

# IRVINE PRAIRIE

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Tallgrass Prairie  
CENTER

University of Northern Iowa.

## Planned Work 2025



# 2025 Irvine Prairie Restoration and Management Work Plan

Restoration and management work in 2025 will consist primarily of new planting and prescribed burning. Some plug transplanting and invasive species control will occur. Tasks to support 2025 operations follow:

## Spring (April 1-June 30)

### Prescribed Burning

*Approximately 77 acres of Irvine Prairie will be burned as part of the long-term management of the site. The entire South Tract will be burned. To create a habitat refuge, we established firebreaks around an 8 acre area within the burn area. Work is dependent on favorable weather.*

Operator: JM, TPC staff and volunteers

Equipment: 2 pump engines, 4 backpack sprayers, 2 flappers, ATV mounted sprayer

Location: South Tract

Timing: March-April

### Supplemental Plug Planting

*Specific planting locations are currently unknown, but will likely be in the 2022 fall seeding area of Irvine Prairie. Most of the species to be transplanted in April-June 2025 are suitable for wet or wet-mesic soils. Species to be transplanted into suitable areas include species that are difficult/prohibitively expensive to procure in adequate quantities for direct seeding, or have not been found to establish in past seedings at Irvine Prairie. We will attempt to grow 200 seedlings each of these species: porcupine grass, prairie dropseed, fourflower yellow loosestrife, Hayden's sedge, smoothcone sedge, bluejoint grass, hairy hedgenettle, stiff cowbane, white meadowsweet, swamp lousewort, and porcupine sedge (host for swamp lousewort). We will also provide as many transplants as possible of Virginia bunchflower, Canadian anemone, prairie cordgrass, groovestem Indian plantain, and green milkweed. Three of the species are from local sources: Virginia bunchflower from a ditch population ¼ mile from Irvine Prairie, hairy hedgenettle from the ditch on the north side of the Irvine South Tract, and stiff cowbane from a prairie in nearby Buchanan County. Several of the target species are considered difficult to grow, and we may not be successful in producing transplantable plugs of all listed species. If we have extra plugs of suitable species being grown for the TPC Plant Materials Program, we may add them to the list.*

Operator: LFW, TPC staff and volunteers

Equipment: Volunteer labor, hand tools

Location: Waterway areas in the North Tract near 55th St

Timing: late April-early June



## **Invasive Grass Mowing**

*Persistent problem perennial grass areas found in old waterways should be mowed to promote uniform growth in preparation for a spring herbicide application.*

Operator: JM

Equipment: Any mower set to 4 in. cutting height

Location: Past waterways

Timing: pre-green-up (Mar-Apr)

## **Invasive Grass Herbicide Application**

*After invasive perennial grass areas have had time to regrow, they should be sprayed with appropriate herbicides at label recommended rates. Spot spraying will minimize off-target effects in established vegetation.*

Operator: JM

Equipment: Backpack sprayer

Location: Past waterways/headlands. Includes triangular acre in the northwest corner of the South Tract.

Timing: Apr-May

## **Establishment Mowing #1 (Fall 2024 Areas)**

*All early plantings benefit from mowing relatively early in the season to encourage light penetration to the soil surface. This mowing will cover ~35 acres. Depending on the equipment available, rotary disc mowers or other hay mowers are ideal for avoiding vegetation matting, which can impede light penetration to soil surface.*

Operator: BP

Equipment: Hay mower ideal, brush hog OK, mower at ~6 in

Location: 2024 Fall Seeded Area

Timing: late June

## **Canada thistle treatment**

*Several large, patches of Canada thistle will need to be treated in the North Tract (2022 planting). We will use clopyralid at bud stage.*

Operator: JM

Equipment: Backpack Sprayer

Location: Mostly western areas of North tract

Timing: June-July

## Local Ecotype Seed Collection

*Potential target species for local ecotype seed collection include Illinois tick trefoil, false boneset, heavy sedge, smooth blue aster, Scribner's panic grass, porcupine grass, and partridge pea. We will continue collecting information about Benton County remnant populations using GIS apps to facilitate returning to the populations for seed harvest. We will communicate with the Benton County Roadside Manager regarding seed collecting plans from roadsides. Seed will be cleaned and stored at the TPC until sufficient quantities are on hand for inclusion in Irvine Prairie seeding mixes, or collections may be used for establishment of seed increase plots to produce enough seed for use in plantings. Small collections or species that establish poorly from seed (e.g., Scribner's panic grass, porcupine grass) may be used to produce greenhouse-grown plugs for direct transplantation at Irvine Prairie in future years.*

Operator: LFW, JM

Equipment: GIS software, TPC seed lab and greenhouse equipment

Location: TBD

Timing: May - October

## Summer (July 1-September 1)

### Vegetation Outcomes Monitoring

*In order to assess the success of the planting areas, formal monitoring needs to be undertaken. Information derived from monitoring will be used to identify areas for reseeding next year, and plan for future management prescriptions.*

Operator: JM

Equipment: GPS, Sampling frame, datasheets

Location: All Irvine Prairie

Timing: July

### Establishment Mowing #2 (Fall 2024 Areas)

*A second mowing should occur when weed or cover crop reaches approximately 2ft in height. Plan to mow at the end of July. This mowing will cover ~35 acres. Depending on the equipment available, disc or sickle mowers are ideal for encouraging light penetration to soil surface.*

Operator: BP

Equipment: Hay mower ideal, bush hog OK, mower at 4-6in

Location: 2024 Fall Seeded Area

Timing: late July

## Establishment Mowing #3 (Fall 2024 Areas)

*A third mowing should occur when weed or cover crop once again reaches approximately 2ft in height. This is important to prevent nuisance tumbleweeds moving into neighbor's land. Plan for a final mow mid-late August ideally timed to peak witchgrass flowering. This mowing will cover ~35 acres. planted fall 2024. Depending on the equipment available, disc or sickle mowers are ideal for encouraging light penetration to soil surface.*

Operator: BP

Equipment: Hay mower ideal, bush hog OK, mower at 4-6 in

Location: 2024 Fall Seeded Area

Timing: late August

## Fall (September 1-December 1)

### Seeding Establishment Monitoring

*In order to assess the success of the planting areas, formal monitoring needs to be undertaken. Information derived from monitoring will be used to identify areas for reseeding next year, and plan for future management prescriptions.*

Operator: JM

Equipment: GPS, Sampling frame, datasheets

Location: All Irvine Prairie

Timing: September

### Invasive Grass Spot Herbicide Application

*Mow invasive grasses, and after invasive perennial grass areas have had time to regrow, they should be sprayed with appropriate herbicides at label recommended rates. Spot spraying will minimize off-target effects. Task may not be necessary depending on results of previous control efforts.*

Operator: JM

Equipment: Backpack sprayer

Location: Past waterways

Timing: October

### Fall Seeding

*Approximately 35 acres of Irvine Prairie will be broadcast in the fall by TPC staff using a pendulum broadcast spreader. Three seed mixes will be planted in the central area of Irvine Prairie (new addition). Establishment results from vertical tillage trials will determine whether vertical tillage prior to seeding will be required.*

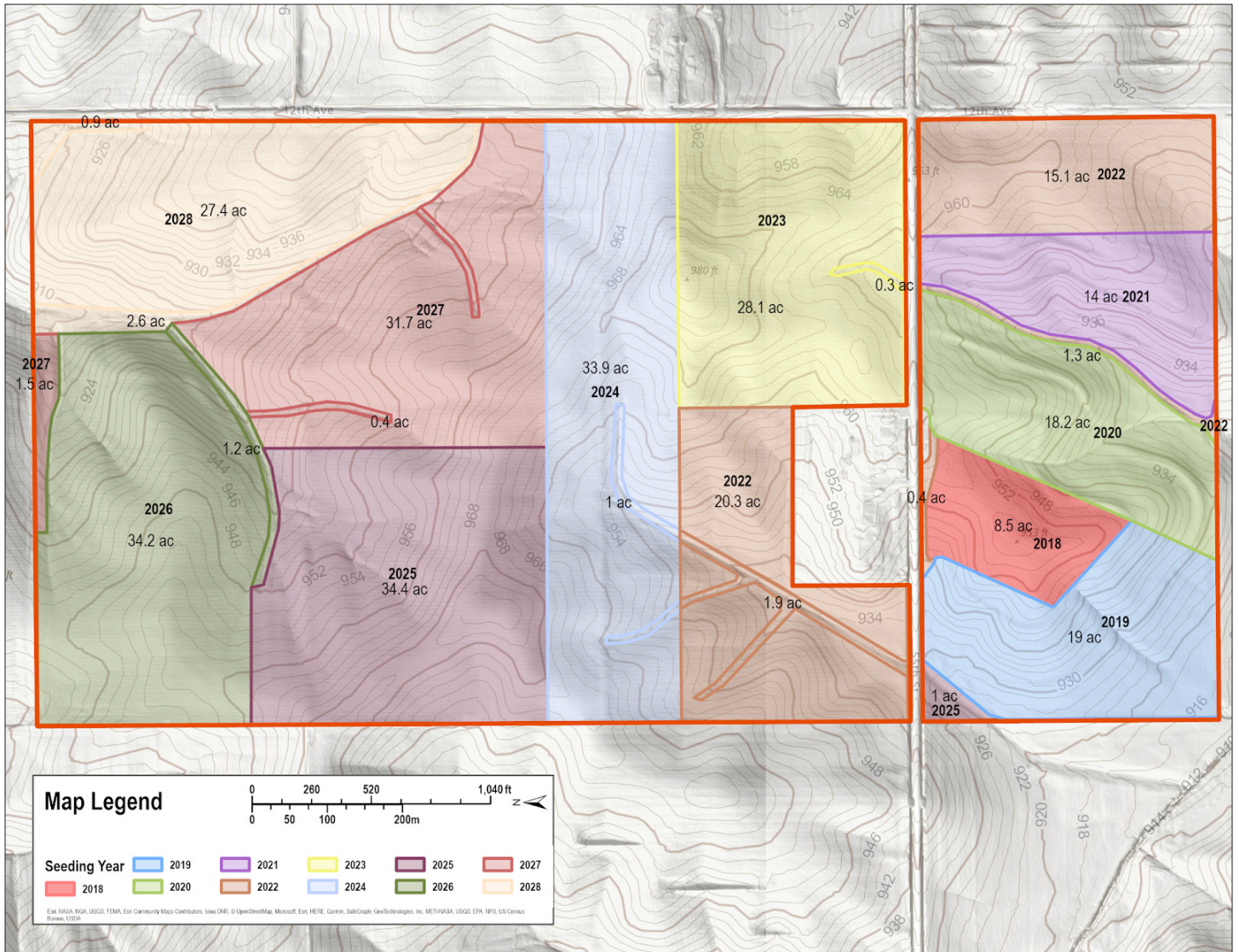
Operator: JM

Equipment: Broadcast spreader

Location: Throughout 2025 Restoration Area

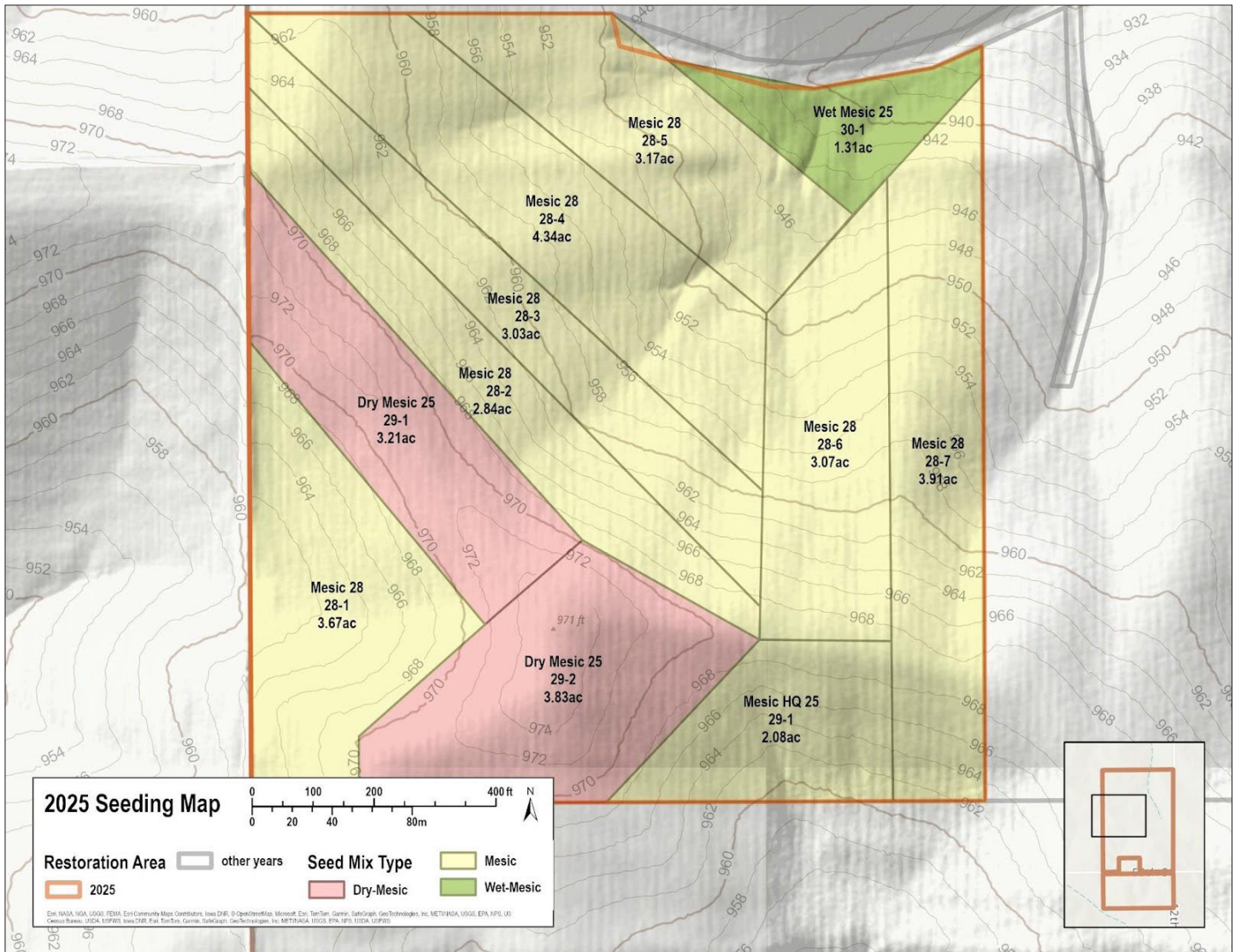
Timing: November

# Maps and Supplemental Materials



Map 1 – Restoration timeline





Map 2 — Seeding areas and seed mixes planned for seeding in fall 2025

Seed Mix	Year	Total seeds/ft <sup>2</sup>	Total PLS lbs./ac
Dry Mesic 25	2025	79.3	8.51
Common Name	Scientific Name	Seeds/ft <sup>2</sup>	PLS lbs./acre
Big Bluestem	<i>Andropogon gerardii</i>	1.582	0.342
Side Oats Grama	<i>Bouteloua curtipendula</i>	8.169	1.270
Purple Lovegrass	<i>Eragrostis spectabilis</i>	1.224	0.011
Switchgrass	<i>Panicum virgatum</i>	0.655	0.080
Little Bluestem	<i>Schizachyrium scoparium</i>	7.189	1.041
Indian Grass	<i>Sorghastrum nutans</i>	2.311	0.444
Rough Dropseed	<i>Sporobolus compositus</i>	6.804	0.547
Purpletop	<i>Tridens flavus</i>	0.407	0.038
Prairie Brome	<i>Bromus kalmii</i>	0.531	0.144
Bicknell's Sedge	<i>Carex bicknellii</i>	0.347	0.039
Plains Oval Sedge	<i>Carex brevior</i>	1.250	0.112
Heavy Sedge	<i>Carex gravida</i>	0.238	0.044
Scribner's Panic Grass	<i>Dichanthelium oligosanthes</i>	0.052	0.009
Canada Wild Rye	<i>Elymus canadensis</i>	1.258	0.530
Porcupine Grass	<i>Hesperostipa spartea</i>	0.041	0.073
June Grass	<i>Koeleria macrantha</i>	4.397	0.078
Partridge Pea	<i>Chamaecrista fasciculata</i>	0.760	0.613
Biennial Gaura	<i>Oenothera gaura</i>	0.006	0.006
Leadplant	<i>Amorpha canescens</i>	0.440	0.090
Canada Milk Vetch	<i>Astragalus canadensis</i>	0.783	0.129
Cream Wild Indigo	<i>Baptisia leucophaea</i>	0.027	0.030
White Prairie Clover	<i>Dalea candida</i>	3.187	0.404
Purple Prairie Clover	<i>Dalea purpurea</i>	2.682	0.425
Illinois Tick Trefoil	<i>Desmodium illinoense</i>	0.046	0.029
Round Headed Bush Clover	<i>Lespedeza capitata</i>	0.180	0.048
Short green milkweed	<i>Asclepias viridiflora</i>	0.012	0.005
Prairie Alumroot	<i>Heuchera richardsonii</i>	1.872	0.010
Wood Betony	<i>Pedicularis canadensis</i>	0.042	0.004
Large flowered Beardtongue	<i>Penstemon grandiflorus</i>	0.466	0.089
Prairie Phlox	<i>Phlox pilosa</i>	0.061	0.014
Prairie Wild Rose	<i>Rosa arkansana</i>	0.053	0.068
Prairie Spiderwort	<i>Tradescantia bracteata</i>	0.088	0.024
Ohio Spiderwort	<i>Tradescantia ohiensis</i>	0.074	0.025
Prairie Violet	<i>Viola pedatifida</i>	0.095	0.012
Heartleaf Alexanders	<i>Zizia aptera</i>	0.229	0.044
Common Yarrow	<i>Achillea millefolium</i>	0.794	0.013
Thimbleweed	<i>Anemone cylindrica</i>	0.113	0.012



Prairie Milkweed	<i>Asclepias sullivantii</i>	0.012	0.005
Common Milkweed	<i>Asclepias syriaca</i>	0.144	0.068
Butterfly Weed	<i>Asclepias tuberosa</i>	0.075	0.046
Whorled Milkweed	<i>Asclepias verticillata</i>	0.043	0.009
False Boneset	<i>Brickellia eupatorioides</i>	0.434	0.037
New Jersey Tea	<i>Ceanothus americanus</i>	0.088	0.030
Prairie Coreopsis	<i>Coreopsis palmata</i>	0.068	0.013
Prairie Cinquefoil	<i>Drymocallis arguta</i>	4.006	0.047
Pale Purple Coneflower	<i>Echinacea pallida</i>	0.206	0.112
Rattlesnake Master	<i>Eryngium yuccifolium</i>	0.281	0.103
Flowering Spurge	<i>Euphorbia corollata</i>	0.043	0.015
Oxeye Sunflower	<i>Heliopsis helianthoides</i>	0.625	0.265
Spotted St. Johnswort	<i>Hypericum punctatum</i>	0.381	0.002
Pale Spiked Lobelia	<i>Lobelia spicata</i>	1.655	0.005
Wild Bergamot	<i>Monarda fistulosa</i>	2.609	0.091
Wild Quinine	<i>Parthenium integrifolium</i>	0.165	0.049
Hairy Mountain Mint	<i>Pycnanthemum pilosum</i>	0.846	0.012
Slender Mountain Mint	<i>Pycnanthemum tenuifolium</i>	2.850	0.021
Yellow Coneflower	<i>Ratibida pinnata</i>	1.337	0.110
Black Eyed Susan	<i>Rudbeckia hirta</i>	2.021	0.058
Wild Petunia	<i>Ruellia humilis</i>	0.084	0.038
Rosin Weed	<i>Silphium integrifolium</i>	0.009	0.014
Compass Plant	<i>Silphium laciniatum</i>	0.009	0.035
Hoary Vervain	<i>Verbena stricta</i>	0.414	0.037
Prairie Sage	<i>Artemisia ludoviciana</i>	1.121	0.011
Tall Boneset	<i>Eupatorium altissimum</i>	0.673	0.033
Cream Gentian	<i>Gentiana alba</i>	1.797	0.024
Western Sunflower	<i>Helianthus occidentalis</i>	0.079	0.019
Prairie Sunflower	<i>Helianthus pauciflorus</i>	0.042	0.030
Rough Blazing Star	<i>Liatris aspera</i>	0.169	0.031
Old Field Goldenrod	<i>Solidago nemoralis</i>	3.089	0.051
Stiff Goldenrod	<i>Solidago rigida</i>	0.588	0.034
Showy Goldenrod	<i>Solidago speciosa</i>	1.005	0.029
Heath Aster	<i>Symphyotrichum ericoides</i>	1.178	0.011
Smooth Blue Aster	<i>Symphyotrichum laeve</i>	0.695	0.032
Aromatic Aster	<i>Symphyotrichum oblongifolium</i>	0.442	0.015
Sky Blue Aster	<i>Symphyotrichum oolentangiense</i>	1.294	0.027
Ironweed	<i>Vernonia fasciculata</i>	0.307	0.041

Seed Mix	Year	Total seeds/ft <sup>2</sup>	Total PLS lbs./ac
Mesic 25	2025	63.66	7.24
Common Name	Scientific Name	Seeds/ft <sup>2</sup>	PLS lbs./acre
Big Bluestem	<i>Andropogon gerardii</i>	1.477	0.319
Side Oats Grama	<i>Bouteloua curtipendula</i>	8.169	1.270
Upland Wild Timothy	<i>Muhlenbergia racemosa</i>	0.960	0.029
Switchgrass	<i>Panicum virgatum</i>	1.310	0.160
Little Bluestem	<i>Schizachyrium scoparium</i>	5.752	0.833
Indian Grass	<i>Sorghastrum nutans</i>	2.311	0.444
Rough Dropseed	<i>Sporobolus compositus</i>	4.536	0.365
Prairie Brome	<i>Bromus kalmii</i>	0.177	0.048
Bicknell's Sedge	<i>Carex bicknellii</i>	0.173	0.020
Plains Oval Sedge	<i>Carex brevior</i>	0.417	0.037
Heavy Sedge	<i>Carex gravida</i>	0.038	0.007
Field Oval Sedge	<i>Carex molesta</i>	0.181	0.019
Canada Wild Rye	<i>Elymus canadensis</i>	1.258	0.530
Partridge Pea	<i>Chamaecrista fasciculata</i>	0.760	0.613
Biennial Gaura	<i>Oenothera gaura</i>	0.006	0.006
Leadplant	<i>Amorpha canescens</i>	0.220	0.045
Canada Milk Vetch	<i>Astragalus canadensis</i>	0.261	0.043
White Wild Indigo	<i>Baptisia lactea</i>	0.023	0.036
White Prairie Clover	<i>Dalea candida</i>	0.637	0.081
Purple Prairie Clover	<i>Dalea purpurea</i>	2.682	0.425
Showy Tick Trefoil	<i>Desmodium canadense</i>	0.055	0.027
Illinois Tick Trefoil	<i>Desmodium illinoense</i>	0.046	0.029
Round Headed Bush Clover	<i>Lespedeza capitata</i>	0.180	0.048
Foxglove Beardtongue	<i>Penstemon digitalis</i>	2.182	0.057
Prairie Phlox	<i>Phlox pilosa</i>	0.020	0.005
Prairie Wild Rose	<i>Rosa arkansana</i>	0.026	0.034
Purple Meadow Rue	<i>Thalictrum dasycarpum</i>	0.099	0.023
Ohio Spiderwort	<i>Tradescantia ohiensis</i>	0.074	0.025
Prairie Violet	<i>Viola pedatifida</i>	0.032	0.004
Heartleaf Alexanders	<i>Zizia aptera</i>	0.115	0.022
Golden Alexanders	<i>Zizia aurea</i>	0.260	0.054
Common Yarrow	<i>Achillea millefolium</i>	0.794	0.013
Thimbleweed	<i>Anemone cylindrica</i>	0.075	0.008
Prairie Milkweed	<i>Asclepias sullivantii</i>	0.012	0.005
Common Milkweed	<i>Asclepias syriaca</i>	0.144	0.068
Butterfly Weed	<i>Asclepias tuberosa</i>	0.038	0.023
Whorled Milkweed	<i>Asclepias verticillata</i>	0.043	0.009

False Boneset	<i>Brickellia eupatorioides</i>	0.217	0.018
New Jersey Tea	<i>Ceanothus americanus</i>	0.029	0.010
Prairie Coreopsis	<i>Coreopsis palmata</i>	0.045	0.009
Prairie Cinquefoil	<i>Drymocallis arguta</i>	4.006	0.047
Pale Purple Coneflower	<i>Echinacea pallida</i>	0.206	0.112
Rattlesnake Master	<i>Eryngium yuccifolium</i>	0.211	0.077
Flowering Spurge	<i>Euphorbia corollata</i>	0.014	0.005
Oxeye Sunflower	<i>Heliopsis helianthoides</i>	0.625	0.265
Prairie Blazing Star	<i>Liatris pycnostachya</i>	0.107	0.023
Pale Spiked Lobelia	<i>Lobelia spicata</i>	0.552	0.002
Wild Bergamot	<i>Monarda fistulosa</i>	2.609	0.091
Wild Quinine	<i>Parthenium integrifolium</i>	0.165	0.049
Hairy Mountain Mint	<i>Pycnanthemum pilosum</i>	0.846	0.012
Slender Mountain Mint	<i>Pycnanthemum tenuifolium</i>	1.425	0.011
Yellow Coneflower	<i>Ratibida pinnata</i>	1.337	0.110
Black Eyed Susan	<i>Rudbeckia hirta</i>	2.021	0.058
Sweet Black Eyed Susan	<i>Rudbeckia subtomentosa</i>	0.830	0.075
Wild Petunia	<i>Ruellia humilis</i>	0.060	0.027
Rosin Weed	<i>Silphium integrifolium</i>	0.019	0.028
Compass Plant	<i>Silphium laciniatum</i>	0.009	0.035
Hoary Vervain	<i>Verbena stricta</i>	0.414	0.037
Culver's Root	<i>Veronicastrum virginicum</i>	1.930	0.010
Prairie Sage	<i>Artemisia ludoviciana</i>	1.121	0.011
Tall Boneset	<i>Eupatorium altissimum</i>	0.673	0.033
Grass Leaved Goldenrod	<i>Euthamia graminifolia</i>	0.675	0.007
Cream Gentian	<i>Gentiana alba</i>	0.899	0.012
Saw Tooth Sunflower	<i>Helianthus grosseserratus</i>	0.060	0.008
Prairie Sunflower	<i>Helianthus pauciflorus</i>	0.042	0.030
Rough Blazing Star	<i>Liatris aspera</i>	0.072	0.013
Old Field Goldenrod	<i>Solidago nemoralis</i>	1.545	0.026
Stiff Goldenrod	<i>Solidago rigida</i>	1.175	0.068
Showy Goldenrod	<i>Solidago speciosa</i>	0.704	0.020
Heath Aster	<i>Symphyotrichum ericoides</i>	1.178	0.011
Smooth Blue Aster	<i>Symphyotrichum laeve</i>	0.695	0.032
Sky Blue Aster	<i>Symphyotrichum oolentangiense</i>	1.294	0.027
Ironweed	<i>Vernonia fasciculata</i>	0.307	0.041



Seed Mix	Year	Total seeds/ft <sup>2</sup>	Total PLS lbs./ac
Wet Mesic 25	2025	135.29	7.37
Common Name	Scientific Name	Seeds/ft <sup>2</sup>	PLS lbs./acre
Big Bluestem	<i>Andropogon gerardii</i>	2.109	0.456
Side Oats Grama	<i>Bouteloua curtipendula</i>	2.723	0.423
Upland Wild Timothy	<i>Muhlenbergia racemosa</i>	1.921	0.059
Switchgrass	<i>Panicum virgatum</i>	3.276	0.401
Little Bluestem	<i>Schizachyrium scoparium</i>	2.876	0.417
Indian Grass	<i>Sorghastrum nutans</i>	3.466	0.666
Prairie Cord Grass	<i>Spartina pectinata</i>	0.223	0.045
Rough Dropseed	<i>Sporobolus compositus</i>	4.536	0.365
Blue Joint Grass	<i>Calamagrostis canadensis</i>	2.333	0.023
Small Yellow Fox Sedge	<i>Carex annectens</i>	1.521	0.063
Plains Oval Sedge	<i>Carex brevior</i>	0.834	0.075
Crested Oval Sedge	<i>Carex cristatella</i>	1.311	0.027
Field Oval Sedge	<i>Carex molesta</i>	0.362	0.039
Lance Fruited Oval Sedge	<i>Carex scoparia</i>	0.825	0.031
Fox Sedge	<i>Carex vulpinoidea</i>	4.462	0.150
Canada Wild Rye	<i>Elymus canadensis</i>	0.252	0.106
Virginia Wild Rye	<i>Elymus virginicus</i>	1.681	0.822
Fowl Manna Grass	<i>Glyceria striata</i>	22.927	0.368
Dudley's Rush	<i>Juncus dudleyi</i>	14.684	0.013
Dark Green Bulrush	<i>Scirpus atrovirens</i>	3.428	0.020
Prairie Wedgegrass	<i>Sphenopholis obtusata</i>	0.858	0.030
Slender False Foxglove	<i>Agalinis tenuifolia</i>	2.080	0.010
Partridge Pea	<i>Chamaecrista fasciculata</i>	0.760	0.613
Canada Milk Vetch	<i>Astragalus canadensis</i>	0.261	0.043
White Wild Indigo	<i>Baptisia lactea</i>	0.045	0.071
White Prairie Clover	<i>Dalea candida</i>	0.319	0.040
Purple Prairie Clover	<i>Dalea purpurea</i>	0.268	0.043
Showy Tick Trefoil	<i>Desmodium canadense</i>	0.111	0.055
Wild Licorice	<i>Glycyrrhiza lepidota</i>	0.075	0.062
Maryland Senna	<i>Senna marilandica</i>	0.019	0.037
Canada Anemone	<i>Anemone canadensis</i>	0.166	0.049
Foxglove Beardtongue	<i>Penstemon digitalis</i>	2.182	0.057
Prairie Phlox	<i>Phlox pilosa</i>	0.020	0.005
Purple Meadow Rue	<i>Thalictrum dasycarpum</i>	0.197	0.046
Ohio Spiderwort	<i>Tradescantia ohioensis</i>	0.147	0.051
Golden Alexanders	<i>Zizia aurea</i>	0.217	0.045
Common Yarrow	<i>Achillea millefolium</i>	0.794	0.013

Prairie Indian Plantain	<i>Arnoglossum plantagineum</i>	0.059	0.027
Swamp Milkweed	<i>Asclepias incarnata</i>	0.118	0.054
Common Milkweed	<i>Asclepias syriaca</i>	0.115	0.054
Tall Coreopsis	<i>Coreopsis tripteris</i>	0.040	0.009
Rattlesnake Master	<i>Eryngium yuccifolium</i>	0.281	0.103
Northern Bed Straw	<i>Galium boreale</i>	0.289	0.017
Oxeye Sunflower	<i>Heliopsis helianthoides</i>	0.250	0.106
Prairie Blazing Star	<i>Liatris pycnostachya</i>	0.214	0.045
Water Horehound	<i>Lycopus americanus</i>	0.860	0.012
Winged Loosestrife	<i>Lythrum alatum</i>	5.909	0.017
Wild Mint	<i>Mentha arvensis</i>	1.086	0.012
Wild Bergamot	<i>Monarda fistulosa</i>	1.739	0.060
Wild Quinine	<i>Parthenium integrifolium</i>	0.165	0.049
Obedient Plant	<i>Physostegia virginiana</i>	0.241	0.044
Mountain Mint	<i>Pycnanthemum virginianum</i>	3.606	0.049
Yellow Coneflower	<i>Ratibida pinnata</i>	1.337	0.110
Black Eyed Susan	<i>Rudbeckia hirta</i>	3.032	0.087
Sweet Black Eyed Susan	<i>Rudbeckia subtomentosa</i>	0.830	0.075
Rosin Weed	<i>Silphium integrifolium</i>	0.023	0.035
Blue Vervain	<i>Verbena hastata</i>	1.234	0.027
Culver's Root	<i>Veronicastrum virginicum</i>	3.861	0.020
Flat Topped Aster	<i>Doellingeria umbellata</i>	0.633	0.033
Tall Boneset	<i>Eupatorium altissimum</i>	0.673	0.033
Boneset	<i>Eupatorium perfoliatum</i>	1.561	0.025
Grass Leaved Goldenrod	<i>Euthamia graminifolia</i>	3.828	0.039
Bottle Gentian	<i>Gentiana andrewsii</i>	3.528	0.020
Sneezeweed	<i>Helenium autumnale</i>	0.981	0.029
Saw Tooth Sunflower	<i>Helianthus grosseserratus</i>	0.150	0.021
Great Blue Lobelia	<i>Lobelia siphilitica</i>	5.443	0.018
Marsh Betony	<i>Pedicularis lanceolata</i>	0.413	0.037
Riddell's Goldenrod	<i>Solidago riddellii</i>	1.005	0.029
Stiff Goldenrod	<i>Solidago rigida</i>	1.175	0.068
Heath Aster	<i>Symphyotrichum ericoides</i>	2.356	0.023
Smooth Blue Aster	<i>Symphyotrichum laeve</i>	0.695	0.032
Panicled Aster	<i>Symphyotrichum lanceolatum</i>	0.732	0.013
New England Aster	<i>Symphyotrichum novae-angliae</i>	1.034	0.029
Swamp Aster	<i>Symphyotrichum puniceum</i>	1.220	0.027
Ironweed	<i>Vernonia fasciculata</i>	0.307	0.041

Seed Mix	Year	Total seeds/ft <sup>2</sup>	Total PLS lbs./ac
High Quality Mesic 25	2025	98.35	9.85
Common Name	Scientific Name	Seeds/ft <sup>2</sup>	PLS lbs./acre
Big Bluestem	<i>Andropogon gerardii</i>	1.582	0.342
Side Oats Grama	<i>Bouteloua curtipendula</i>	8.169	1.270
Upland Wild Timothy	<i>Muhlenbergia racemosa</i>	0.960	0.029
Switchgrass	<i>Panicum virgatum</i>	1.638	0.201
Little Bluestem	<i>Schizachyrium scoparium</i>	7.189	1.041
Indian Grass	<i>Sorghastrum nutans</i>	2.311	0.444
Rough Dropseed	<i>Sporobolus compositus</i>	6.804	0.547
Prairie Brome	<i>Bromus kalmii</i>	0.884	0.240
Small Yellow Fox Sedge	<i>Carex annectens</i>	0.761	0.031
Bicknell's Sedge	<i>Carex bicknellii</i>	0.694	0.079
Plains Oval Sedge	<i>Carex brevior</i>	1.667	0.150
Heavy Sedge	<i>Carex gravida</i>	0.119	0.022
Field Oval Sedge	<i>Carex molesta</i>	0.181	0.019
Scribner's Panic Grass	<i>Dichanthelium oligosanthes</i>	0.131	0.021
Canada Wild Rye	<i>Elymus canadensis</i>	1.887	0.794
Porcupine Grass	<i>Hesperostipa spartea</i>	0.041	0.073
June Grass	<i>Koeleria macrantha</i>	2.931	0.052
Partridge Pea	<i>Chamaecrista fasciculata</i>	0.760	0.613
Biennial Gaura	<i>Oenothera gaura</i>	0.006	0.006
Leadplant	<i>Amorpha canescens</i>	0.880	0.180
Canada Milk Vetch	<i>Astragalus canadensis</i>	0.522	0.086
White Wild Indigo	<i>Baptisia lactea</i>	0.045	0.071
Cream Wild Indigo	<i>Baptisia leucophaea</i>	0.030	0.033
White Prairie Clover	<i>Dalea candida</i>	3.187	0.404
Purple Prairie Clover	<i>Dalea purpurea</i>	2.682	0.425
Showy Tick Trefoil	<i>Desmodium canadense</i>	0.055	0.027
Illinois Tick Trefoil	<i>Desmodium illinoense</i>	0.046	0.029
Round Headed Bush Clover	<i>Lespedeza capitata</i>	0.180	0.048
Prairie Pussytoes	<i>Antennaria neglecta</i>	1.054	0.009
Prairie Alumroot	<i>Heuchera richardsonii</i>	3.744	0.020
Wood Betony	<i>Pedicularis canadensis</i>	0.415	0.037
Foxglove Beardtongue	<i>Penstemon digitalis</i>	2.182	0.057
Prairie Phlox	<i>Phlox pilosa</i>	0.203	0.046
Prairie Wild Rose	<i>Rosa arkansana</i>	0.053	0.068
Purple Meadow Rue	<i>Thalictrum dasycarpum</i>	0.197	0.046
Prairie Spiderwort	<i>Tradescantia bracteata</i>	0.088	0.024
Ohio Spiderwort	<i>Tradescantia ohiensis</i>	0.147	0.051



Prairie Violet	<i>Viola pedatifida</i>	0.318	0.040
Heartleaf Alexanders	<i>Zizia aptera</i>	0.229	0.044
Golden Alexanders	<i>Zizia aurea</i>	0.217	0.045
Common Yarrow	<i>Achillea millefolium</i>	0.794	0.013
Thimbleweed	<i>Anemone cylindrica</i>	0.376	0.039
Prairie Milkweed	<i>Asclepias sullivantii</i>	0.036	0.016
Common Milkweed	<i>Asclepias syriaca</i>	0.115	0.054
Butterfly Weed	<i>Asclepias tuberosa</i>	0.094	0.058
Whorled Milkweed	<i>Asclepias verticillata</i>	0.107	0.023
False Boneset	<i>Brickellia eupatorioides</i>	0.434	0.037
New Jersey Tea	<i>Ceanothus americanus</i>	0.146	0.051
Prairie Coreopsis	<i>Coreopsis palmata</i>	0.113	0.022
Prairie Cinquefoil	<i>Drymocallis arguta</i>	4.006	0.047
Pale Purple Coneflower	<i>Echinacea pallida</i>	0.206	0.112
Rattlesnake Master	<i>Eryngium yuccifolium</i>	0.281	0.103
Flowering Spurge	<i>Euphorbia corollata</i>	0.072	0.025
Northern Bed Straw	<i>Galium boreale</i>	0.289	0.017
Oxeye Sunflower	<i>Heliopsis helianthoides</i>	0.625	0.265
Prairie Blazing Star	<i>Liatris pycnostachya</i>	0.214	0.045
Pale Spiked Lobelia	<i>Lobelia spicata</i>	5.517	0.018
Wild Bergamot	<i>Monarda fistulosa</i>	2.609	0.091
Wild Quinine	<i>Parthenium integrifolium</i>	0.165	0.049
Obedient Plant	<i>Physostegia virginiana</i>	0.241	0.044
Hairy Mountain Mint	<i>Pycnanthemum pilosum</i>	0.846	0.012
Slender Mountain Mint	<i>Pycnanthemum tenuifolium</i>	2.850	0.021
Mountain Mint	<i>Pycnanthemum virginianum</i>	1.803	0.024
Yellow Coneflower	<i>Ratibida pinnata</i>	1.337	0.110
Black Eyed Susan	<i>Rudbeckia hirta</i>	2.021	0.058
Sweet Black Eyed Susan	<i>Rudbeckia subtomentosa</i>	0.830	0.075
Wild Petunia	<i>Ruellia humilis</i>	0.120	0.054
Rosin Weed	<i>Silphium integrifolium</i>	0.023	0.035
Compass Plant	<i>Silphium laciniatum</i>	0.009	0.035
Hoary Vervain	<i>Verbena stricta</i>	0.414	0.037
Culver's Root	<i>Veronicastrum virginicum</i>	1.930	0.010
Prairie Sage	<i>Artemisia ludoviciana</i>	1.121	0.011
Pasture Thistle	<i>Cirsium discolor</i>	0.010	0.006
Tall Boneset	<i>Eupatorium altissimum</i>	0.673	0.033
Grass Leaved Goldenrod	<i>Euthamia graminifolia</i>	1.126	0.011
Cream Gentian	<i>Gentiana alba</i>	0.302	0.041
Saw Tooth Sunflower	<i>Helianthus grosseserratus</i>	0.060	0.008
Prairie Sunflower	<i>Helianthus pauciflorus</i>	0.042	0.030
Rough Blazing Star	<i>Liatris aspera</i>	0.241	0.044
Old Field Goldenrod	<i>Solidago nemoralis</i>	3.089	0.051
Stiff Goldenrod	<i>Solidago rigida</i>	1.175	0.068

Showy Goldenrod	<i>Solidago speciosa</i>	1.005	0.029
Heath Aster	<i>Symphyotrichum ericoides</i>	2.356	0.023
Smooth Blue Aster	<i>Symphyotrichum laeve</i>	0.695	0.032
New England Aster	<i>Symphyotrichum novae-angliae</i>	1.034	0.029
Sky Blue Aster	<i>Symphyotrichum oolentangiense</i>	1.294	0.027
Ironweed	<i>Vernonia fasciculata</i>	0.307	0.041