

Kingston Germplasm prairie cordgrass

Spartina pectinata Bosc ex Link

A Conservation Plant Release by USDA NRCS Big Flats Plant Materials Center, Corning, New York



Photo of Kingston Germplasm prairie cordgrass seedhead in full bloom (picture taken in August 2013 at the USDA NRCS Big Flats Plant Materials Center, in Big Flats, New York.)

Kingston Germplasm prairie cordgrass (*Spartina pectinata* Bosc ex Link) is a tested-class release. It was released in 2013, by the USDA Natural Resources Conservation Service (NRCS) Big Flats Plant Materials Center for its superior growth and resilience in streambank restoration projects.

Description

Kingston Germplasm prairie cordgrass is a tall (4-5 feet), robust, perennial, native warm season grass. It produces strong rhizomes that can grow 1-2 feet per year. Its sharp, long serrated leaf blades make it easy to distinguish from other grasses and grow to 30 inches in length. The leaves of mature plants are dark green, and turn yellow in the fall and winter. It produces very stiff stems that remain upright in the winter months.

Kingston Germplasm prairie cordgrass seedheads are distinguished from other warm season grasses by their compressed spikelets attached to the main stem. Each spike is 4 inches long and has up to 40 spikelets, growing in 2 rows on the side of the spike away from the stem.

Source

Kingston Germplasm prairie cordgrass is made up of 7 accessions from Argyle, ME, Deer Isle, ME, Newbury, MA, Durham, NH, Hampton State Park, NH, and Rye Harbor State Park, NH. All of these collections were from wet areas located on or near rivers, creeks, coastal areas, and marsh lands, where they may have been inundated for a short period of time. These selections were made from 50 collections collected across 6 states in the Northeast and Canada and were selected for their superior performance based on overall vigor, disease resistance, spread, flowering time, and heights.

Conservation Uses

The stiff stems, vigorous rhizomes and robust size of this species make it useful for:

- wetland restoration and enhancement
- streambank stabilization
- riparian buffers
- prairie landscapes
- wildlife habitat-nesting cover
- forage-very early season only
- spillway and dam cover

As a bioenergy crop, Kingston Germplasm prairie cordgrass has great potential due to its adaptability on marginal soils, significant genetic potential for improvement, and can thrive in colder latitudes where other warm season grasses do not over winter.

Area of Adaptation and Use

Kingston Germplasm prairie cordgrass is adapted to a wide range of wet areas, in USDA hardiness zones 3 to 7, including meadows, roadsides, ditches, streams, marshes, potholes, drainage ways and other low, poorly drained areas. It is associated with sedges, rushes, other warm season grasses, and wildflowers. It will grow on seasonally dry sites in these zones and can tolerate alkaline conditions and high water tables but is intolerant of prolonged flooding. It grows on a wide array of soil types, but prefers soil other than sand.

Establishment and Management for Conservation Plantings

Prairie cordgrass can be established from seed or vegetative material, but historically Kingston Germplasm prairie cordgrass has had very low seed germination and will be used vegetatively.

Establishment

Kingston Germplasm prairie cordgrass establishment is currently being done by vegetative means and adequate soil moisture at planting is critical. Stands for conservation plantings are successfully established using rhizomes, planted with growing points upward, using a vegetable planter, mounted on the back of a tractor or hand dug. Recommended spacing is 3-4 feet.

For erosion control and streambank stabilization sites, spacing can vary. Generally, plants are spaced 2 to 10 feet apart and planted in off-set rows. Rhizomes planted along streambanks should be planted several feet beyond the water line. Ice jams and fluctuating water can wash out plants. Rhizomes planted higher up the slope will readily send shoots down the slope toward the water line.

Another method of establishment would be to scatter the rhizomes, cover, and firm the planting bed. The best time to plant rhizomes is late spring, usually the end of May or early June. By fall, a well-established stand should be evident.

Management

Kingston Germplasm prairie cordgrass has few management needs. Due to the rhizomatous growth and size of the plants, weed competition is not usually a problem in established stands. Mowing of prairie cordgrass more than once per season can reduce vigor.

Ecological Considerations

Pests and Potential Problems

Pests do not appear to be a problem for vegetative material. Seed predation by insects is a problem in most areas except the extreme northern climates of the United States. *Ischnodemus falicus* is a sucking insect that can greatly reduce aboveground biomass. Predation by a moth species in the genera *Aethes*, has severely reduced seed production in the mid-west.

Seed and Plant Production

The seed of Kingston Germplasm prairie cordgrass matures in October and is paper-like with barbed awns. The seed will shatter very quickly making it difficult to harvest.

Seed Quality: Kingston Germplasm prairie cordgrass has historically had low germination. This could be due to it producing stigmas before anthers and optimal seed set is restricted. Also, damage from insects is a major limiting factor. Currently seed is not being collected for this release.

Vegetative Material Quality: The strong rhizomes can be used for propagation. The ideal piece of vegetative material is a “J” hook piece of rhizome and 4-8 inches of

dry stem. Other rhizome pieces can be used if there are roots and at least one bud. The stem length is not critical for growth, but, if attached, makes planting and handling easier.

Harvest Date:

Kingston Germplasm prairie cordgrass rhizomes can be harvested in spring (early April-May), or fall (dormant-October/November). Rhizomes dug in the fall or spring should be stored in cool-moist conditions at temperatures near freezing. If spring harvested, and planted right away, make sure plants do not dry out or become too warm.

Harvest Method: Vegetative material can be dug by hand or with an under cutter, disk or plow. Depth of digging will vary depending on site conditions, usually 4-6 inches. Plants 2 to 3 years old would be the easiest material to handle and process. Once rhizomes are dug, separate and cut rhizome pieces, 4-8 inches in length. Also, the newly growing tillers are very pointed and sharp, so using gloves when separating the material is recommended.

Availability

For conservation use: Kingston Germplasm prairie cordgrass is available in some commercial nurseries in the Northeast US.

For nursery production: The USDA NRCS Big Flats Plant Materials Center, in New York, will maintain the foundation vegetative material and is available upon request for growers and nurseries.

For more information, contact:
USDA NRCS Big Flats Plant Materials Center
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<http://plant-materials.nrcs.usda.gov/nypmc/>

Citation

Release Brochure for Kingston Germplasm Prairie Cordgrass (*Spartina pectinata*). USDA-Natural Resources Conservation Service, Big Flats Plant Materials Center, Corning, New York, 14830 [September,2013]

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