

## **PLANTING #85**

### **2008 PLANTING HISTORY**

Clear Creek Knolls 2008

Prepared by Cody Considine 12/22/08

Updated 3/18/09

## **19.34 Acres**

### **Site Conditions:**

#### **Location:**

Ogle County – Taylor Township – T22N R9-10E Section 10 in the southeast corner of the southwest corner of section 10; southeast of creek ford, east of south leg of Clear Creek, north of Scherger tract, and east flank of planting touches west flank of planting #77 2007.

#### **Soil Types:**

According to the Soil Survey for Ogle County, IL soils include:

#727B Waukee loam - 10 inches of black loam over subsurface layer of 5 inches of brown loam over 26 inches of subsoil composed of three levels: (1<sup>st</sup>) yellowish brown layer of friable loam, (2<sup>nd</sup>) dark brown loam, (3<sup>rd</sup>) yellowish brown loam.

#939D Rodman-Warsaw complex –

**Rodman:** Surface layer of very dark brown gravelly loam 9” thick, 2<sup>nd</sup> dark yellowish brown stratified, calcareous sand and gravel up to 60”

**Warsaw:** Surface layer of very dark brown loam 6” thick, 2<sup>nd</sup> very dark brown and very dark grayish brown loam about 10” thick,

Permeability of these two soils is very rapid (Rodman) and moderate (Warsaw)

#### **Topography:**

The Eastern portion of the planting, approximately 5 acres contains a gentle slope extending to the west. The remaining 15 acres is relatively flat with a minute slope at the western portion of the planting. The planting area is located above the creek.

## **Agricultural History:**

I think it is safe to assume the planting site has been intensively row cropped for many decades. At least for the last five decades the ground was in continuous row crops, mostly corn and soybean. No drainage tiles. June 1958 shows the planting as tilled row crops.

## **Site Preparations:**

Corn harvested last week of October

1. Corn stubble mowed (Michael Miller)
2. Burned planting unit on an unseasonably warm day ~ high 70's (11/5). The corn stubble burned very well.
3. Harrowed unit (Michael Miller)

There was very little corn residue on the field after site preparations, looked great!

## **Seed Planting:**

The planting was separated into two planting mixes, based on soil type and topography.

### **Dry**

Planted November 19, 20 - The dry mix was planted by Cody Considine on the 4.7 acres with the Kubota/Vicon pendulum broadcast seeder. Planting technique included a clockwise direction, starting on the outside working in. To plant 234.8 lbs, it took 3 complete passes (1 pass = complete covering of entire planting area uniformly). 1<sup>st</sup> pass the Vicon planter setting was set at about 26, 2<sup>nd</sup> pass it was moved up to 36, last pass it was moved up to 40 and the seed was planted in a zigzag fashion covering the entire designated dry area. The foam marker worked for the first pass, which was very helpful. However the foam marker did not work for the latter passes. The freshly harrowed surface made it easier to follow previous tracks for a uniform spread. Total planting duration was 8hrs.

### **Dry Mesic**

November 19, 20 - The dry mesic mix was planted by Michael Miller on 14.64 acres using Bill's Jimmy and the New Idea gravity box spreader. Michael did not use Bill's fancy GPS unit, instead he used the tire tracks from his previous pass as a reference. He also used his personal GPS unit using the "track trip" function which gave him an idea where traveled. The settings on the planter were set at  $\frac{3}{4}$  open for the first two passes. The last pass he opened the spreader all the way and planted randomly over the planting. The random planting

technique was used since there was very little seed left for the 3<sup>rd</sup> pass. Total planting duration was approximately 10 hrs.

### **Mesic**

Not yet planted (12/22), specific areas will be targeted and be planted when weather permits.

### **Buffer**

Cody Considine did 2 passes of Can Rye around perimeter next to previous plantings 4-5 passes around perimeter next to ag field, and ruderal pasture. Used approximately 1 ½ barrels of Rye. Bill Kleiman hand scattered tall grass around the perimeter and ruderal areas on the north side of the planting (hill to the south of the two tracts after crossing the rocky ford).

### **Focus**

Jared Considine and Clare Kernek implemented the “focus seed” technique while Cody and Michael were planting. The “focus seed” technique consists of hand planting purple prairie clover in the rocky/gravelly areas of the unit. This is not the step in method.

### **Step IN**

The step in method was created by Jay Stacey and consists of scuffing the ground and “stepping in” the seed with your foot. The very conservative or species in low abundance on the preserve were planted using this technique. See plant list for a complete list of “step in” species.

The weather was cold, no snow, and the soil was not frozen during the days we planted. However, half of the “step in” and porcupine grass has still not been planted due to winter weather including snow and frozen soil. Step in method has taken two days with 3 people so far. We finished planting the rest of the seed the first week of March.

### **Seed List:**

The planting included 155 species that were separated into 3 mixes: dry, dry mesic, and a small portion of mesic mix. The dry mix contains 118 species and dry mesic mix has 115 species. Obviously, there is quite a bit of overlap of species in the mixes. Some of the mesic mix which contained 46 species will also be planted. See seed list for a complete break down of percentages composed in each mix.

Tall grass was intentionally omitted from the designated dry planting area. Little blue stem was planted in both dry and dry mesic portions. Little blue was supposed to be planted at 5 lbs/acre in the dry planting, however only 2.35 lbs/acre rate was planted. We decided to leave this rate and did not want to add more. In the dry mesic area, little blue was planted at

5lbs/acre and tallgrass at 2.83 lbs/acre. In the previous 3 (2005, 06, 07) crew plantings, there is not much grass. If we plan to incorporate grazing, we will need adequate grass for grazers. The question is however, how much grass should be planted initially for future grazers while not inhibiting forb growth and establishment?

\*\*Also saved in Excel located in CCK Drop Seed Hills South Crew 2008 of planting histories or seed harvest 2008.

### Big 6 Mixes for Both CCK and Dewitt Holland

Species	Dry (10acres)	Dry Mesic (30 acres)
Les Cap -	2.4/acre = 24lbs	6.6/acre = 198.62
Ech pal -	6/acre = 60lbs	5.7/acre = 173.5
Bap leu -	3.89/acre = 38.9lbs	4.31/acre = 129.37
Pot arg -	.3/acre = 3lbs	.23/acre = 7
Ely can -	1.5/acre = 15lbs	2.33/acre = 70
Art cau -	.24/acre = 2.4 lbs	.18/acre = 5.6

Big Six species were the species we collected that had the largest weights; special attention was taken into calculating the mixes (lbs/acre). All other species were separated into mixes according to their designated %'s (chosen by Bill K. initially from years past, but some %'s were tweaked by Cody C.), then the mixes were further separated for the two plantings (CCK, Dewitt).

<u>Scientific Name</u>	<u>Common Name</u>	<u>2008</u>		<u>----DRY----</u>		<u>--DRY MESIC--</u>	
		<u>% Mix</u>	<u>~lbs</u>	<u>% Mix</u>	<u>~lbs</u>	<u>% Mix</u>	<u>~lbs</u>
Asclepias hirtella	Hairy Green Milkweed	0.01	100%	0.01	0%		
Rhus aromatica	fragrant sumac	0.01	50%	0.005	50%	0.005	
Asclepias tuberosa interior	Butterfly Weed	0.05	50%	0.025	50%	0.025	
Viola fimbriatula	Sand Violet	0.05	0%		0%		
Viola sagittata	Arrow-leaved violet	0.05	10%	0.005	90%	0.045	
Anemone canadensis	Meadow Anemone	0.1	0%		0%		
Apocynum sibiricum	Prairie Indian Hemp	0.1	0%		0%		
Asclepias viridiflora	Short Green Milkweed	0.1	100%	0.1	0%		
Cassia hebecarpa	Wild Senna	0.1	0%		0%		
Geum triflorum	Prairie Smoke (Long-plumed Purple Avens)	0.1	100%	0.1	0%		
Hypoxis hirsuta	Yellow Star Grass	0.1	50%	0.05	0%		
Krigia virginica	Dwarf Dandelion	0.1	100%	0.1	0%		
Lithospermum canescens	Hoary Puccoon	0.1	100%	0.1	0%		
Lithospermum incisum	Fringed (Narrow-leaved) Puccoon	0.1	50%	0.05	50%	0.05	
Lobelia inflata	Indian Tobacco	0.1	0%		0%		
Monarda fistulosa	Wild Bergamot	0.1	20%	0.02	20%	0.02	

Oenothera clelandii (rhombipetala)	Sand Evening Primrose	0.1	60%	0.06	40%	0.04
Pedicularis lanceolata	Fen (Swamp) Betony; Lousewort	0.1	0%		0%	
Ratibida pinnata	Yellow Coneflower	0.1	40%	0.04	40%	0.04
Ruellia humilis	Wild Petunia	0.1	50%	0.05	0%	
Cirsium hillii *** (pumilum)	Hill's Thistle	0.15	100%	0.15	0%	
Lupinus perennis	Wild Lupine	0.15	50%	0.075	50%	0.075
Scutellaria parvula leonardi	Small Skullcap	0.15	100%	0.15	0%	
Senecio pauperculus	Balsam Ragwort Smooth (Blue)(Silky)	0.15	60%	0.09	40%	0.06
Aster laevis	Aster Common Oak (Penn)	0.2	0%		0%	
Carex pennsylvanica	Sedge	0.2	30%	0.06	30%	0.06
Festuca obtusa (subverticillata)	Nodding Fescue	0.2	0%		0%	
Leptoloma cognatum	Fall Witch Grass	0.2	40%	0.08	60%	0.12
Phlox maculata	Sweet William Phlox	0.2	0%		10%	0.02
Caltha palustris	Marsh Marigold	0.25	0%		0%	
Juncus tenuis	Path Rush Heart-leaved Meadow Parsnip	0.25	20%	0.05	60%	0.15
Zizia aptera		0.25	50%	0.125	50%	0.125
Aster novae-angliae	New England Aster	0.3	0%		0%	
Gentiana purberulenta	Prairie Gentian	0.3	100%	0.3	0%	
Hieracium gronovii	Hairy Hawkweed	0.3	50%	0.15	50%	0.15
Silene antirrhina	Sleepy Catchfly	0.3	50%	0.15	0%	
Cacalia plantaginea (tuberosa)	Indian Plantain	0.35	0%		0%	
Castilleja sessiliflora **	Downy Yellow Painted Cup	0.35	100%	0.35	0%	
Helianthus hirsutus	Hispid sunflower	0.35	0%		70%	0.245
Oenothera biennis canescens	Common Evening Primrose	0.35	30%	0.105	60%	0.21
Panicum villosissimum	White-Haired Panic Grass	0.35	100%	0.35	0%	
Asclepias verticillata	Whorled Milkweed	0.4	25%	0.1	70%	0.28
Linum sulcatum	Groved Yellow Flax	0.4	70%	0.28	30%	0.12
Onosmodium hispidissimum	Marbleseed	0.4	50%	0.2	50%	0.2
Polygala sanguinea	Field Milkwort	0.4	50%	0.2	50%	0.2
Aster oblongifolius	Aromatic Aster	0.45	50%	0.225	50%	0.225
Aster umbellatus	Flat-topped Aster	0.45	0%		0%	
Eupatorium maculatum	Spotted Joe Pye Weed	0.45	0%		0%	
Lysimachia lanceolata	Lance-Leaved Loosestrife	0.45	50%	0.225	50%	0.225
Opuntia humifusa (compressa)	Prickly Pear Cactus	0.45	100%	0.45	0%	
Gnaphalium obtusifolium	Sweet Everlasting (Old- Field Balsam)	0.5	50%	0.25	50%	0.25
Panicum virgatum	Prairie Switch Grass	0.5	30%	0.15	50%	0.25
Paspalum ciliatifolium muhlenbergii	Hairy Lens Grass	0.5	40%	0.2	50%	0.25
Amorpha fruticosa	Indigo Bush	0.55	0%		70%	0.385

Houstonia (Hedyotis) longifolia (canadense)	Long-Leaved Bluets	0.55	50%	0.275	50%	0.275
Viola pedata lineariloba	Birdsfoot Violet	0.55	50%	0.275	50%	0.275
Aronia (Pyrus) prunifolia (melanocarpa)	Black Chokeberry	0.6	60%	0.36	20%	0.12
Bouteloua hirsuta	Hairy Grama	0.6	100%	0.6	0%	
Callirhoe triangulata	Clustered Poppy Mallow	0.6	100%	0.6	0%	
Helianthemum bicknellii	Rock Rose	0.6	30%	0.18	70%	0.42
Lechea stricta	Bushy Pinweed	0.6	60%	0.36	40%	0.24
Cyperus filiculmis	Slender Sand Sedge	0.65	70%	0.455	30%	0.195
Scrophularia marilandica	Late Figwort	0.65	0%		5%	0.0325
Wulfenia bullii *** (Besseyia)	Kittentails	0.65	10%	0.065	0%	
Lechea villosa (mucronata)	Hairy Pinweed	0.7	40%	0.28	40%	0.28
Solidago rigida	Stiff Goldenrod	0.7	30%	0.21	60%	0.42
Aster ptarmicoides	White Aster ( Stiff Aster)	0.75	60%	0.45	40%	0.3
Polytaenia nuttallii	Prairie Parsley	0.75	50%	0.375	50%	0.375
Panicum leibergii	Prairie Panic Grass	0.8	60%	0.48	40%	0.32
Liatris cylindracea	Dwarf Blazingstar	0.85	100%	0.85	0%	
Hystrix patula (Elymus hystrix)	Bottlebrush Grass	0.9	0%		0%	
Sisyrinchium albidum	Common Blue-eyed Grass	0.9	40%	0.36	60%	0.54
Gentiana (alba) flavida	Cream Gentian	0.95	0%		30%	0.285
Lechea tenuifolia	Slender-Leaved Pinweed	0.95	70%	0.665	30%	0.285
Sporobolus heterolepis	Prairie Dropseed	0.95	10%	0.095	10%	0.095
Angelica grandifolia	Great Angelica	1	0%		0%	
Angelica atropurpurea	Alexander's Angelica; Great Angelica	1	0%		0%	
Heuchera richardsonii grayana	Rough Heuchera; Alum root	1	45%	0.45	50%	0.5
Lobelia spicata	Pale-spike Lobelia	1	90%	0.9	10%	0.1
Prunus americana	Wild Plum	1	40%	0.4	40%	0.4
Quercus alba	White Oak	1	0%		0%	
Quercus macrocarpa	Bur Oak	1	0%		0%	
Aster azureus (oolentangiensis)	Sky-blue Aster	1.05	50%	0.525	50%	0.525
Salix humilis	Prairie Willow	1.05	50%	0.525	45%	0.4725
Agrostis hymenalis	Tickle Grass	1.15	50%	0.575	50%	0.575
Spiraea alba	Meadowsweet	1.2	0%		0%	
Allium cernuum	Nodding Wild Onion	1.4	0%		60%	0.84
Aster linariifolius	Stiff Aster (Flax-Leaved)	1.55	75%	1.1625	25%	0.3875
Chrysopsis camporum (Heterotheca)	Golden Prairie Aster	1.55	50%	0.775	50%	0.775
Comandra umbellata (richardsoniana)	False Toadflax	1.9	100%	1.9	0%	
Scirpus cyperinus	Wool Grass	2	0%		0%	
Aristida purpurascens	Arrow Feather	2.1	60%	1.26	40%	0.84
Coreopsis tripteris	Tall Coreopsis	2.3	10%	0.23	40%	0.92
Cassia fasciculata	Partridge Pea	2.35	40%	0.94	50%	1.175
Monarda punctata villicualis	Horse Mint	2.35	30%	0.705	70%	1.645

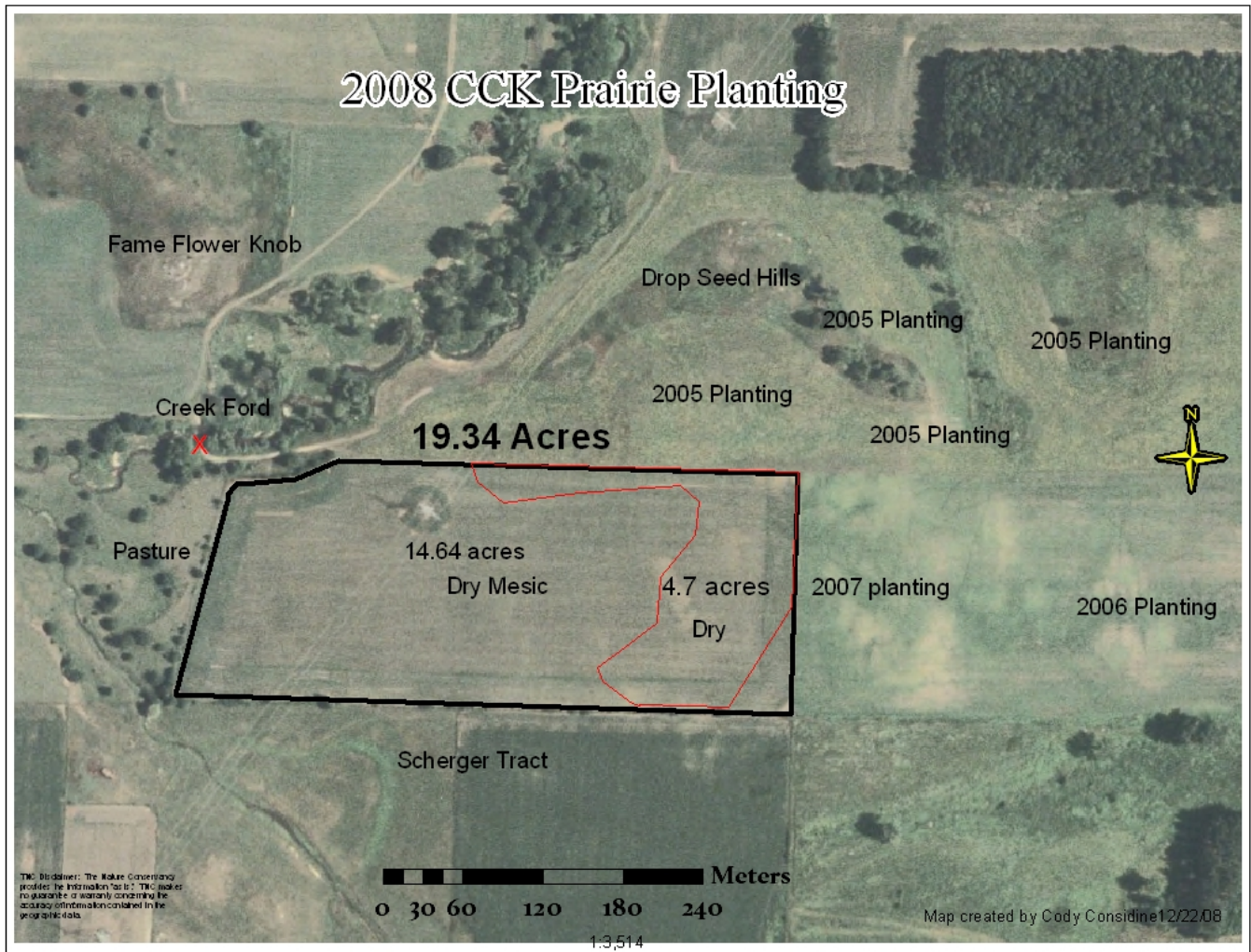
Penstemon hirsutus	Hairy Beard tongue	2.35	70%	1.645	30%	0.705
Stipa spartea	Porcupine Grass	2.4	80%	1.92	20%	0.48
Pycnanthemum virginianum	Mountain mint (Prairie Hyssop)	2.55	10%	0.255	20%	0.51
Teucrium canadense	American Germander (Wood Sage)	2.55	0%		0%	
Aster sericeus	Silky Aster	2.6	50%	1.3	50%	1.3
Scrophularia lanceolata	Early figwort	3	0%		0%	
Spartina pectinata	Prairie Cord Grass	3.15	0%		0%	
Verbena urticifolia	Hairy White Vervain	3.15	0%		40%	1.26
Carex muhlenbergii (enervis)	Sand Bracted Sedge (Muhlenberg's)	3.3	60%	1.98	40%	1.32
Solidago speciosa	Showy Goldenrod	3.4	30%	1.02	50%	1.7
Juncus greenei	Greene's Rush	3.5	50%	1.75	50%	1.75
Physocarpus opulifolius	Ninebark	3.5	10%	0.35	30%	1.05
Hypericum pyramidatum	Great St. Johnswort	3.6	0%		0%	
Liatris pycnostachya	Tall Gayfeather; Prairie Blazing Star	3.6	0%		20%	0.72
Danthonia spicata	Poverty Oat Grass	3.65	75%	2.7375	25%	0.9125
Eupatorium perfoliatum	Boneset	3.85	0%		10%	0.385
Helianthus rigidus (laetiflorus)	Prairie Sunflower	4.55	40%	1.82	60%	2.73
Dodecatheon meadia	Shooting Star	4.7	40%	1.88	40%	1.88
Heliopsis helianthoides	False Sunflower; " Ox-eye "	5.25	20%	1.05	60%	3.15
Veronicastrum virginicum	Culver's Root	5.3	0%		0%	
Rudbeckia hirta	Black-eyed Susan	6	15%	0.9	40%	2.4
Rhus glabra	Smooth Sumac	6.05	0%		50%	3.025
Bouteloua curtipendula	Side-Oats Grama	6.9	30%	2.07	70%	4.83
Elymus villosus	Silky Wild Rye	6.9	0%		0%	
Helianthemum canadense	Common Rockrose (Frostweed)	7.35	55%	4.0425	40%	2.94
Verbena stricta	Hoary Vervain	7.45	50%	3.725	50%	3.725
Aster ericoides (prostratus)	Heath Aster	8.4	20%	1.68	70%	5.88
Helianthus occidentalis	Western Sunflower; Naked S.	9.4	40%	3.76	60%	5.64
Kuhnia (Brickellia) eupatorioides corymbulosa	False Boneset	9.55	40%	3.82	60%	5.73
Tephrosia virginiana	Goat's Rue	9.7	50%	4.85	40%	3.88
Triosteum perfoliatum	Horse Gentian (Feverwort)(Tinker's Weed)	9.8	20%	1.96	60%	5.88
Penstemon digitalis	Foxglove Beardtongue	10	0%		10%	1
Solidago missouriensis fasciculata	Missouri Goldenrod	10.5	40%	4.2	60%	6.3
Desmodium illinoense	Ill. Tick Trefoil	11.05	30%	3.315	50%	5.525
Cacalia atriplicifolia	Pale Indian Plantain	11.7	0%		30%	3.51
Silphium perfoliatum	Cup-plant	13.4	0%		10%	1.34
Zizia aurea	Golden Alexanders	14	15%	2.1	40%	5.6
Rudbeckia subtomentosa	Sweet Blackeyed Susan	14.05	0%		10%	1.405
Anemone cylindrica	Thimbleweed	15.7	40%	6.28	50%	7.85

Antennaria plantaginifolia	Pussy Toes (Everlasting)	16.1	50%	8.05	50%	8.05
Silphium terebinthaceum	Prairie Dock	17.2	5%	0.86	45%	7.74
Euphorbia corollata	Flowering Spurge	19.43	30%	5.829	60%	11.658
Baptisia leucophaea	Cream Wild Indigo	19.87	60%	11.922	40%	7.948
Coreopsis palmata	Prairie Coreopsis	19.9	40%	7.96	50%	9.95
Carex bicknellii	Copper-shouldered oval Sedge	20.55	40%	8.22	60%	12.33
Rosa carolina	Pasture Rose	21.55	40%	8.62	60%	12.93
Astragalus canadensis	Canadian Milk Vetch	23.35	20%	4.67	80%	18.68
Solidago nemoralis	Gray Goldenrod; Oldfield	23.89	40%	9.556	60%	14.334
Amorpha canescens	Leadplant	26.35	20%	5.27	70%	18.445
Solidago (Euthamia) graminifolia nuttallii	Grass-leaved Goldenrod	27.6	30%	8.28	70%	19.32
Eryngium yuccifolium	Rattlesnake Master	29.7	0%		20%	5.94
Petalostemum (Dalea) candidum	White Prairie Clover	31.11	0%		40%	12.444
Silphium integrifolium	Rosinweed	35.95	40%	14.38	60%	21.57
Scirpus atrovirens	Dark Green Rush	46.15	0%		0%	
Koeleria cristata (macrantha)	Prairie June Grass -	54.65	40%	23.38	60%	35.07
Potentilla arguta	Prairie Cinquefoil	59.11	30%	17.733	50%	29.555
Parthenium integrifolium	Wild Quinine (Feverfew)	63.2	30%	18.96	60%	37.92
Tradescantia ohiensis	Ohio Spiderwort	63.2	25%	15.8	65%	41.08
Silphium laciniatum	Compass plant	70.02	30%	21.006	60%	42.012
Liatris aspera	Rough Blazing-star (Rough Gayfeather)	81.45	40%	32.58	55%	44.7975
Artemisia caudata (campestris)	Beach Wormwood	101	30%	30.3	70%	70.7
Petalostemum (Dalea) purpureum	Purple Prairie Clover	127.08	30%	38.124	70%	88.956
Lespedeza capitata --	Round-headed Bush Clover	153.37	30%	46.011	60%	92.022
Elymus canadensis	Prairie Wild Rye	203.46	20%	40.692	60%	122.076
Echinacea pallida	Pale Purple Coneflower	233.5	30%	70.05	70%	163.45
Baptisia leucantha	White Wild Indigo	303.77	20%	60.754	60%	182.262



**Map:**

Map is also saved in planting history folder: planting history #85 as a jpeg or in the MXD files under Arc Gis work.





### **Lessons Learned:**

Planting takes time.

Count on the foam marker to break.

Harrow before planting because the freshly agitated soil helps operator see previous tracks.

Step in planting takes a lot of time and patience, plan for at least 2-4 days with 3 people.

Winter weather comes fast.

Label barrels very clearly and keep a clip board with total number of barrels for each planting mix.

**Notes:**

The weekend after Christmas we had a thaw. There was approximately 10-12” of snow that thawed rapidly over a couple days. Also in combination, we received 1-2” of rain in the evening which resulted in massive flash floods. This may affect some areas of the planting, but fields and slopes did not have any gullies.

We had two significant additional rain amounts in February and early March, each over 2”.