UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
BIG FLATS, NEW YORK

NOTICE OF RELEASE OF KINGSTON GERMPLASM PRAIRIE CORDGRASS SELECTED CLASS NATURAL GERMPLASM

The Natural Resources Conservation Service (NRCS), U.S. Department of Agriculture (USDA) announces the naming and release of Kingston Germplasm prairie cordgrass (*Spartina pectinata* Bosc ex Link). It has been assigned the NRCS Accession number 9046805.

This plant will be referred as Kingston Germplasm prairie cordgrass and is released as a selected class vegetative release. It was selected due to its strong properties for erosion control and wildlife habitat uses along freshwater shorelines in the Northeast. Other uses for this release are created wetlands, critical area treatments on wet soils, wastewater renovation and as a potential biofeedstock source on marginal lands. It was tested under the USDA accession number 9046805. It is being released as a vegetative propagated material, increased from the original seed source collection. The original seed increase block is still being maintained at the USDA-NRCS Big Flats Plant Materials Center. The release is justified because there are limited commercial sources selling prairie cordgrass in the Northeast US .

Collection Site Information: Kingston Germplasm was selected from 53 accessions in 6 states and Quebec, Canada. Of these accessions, 7 accessions were selected based on their superior performance (table 1).

Table 1. Collection site information of accessions selected for Kingston Germplasm prairie cordgrass.

	9051709	***9051724***	***9051729***	***9051732***	***9051743***	***9051746***	***9051747***
location	Newbury, MA	Rye Harbor State Park, NH	Boom Island, ME	Deer Isle, ME	S of Durham,NH	Odiome State Park, NH	N. Hampton State Park, NH
lat	42.797588	43.004539	44.979234	44.223572	43.038681	43.048393	42.952034
long	-70.861443	-70.751968	-68.6639209	-68.681587	-70.912552	-71.720444	-70.783531
soils	Ipswich and Westbrook Mucks	Pawcatuck mucky peat	Limerick silt loam	Wonsqueak and Bucksport mucks	Ipswich mucky peat	Ipswich mucky peat	Ipswich mucky peat, low salt
mean annual precip (inches)	45-54	44-50	34-48	36-55	44-50	44-50	44-50
mean annual temp (F)	43-54	40-47	37-46	37-46	40-47	40-47	40-47
frost free period (days)	145-240	n/a	80-160	90-160	n/a	n/a	n/a
landform	marshes	salt marshes	floodplains	swamps, marshes	salt marshes	salt marshes	salt marshes
slope (%)	0-1	0-1	0-2	0-1	0-1	0-1	0-1
drainage class	very poorly drained	very poorly drained	poorly drained	very poorly drained	very poorly drained	very poorly drained	very poorly drained
flooding	frequent	frequent	frequent	none	frequent	frequent	frequent
Maximum salinity	mod saline to strong	nonsaline-mod saline	N/A	N/A	mod salinity-strong	mod salinity-strong	mod salinity-strong
0-18"	peat	mucky peat	silt loam	muck	mucky peat	mucky peat	mucky peat
18-42"	mucky peat	mucky peat-sand	silt loam-sand-gravel	muck	mucky peat	mucky peat	mucky peat
42-62"	muck	sand	silt loam-sand-gravel	silt loam	mucky peat	mucky peat	mucky peat

Description: Kingston Germplasm prairie cordgrass is a tall (4-5 feet), native perennial warm season grass that sprouts in early spring before other warm season grasses. It grows rapidly and spreads 1-2 feet per growing season by rhizomes. Kingston Germplasm prairie cordgrass has low seedling vigor and seed production, and is utilized through vegetative propagation. The leaf blades are 2-3 feet long, 1 inch wide and taper almost to a point. They are linear, flat, and green to yellowish green and each blade has a thick, rough texture on its surface, with fine, parallel veins and is smooth underneath. The serrated margins on the leaf blades, will roll inward when dry, forming a tube. The ligules at each blade junction have a dense ring of white hairs. The inflorescences form spikes that are 3-4 inches long and flower in mid-July to mid-August in New York. Each spike consists of many narrow, densely packed spikelets, occurring along one side of the secondary stalk. At the base of each spike, there is a pedicel that is about ¾ of an inch long. The spikelets start off green and smooth, and turn a light brown after flowering. Each of the spikelets have a pair of glumes, one that is less than 1 inch long, with a very conspicuous awn, and the second glume is much shorter, about 1/3 inch. Seed matures from late September to late October, are thin and light weight, and shatter quickly. The seeds have hairs or bristles along the edges and can adhere to clothing and animal fur. Prairie cordgrass has a fibrous root system and is strongly rhizomatous. Each rhizome produces small scales. The culms are solitary, tall, erect, and glabrous. It is salt tolerant and can tolerate periodic flooding as well as drought conditions. Kingston Germplasm prairie cordgrass is a tetraploid (2n=40).

Method of Breeding and Selection:

Initial Evaluation: Kingston was initially evaluated at the USDA-NRCS Big Flats Plant Materials Center (BFPMC), Big Flats, New York, from 1994-1997. A total of 53 accessions collected throughout the Northeast, and Canada. The accessions were assembled from 5 states (NY, NH, MA, ME, PA) and Quebec, Canada. Seed collected was sown into bookplanters on May 19, 1993, and February 14, 1994 and grown in the greenhouse at the USDA NRCS Big Flats Plant Materials Center, New York. The seed that germinated varied for each accession. Seedlings were planted into non-replicated rows, 7 feet apart with plants 1 foot apart within rows, on June 7, 1994. All accessions were evaluated on September 8, 1994 for survival, vigor, height, and tiller number (Table 2). The plants were evaluated again on August 5, 1995 for percent survival, vigor, leaf height, disease resistance, spreading ability, seed head height, and flower abundance (Table 3). Table 5, shows the 13 best accessions after 3 years of initial evaluation. Seven accessions from New England (NH, MA, ME) were superior for height, spreading, flowering time, leaf density, and survival. These were selected, and represent Kingston prairie cordgrass. In 1997, a seed increase block was established with accessions 9051725, 9051729, 9051743, 9051732, 9051746, 9051747, and 9051709. Kingston Germplasm prairie cordgrass is a composite of seed from this increase. In June 2002, an increase block was established from greenhouse grown plugs for foundation production of Kingston Germplasm.

Table 2. Initial evaluation, 1994, of prairie cordgrass accession from the Northeast. Highlighted accessions make up Kingston Germplasm prairie cordgrass.

Accession #	# planted	% Survival	Vigor*	Ht (in)	Tiller #*	Accession #	# planted	% Survival	Vigor*	Ht (in)	Tiller #*
9051702	10	70	5	24	5	9051729	6	100	5	26	5
9051703	9	89	4	21	7	9051730	18	94	5	28	4
9051704	8	88	4	26	4	9051731	11	82	4	20	5
9051705	5	100	5	26	9	9051732	16	88	3	33	12
9051706	9	89	5	24	5	9051733	6	70	3	24	3
9051707	2	100	2	41	11	9051734	2	100	2	13	4
9051708	9	78	9	12	7	9051735	27	78	1	20	2
9051709	13	90	4	24	4	9051736	3	100	2	24	5
9051710	13	92	4	26	8	9051737	6	83	5	20	3
9051711	16	94	2	20	11	9051738	2	50	5	16	3
9051712	15	40	9	9	3	9051739	5	60	5	41	6
9051713	14	79	9	10	5	9051740	13	85	6	15	3
9051714	17	94	5	26	4	9051741	5	100	8	12	3
9051715	1	100	8	1	2	9051742	14	86	3	45	3
9051716	14	86	5	26	2	9051743	12	92	5	22	8
9051717	13	85	2	26	9	9051744	19	89	2	33	11
9051718	18	72	6	30	6	9051745	10	80	4	33	6
9051719	12	92	6	12	8	9051746	8	100	5	22	6
9051720	17	100	7	10	7	9051747	17	88	3	20	12
9051721	12	83	7	11	4	9051748	14	93	5	20	4
9051722	12	742	6	22	6	9051749	5	100	7	9	1
9051724	20	95	3	20	5	9051755	3	67	7	13	1
9051725	7	86	4	20	5	9051759	5	60	5	20	5
9051726	10	60	9	14	2	9051763	5	20	9	4	2
9051727	6	83	8	16	3	Control	13	92	2	26	7

***Rating scale: 1=Best; 9=Worst**

Table 3. Second year data for prairie cordgrass accessions collected in the Northeast, US.

Accession #	# planted	% Survival	Vigor *	Leaf Ht (in)	Flower Ab*	Disease *	Spread *	Accession #	# planted	% Survival	Vigor *	Leaf Ht (in)	Flower Ab*	Disease *	Spread *
9051702	11	60	6	35	6	4	3	9051729	6	50	5	35	7	5	3
9051703	9	77.7	3	43	3	5	3	9051730	18	38.9	6	28	5	6	6
9051704	8	625	4	35	6	3	3	9051731	7	42.9	5	28	4	7	5
9051705	5	80	4	35	4	2	4	9051732	16	81.3	2	31	2	3	2
9051706	9	88.8	5	33	4	2	5	9051733	2	100	4	31	6	2	5
9051707	2	100	2	35	2	6	3	9051735	27	55.6	3	41	8	1	4
9051709	3	100	3	39	3	3	3	9051736	1	100	3	33	3	3	3
9051710	13	76.9	4	37	5	8		9051737	6	50	8	24	7	7	8
9051711	16	56.3	4	35	3	3	5	9051739	5	40	4	47	4	4	3
9051713	14	50	7	30	7	4	6	9051740	13	46.3	4	31	3	3	3
9051714	17	52.9	5	31	5	2	5	9051741	5	100	8	16	4	4	8
9051716	14	71.4	3	30	4	4	3	9051742	14	50	2	47	3	3	2
9051717	13	61.5	1	43	1	6	1	9051743	12	60	3	39	5	5	3
9051718	18	55.6	5	35	4	1	4	9051744	19	52.6	4	43	5	5	4
9051719	12	41.7	4	35	5	3	4	9051745	10	50	5	43	5	5	4
9051720	16	62.5	6	31	8	6	6	9051746	8	62.5	2	28	3	3	4
9051721	12	58.3	6	35	5	3	6	9051747	5	60	2	35	3	3	2
9051722	11	45.5	4	33	4	7	3	9051748	10	60	5	31	3	3	4
9051724	16	75	2	35	5	2	2	9051749	5	80	7	21	5	5	6
9051725	7	85.7	5	33	8	2	6	9051759	5	60	4	31	3	3	4
9051726	10	60	5	31	8	2	5	Control	17	64.7	1	43	1	1	1
9051727	6	83.3	5	31	4	3	5								

***Rating scale: 1=Best; 9=Worst**

Table 4. Third year evaluation data, 1996.

Accession #	# of Plants	Ht (in)	Leaf Width*	Leaf Density*	Spread*	Flower #*	Maturity	Accession #	# of Plants	Ht (in)	Leaf Width*	Leaf Density*	Spread*	Flower #*	Maturity
9051702	4	33	1	7	9	5	early	9051729	4	51	5	1	3	2	early
9051703	5	53	7	3	1	1	med	9051730	6	35	3	7	5	5	early
9051704	4	49	1	1	2	5	med	9051731	4	30	1	1	3	4	early
9051706	5	40	1	5	5	2	early	9051732	11	47	3	1	1	2	early
9051707	3	45	5	3	1	5	early	9051733	3	45	7	9	5	7	med
9051708	2	28	1	9	9	9	early	9051735	10	45	8	7	5	8	late
9051709	3	54	5	2	2	2	med	9051736	1	67	1	1	1	5	early
9051710	9	47	5	1	2	3	early	9051737	3	43	3	7	7	7	late
9051711	9	37	1	1	7	1	early	9051739	1	53	9	3	3	8	late
9051712	4	28	5	7	5	5	early	9051740	4	51	7	3	7	9	late
9051714	6	45	3	5	4	8	early	9051741	3	41	5	7	5	9	late
9051715	1	35	3	9	9	9	early	9051742	7	59	3	1	1	1	med
9051716	9	40	3	3	1	2	early	9051743	6	55	3	1	1	1	med
9051718	6	37	7	5	6	3	early	9051744	10	54	1	3	1	2	med
9051719	6	43	1	1	6	2	early	9051745	5	57	3	5	5	7	med
9051720	10	40	1	8	9	7	early	9051746	5	49	5	5	5	6	early
9051721	5	43	3	1	5	2	early	9051747	1	67	1	1	3	2	early
9051722	4	45	5	1	1	1	early	9051748	5	35	3	3	9	4	early
9051724	11	51	1	1	1	1	early	9051759	2	50	3	5	1	3	late
9051725	5	40	3	3	9	4	early	9051727	5	30	1	1	7	3	early
9051726	6	40	7	5	7	6	early								

***Rating scale: 1=Best; 9=Worst**

Table 5. Thirteen best accession after 3 years of initial evaluation. The highlighted accessions comprise the 7 accession from New England and are the source for Kingston prairie cordgrass and were used in advanced evaluations. Data taken in 1997 at the USDA-NRCS Big Flats Plant Materials Center.

Accession #	Leaf Ht (in)	Swd Ht	Flower ht (in)	tiller density*	flower abundance*
9051709	53	43	51	2	1
9051719	52	43	53	3	3
9051721	59	47	51	2.5	4
9051724	75	55	75	2	1
9051729	65	49	61	2	2
9051732	61	43	63	2.5	3
9051736	71	51	59	1	5
9051740	55	43	57	3	4
9051742	75	65	65	1.5	3
9051743	69	55	83	2	2
9051745	69	53	59	2	5
9051746	79	53	73	3	2
9051747	63	49	61	2.5	1

***Rating scale: 1=Best; 9=Worst**

Advanced Evaluations:

1. **United States Army Corps of Engineers, Crooked Creek, Pennsylvania (PA) Field Evaluation Planting**: On June 12, 2001, near Wellsboro, PA, plugs of Kingston Germplasm prairie cordgrass were planted, 1 foot apart, in 20 feet by 25 feet plots. When evaluated in September 2001, the prairie cordgrass was coming up through the weeds, about 5-6 inches tall. On November 6, 2001, the site was evaluated and heights were 43 inches with 3 tillers and 80% cover. After 10 years the plots have 100% cover, the plants are 67 inches tall, and has produced a solid stand. A few goldenrod plants are starting to encroach. Overall, Kingston Germplasm has maintained a solid stand, with great height and cover for wildlife as well as for erosion control along Crooked Creek.

2. **Tidball Wetland Reserve Program (WRP) Field Evaluation Planting:** Kingston Germplasm prairie cordgrass was used at a WRP site, on Canoga Creek in Seneca County, NY. On June 1, 2007, potted plants and rhizomes were planted on Keith Tidball's farm, to provide wetland habitat for wildlife and erosion control along the creek, and the western shore of Cayuga Lake. No management was needed to maintain prairie cordgrass, it has spread moderately, but is not invasive. It is providing adequate cover for upland birds, controlling erosion and has prevented the establishment of invasive plants.

3. **Beninati Wetland Reserve Program (WRP) Field Evaluation Planting:** Rhizomes of Kingston Germplasm prairie cordgrass were planted on the Beninati WRP site, in May 2004, in Madison County, NY. After 2 growing seasons, on August 22, 2005, Teresa Swartz, NRCS NY biologist, evaluated the planting of prairie cordgrass, and reported a 95% survival rate and were successfully competing with non-native vegetation. She also noted moderate spread and increased height and density. It is providing good cover for wildlife and controlling erosion. The site was revisited on July 26, 2012, and was doing excellent. It was well-established and approximately 5 feet tall. It is growing in association with other native vegetation such as woolgrass, and native sedges. Overall, prairie cordgrass is doing excellent, and is a very desirable plant for conservation purposes, is easily established and is a benefit for wildlife

4. **Chenango County, NY Conservation Reserve Enhancement Program (CREP) Field Evaluation Planting**: In the spring of 2004, Kingston Germplasm prairie cordgrass was planted by rhizomes, on a CREP planting in Chenango County, New York. Teresa Schwartz, USDA NRCS biologist, returned to the site after 9 years. She observed that the cordgrass was well established and is growing in association with other native vegetation such as spotted joe pyeweed, boneset, lance-leaved goldenrod, and cattails. The plants on the original planting site are large and dense, darker green in color with seedheads. Areas where it has spread, are lighter in color, and less dense. The spreading of Kingston Germplasm prairie cordgrass, has not affected the native vegetation or the wildlife, and has become incorporated into the

landscape. It established easily, required no additional maintenance, and provided beneficial wildlife habitat at this site.

5. **Army Corps of Engineers, Whitney Point Field Evaluation Planting:** On June 4, 2009, Kingston Germplasm prairie cordgrass rhizomes were planted on 1.5 foot centers around a man-made island in 3 plots. Evaluations included percent cover, height, and over all vigor. The site is at the north-end of Whitney Point Lake, in Whitney Point, NY. The plants are being utilized for erosion control, streambank stabilization, and wildlife habitat. Historically very little rooted aquatic vegetation was found in the reservoir. With the lack of cover in this area, a cooperative effort between local sportsmen, New York State Department of Environmental Conservation (NYDEC), and USDA NRCS, led to the installation of numerous brush-piles and root-wad clusters along the shore. Spoils from this excavation project were used to create two islands at the south end of the bay to block wave action from the south and act as waterfowl nesting sites along with the added vegetation. After 3 years Kingston Germplasm is doing well, with almost 100% cover on all plots and good vigor expressed in all plots (Figure 1).

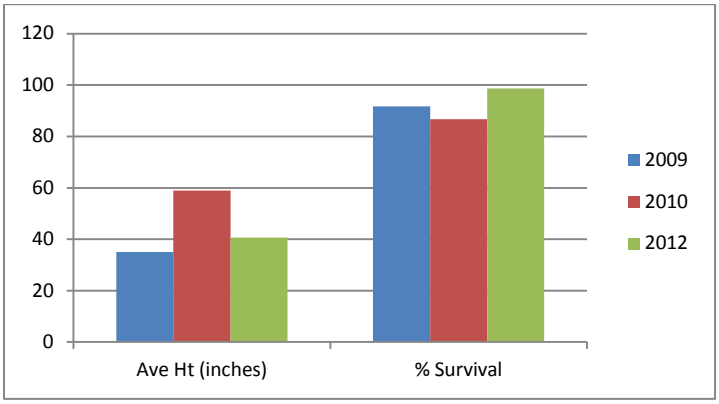

Figure 1. Three years of average height and percent cover data, for all plots at the FEP located in Whitney Point, NY.

6. **National Plant Materials Center (NPMC) and Alderson, West Virginia Plant Materials Center (WVPMC) Observational Nursery Plantings:** Rhizomes were planted in observational nurseries at the NPMC, in Beltsville, MD, and the WVPMC in 2005, to evaluate Kingston Germplasm prairie cordgrass' adaptability in a mid-Atlantic climate. Overall, the plants established well, had good vigor, acclimated well to these areas and no disease, insect, or injury problems were reported.

7. **Genotype Testing***:* DoKyoung Lee, professor at the University of Illinois, in Urbana, Illinois and other colleagues obtained 60 prairie cordgrass accessions from 5 geographic regions of the U.S, including Kingston Germplasm prairie cordgrass for genotype testing. They are evaluating the cytotypic variation and distribution of prairie cordgrass, to better understand the evolutionary process of polyploids and the contemporary distribution patterns of cytotypic variations across the U.S. (Kim

et al. 2012). They reported Kingston Germplasm along with the other accessions from across the Northeastern U.S. to be tetraploids (4x=40). This knowledge of distribution of various ploidy levels is essential to develop breeding programs for high yielding cultivars of prairie cordgrass adapted to specific locales (Kim et al. 2013).

8. **Energy Bioscience Institute:** Kingston Germplasm rhizomes were planted at the Energy Biosciences Institute (EBI) Energy Farm, in Urbana, IL, to evaluate and compare 3 prairie cordgrass accessions (Figures 2, 3, and 4 and Table 6). Kingston Germplasm was the shortest and produced the least amount of biomass among the accessions tested after 3 years. Its shorter stature and lower biomass production make it more ideal for wildlife plantings and habitat for wetland species.

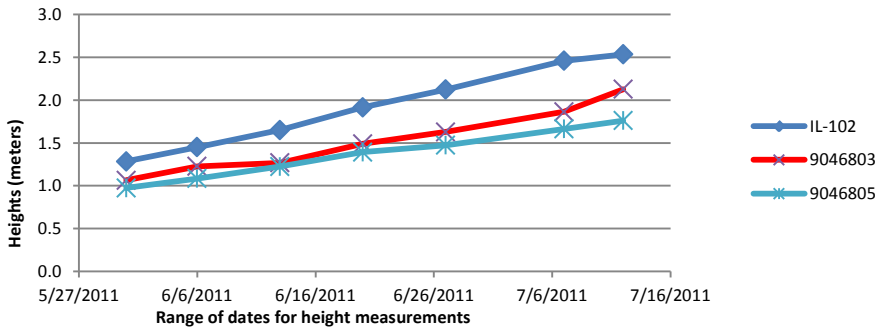

Figure 2: 2011 plant heights of selected prairie cordgrass accessions at EBI Energy Farm, in Urbana, IL, at 7 different dates until seed head emergence.

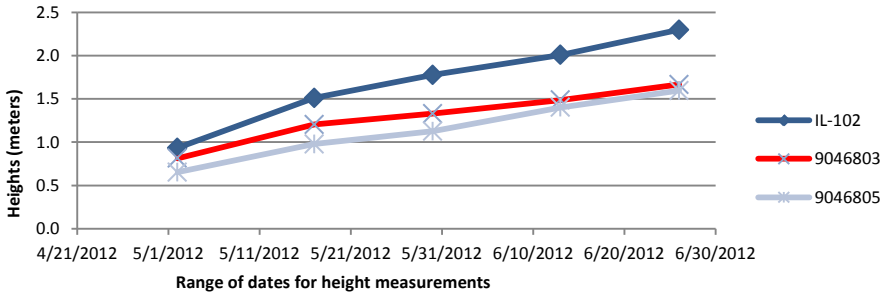

Figure 3: 2012 plant heights of selected prairie cordgrass accessions at EBI Energy Farm, in Urbana IL, at 5 different dates until seed head emergence.

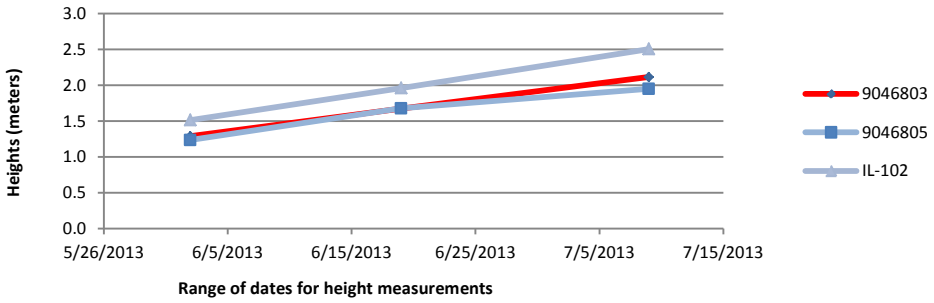

Figure 4: 2013 plant heights of selected prairie cordgrass accessions at EBI Energy Farm, in Urbana IL., at 3 different dates until seed head emergence.

Table 6. 2011 and 2012 yield and plant data at the EBI farm in Urbana, IL. Data was taken after the growing season, each year (highlighted in red, is Kingston Germplasm prairie cordgrass).

Accession #	Ave Dry wt (g)/plant		Ave. tillers/ plant		Ave. Leaf #		Ave. Height (in)		Ave. grams/tiller	
	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012
IL-102	817.7	786.8	53.9	107.9	9.5	9.5	102.3	93.3	15.9	7.6
9046803	432.1	538.4	50.2	77.5	8.5	9	79.9	62.7	8.6	7
9046805	226.2	389.5	42.6	113.6	6.8	7	69.4	63.8	5.8	3.6

Japanese Knotweed Control Experiment: The main objective of this field planting was to test the effectiveness of native species in controlling the re-infestation of Japanese knotweed (*Polygonum cuspidatum).* The site is located along the Tioga River at the western and northern perimeters of an agricultural lease field, about two miles north of Mansfield, PA in Tioga County. Japanese knotweed is an invasive species that has quickly become a serious problem in riparian zones and upland sites. This study focused on planting individual native species and mixtures of native species in replicated plots in which Japanese knotweed has been suppressed. A Virginia wildrye - prairie cordgrass mixture was planted in June of 2007 and June 2008. Sixteen months after planting, the Japanese knotweed had re-established in all plots, 45-82% of ground cover. By October 2009, only the commercial riparian and Virginia wildrye - Kingston Germplasm prairie cordgrass mixtures had adequate establishment and percent cover (Figures 5 and 6). It was reported in 2011 and 2012, the prairie cordgrass was maintaining 60% cover in all plots, but knotweed was starting to become more abundant.

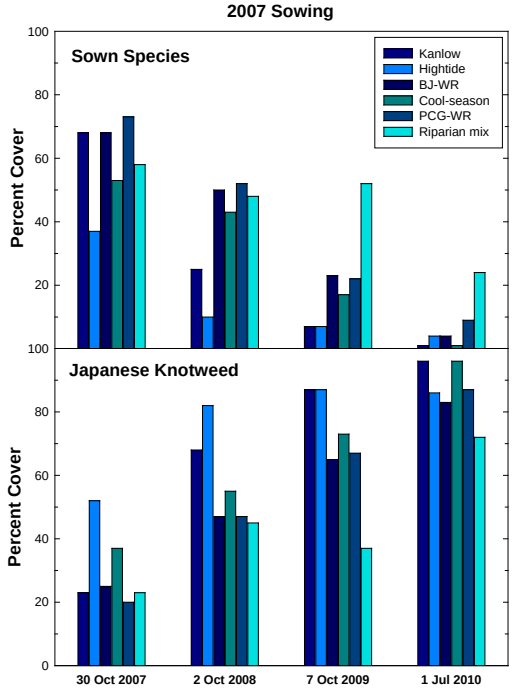

Figure 5. 2007-2010 percent cover data for species and mixture of species sown in 2007 as well as percent cover of Japanese knotweed within each plot, along the Tioga River, near Mansfield, PA.

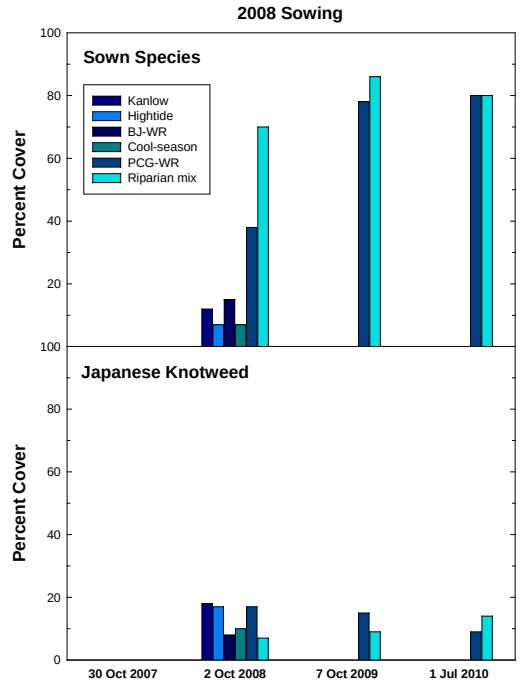

Figure 6. 2007-2010 percent cover data for species and mixture of species sown in 2008 as well as percent cover of Japanese knotweed within each plot, along the Tioga River, near Mansfield, PA.

Ecological Considerations and Evaluation: Insect predation by species in the genera Aethes, has severely reduced seed production. This moth bores a hole through the seedhead and deposits its larva, in developing florets. These may not be readily visible unless the spikes are very closely examined (Prasifka et al. 2011) and (Boe et al. 2013). The adult moths lay eggs in the panicle, and larvae hatch and feed on the reproductive parts and proceeded to tunnel down to the base of the stem, where they will over winter. The following spring, the larvae exit the bottom of the stem and enter the new tillers and form into adults, which coincide with its flowering, therefore reducing seed production, substantially. This is has not been observed in Kingston Germplasm, yet. *Ischnodemus falicus* is a sucking insect that can also greatly reduce aboveground biomass, but does not have an effect on seed set and has been observed on Kingston Germplasm prairie cordgrass. Plants are stunted and yellowish in color due to the predation and the insects are noticeable in large numbers, lining up flat, along the mid vein. Effects from this insect are short-term and no long-term effects on prairie cordgrass stands have been noticed (Johnson and Knapp, 1996) and (A.G. Wheeler, 1996). Spraying for these insects during flowering can help control these insects, reducing their numbers significantly. If biomass production is the target, controlling these insects is very important, since seed production is very low when these insects are apparent and in large numbers. Another possible explanation for poor set in Kingston Germplasm prairie cordgrass, is that it has partial self-incompatibility, since its stigmas are exerted prior to its anthers, restricting optimal seed set. It has fluctuated in past years, which has also been seen in other studies as well (Prasifka et al. 2011) and (Boe et al. 2013). There have been no serious diseases noted on the Kingston Germplasm prairie cordgrass. Managing the spreading nature of the rhizomes is easily controlled by mowing or chemical means.

Conservation Use: Kingston Germplasm prairie cordgrass will be recommended for erosion control along freshwater shorelines, as well as uses in created wetlands, critical area treatments on wet soils, wastewater renovation, and wildlife habitat and biomass production. Because of its extensive rhizome system and dense sod-forming ability, it readily protects the soil from erosion. Prairie cordgrass produces abundant early forage, but it is not readily grazed. The sharp edges, when mature, make this grass very undesirable later in the season, but can be grazed earlier in the season. It has the ability to grow in very poorly drained soils, sandy soils, and does not require wet conditions to grow. Kingston Germplasm is currently been utilized in WRP, CREP, and other conservations areas successfully.

Area of Adaptation: Kingston Germplasm prairie cordgrass is well-adapted to a very wide range of soil moisture conditions. The rapid seedling development of this species enables it to avoid frost heaving problems associated with wetter soils. The species is very hardy throughout the Northeast. Examples of habitats that can be utilized are open floodplains, wet to moist prairies, sloughs, low areas along rivers and ponds, edges of marshes, swamps, ditches, edges of fields, It can also survive in marginal lands where other warm season grasses cannot, making it desirable in restoration and conservation practices as well as a potential for cellulosic ethanol production. It can also tolerate high salinity, sandy, and poorly drained soils, throughout the Northeast, indicative of its original collection site, but will not tolerate prolonged periods of flooding. Kingston Germplasm prairie cordgrass has low seed production and therefore its primary mode of propagation

will be vegetative. It will form a thick, dense sod in 1-2 years and will also produce seed the first year.

Release Production: Kingston Germplasm prairie cordgrass should be planted as early in the spring as possible, but direct seeding of Kingston Germplasm prairie cordgrass is not recommended. It has not produced large quantities of germinable seed and therefore will be supplied as vegetative stock, in the form of rhizomes. In the late fall, or early spring, clear off the dead aboveground material, by mowing or burning (if feasible). Using a woody bed digger, or some other means of extracting the material from about 5-6 inches in the ground, remove rhizomes, separate and cut apart pieces that are 5-6 inches in length. Store material in a cooler until ready to plant into the ground in early to mid-spring. New sharp, shoots will sprout early in the season, and will produce a nice stand.

Availability of Plant Materials: The USDA NRCS Big Flats Plant Materials Center, in New York, will maintain the foundation vegetative material, which will be supplied to nurseries. The original seed increase block, source of current vegetative material, is still being maintained at the BFPMC, however, the original source of the parent material can no longer be distinguished. Vegetative material has been sent to Tidewater Growers in Keller, VA, Meadowview Nursery in Naples, NY, and Ernst Conservation Seed, Meadville, PA.

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Prepared by:

Shawnna Clark
3266 State Route 352
Corning, New York 14830

Signatures for the release of:

Kingston Germplasm prairie cordgrass (*Spartina pectinata* Bosc ex Link)

_____ _____

Name Date

State Conservationist

United States Department of Agriculture

Natural Resources Conservation Service

City, State

_____ _____

Name Date

Director

Cooperating Agency

City, State

_____ _____

Name Date

Director, Ecological Sciences Division

United States Department of Agriculture

Natural Resources Conservation Service

Washington, D.C.