

**Plant Materials PreReleases/Releases
Field Planting Summaries by Species**

**Illinois Field Plantings
2005-2007**

**Jerry Kaiser, Plant Materials Specialist
Elsberry Plant Materials Center**

January 2008

Table of Contents

1)	Illinois Covey False Indigo Bush (<i>Amorpha fruticosa</i>)	
	Summary	3
	Field Plantings List and Status	3-5
2)	OZ-70 Big Bluestem (<i>Andropogon gerardii</i>)	
	Summary	5
	Field Plantings List and Status	5
3)	Refuge Big Bluestem (<i>Andropogon gerardii</i>)	
	Summary	6
	Field Plantings List and Status	6
4)	Sun Harvest American Hazelnut (<i>Corylus americana</i>)	
	Summary	6-7
	Field Plantings List and Status	7
5)	Alexander Showy Tick Trefoil (<i>Desmodium canadense</i>)	
	Summary	8
	Field Plantings List and Status	8-9
6)	Cuivre River Virginia Wildrye (<i>Elymus virginicus</i>)	
	Summary	9-10
	Field Plantings List and Status	10-11
7)	Switchgrass (<i>Panicum virgatum</i>) low growing (Not Released)	
	Summary	12
	Field Plantings List and Status	12-13
8)	Midwest Premium American Plum (<i>Prunus americana</i>)	
	Summary	14
	Field Plantings List and Status	14

Illinois Field Plantings from 2005-2007
Jerry Kaiser, Plant Materials Specialist
November 2007

1) *Amorpha fruticosa*, Illinois Covey False Indigo Bush, Selected Release

False indigo bush is a native woody leguminous shrub maximum height of 18 feet. It is found in more open areas along lakes and streams, but can be planted in upland sites with different soil textures. Illinois Covey False Indigo bush is a selected release from collections from counties across the state.



Summary from Direct Seeding

The performance of this species by direct seeding from seed has proven this method is not a desirable application for establishment. The shading by weed species, especially broadleaf weeds, competes with the false indigo seedlings by stunting the seedlings with 36 inches of height and the stands are poor after three years. Seedling vigor is strong with light competition from weed species; however, in a field planting all competition cannot be controlled without detrimental effect on the false indigo bush seedling.

Summary for Bare Root Stock

The performance from bare root stock by direct planting has been the best method for establishment with excellent survivability for the intended purposes. The bare root seedlings have excellent vigor in silt loam and in loam soils can obtain 60 inches of heights after three years. The bare root stock will compete with weeds for canopy closure for the purpose listed below.

Current Status Plants have been sold to a commercial grower for production.

The chart below lists all field plantings in Illinois for False Indigo bush in the past three years.

***Amorpha fruticosa*, False Indigo bush (Iowa, 9083249; Missouri, 9083248; Illinois, 9083250)**

Planting #	County	Rate (PLS)	Soil Texture	Purpose	Weeds	Stand	Vigor/Ht	Year
IL-05-002	Marion	.4# PLS 1500 sq ft Mixture species	SL	Covey HQ	S	9	5 3"	2005
					M	7	3 24"	2006
					L	9	9 36"	2007
IL-05-005	Woodford	.4#PLS/ 1500 sq. ft. Mixture Seeding	SL	Covey HQ	M	3	1 6"	2005
					M	5	3 24"	2006
					L	9	3 36"	2007

Weeds=None, Light, Moderate, Severe

Rating for Stand and Vigor=1-Excellent, 3-Good; 5-Fair; 7-Poor; 9-Very Poor, 0-None

Planting #	County	Rate (PLS)	Soil Texture	Purpose	Weeds	Stand	Vigor/Ht	Year
IL-05-006	Saline	.4#PLS/ 1500 sq. ft. Mixture Seeding	SL	Covey HQ	S	-	7 3"	2005
					M	3	5 24"	2006
					L	-	4 36"	2007
IL-05-006	Saline	6 plts Bareroot Single species	SL	Covey HQ	S	3	3 30"	2005
					S	1	3 52"	2006
					L	3	3 60"	2007
IL-05-006	Saline	6 Plts RPM Single species	SL	Covey HQ	S	1	3 54"	2005
					S	1	3 72"	2006
					L	3	3 80"	2007
IL-05-010	Rock Island	20 plts RPM	SL	Streambank	L	1	3 42"	2005
					M	1	1 70"	2006
					M	1	1 96"	2007
IL-05-010	Rock Island	20 plts Single species	SL	Streambank	L	3	1 18"	2005
					M	1	1 68"	2006
					M	1	1 84"	2007
IL-06-005	Morgan	.4# PLS 1500 sq ft Single species	Silty Clay	Covey HQ	-	0	0	2006
					-	0	0	2007
IL-07-001	Carroll	60 plants 1500 sq ft Single species	SL	Covey HQ	2	1	3 20"	2007
IL-07-002	Rock Island	60 plts 1500 sq ft Single species	SL	Covey HQ	M	3	3 27"	2007
IL-07-003	Peoria	60 plts 1500 sq ft Single species	SL	Covey HQ	S	3	3 12"	2007
IL-07-007	Hamilton	20 plts Single species	SL	Streambank	L	1	1 26"	2007

Weeds=None, Light, Moderate, Severe

Rating for Stand and Vigor=1-Excellent, 3-Good; 5-Fair; 7-Poor; 9-Very Poor, 0-None

Planting #	County	Rate (PLS)	Soil Texture	Purpose	Weeds	Stand	Vigor/Ht	Year
IL-07-008	Hamilton	60 plts Single species	SL	Covey HQ	L	5	5 18"	2007
IL-07-013	Tazewell	60 plts Single species	SL	Covey HQ	S	3	3 18"	2007

Weeds=None, Light, Moderate, Severe

Rating for Stand and Vigor=1-Excellent, 3-Good; 5-Fair; 7-Poor; 9-Very Poor, 0-None

2) *Andropogon gerardii*, OZ-70 Big Bluestem, Selected Release

OZ-70 is a composite release of 70 collections of Big Bluestem from native prairie remnants from Southern Missouri, Northern Arkansas, Eastern Oklahoma, and Southern Illinois. These 70 were selected from the initial assembly of 370 collections, because of their forage production, later maturity, and disease resistant for this Southern region of the service area as compared to 'Rountree' Big Bluestem who origin is central Iowa.



Summary of plantings

This big bluestem has excellent vigor and stand performance in silt loam soils that receives management to insure stand establishment. The second year will provide a forage crop for grazing or haying; with 5.5 tons/acre total yields from two cuttings during the growing season in a field planting in Missouri. Previous Missouri field plantings provided quality data using fecal sampling. Projected animal performance was calculated using Nutbal program. The data resulted with an average crude protein of 14.66 and average Digestible Organic Matter (DOM) of 69.70 July through August. The projected animal performance was 2.77 lbs/day. Note : To convert (DOM) to Total Digestible Nutrients, multiply by 1.05.

Current Status-Additional field plantings are needed, especially on heavier texture soils for performance. Seed has been sold to commercial growers and is available in the market. The chart below has one field planting located in Southern Illinois.

***Andropogon gerardii*, Big bluestem, OZ-70 (9078831)**

Planting #	County	Rate (PLS)	Soil Texture	Purpose	Weeds	Stand	Vigor	Year
IL-05-009	Johnson	25# PLS/ 2.5 acres Single species	SL	Grazing	M	5	1 4"	2005
					S	9	7 4"	2006
					M	4	4 8"	2007

Weeds=None, Light, Moderate, Severe

Rating for Stand and Vigor=1-Excellent, 3-Good; 5-Fair; 7-Poor; 9-Very Poor, 0-None

3) *Andropogon gerardii*, Refuge Big Bluestem, Selected Release

Refuge Big Bluestem initial release is based on the selection of short stature, less than 48”, and its ability to withstand resistance to lodging throughout the winter. The three collections that make up the Refuge release were in the original assembly of 370 Big Bluestems; these three collection sources were Northern Arkansas.



Summary of plantings

A couple of field planting were located on silt loam and silty clay loam soil textures to test stand emergence and seedling vigor of Refuge Big Bluestem in comparison to ‘Rountree’ Big Bluestem. In all the field plantings Rountree out performed Refuge in seedling vigor and density of stand after the second growing season.

Current Status- The Elsberry PMC will reselect for seedling vigor to improve performance. Field plantings will discontinue until improvements can be made to seedling vigor for Refuge Big Bluestem.

The chart below lists field plantings in Illinois for Refuge Big Bluestem in the past three years.

***Andropogon gerardii*, Big bluestem, Refuge (9078832)**

Planting #	County	Rate (PLS)	Soil Texture	Purpose	Weeds	Stand	Vigor	Year
IL-06-004	Henry	7# PLS/ .7 acre Mixture Seeding	SL	Field Border	M	9	3 26”	2006
					L	9	9 29”	2007
IL-06-005	Morgan	5# PLS/ .5 acre Single species	Silt Clay Loam	Wildlife Food Plot	L	9	9 2”	2006
					L	7	3 10”	2007

4) *Corylus Americana*, Sun Harvest American Hazelnut, Selected Release

This selection of Sun Harvest is a composite release of the best nut production collections from the Missouri and Illinois sources.



Summary of bare root plantings

Initial field plantings have fair/good vigor and good stand of Sun Harvest when protected from competition and predation, mainly by rabbits and deer.

Current Status- Additional field plantings are needed for growth and fruit potential in Missouri.. Seed has been allocated to a woody grower for commercial production.

The chart below lists field plantings in Illinois for Sun Harvest American Hazelnut in the past three years.

Corylus americana, American hazelnut, Sun Harvest (9083247)

Planting #	County	Rate (PLS)	Soil Type	Purpose	Weeds	Stand	Vigor	Year
IL-05-004	McDonough	15 plts 7'x7' Single species	SL	Covey HQ	-	1	3 20"	2005
					-	1	5 24"	2006
					-	-	-	2007
IL-05-006	Saline	6 plts Bareroot Single species	SL	Covey HQ	S	1	9 16"	2005
					S	3	9 10"	2006
					S	7	9 20"	2007
IL-05-006	Saline	6 plts RPM Single species	SL	Covey HQ	S	1	7 9"	2005
					S	2	7 15"	2006
					S	7	7 11"	2007
IL-07-011	Randolph	25 plts Single species	SL	Nut Production	M	9	- 27"	2007
IL-07-012	Bureau	25 plts Single species	Sandy Loam	Nut production	-	-	5	2007
IL-07-016	Tazewell	25 plts Single species	SL	Nut production	-	0	0	2007
IL-07-019	Champaign	25 plts Single species		Nut Production	L	5	7 10"	2007

Weeds=None, Light, Moderate, Severe

Rating for Stand and Vigor=1-Excellent, 3-Good; 5-Fair; 7-Poor; 9-Very Poor, 0-None

5) *Desmodium canadense*, Alexander Showy Tick Trefoil, Selected Release

Alexander is a native warm season perennial legume which occurs in prairies, wet meadows and open tickets. Alexander was selected from a multiple state collection. This selection source is Alexander County in Southern Illinois.



Summary of plantings

Alexander showy tick trefoil has excellent seedling emergence and good seedling vigor in addition it can tolerate shading of other species when planted in a mixture for a wildlife food plot at 5#/acre seeding rate. Control of grass competition is important in the establishment year with a post grass herbicide application. This species can produce seed the first growing season if not suppressed by competition. This native legume can provide good quality food for quail and cover; however it is a “stick-tight” and the seed will attach if you walk through a patch.

Current Status-The showy tick trefoil can perform for wildlife food and cover, this species is under utilized. . A mixture of Bobwhite soybeans, milo and showy tick trefoil can provide a perennial food plot and cover especially beneficial for quail and other wildlife species. Alexander is not currently available in the commercial market; but seed has been sold to a grower.

The chart below lists field plantings in Illinois for Alexander Showy Tick Trefoil in the past three years.

***Desmodium canadense*, Tick Trefoil, Alexander (9057110)**

Planting #	County	Rate (PLS)	Soil Texture	Purpose	Weeds	Stand	Vigor	Year
IL-05-002	Marion	.07# PLS/1500 sq ft Mixture Species	SL	Covey HQ	M	9	3 6”	2005
					M	7	3 30”	2006
					M	3	3 20”	2007
IL-05-005	Woodford	.07# PLS/1500 sq ft. Mixture species	Silt Clay Loam	Covey HQ	M	1	1 12”	2005
					M	5	3 48”	2006
					L	1	1 54”	2007
IL-05-006	Saline	.07# PLS/1500 sw ft. Mixture species	SL	Covey HQ	S	-	5 16”	2005
					M	5	7 24”	2006
					L	-	5 40”	2007

Weeds=None, Light, Moderate, Severe Rating for Stand and Vigor=1-Excellent, 3-Good; 5-Fair; 7-Poor; 9-Very Poor, 0-None

Planting #	County	Rate (PLS)	Soil Texture	Purpose	Weeds	Stand	Vigor	Year
IL-06-003	Stephenson	2.5# PLS .5 acre Single mixture	SL	Foot Plot	M	5	5 3"	2006
					M	3	3 60"	2007
IL-06-005	Morgan	5# PLS .5 acre Single species	SL	Food Plot	L	3	1 24"	2006
					M	3	5 24"	2007
IL-07-004	Peoria	5# PLS/ 1 acre Mixture Species	SL	Food Plot	L	3	3 19"	2007
IL-07-005	Adams	5# PLS/ 1 acre Mixture Species	SL	Food Plot	L	1	3 -6"	2007
IL-07-009	Hamilton	5# PLS/ 1 acre Mixture Species	SL	Food Plot	L	1	3 16"	2007
IL-07-010	Randolph	5# PLS/ 1 acre Mixture Species	SL	Food Plot	L	3	3 21"	2007
IL-07-014	Tazewell	5# PLS/ 1 acre Mixture Species	SL	Food Plot	S	5	5 60"	2007

Weeds=None, Light, Moderate, Severe

Rating for Stand and Vigor=1-Excellent, 3-Good; 5-Fair; 7-Poor; 9-Very Poor, 0-None

6) *Elymus virginicus*, Cuivre River Virginia Wildrye, Selected Release

Cuivre River is a Missouri source, a native cool season open bunch grass that was selected for good seedling vigor and high seed production. Cuivre River is a lowland type of wildrye that was collected in Lincoln County Missouri near the discharge of the Cuivre River into the Mississippi River.



Summary of the plantings

Field plantings have occurred on many practices in lowland wet areas to upland sites. The performance of this selection of Virginia wildrye has been consistent on soil textures, of loams, silt loams and clays. Cuivre River has good seedling vigor, shade tolerance and can competition with weed species, but performs best in open sunlight. Cuivre River can tolerate flooding overland flow and inundation during the growing season for two weeks.

The species is listed as a short lived perennial; however, Cuivre River has maintained in stands as a single species where there was no removal of vegetative materials. This native species can provide the quick cover the first growing season to be used as a companion species or a single species for filterstrips, buffers, wet areas, wildlife plantings; however in concentrated flow areas such as waterways this species will not provide adequate erosion control as a single species. The wildrye has performed well in mixtures as the companion species.

Cuivre River Virginia wildrye needs to be planted as a mixture in a grazing or haying practice. Cuivre River quality data at the end of April was 28% crude protein, ADF 26%, and NDF 47%. Cuivre River was clipped for a forage sample on June 1 with results of 12% crude protein, ADF 34%, and NDF 60%. Booting of the seed occurs at the end of May to the first week of June.

Current Status- Proven performance can be incorporated in many conservation practices and is available on the commercial market.

The chart below lists field plantings in Illinois for Cuivre River Virginia Wildrye in the past three years.

Elymus virginicus, Virginia wildrye, Cuivre River (9083169)

Planting #	County	Rate (PLS)	Soil Texture	Purpose	Weeds	Stand	Vigor	Year
IL-05-001	Fayette	30# PLS/2 acre Single species	SL	Wetland Restoration	M	3	3 42"	2006
					L	1	1 36"	2007
IL-05-008	Montgomery	54# PLS/4.5 acre Mixture Species	Loam	Companion Crop	H	9	1 9"	2005
					L	5	1 42"	2006
					L	1	1 40"	2007
IL-05-011	Clark	48# PLS/2 acres Single species	Clay	Wetland Restoration	M	5	3 6"	2006
					S	3	3 27"	2007
IL-05-012	Schuyler	2.5# PLS/.21 acre Mixture Species	Loamy Fine sand	Waterway	M	3	3 20"	2005
					-	7	5 3"	2006
					L	5	1 45"	2007

Weeds=None, Light, Moderate, Severe

Rating for Stand and Vigor=1-Excellent, 3-Good; 5-Fair; 7-Poor; 9-Very Poor, 0-None

Planting #	County	Rate (PLS)	Soil Texture	Purpose	Weeds	Stand	Vigor	Year
IL-05-012	Schuyler	1.7# PLS .14 acre Mixture species	Loamy fine sand	Waterway	M	9	7 8"	2005
					-	0	0	2006
					M	9	3 -	2007
IL-05-014	Bureau	6.0# PLS/.5 acre Mixture Species	SL	Waterway	-	0	0	2005
					-	3	1	2006
					M	3	3 4"	2007
IL-05-014	Bureau	6.0# PLS/.5 acre Mixture Species	SL	Waterway	-	0	0	2005
					-	3	1	2006
					M	3	3 4"	2007
IL-05-015	Wayne	100# PLS/ 5 acres Single species	SL	Filter Strip	M	-	3 5"	2005
					-	-	-	2006
					S	7	3 26"	2007
IL-05-017	McLeans- boro	24# PLS/ 2 acres Mixture species	Silt Clay	Filter Strip	M	3	3 24"	2006
					L	3	3 29"	2007
IL-06-001	Bureau	12# PLS	SL	Waterway	-	3	3 8"	2006
					L	3	3 14"	2007
IL-06-004	Henry	8.4# PLS/ .07 acre Mixture Species	SL	Field Border	M	9	7 5"	2006
					L	3	1 36"	2007
IL-06-004	Henry	8.4# PLS/ .7 acre Mixture Species	SL	Field Border	-	9	7 6"	2006
					L	1	1 36"	2007
IL-07-006	Winnebago	24# PLS/ 1 acre Single species	SL	Filter strip	L	3	3 14"	2007

Weeds=None, Light, Moderate, Severe

Rating for Stand and Vigor=1-Excellent, 3-Good; 5-Fair; 7-Poor; 9-Very Poor, 0-None

7) *Panicum virgatum*, low growing switchgrass, Not a Release

This switchgrass was a selection from collections from Iowa, Illinois, and Missouri that have the characteristics of low growing stature of 3 ft in height of vegetative materials, 4 ft with the seed heads.



Summary of plantings

The low growing switchgrass was sent out in field plantings. Performance has been poor in seedling emergence and establishment, especially for its intended practice use of waterways. Performance has been better on coarse texture, well drained soils. The seedling performance has been best on soil textures that are limited to sandy loam soils that have adequate moisture and well drained loess. This type of performance limits the use, especially for waterways in our region that consist of heavy texture clay soils that can be poorly drained. Previous field plantings took three years to establish a solid stand on silt loam soils for filterstrips.

Current Status

Additional field plantings are on hold until performance can be improved. The PMC will need to improve seedling performance before this switchgrass can be released to the commercial market.

The chart below lists field plantings in Illinois for the switchgrass in the past three years.

***Panicum virgatum*, low growing switchgrass, (9083172)**

Planting #	County	Rate (PLS)	Soil Texture	Purpose	Weeds	Stand	Vigor	Year
IL-05-012	Schuyler	1.3# PLS/ 0.21 acre Mixture Species	Loamy fine Sand	Waterway #7	S	7	3 24"	2005
					-	3	3 3"	2006
					L	5	1 45"	2007
IL-05-012	Schuyler	1.5# PLS/ 0.24 acre Mixture Species	Loamy fine Sand	Waterway #6	M	3	3 20"	2006
					-	-	-	2006
					L	5	1 45"	2007
IL-05-012	Schuyler	2.8# PLS/ 0.5 acres Single Species	Loamy fine Sand	Waterway	M	7	3 18"	2005
					L	7	5 3"	2006
					L	3	1 48"	2007

Weeds=None, Light, Moderate, Severe

Rating for Stand and Vigor=1-Excellent, 3-Good; 5-Fair; 7-Poor; 9-Very Poor, 0-None

Planting #	County	Rate (PLS)	Soil Texture	Purpose	Weeds	Stand	Vigor	Year
IL-05-012	Schuyler	4# PLS/ 0.14 Acre Mixture Species	Loamy fine Sand	Waterway	M	9	5 12"	2005
					-	9	9 -	2006
					M	9	3 42"	2007
IL-05-014	Bureau	3# pls 0.5 acre Mixture Species	SL	Waterway	M	9	3 15"	2005
					-	7	5 -	2006
					M	5	5 4"	2007
IL-06-001	Bureau	4# PLS/ 0.5 acre Mixture	SL	Waterway	N	7	7 8"	2006
					-	5	5 -	2007

Weeds=None, Light, Moderate, Severe

Rating for Stand and Vigor=1-Excellent, 3-Good; 5-Fair; 7-Poor; 9-Very Poor, 0-None

8) *Prunus americana*, Midwest Premium American Plum, Selected Release

American Plum is a native small tree reaching a maximum height of 20 feet. Midwest Premium is a selected release of composite sources from Illinois, Missouri, and Eastern South Dakota. This selection was based on consistent fruit production.



Summary for bare root plantings

The survival rate from bare root seedlings for field plantings in Illinois was 100%, 70% in Missouri, and 66% in Iowa from 2001-2003. Overall there was good to excellent survival of the bare root seedlings with the majority of the field plantings receiving minimal maintenance with moderate weed and grass competition. The average vigor for the field plantings were rated fair/good. Growth rates were slowed by competition. In field plantings where the canopy was open to sunlight, there was no shading, and competition of weeds were controlled, it was documented that flowering and fruit development occurred within the third year after planted. Deer and rabbit pressure did affect the vigor and survival of some of the plantings.

Summary of direct seeding

Direct seeding field plantings are being conducted with positive results when the seed is seeded in early fall (September) for a warm stratification before the cold winter months. The seed sown in the fall will germinate the next spring. Several rates of seeding were tried for establishing Quail Covey Head Quarters (HQ) to obtain enough stems during the initial establishment year.

A rate of 1# bulk seed/1500 square feet (50ft. x 30ft.) of seeding area is resulting in 1 plant/10 square feet for the 3 replications in the first growing season for the Direct Seeding Replications Study at Elsberry PMC. A one time post application grass herbicide is required to control the competition in the establishment year.

Current Status

Additional field plantings are needed in Iowa for testing the fall planted direct seeding of American plum for wildlife habitat, especially for quail and pheasant cover. Seed has been allocated to a woody grower for commercial production.

The chart below lists field plantings in Illinois for Midwest Premium American Plum in the past three years.

***Prunus Americana*, American plum, Midwest Premium (9083241)**

Planting #	County	Rate (PLS)	Soil Texture	Purpose	Weeds	Stand	Vigor	Year
IL-05-004	Mc-Donough	15 plts 1500 sq ft. Single species	SL	Covey HQ	M	1	3 18"	2005
					-	1	3 30"	2006
IL-05-006	Saline	6 plts 18" Bareroot Single species	SL	Covey HQ	S	1	7 14"	2005
					S	3	7 14"	2006
					S	9	9 14"	2007
IL-05-006	Saline	7 plts RPM Single species	SL	Covey HQ	S	1	7 54"	2005
					S	1	3 54"	2006
					S	5	5 54"	2007
IL-07-015	Tazewell	1# bulk 1500 sq ft. Single species	SL	Covey HQ	-	- 2007 Fall Seeded	-	2007

Weeds=None, Light, Moderate, Severe

Rating for Stand and Vigor=1-Excellent, 3-Good; 5-Fair; 7-Poor; 9-Very Poor, 0-None

"The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer."