread can be expected annually. 'Vermilion' 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. Plantings in deeper water have been successful, but plants are slow to anchor and vegetative cover is sparse. Optimum water depths for establishing plants are 1 to 18 inches.

### **Ecological Considerations**

‘Vermilion’ smooth cordgrass is selected and propagated from naturally occurring stock that has not been altered from the original collection. The native distribution of smooth cordgrass is found on coastal intertidal areas of the Atlantic coast and the Gulf of Mexico. This species is not native to the west coast of the U.S., where it 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 along the Pacific coast, particularly in California and Washington.

### **Seed and Plant Production**

‘Vermilion’ smooth cordgrass is a poor seed producer. Plants will produce a significant number of seeds, though many seeds are sterile, empty, or damaged by predation. For planting purposes, two forms of vegetative plant materials are commonly used, containerized and bare-root plugs. ‘Vermilion’ can be established successfully by using container grown plants propagated from vegetative propagules. Several container sizes can be used to grow smooth cordgrass commercially. The most widely used container is the trade-gallon (3/4 gallon). Trade-gallon containers have a higher per unit cost compared to smaller containers. Smaller containerized (e.g. 4-inch containers and cone pots) are the easiest type of containers to grow and transport smooth cordgrass. Container grown plants are generally more reliable in successfully establishing stands of smooth cordgrass. Bare-root plugs are the most economical of commercially available plant materials. Per unit production, and transportation costs are considerably lower compared to container grown plants. Bare-root plugs are highly successful when used on appropriate sites which are generally limited to planting sites that are exposed to little or no wave energy.

### **Availability**

‘Vermilion’ smooth cordgrass is available through commercial wetland plant growers. ‘Vermilion’ is a clonal cultivar release and must be propagated by vegetative means. Foundation planting stock of ‘Vermilion’ is available for commercial nursery production from the USDA, Natural Resources Conservation Service, Golden Meadow Plant Materials Center. ‘Vermilion’ smooth cordgrass seed is not available commercially. Seed are not to be used for plant increase or establishment of this cultivar.

### ***For more information, contact:***

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**<https://www.nrcs.usda.gov/wps/portal/nrcs/main/plantmaterials/pmc/southeast/lapmc/>**



### **Citation**

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

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