

# PLANTING 135 DNR FCNA GRIST MILL

2021 Planting History

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## Site Conditions

General Location: Just South of the FCCA Grist Mill Parking Lot

GPS: 41.857426 -89.257520

Elevation: 694-715 ft

Acreage: 25

County: Lee

## Soil Types

According to the Web Soil Survey for the planting area, soil types include:

Soil Type	Acres in AOI	Percent of AOI
Boone loamy fine sand, 7 to 15 percent slopes	1.3	5.0%
Martinsville silt loam, 2 to 5 percent slopes	2.2	8.6%
Wyanet silt loam, 5 to 10 percent slopes, eroded	3.2	12.7%
Comfrey silt loam, undrained, 0 to 2 percent slopes, frequently flooded	0.7	2.8%
Lawson silt loam, cool mesic, 0 to 2 percent slopes, frequently flooded	5.9	23.4%
Comfrey loam, 0 to 2 percent slopes, occasionally flooded	12.0	47.4%
<b>Total</b>	<b>25.2</b>	<b>100.0%</b>

**Table 1:** Soil types present within the planting. Source: NRCS Soil Web Survey. Refer to Map A that shows the location of the soil types within the planting

## Topography

The Franklin Creek Grist Mill is relatively flat as the elevation gain between the tallest and lowest points is only 20 feet. However, to the Southeast there is a hillier section over-looking the rest of the planting. There are three agricultural waterways dividing the planting into three main sections. There is also a waterway surrounding all three sections as well. To the Northwest there is the Franklin Creek running along most of the Eastern border of the planting. The entire planting seems to of historically been part of the Franklin Creek Floodplain due to its relatively flat terrain, fertile soils, and proximity to the creek.

## Agricultural History

This site has been under an agricultural management system for seemingly decades. The soil structure has been broken and seems to have massive structure. Upon inspection of the site some of the areas have damage due to soil compaction along the Northern edge near the creek. At the Southeastern edge erosional gullies have formed due to loss of soil structure and

bare soil becoming susceptible to erosion. The site was planted into corn and harvested weeks before the planting date of November 15<sup>th</sup>.

## **Site Preparations**

Site preparations began online as the Crew had used the USDA Soil Survey to gauge an idea as to what the hydrology, soil texture, and topography were like. The next step was the application of Google Earth Pro to create a color-coded map to classify area needed per seed type (Dry, Dry-mesic, Mesic, Wet). The site did not require much on-site preparatory work from the Crew as the seed was planted directly into the corn residue and stubble. The site did require a “Burn Down” or herbicide application of the Reed Canary Grass within the waterways and subsequent mowing of the waterways. The Site DNR officer did mow the planting boundary edge to the South making for a better visual border. The Western edge along the creek required mowing to clear some of the wafer ash that was encroaching. The seed mixes were created November 3<sup>rd</sup> and were decided upon by Crew Leaders Matt Nugent and Anna Scheidel. Decisions were based upon their working knowledge of plants. The seed mixes were then hand mixed by crew via pitchfork, weighed, sorted, and loaded onto the livestock trailer for transport.

## **Planting the Seed**

Planting began November 15<sup>th</sup> and was completed on November 18<sup>th</sup>.

The weather was modest during the initial planting: sunny, no precipitation, low winds, and around 40 degrees. The final round of step-in seeds was planted on the 18<sup>th</sup> and involved strong winds of 20 mph and minor snow flurries.

Planting began on the morning of Monday November 15<sup>th</sup> and was made possible with the aid of Bill and Susan Klieman. The small loader tractor with forks was used to load and then unload the seeders onto trailers. Afterwards, the tractor itself was driven to the site to aide in unloading. The White, “Z”, Silver, MRCP, and Dump trucks were transported to the site. The premixed seed barrels were previously loaded onto the livestock trailer and as a convoy we all took off to Grist Mill. The trail entrance Southeast of the Mill was our entry point, and the vehicles were staged on the main waterway. Upon arrival of the site at roughly 10:00 am, the seeders were attached to the White, Silver and Z trucks and the crew was left to begin. Matt Nugent in the lead truck, Matthew Togger followed along in the middle, and Veronica Silva drove the rear truck. Working together with radios Matthew and Veronica dropped occasional sight flags to keep the convoy running smooth. This pattern held true for all the plantings.

## **Planting Mixes**

Over the 2021 season, the crew handpicked in total 1,766.104 pounds of seed made up of 192 different species. The crew created a Dry, Dry-Mesic, Mesic, Wet, and Woodland Mix.

## **Dry Seed Mix**

None of the pre-mixed dry seed mix made it into this planting.

## **Dry Mesic Seed Mix**

The crew planted the remaining 300 pounds of Dry-Mesic seed mix that was left from the MRCP Hill Site at this planting. The 300 total pounds was divided into a 1.5-acre area and a 3.4-acre area allowing for about 60 pounds of seed per acre. This required 3 passes of “Down and Back” transects with the seeders beginning at 75% closed and a pass at 50% open.

## **Mesic Seed Mix**

The Mesic seed mix was the largest seed mix the crew used at the Grist Mill site weighing in at 850 pounds which was used to cover 16.3 acres of the planting. This allowed for the seeding rate to be 53 pounds per acre. The seed was planted via “Down and Back” transects beginning with

## **Wet Seed Mix**

The Wet seed mix was the next heaviest weighing in at 252 pounds per acre. We had planned for all of the grassed waterways, the edge of the creek, and the deep gully formed via compaction to be planted with the Wet seed mix. This allowed for the 252 pounds to be planted over the roughly 4 acres at a seeding rate of 63 pounds per acre. About 20 pounds of the wet seed was hand seeded along the creek and along the cattails to the Southern border of the planting.

## **Canada Rye Border**

The Rye Border consisted of 5 seed barrels at about 125 total pounds of seed. The border was 3 seeder widths wide and encircled the entirety of the planting edge. The three seeders made 3 trips around the perimeter with the seeders opened at roughly 30%, 50%, and then opened to full 100%. The rye border had some setbacks as the seed did not fall as smoothly as the other mixes and continued to bridge.

## **Step-In Species**

The Step-in species at this site included all four seed mix types of Dry, Dry-Mesic, Mesic, and Wet. The remaining Dry seed mix from the MRCP Hill site was combined with the Dry-Mesic and planted at the drier hill side at the Southeastern corner of the planting as well as at the dry spot indicated by Map C. The Mesic mix was planted in two main bands well within the Mesic areas indicated by Map B. The Wet mix was planted along the creek and in the deep rut made by farm equipment near the creek. See Map C for more details.

Step-In Seeds		
Scientific Name	Common Name	Seed Mix Type
<i>Anemone canadensis</i>	Meadow Anemone D Dm	Dry, Dry-Mesic
<i>Antennaria neglecta</i>	Woolly Cats Foot D	Dry
<i>Aristida purpurascens</i>	Purple Arrow Feather DM	Dry-Mesic
<i>Asclepias tuberosa</i>	Butterfly Weed D Dm M	Dry, Dry-Mesic, Mesic
<i>Bouteloua hirsuta</i>	Mustache Grass	Dry
<i>Camassia scilloides</i>	Wild Hyacinth	Mesic
<i>Chelone glabra</i>	Turtle Head	Wet
<i>Cirsium hillii</i>	Hill's Thistle	Dry-Mesic, Mesic
<i>Desmanthus illinoensis</i>	Illinois Bundle Flower	Mesic
<i>Froelichia floridana</i>	Plains snake-cotton	Dry
<i>Geum triflorum</i>	Prairie Smoke	Dry-Mesic
<i>Houstonia longifolia</i>	Long-leaved Bluets	Dry
<i>Hypoxis hirsuta</i>	Yellow Star grass	Mesic
<i>Iris virginica var. shrevei</i>	Blue Flag Iris	Wet
<i>Krigia biflora</i>	False Dandelion	Dry
<i>Krigia virginica</i>	Dwarf Dandelion	Dry
<i>Liatris cylindracea</i>	Cylindrical Blazing Star	Dry-Mesic
<i>Lilium michiganense</i>	Michigan Lilly	Wet
<i>Linum sulcatum</i>	Yellow Flax	Dry
<i>Lithospermum canescens</i>	Hoary Puccoon	Dry
<i>Lobelia spicata</i>	Pale Spiked Lobelia	Mesic
<i>Mimulus ringens</i>	Monkey Flower	Mesic, Wet
<i>Nuttallanthus canadensis</i>	Blue Toadflax	Dry
<i>Oenothera biennis</i>	Common Evening Primrose	Dry, Dry-Mesic, Mesic
<i>Oenothera clelandii</i>	Sand evening Primrose	Dry
<i>Oligoneuron album</i>	Stiff Aster	Dry, Dry-Mesic
<i>Penstemon grandiflorus</i>	Large Flowered Beardtongue	Dry, Dry-Mesic
<i>Phemeranthus rugospermus</i>	Fame Flower	Dry
<i>Phlox bifida</i>	Sand Phlox	Dry
<i>Phlox glaberrima</i>	Marsh Phlox	Mesic, Wet
<i>Phlox pilosa</i>	Sand Prairie Phlox	Dry-Mesic
<i>Physocarpus opulifolius</i>	Ninebark	Mesic
<i>Pulsatilla patens subsp. multifida</i>	Pasque Flower	Dry
<i>Quercus macrocarpa</i>	Bur oak	Dry-Mesic, Mesic, Wet
<i>Rhexia virginica</i>	Virginia Meadow Beauty	Wet
<i>Ruellia humilis</i>	Prairie Petunia	Dry-Mesic
<i>Scutellaria parvula</i>	Small Skullcap	Dry-Mesic
<i>Silene antirrhina</i>	Sleepy Catchfly	Dry
<i>Spirea alba</i>	Meadowsweet	Mesic
<i>Viola pedata var. lineariloba</i>	Birds Foot Violet	Dry

<i>Zizia aptera</i>	Heart-leaved Alexanders	Dry-Mesic
Panic Grass Mix	N/A	Mesic

**Table 2:** List of species in various step-in mixes.

Dry	Dry Mesic	Mesic	Wet	Woodland
68	97	99	49	22

**Table 3:** Showing number of species in each mix.

SCIENTIFIC NAME	COMMON NAME	Dry	Dry Mesic	Mesic	Wet	Woodland	Total lbs
<i>Agalinis purpurea</i>	purple false foxglove				0.770		0.770
<i>Agalinis tenuifolia</i>	slender false foxglove				2.551		2.551
<i>Agastache scrophulariifolia</i>	purple giant hyssop		0.702	0.433		0.330	1.464
<i>Agrimonia parviflora</i>	swamp agrimony				2.123		2.123
<i>Allium canadense</i>	wild onion		0.090			0.090	
<i>Allium cernuum</i>	nodding wild onion		0.720	1.083	0.363		0.180
<i>Allium tricoccum</i>	wild leek					0.008	0.008
<i>Amorpha canescens</i>	lead plant	1.000	10.000	5.000			16.050
<i>Amorpha fruticosa</i>	indigo bush				2.145		2.145
<i>Amphicarpaea bracteata</i>	upland hog peanut					0.004	0.004
<i>Anemone canadensis</i>	meadow anemone		0.103	0.103			0.206
<i>Anemone cylindrica</i>	thimbleweed	0.400	1.500	1.500			3.393
<i>Angelica atropurpurea</i>	great angelica			4.000	30.000		34.633
<i>Antennaria neglecta</i>	woolly cats' foot	0.038					0.038
<i>Antennaria plantaginifolia</i>	pussytoes	1.000	9.000	9.000			19.650
<i>Apocynum cannabinum</i>	hairy dogbane		1.300	2.300	1.000		4.650
<i>Arisaema triphyllum</i>	jack-in-the-pulpit					0.042	0.042
<i>Aristida purpurascens</i>	purple arrow feather		0.014				0.014
<i>Arnoglossum atriplicifolium</i>	pale indian plantain		0.850	0.850			1.695
<i>Arnoglossum plantagineum</i>	prairie indian plantain		0.320	0.650	0.320		1.323
<i>Artemisia campestris subsp. caudata</i>	beach wormwood	4.584	7.000				11.584
<i>Asclepias incarnata</i>	swamp milkweed			0.270	0.270		0.552
<i>Asclepias syriaca</i>	common milkweed	4.850	4.425	4.425			13.700

<b><i>Asclepias tuberosa</i></b>	butterfly weed	0.005					0.005
<b><i>Asclepias verticillata</i></b>	whorled milkweed	0.800	0.800				1.623
<b><i>Astragalus canadensis</i></b>	canadian milkvetch	0.500	7.000	3.000			10.408
<b><i>Aureolaria grandiflora var. pulchra</i></b>	yellow false foxglove					3.178	3.78
<b><i>Baptisia lactea</i></b>	white wild indigo	3.000	24.000	24.000			51.000
<b><i>Baptisia leucophaea</i></b>	cream wild indigo		1.751	1.751			3.522
<b><i>Besseyia bullii</i></b>	kitten tails	0.075	0.075				0.150
<b><i>Bidens comosa</i></b>	straw-stemmed tickseed			0.100	0.760		0.860
<b><i>Boltonia asteroides</i></b>	false aster			2.000	5.070		7.070
<b><i>Bouteloua curtipendula</i></b>	side-oats grama	0.820	0.820				1.644
<b><i>Bouteloua hirsuta</i></b>	hairy grama	0.128					0.128
<b><i>Brickellia eupatorioides var. corymbulosa</i></b>	false boneset	2.500	7.000	5.300			14.800
<b><i>Bromus kalmii</i></b>	prairie brome	5.000	39.000	22.300			67.250
<b><i>Calamagrostis canadensis</i></b>	blue joint grass			0.800	1.680		2.487
<b><i>Caltha palustris</i></b>	marsh marigold				0.133		0.133
<b><i>Carex bicknellii</i></b>	copper-shouldered oval sedge		0.043	0.043			0.085
<b><i>Carex frankii</i></b>	bristly cattail sedge			0.375	1.125		1.583
<b><i>Carex stipata</i></b>	common fox sedge			1.150	1.150		2.350
<b><i>Castilleja sessiliflora</i></b>	downy yellow painted cup	0.323	0.323				0.646
<b><i>Ceanothus americanus</i></b>	new jersey tea	0.300	0.300	0.300			0.906
<b><i>Cephalanthus occidentalis</i></b>	buttonbush				5.537		5.537
<b><i>Chamaecrista nictitans</i></b>	lesser partridge pea		0.001				0.001
<b><i>Chelone glabra</i></b>	turtlehead				0.016		0.016
<b><i>Cinna arundinacea</i></b>	common wood reed					1.350	1.350
<b><i>Cirsium hillii</i></b>	hills thistle		0.010	0.016			0.026
<b><i>Clematis virginiana</i></b>	virgins bower			0.430	0.430	0.430	1.329
<b><i>Coreopsis lanceolata</i></b>	sand coreopsis	2.000	3.900				5.850
<b><i>Coreopsis palmata</i></b>	prairie coreopsis		6.000	6.000			11.731
<b><i>Coreopsis tripteris</i></b>	tall coreopsis		4.000	4.000			7.400
<b><i>Corylus americana</i></b>	american hazelnut					3.550	3.550
<b><i>Crocanthemum bicknellii</i></b>	pinweed rockrose	0.600	0.216				0.816
<b><i>Cuscuta campestris</i></b>	field dodder		0.180	0.180			0.367
<b><i>Cyperus lupulinus</i></b>	hop sand sedge	0.100	0.100				0.196



<b><i>Dalea candida</i></b>	white prairie clover	2.400	2.400	2.400			7.425
<b><i>Dalea purpurea</i></b>	purple prairie clover	2.000	9.500	9.500			21.747
<b><i>Danthonia spicata</i></b>	poverty oat grass		0.450	0.450			0.940
<b><i>Dasistoma macrophylla</i></b>	mullein foxglove				1.390	3.000	4.390
<b><i>Desmanthus illinoensis</i></b>	illinois bundleflower			0.100			0.100
<b><i>Diarrhena obovata</i></b>	beak grass					0.001	0.001
<b><i>Dichanthelium scribnerianum</i></b>	scribners panic grass			0.027			0.027
<b><i>Dodecatheon meadia</i></b>	shooting star		10.000	10.000			19.974
<b><i>Drymocallis arguta</i></b>	prairie cinquefoil	1.125	8.750	5.000			14.863
<b><i>Echinacea pallida</i></b>	pale purple coneflower	4.000	162.000	162.000			328.500
<b><i>Epilobium coloratum</i></b>	cinnamon willowherb				2.517		2.517
<b><i>Erigeron strigosus</i></b>	daisy fleabane	1.300	3.900	2.600			7.800
<b><i>Eryngium yuccifolium</i></b>	rattlesnake master		30.000	35.700			65.700
<b><i>Eupatorium perfoliatum</i></b>	common boneset			2.000	10.600		12.600
<b><i>Euphorbia corollata</i></b>	flowering spurge	0.340	1.000	0.850			2.195
<b><i>Eurybia furcata</i></b>	forked aster					0.043	0.043
<b><i>Euthamia graminifolia</i></b>	smooth grass-leaved goldenrod		0.600	2.000	0.250		2.966
<b><i>Eutrochium maculatum</i></b>	spotted joe pye weed			2.800	4.000		6.850
<b><i>Eutrochium purpureum</i></b>	purple joe pye weed					13.911	13.911
<b><i>Festuca subverticillata</i></b>	nodding fescue					0.160	0.160
<b><i>Froelichia floridana</i></b>	plains snake-cotton	0.000					0.001
<b><i>Gaura longiflora</i></b>	common gaura		0.028				0.028
<b><i>Gentiana alba</i></b>	yellowish gentian		15.000	15.000			30.360
<b><i>Gentiana puberulenta</i></b>	prairie gentian			0.400			0.400
<b><i>Geum triflorum</i></b>	prairie smoke		0.021				0.021
<b><i>Helenium autumnale</i></b>	sneezeweed			0.500	1.000		1.500
<b><i>Helianthus divaricatus</i></b>	woodland sunflower		0.300	0.300		1.000	1.600
<b><i>Helianthus grosseserratus</i></b>	sawtooth sunflower			4.200	4.200		8.470
<b><i>Helianthus occidentalis</i></b>	western sunflower	0.500	0.900	0.500			1.943
<b><i>Helianthus pauciflorus</i></b>	prairie sunflower		0.200	0.200			0.416
<b><i>Heliopsis helianthoides</i></b>	false sunflower		4.200	4.200			8.400

<b><i>Hesperostipa spartea</i></b>	porcupine grass	0.135	0.135				0.270
<b><i>Heterotheca camporum</i></b>	plains golden aster	0.190	0.190				0.380
<b><i>Heuchera richardsonii</i></b>	prairie alum root		0.500	0.200			0.718
<b><i>Hibiscus palustris</i></b>	northern rose mallow				1.700		1.764
<b><i>Hieracium gronovii</i></b>	hairy hawkweed		0.019	0.019			0.038
<b><i>Houstonia longifolia</i></b>	long-leaved bluets	0.012					0.012
<b><i>Hylodesmum glutinosum</i></b>	pointed ticktrefoil					0.036	0.036
<b><i>Hypoxis hirsuta</i></b>	yellow star grass			0.060			0.060
<b><i>Hystrix patula</i></b>	bottlebrush grass					0.887	0.887
<b><i>Iris virginica var. shrevei</i></b>	blue flag				0.142		0.142
<b><i>Juncus interior</i></b>	inland rush		3.000	4.000	0.300		7.393
<b><i>Juncus tenuis</i></b>	path rush		4.600	4.600			9.193
<b><i>Juncus torreyi</i></b>	torreys rush				0.387		0.387
<b><i>Koeleria macrantha</i></b>	june grass	2.517	12.000	12.000			26.517
<b><i>Krigia biflora</i></b>	false dandelion	0.004					0.004
<b><i>Krigia virginica</i></b>	dwarf dandelion	0.028					0.028
<b><i>Lechea tenuifolia</i></b>	slender-leaved pinweed	0.019	0.180				0.198
<b><i>Lespedeza capitata</i></b>	round-headed bush clover	7.750	30.000	20.000			57.750
<b><i>Liatris aspera</i></b>	rough blazing star	1.900	5.000	1.000			7.90
<b><i>Liatris cylindracea</i></b>	cylindrical blazing star	0.044					0.044
<b><i>Liatris pycnostachya</i></b>	prairie gay feather		19.000	51.000	10.000		82.900
<b><i>Lilium michiganense</i></b>	michigan lily				0.019		0.019
<b><i>Linum sulcatum</i></b>	grooved yellow flax	0.050					0.050
<b><i>Lithospermum canescens</i></b>	hoary puccoon	0.012					0.012
<b><i>Lithospermum incisum</i></b>	fringed puccoon	0.078					0.078
<b><i>Lobelia cardinalis</i></b>	cardinal flower			0.020	0.075		0.095
<b><i>Lobelia siphilitica</i></b>	great blue lobelia			0.075	0.200		0.275
<b><i>Lobelia spicata</i></b>	pale-spiked lobelia			0.001			0.001
<b><i>Ludwigia alternifolia</i></b>	seedbox			0.900	8.000		8.900
<b><i>Lupinus perennis var. occidentalis</i></b>	wild lupine	1.500	4.500	0.750			6.750
<b><i>Mimulus ringens</i></b>	monkey flower			0.050	0.800		0.850
<b><i>Monarda fistulosa</i></b>	wild bergamot		2.500	2.500			5.330
<b><i>Monarda punctata</i></b>	horse mint	0.080	0.150	0.150			0.389
<b><i>Nuttallanthus canadensis</i></b>	blue toadflax	0.260					0.260
<b><i>Oenothera biennis</i></b>	common evening primrose	0.300	0.300	0.100			0.700

<b><i>Oenothera clelandii</i></b>	sand evening primrose	0.004					0.004
<b><i>Oligoneuron album</i></b>	stiff aster	0.500	0.300				0.840
<b><i>Oligoneuron rigidum</i></b>	stiff goldenrod		1.100	1.100			2.284
<b><i>Onoclea sensibilis</i></b>	sensitive fern				0.656		0.656
<b><i>Onosmodium molle</i></b>	rough marbleseed	1.200	1.200				2.572
<b><i>Opuntia cespitosa</i></b>	eastern prickly pear	1.000					1.000
<b><i>Packera plattensis</i></b>	prairie ragwort		1.200	1.200			2.400
<b><i>Panicum capillare</i></b>	old witch grass	0.500	0.500				1.016
<b><i>Parthenium integrifolium</i></b>	wild quinine	8.000	52.000	52.000			111.004
<b><i>Pedicularis canadensis</i></b>	wood betony		2.500	2.500			10.238
<b><i>Pedicularis lanceolata</i></b>	fen betony				4.700		4.700
<b><i>Penstemon digitalis</i></b>	foxglove beard tongue		24.000	24.000			48.600
<b><i>Penstemon grandiflorus</i></b>	Large Flowered Beardtongue	0.040	0.040				0.082
<b><i>Penstemon hirsutus</i></b>	hairy beard tongue	0.674	2.500				3.174
<b><i>Phemeranthus rugospermus</i></b>	fame flower	0.006					0.006
<b><i>Phlox pilosa</i></b>	sand prairie phlox	0.011					
<b><i>Physocarpus opulifolius</i></b>	Ninebark				0.176		0.176
<b><i>Physostegia virginiana</i></b>	obedient plant					0.543	0.543
<b><i>Polytaenia nuttallii</i></b>	prairie parsley			0.170	0.170		0.36
<b><i>Pseudognaphalium obtusifolium</i></b>	old-field balsam	0.400	0.500				0.9
<b><i>Pulsatilla patens subsp. multifida</i></b>	Pasque Flower	0.043					0.043
<b><i>Pycnanthemum tenuifolium</i></b>	slender mountain mint		2.00	5.000			7.4
<b><i>Pycnanthemum virginianum</i></b>	common mountain mint		1.000	6.000	1.800		8.8
<b><i>Rhexia virginica</i></b>	virginia meadow beauty					0.074	0.074
<b><i>Ratibida pinnata</i></b>	yellow coneflower		14.000	14.000			28.00
<b><i>Rosa carolina</i></b>	pasture rose	0.500	3.500	1.000			4.960
<b><i>Rudbeckia hirta</i></b>	black-eyed susan	1.500	18.000	18.000			37.650
<b><i>Rudbeckia subtomentosa</i></b>	sweet black-eyed susan		5.000	12.000			17..420
<b><i>Ruellia humilis</i></b>	prairie petunia		0.043				0.043
<b><i>Quercus macrocarpa</i></b>	Bur oak		5.000	5.000	5.000		15.00
<b><i>Schizachyrium scoparium</i></b>	little bluestem	9.150					9.150

<b><i>Schoenoplectus acutus</i></b>	hard stemmed bulrush				9.900		9.900
<b><i>Scirpus atrovirens</i></b>	dark green rush				6.400		6.400
<b><i>Scrophularia lanceolata</i></b>	early figwort				63.000		63.000
<b><i>Scutellaria ovata</i></b>	heart-leaved skullcap					0.105	0.105
<b><i>Scutellaria parvula</i></b>	small skullcap		0.082				0.082
<b><i>Senna hebecarpa</i></b>	wild senna			0.758			0.758
<b><i>Silene antirrhina</i></b>	sleepy catchfly	0.002					0.002
<b><i>Silphium integrifolium</i></b>	rosinweed		4.300	4.300			8.600
<b><i>Silphium laciniatum</i></b>	compass plant	2.600	11.000	11.000			24.654
<b><i>Silphium perfoliatum</i></b>	silphium perfoliatum			2.950			2.950
<b><i>Silphium terebinthinaceum</i></b>	prairie dock		3.400	3.400			6.8
<b><i>Solidago nemoralis</i></b>	old-field goldenrod						1.008
		1.008					
<b><i>Solidago speciosa</i></b>	showy goldenrod	1.150	9.000				10.150
<b><i>Spartina pectinata</i></b>	prairie cordgrass						
<b><i>Spiraea alba</i></b>	meadowsweet			0.022			0.022
<b><i>Symphyotrichum ericoides</i></b>	heath aster			0.402	0.402		0.804
<b><i>Symphyotrichum oblongifolium</i></b>	Aromatic aster	0.536					0.536
<b><i>Symphyotrichum sericeum</i></b>	silky aster						0.302
		0.100	0.202				
<b><i>Tephrosia virginiana</i></b>	Goats rue	2.000	5.00				6.922
<b><i>Teucrium canadense</i></b>	canadian germander	0.562					0.0562
<b><i>Tradescantia ohiensis</i></b>	Common spiderwort	4.450	30.00	8.900			47.960
<b><i>Triosteum aurantiacum</i></b>	Early horse gentian		0.150	0.150			0.350
<b><i>Verbena hastata</i></b>	Blue vervain			40.000	4.000		44.090
<b><i>Verbena stricta</i></b>	Hoary vervain		5.200	5.200			10.400
<b><i>Verbena urticifolia</i></b>	Hairy white vervain				2.000	2.500	4.500
<b><i>Verbesina alternifoli</i></b>	Wingstem					0.021	0.021
<b><i>Vernonia fasciculata</i></b>	Common ironweed			10.000	4.000		14.010
<b><i>Veronicastrum virginicum</i></b>	Culvers root			10.000	1.520		11.520
<b><i>Viola pedata var. lineariloba</i></b>	Birds foot violet	0.063					0.063
<b><i>Zizia aptera</i></b>	Heart Leaved alexanders		0.140				0.140
<b><i>Zizia aurea</i></b>	Golden alexanders		8.000	8.000			16.900
<b>Hand Picked Mixes</b>							

<b>Dry Sedge</b>			2.350				2.350
<b>Wet Sedge</b>					24.585		24.585
<b>Woodland Grass</b>						0.847	0.847
<b>Wet mix/grass sedge</b>				5.000	4.000		9.050
<b>Panic Grasses</b>				0.550			0.550
<b>Combine Mixes</b>							
<b>Prairie Dropseed</b>		6.000	100.000	98.650			204.650
<b>Little Bluestem</b>		6.000	150.000				156.000
<b>2020 Canada Rye</b>		3.000	80.000				83.000
<b>2020 Holland Mix</b>		10.000	53.000	30.500			93.500
<b>2020 Mesic Mix</b>				48.500			48.500
<b>2011 Dry Mesic</b>			8.500				8.500
<b>2020 Tall Grass</b>			80.000	106.750			186.750
<b>Wet Mix</b>					42.100		42.100

**Table 4:** The 2021 Seed List, which names the different species that were included in the mixes used for this planting. The amounts are separated by which seed mix they were added to.

	Dry	Dry Mesic	Mesic	Wet	Step-In	SUM
<b>Total LBS</b>	112.836	1,143.195	1,015.731	252.038	<20	2,756.004
<b>Total # species</b>	68	97	99	49	39	192

**Table 5:** Summary of seed mixes. 192 total species were incorporated into the seed mixes.

## Lessons Learned

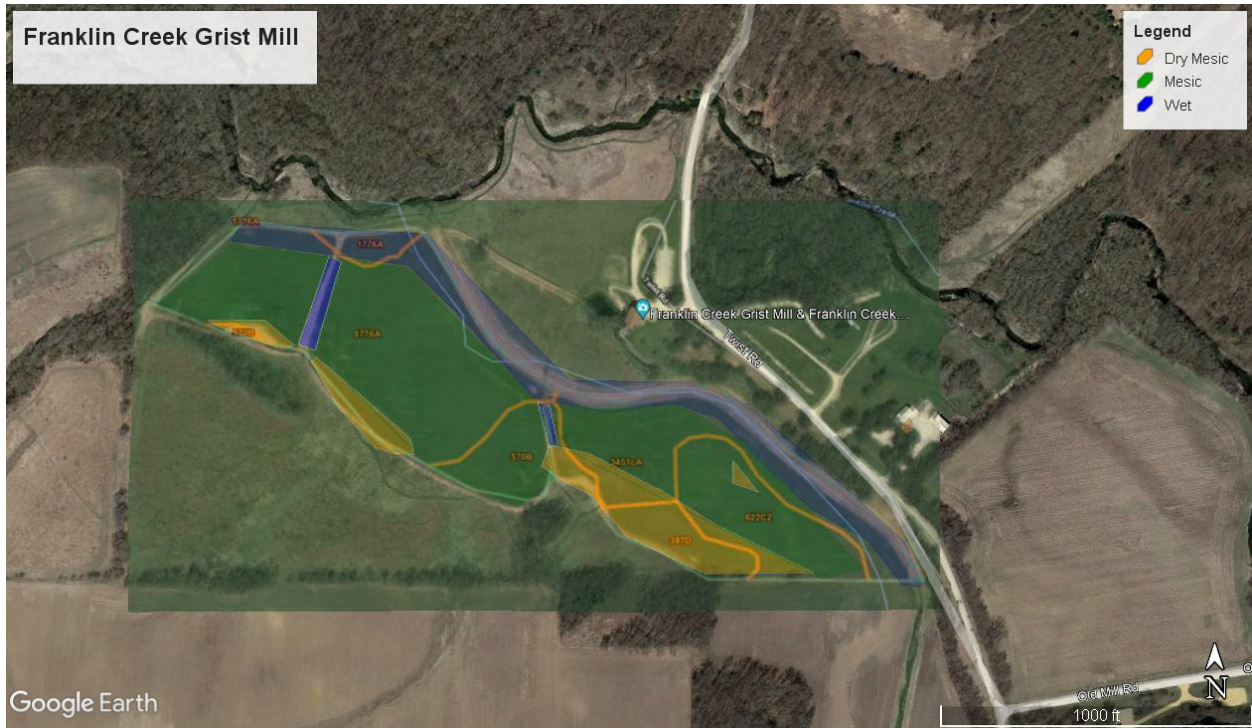
It seems the planting went very well, especially since this was the second planting this crew has done together. For future planting, I believe it would work well to incorporate the pendulum seeder on a tractor in addition to the seeders. Radios are a must for constant communication.

# Maps

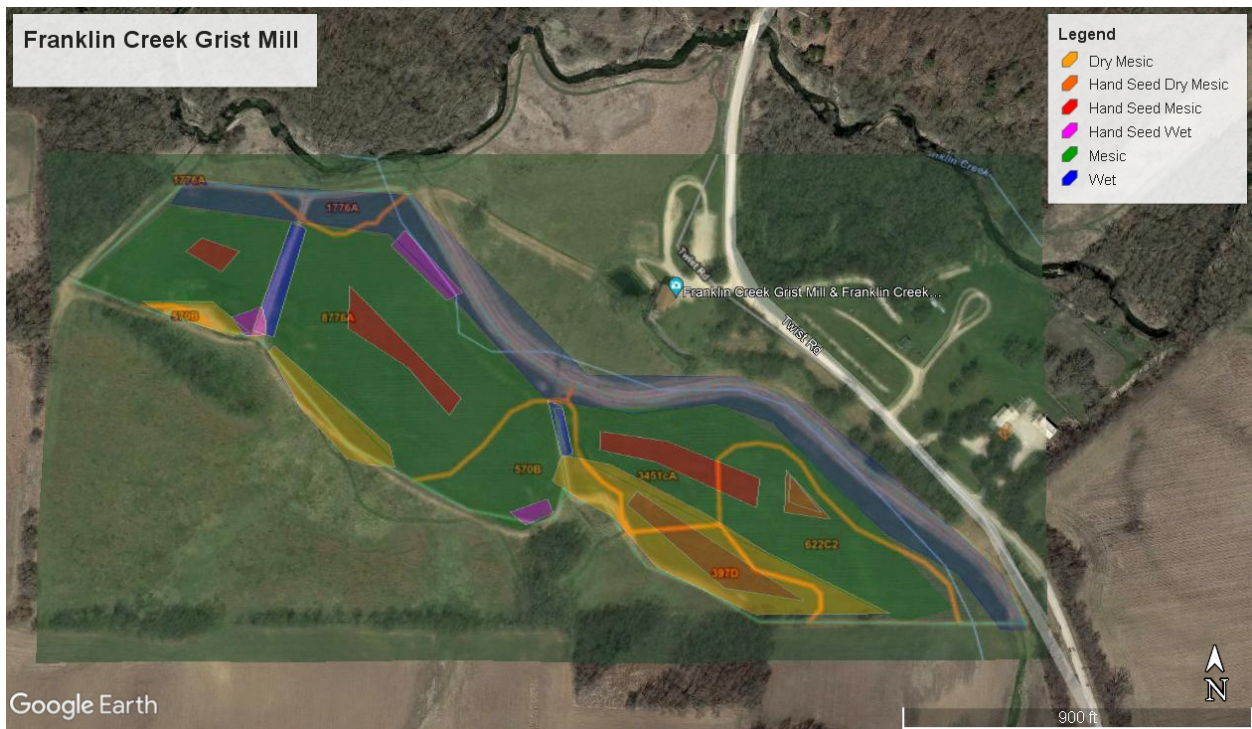


Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
243B	St. Charles silt loam, 2 to 5 percent slopes	0.0	0.2%
397D	Boone loamy fine sand, 7 to 15 percent slopes	1.3	5.0%
570B	Martinsville silt loam, 2 to 5 percent slopes	2.2	8.6%
622C2	Wyanet silt loam, 5 to 10 percent slopes, eroded	3.2	12.7%
1776A	Comfrey silt loam, undrained, 0 to 2 percent slopes, frequently flooded	0.7	2.8%
3451cA	Lawson silt loam, cool mesic, 0 to 2 percent slopes, frequently flooded	5.9	23.4%
8776A	Comfrey loam, 0 to 2 percent slopes, occasionally flooded	12.0	47.4%
<b>Totals for Area of Interest</b>		<b>25.2</b>	<b>100.0%</b>

**Map A:** Soil types and their locations within the 25 acres of planting, according to the key. Source: NRCS.



**Map B:** Map showing where the different seed mixes were planted. Source: GoogleEarth



**Map C:** Map showing where step-in seed species were hand-seeded. Source: GoogleEarth.

## Photos



**Photo 1:** Shows the three vehicles and seeders stationed ready near the livestock trailer. They were about to be loaded to start the first transect. Photo Source: Bill Klieman.





**Photo 2:** The Fall Crew pose before beginning the first day of planting. From left to right: Crew Leader Matt Nugent, Veronica Silva, and Matthew Togger. Photo source: Bill Klieman.