

## Planting #127

2018 Planting History

Prepared by Avery Parmiter

Name: Flagg/Lowden Corner

8.5 Acres Total

Dry: 6.2 Acres

Dry Mesic: 2.3 Acres

Step- In: ~1.0 Acres

## Site Conditions

General Location – located in the SW corner of the intersection of Flagg and Lowden Road.

GPS: 41° 54'31" N, 89° 20'32"W Elevation: 728 ft – 755 ft

County: Ogle

## Soil Types

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

Soil Type	Acres of AOI	Percent of AOI
Jasper loam, 2 to 5 percent slopes	2.8	33%
Jasper loam, 5 to 10 percent slopes, eroded	2.9	34.4%
Rockton silt loam, 2 to 5 percent slopes	1.0	11.3%
Whalan loam, 5 to 10 percent slopes, eroded	0.7	7.9%
Wyanet silt loam, 2 to 5 percent slopes	1.1	13.3%
<b>Totals for Area of Interest</b>	<b>8.5</b>	<b>100.0%</b>

Figure 1: Soil types present in the planting. Source: NRCS.

\*Above are basic descriptions, a complete soil test is needed to determine specific soil characteristics. For additional information, see Soil Web Survey website: <http://websoilsurvey.nrcs.usda.gov/app/>

Refer to the Figure 2 map that shows the location of soil types within the planting.

## Topography

The general topography of the planting consists mainly of a dry hill that slopes down into a dry mesic, well-drained area. The elevation is lowest in the northwest corner and rises to its highest point along the south edge of the planting. There is an average slope of 5.1% and a maximum slope of 10%.

## Agricultural History

This site has been farmed for a long time and had for sure been farmed since 1950 (see Figure 3). Dave Henry, the owner of this property before Nachusa Grasslands, noted that the site was in hay several years ago and then converted to row crop most recently. The site was in soybeans that were harvested right before planting.

## **Site Preparations**

The soybeans were harvested in mid-October. The weather for the 2018 season was average, not unusually wet or dry, with the temperatures dropping into the 40's for planting in early November. This site was not harrowed and the seed was planted directly over the bean stubble.

## **Planting the Seed**

Weather: The winds were variable from 5 to 15 mph. It stayed dry during planting and was cloudy or partly cloudy.

The area was seeded using three broadcast seeders that were connected to two blue UTV's and blue truck. The crew members who participated in pulling the seeders were Karey O'Brien, Nathaniel Weickert, Kim Elsenbroek, Avery Parmiter, Tyler Pellegrini and Tyler Berndt. The smaller "step-in" seed mixes were tossed out by hand.

## **Dry Seed Mix**

A total of 6.2 acres were planted using the dry seed mix. It was planted with north-south transects as well as east-west transects mainly in the southeast area of the planting (see Figure 4). Each seeder was filled with two barrels of seed at a time and run until the seeders were empty and refilled if necessary. We used the edge of the planting as a turn-around spot, since the border would later be planted with Canada rye. This took a little over half of a day to plant. We planted this mix at 62.56 pounds per acre, which, for 6.2 acres, equaled a total of 387.88 pounds of dry seed mix planted.

## **Dry Mesic Seed Mix**

A total of 2.3 acres were planted using the dry mesic seed mix. It was planted with north-south transects mainly in the northwest area of the planting (see Figure 4). The dry seed was planted before the dry mesic, so some of the dry mesic overlaps with the dry mix. We also added some combined seed to the dry mesic mix, which mainly consisted of asters and goldenrods. This took a few hours to plant. We planted this mix at 60.2 pounds per acre, which equaled a total of 138.46 pounds of dry mesic seed mix for the planting.

## **Step-In Seed Mix**

About one acre was planted with the step-in seed mix. This mix contains seeds that were either collected in small quantities, have a specific habitat type, that are rare, or a combination of these factors. We did not want these seeds to get lost in some of the larger seed mixes. This took around 30 minutes to plant and the seeds were hand tossed.

## **Canada Rye Border**

A Canada Rye border was planted from the edge of planting to about twenty feet in. We wanted the border to be heavy to help protect or "buffer" the planting, since it is in a location where it could be susceptible to non-native or weedy species. We planted six barrels of rye which equals about 120 pounds.

## Woodland Mix

There is a woodland on the south edge of this planting that is owned by Nachusa. It contains a lot of understory growth, especially consisting of Japanese honeysuckle. We decided that it would be best to manage this area by brushmowing and treating the non-native species before planting. It could possibly be planted in the future.

## Seed List

SCIENTIFIC NAME	COMMON NAME	lbs/acre	Dry Lbs	lbs/acre	Dry Mesic Lbs	Step-In Lbs	
Allium cernuum	Nodding onion	0.19	1.45	0.00			<b>1.450</b>
Amorpha canescens	Leadplant	5.27	39.49	0.00			<b>39.490</b>
Anemone cylindrica	Thimbleweed	1.10	8.26	0.00			<b>8.260</b>
Anemone virginianum	Tall thimble weed	0.59	4.40	0.00			<b>4.400</b>
Antennaria neglecta	Field Pussytoes	0.01	0.07	0.00			<b>0.074</b>
Antennaria plantaginifolia	Pussytoes	2.61	19.55	0.00			<b>19.550</b>
Aristida longiseta	3 awn grass	0.93	7.00	0.00			<b>7.000</b>
Arnoglossum atriplicifolia	Pale Indian Plantain	0.17	1.30	0.50	11.90		<b>13.200</b>
Artemisia caudata (campestris)	Beach wormwood	0.67	5.05	0.41	9.95		<b>15.000</b>
Artemisia ludoviciana	White Sage	0.13	1.01	0.00			<b>1.012</b>
Asclepias amplexicaulis	Sand Milkweed	0.00	0.00	0.00			<b>0.004</b>
Asclepias tuberosa	Butterfly Milkweed	0.02	0.16	0.00			<b>0.159</b>
Asclepias veridiflora	Short Green Milkweed	0.00	0.00	0.00			<b>0.001</b>
Asclepias verticillata	Whorled Milkweed	0.13	0.96	0.00			<b>0.959</b>
Astragalus canadensis	Canada milkvetch	0.18	1.35	0.06	1.35		<b>2.700</b>
Baptisia alba (leucantha)	White wild indigo	4.99	37.40	14.61	350.56		<b>387.960</b>
Baptisia bracteata (leucophaea)	Cream wild indigo	0.89	6.69	0.00			<b>6.694</b>
Besseyia bullii ***	Kittentails	0.10	0.78	0.00			<b>0.782</b>
Blephili ciliata	Downy Wood Mint	0.09	0.65	0.00			<b>0.650</b>
Bouteloua curtipendula	Side oats	0.38	2.86	0.00			<b>2.859</b>
Bouteloua hirsuta	Hairy Grama (mustache grass)	0.07	0.55	0.00			<b>0.548</b>
Brickellia (Kuhnia) eupatoroides	False boneset	0.00		1.02	24.51		<b>24.509</b>
Bromus kalmii	Prairie brome	1.34	10.05	0.41	9.80		<b>19.850</b>
Callirhoe triangulata	Clustered poppy mallow	0.00		0.00		0.01	<b>0.011</b>
Carex bicknellii	Bicknells sedge	0.13	1.00	0.08	2.00		<b>3.000</b>
Carex muhlenbergii (enervis)	Muhlenberg's sedge	0.05	0.40	0.00			<b>0.400</b>
Chamecrista fasciculata	Partridge Pea	0.56	4.20	0.60	14.31		<b>18.509</b>
Castilleja sessiliflora **	Downy yellow painted cup	0.44	3.31	0.00			<b>3.310</b>
Ceanothus americanus	New Jersey Tea	1.00	7.50	0.42	10.00		<b>17.500</b>
Heterotheca camporum	Golden aster	0.44	3.30	0.00			<b>3.299</b>
Cirsium hillii *** (pumilum)	Hill's Thistle	0.00		0.00		0.00	<b>0.001</b>

Coreopsis lanceolata	Sand coreopsis	0.21	1.55	0.00			<b>1.550</b>
Coreopsis palmata	Prairie coreopsis	2.09	15.66	0.45	10.80		<b>26.459</b>
Coreopsis tripteris	Tall Coreopsis	0.00		0.49	11.80		<b>11.800</b>
Crotalaria sagittata	Rattlebox	0.01	0.10	0.00			<b>0.102</b>
Cyperus filiculmis	Slender sand sedge	0.04	0.26	0.00			<b>0.263</b>
Dalea candidum	White prairie clover	1.28	9.60	1.63	39.10		<b>48.700</b>
Dalea foliosa	Bushy Prairie Clover	0.00		0.00		0.01	<b>0.012</b>
Dalea purpureum	Purple prairie clover	3.33	25.00	2.96	70.96		<b>95.959</b>
Danthonia spicata	Poverty oats	0.13	1.00	0.00			<b>1.000</b>
Desmodium illinoense	Illinois Ticktrefoil	0.13	0.99	0.00			<b>0.987</b>
Dicanthelium leibergii	Prairie Panic Grass	0.01	0.04	0.00			<b>0.042</b>
Dichanthelium (Panicum) oligosanthes scribneria	Scribner's Panic Grass	0.00		0.00	0.00		<b>0.001</b>
Dicanthelium pseudopubescens (Panicum villosissimum)	White Haired Panic Grass	0.01	0.09	0.00			<b>0.087</b>
Dodecatheon meadia	Shooting star	3.16	23.70	0.00			<b>23.700</b>
Drymocallis (Potentilla) arguta	Prairie cinquefoil	0.27	2.00	0.37	8.80		<b>10.800</b>
Echinacea pallida	Pale purple coneflower	11.47	86.00	6.92	166.10		<b>252.100</b>
Eragrostis spectabilis	Purple love grass	0.06	0.48	0.00			<b>0.483</b>
Erigeron strigosus	Daisy Fleabane	0.00		0.06	1.35		<b>1.350</b>
Eryngium yuccifolium	Rattlesnake master	0.00		1.74	41.65		<b>41.650</b>
Euphorbia corollata	Flowering spurge	1.82	13.65	0.00			<b>13.650</b>
Eurybia Furcata (Aster furcatus)	Forked aster	0.00		0.00		0.04	<b>0.037</b>
Gaura biennis pitcheri (longiflora)	Biennial Gaura	0.00		0.00	0.04		<b>0.043</b>
Gentiana (alba) flavida	Cream Gentian	0.00		0.91	21.75		<b>21.750</b>
Gentiana purberulenta	Prairie Gentian	0.09	0.70	0.00			<b>0.700</b>
Gentiana quiquefolia	Stiff Gentian	0.00		0.00		0.02	<b>0.020</b>
Geum triflorum	Prairie Smoke	0.00	0.02	0.00			<b>0.024</b>
Gnaphalium obtusifolium	Sweet Everlasting	0.28	2.13	0.00			<b>2.128</b>
Crocianthemum canadense	Common Rockrose (Frostweed)	0.10	0.77	0.00			<b>0.772</b>
Helianthus mollis	Downy Sunflower	0.04	0.31	0.06	1.45		<b>1.759</b>
Helianthus occidentalis	Western sunflower	0.81	6.05	0.34	8.05		<b>14.100</b>
Helianthus pauciflorus (rigidus)	Stiff Sunflower	0.00		0.31	7.40		<b>7.400</b>
Heliopsis helianthoides	False Sunflower	0.00		0.34	8.25		<b>8.250</b>
Heuchera richardsonii grayana	Alum Root	0.56	4.20	0.00			<b>4.200</b>
Hibiscus laevis	Halberd leaved rose mallow	0.08	0.58	0.00			<b>0.584</b>
Hieracium gronovii	Hairy hawkweed	0.15	1.13	0.00			<b>1.132</b>
Houstonia longifolia	Long Leaved Blueits	0.00	0.04	0.00			<b>0.035</b>
Hypoxis hirsuta	Yellow Star Grass	0.00		0.00		0.00	<b>0.001</b>
Ionactis (Aster) linariifolius	Stiff Aster	1.67	12.52	0.00			<b>12.518</b>
Juncus interior	Inland Rush	0.27	2.00	0.00			<b>2.000</b>
Juncus tenuis	Path Rush	0.00		0.02	0.48		<b>0.482</b>
Koeleria cristata (macrantha)	June grass	2.60	19.50	0.54	12.90		<b>32.400</b>

Krigia biflora	Two flowered Dwarf Dandelion	0.00	0.03	0.00			<b>0.028</b>
Lechea tenuifolia	Slender pinweed	0.04	0.34	0.00			<b>0.337</b>
Lespedeza capitata --	Round Headed Bush Clover	0.00		0.16	3.96		<b>3.959</b>
Lespedeza leptostachya	prairie bush clover	0.00		0.00		0.00	<b>0.001</b>
Liatris aspera	Rough Blazingstar	8.55	64.15	0.00			<b>64.150</b>
Liatris cylindracea	Dwarf Blazingstar	0.06	0.47	0.00			<b>0.465</b>
Liatris pycnostachya	Gayfeather	0.00		2.19	52.45		<b>52.450</b>
Lilium philadelphicum andinum	Prairie Lily	0.00		0.00		0.00	<b>0.001</b>
Linum sulcatum	Grooved Yellow Flax	0.01	0.05	0.00			<b>0.052</b>
Lithospermum canescens	Hoary puccoon	0.01	0.09	0.00			<b>0.093</b>
Lithospermum croceum	Hairy puccoon	0.09	0.67	0.00			<b>0.673</b>
Lithospermum incisum	Fringed puccoon	0.04	0.31	0.00			<b>0.305</b>
Lobelia spicata	Pale spiked lobelia	0.00		0.01	0.13		<b>0.134</b>
Ludwiga alternifolia	Seed Box	0.00		0.00			<b>0.000</b>
Lupinus perennis	Wild Lupine	0.91	6.85	0.29	6.90		<b>13.750</b>
Minuartia michauxii	Stiff sandwort	0.00	0.01	0.00			<b>0.007</b>
Monarda fistulosa	Beebalm	0.00		0.20	4.85		<b>4.850</b>
Monarda punctata villicualis	Horse Mint	0.27	2.00	0.12	2.96		<b>4.959</b>
Oenothera clelandii (rhombipetala)	Sand primrose	0.07	0.50	0.00			<b>0.500</b>
Onosmodium (molle) bejariense hispidissimum	Softhair Marbleseed	0.00		0.44	10.51		<b>10.509</b>
Orobunche fasciculata	Clustered Broom rape	0.00		0.00		0.04	<b>0.040</b>
Oxalis violacea	Violet Wood Sorrel	0.02	0.17	0.00			<b>0.169</b>
Panicum capillare	Old Witchgrass	0.01	0.05	0.00			<b>0.047</b>
Parthenium integrifolium	Wild quinine	1.28	9.60	13.83	331.91		<b>341.510</b>
Paspalum setaceum	Hairy lens grass	0.01	0.11	0.00			<b>0.110</b>
Pedicularis canadensis	Wood betony	0.00		0.18	4.27		<b>4.272</b>
Penstemon digitalis	Foxglove beard tongue	0.17	1.25	0.48	11.60		<b>12.850</b>
Penstemon grandiflorus	Large Flowered Beardtongue	0.01	0.09	0.00			<b>0.090</b>
Penstemon hirsutus	Hairy beard tongue	0.67	5.00	0.00			<b>5.000</b>
Phemeranthes rugospermum ***	Fame Flower	0.00		0.00		0.00	<b>0.001</b>
Phlox bifida	Sand Phlox	0.04	0.28	0.00			<b>0.282</b>
Phlox pilosa	Prairie Phlox	0.00	0.02	0.00			<b>0.023</b>
Physocarpus opulifolius	Nine Bark	0.07	0.50	0.00			<b>0.500</b>
Physostegia parviflora	Western False Dragonhead	0.00		0.00	0.05		<b>0.046</b>
Platanthera leucophae	Eastern Prairie Fringed Orchid	0.00		0.00		0.00	<b>0.004</b>
Polygala incarnata **	Pink Milkwort	0.00		0.00		0.00	<b>0.001</b>
Polygala polygama obtusata	Purple Milkwort	0.00	0.01	0.00			<b>0.006</b>
Polygala sanguinea	Field milkwort	0.01	0.04	0.00			<b>0.041</b>
Polytaenia nuttallii	Prairie Parsley	0.08	0.62	0.00			<b>0.618</b>
Prenanthes aspera	Rough White Lettuce	0.11	0.86	0.00			<b>0.862</b>
Ptelea trifoliata	Wafer Ash	0.02	0.18	0.00			<b>0.181</b>

<i>Pulsatilla (Anemone) patens</i>	Pasque Flower	0.00		0.00		0.02	<b>0.017</b>
<i>Pycnanthemum tenuifolium</i>	Narrow leaved mountain mint	0.00		0.27	6.55		<b>6.550</b>
<i>Pycnanthemum virginianum</i>	Mountain Mint	0.00		0.34	8.15		<b>8.150</b>
<i>Ratibida pinnata</i>	Yellow coneflower	0.00		0.22	5.20		<b>5.200</b>
<i>Rhus aromatica</i>	Fragrant Sumac	0.13	1.00	0.04	0.96		<b>1.959</b>
<i>Rosa carolina</i>	Carolina Rose	0.67	5.00	0.11	2.60		<b>7.600</b>
<i>Rudbeckia hirta</i>	Black-eyed susan	0.00		0.08	1.90		<b>1.900</b>
<i>Rudebeckia subtomentosa</i>	Sweet black-eyed susan	0.00		0.74	17.75		<b>17.750</b>
<i>Rudbeckia triloba</i>	Brown Eyed Susan	0.00		0.01	0.20		<b>0.198</b>
<i>Ruellia humilis</i>	Wild petunia	0.00		0.02	0.36		<b>0.364</b>
<i>Scutellaria parvula leonardi</i>	Small skullcap	0.00	0.03	0.00			<b>0.028</b>
<i>Packera paupercula (Senecio plattensis)</i>	Prairie ragwort	0.00		0.06	1.41		<b>1.410</b>
<i>Senna (Cassia) hebecarpa</i>	Wild Senna	0.00		0.01	0.25		<b>0.251</b>
<i>Senna marylandica</i>	Maryland Senna	0.00		0.02	0.52		<b>0.522</b>
<i>Silene antirrhina</i>	Sticky Catchfly	0.05	0.41	0.00			<b>0.405</b>
<i>Silene regia</i>	Royal Catchfly	0.00	0.00	0.00			<b>0.001</b>
<i>Silphium integrifolium</i>	Rosinweed	0.00		0.73	17.48		<b>17.480</b>
<i>Silphium laciniatum</i>	Compass plant	2.07	15.55	2.15	51.50		<b>67.050</b>
<i>Silphium perfoliatum</i>	Cup plant	0.00		0.63	15.10		<b>15.100</b>
<i>Silphium terebinthaceum</i>	Prairie Dock	1.66	12.45	0.51	12.14		<b>24.590</b>
<i>Sisyrinchium campestre</i>	Prairie Blue-Eyed Grass	0.04	0.27	0.00			<b>0.270</b>
<i>Euthamia graminifolia</i>	Grass-leaved Goldenrod	3.72	27.90	0.00			<b>27.900</b>
<i>Euthamia gymnospermoides</i>	Grass-leaved Goldenrod	0.00		0.76	18.20		<b>18.200</b>
<i>Solidago missouriensis fasciculata</i>	Missouri goldenrod	0.00		0.33	7.90		<b>7.900</b>
<i>Solidago (Aster) ptarmicoides</i>	White Aster	0.01	0.07	0.00			<b>0.065</b>
<i>Solidago rigida</i>	Stiff Goldenrod	0.00		0.51	12.15		<b>12.150</b>
<i>solidago speciosa</i>	showy goldenrod	0.00		0.33	7.81		<b>7.809</b>
<i>Spiranthes cernua (magnacamporum?)</i>	Nodding Ladies Tresses	0.00	0.01	0.00			<b>0.005</b>
<i>Stachys palustris</i>	Woundwort	0.00		0.28	6.60		<b>6.600</b>
<i>Stipa spartea</i>	Porcupine Grass	0.17	1.25	0.00			<b>1.250</b>
<i>Symphotrichum ericoides</i>	Heath aster	1.73	13.00	0.00			<b>13.000</b>
<i>Symphotrichum novae-angliae</i>	New England Aster	0.00		0.46	11.05		<b>11.050</b>
<i>Symphotrichum sericeum (Aster sericeus)</i>	Silky Aster	0.48	3.63	0.00			<b>3.630</b>
<i>Taenidia integerrima</i>	Yellow Pimpernel	0.00		0.00		0.02	<b>0.024</b>
<i>Tephrosia virginiana</i>	Goat's Rue	5.04	37.80	0.00			<b>37.800</b>
<i>Tradescantia ohiensis</i>	Spiderwort	2.03	15.20	2.69	64.50		<b>79.700</b>
<i>Verbena hastata</i>	Blue vervain	0.00		0.08	2.00		<b>2.000</b>
<i>Verbena stricta</i>	Hoary vervain	0.13	1.00	0.61	14.75		<b>15.750</b>
<i>Verbena urticifolia</i>	Hairy White Vervain	0.00		0.16	3.95		<b>3.950</b>
<i>Veronicastrum virginicum</i>	Culver's Root	0.00		0.28	6.60		<b>6.600</b>
<i>Viola pedata lineariloba</i>	Birdsfoot Violet	0.04	0.27	0.00			<b>0.266</b>

Viola pedatifida	Prairie Violet	0.01	0.09	0.00			<b>0.088</b>
Viola sagittata	Arrow Leafed Violet	0.00	0.00	0.00			<b>0.003</b>
Zizia aptera	Heart-leaved golden alexander	0.13	0.94	0.00			<b>0.943</b>
Zizia aurea	Golden alexander	0.00		0.50	12.00		<b>12.000</b>
carex spp.	sedge mix	0.00		0.00			<b>0.000</b>
	Tall Grass (Big Blue and Indian)	0.00		2.75	65.88		<b>65.880</b>
Schizachyrium scoparium	Little Bluestem	7.61	57.05	5.05	121.30		<b>178.350</b>
Elymus canadensis	Canada Rye	2.27	17.00	6.01	144.22		<b>161.220</b>
Sporobolus heterolepis	Prairie Dropseed	19.33	145.00	2.40	57.70		<b>202.700</b>
	Aster and Goldenrod Mix	9.59	71.90	8.56	205.55		<b>277.450</b>

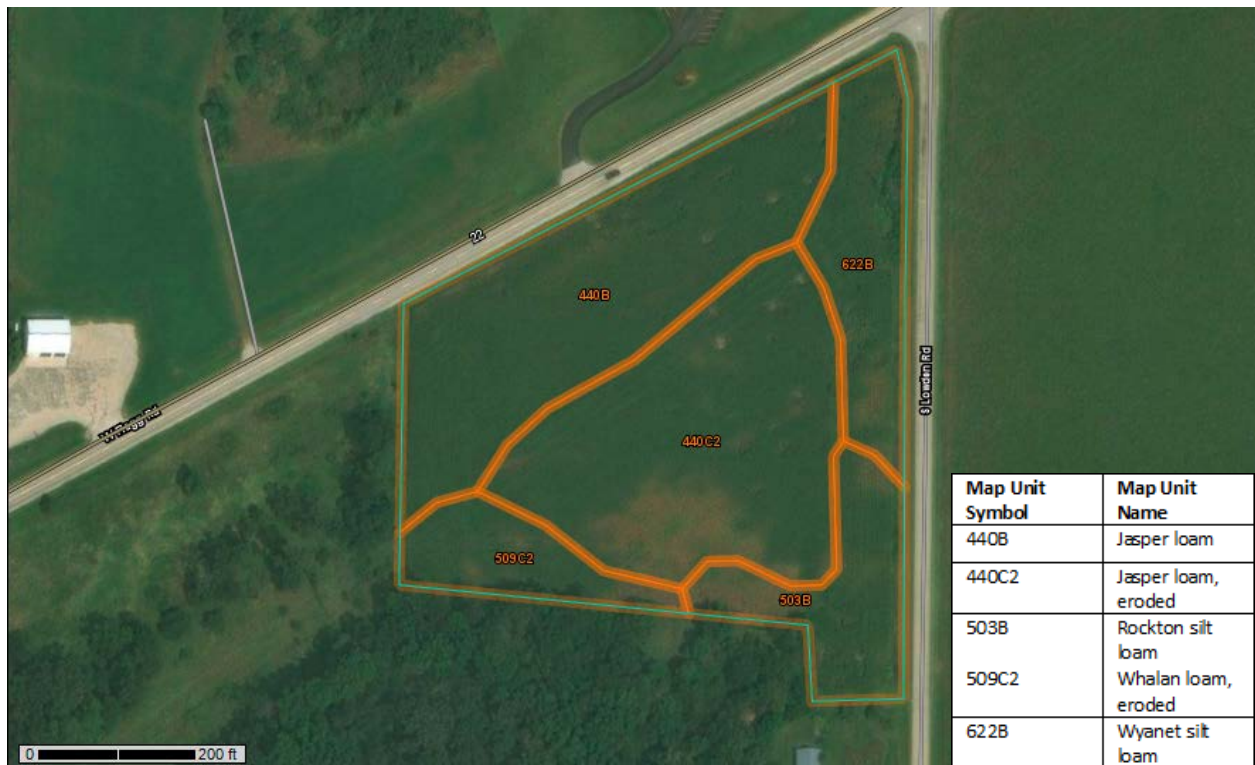


Figure 2: Soil types in the Flag/Lowden planting. Source: NRCS.

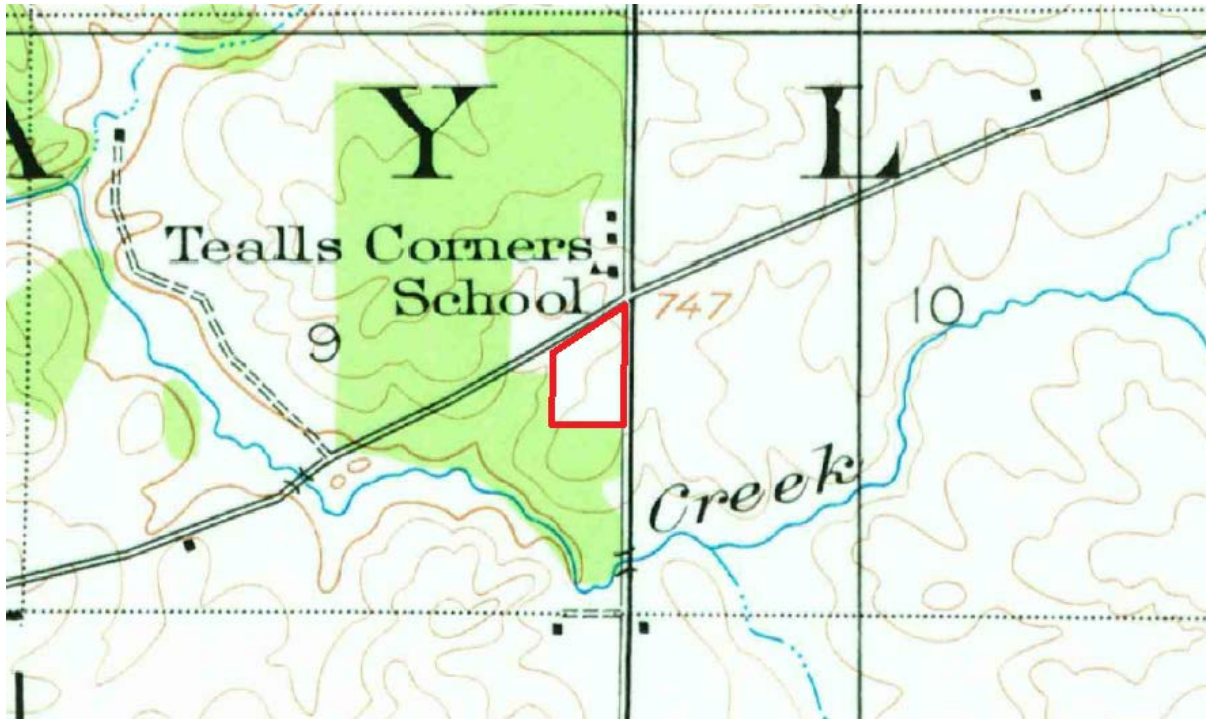


Figure 3: Map from 1950 with Flagg/Lowden planting outlined in red. Green areas show natural areas. Source: USGS.



Figure 4. Map showing where the dry and dry mesic seed mixes were planted.