

## Central Wet-Mesic Tallgrass Prairie

**Site Characteristics:** Stands typically occur in narrow draws of headwaters of small streams, depressions of terraces (sometimes uplands), and on shallow depressions within floodplains of larger streams and rivers. Some stands occur on sandy outwash plains, lakeplains, and shallow swales. The sites are typically level to gently sloping. The soils are sands, loamy sands, silt loams and sandy loams. Some are found on clay loams or silty clays. The loamy soils are somewhat poorly drained and deep (100 cm or more). They have deep, acidic, dark A horizons which are high in organic matter. There is faint evidence of gleying immediately beneath the A horizon. The parent material is typically alluvium, although in headwater draws, loess, glacial till, or deeply weathered rock are likely to be the parent material. Standing surface water may be present for short periods in the winter and spring or after heavy rains. Stands are found on soils that are imperfectly or somewhat imperfectly drained. The soils often have a slowly permeable layer within the profile, a high water table, additions of moisture through seepage, or a combination of several of these conditions.

**Vegetation Characteristics:** This community is an extensive grassland with a tree canopy of less than 10% occurring as scattered individuals or clumps. There is a single layer of dominant graminoids intermixed with abundant forbs (min. 60% cover). Big Bluestem and Prairie Cordgrass are dominant species exceeding 2 m in height in this wet-mesic community. Switchgrass is usually somewhat shorter but still greater than 1 m tall. Other typical plants found in this community are Inland Rush, Gama Grass, Saw-tooth Sunflower, Common cinquefoil, Rattlesnake Master, Bicknell's Sedge, and Canada Bluejoint. Little Bluestem can be found on sites subject to seasonal drought. Species diversity does not tend to be as high as in more mesic grassland communities.

**Range:**

**Conservation Status:** G2 – Imperiled (S1)

**Management Considerations:** This community has nearly been eliminated because of conversion to cropland. Fire plays a role in the maintenance of this wet-mesic prairie, with an average fire frequency of every two to five years. Woody species can become more abundant in the absence of fire.

### Iowa NRCS Plant Community Description

This community description is a compilation of the Community Association and it's over-riding Community Alliance description as provided by NatureServe ([www.natureserve.org/explorer](http://www.natureserve.org/explorer)). Where necessary, community descriptions were adapted as recommended by Iowa plant community experts.

3/12/2009

CENTRAL WET-MESIC TALLGRASS PRAIRIE						
SCIENTIFIC NAME	COMMON NAME	STRATA	FUNCTIONAL GROUP	IA CofC	SEEDS PER LB	STATE STATUS
<i>Andropogon gerardii</i>	Big bluestem	Herbaceous Layer, Dominant	P-GRASS, WARM SEASON	4	160000	
<i>Calamagrostis canadensis</i>	Bluejoint	Herbaceous Layer	P-GRASS, COOL SEASON	5	4480000	
<i>Carex bicknellii</i>	Bicknell's sedge	Herbaceous Layer	P-SEDGE, COOL SEASON	10	272000	
<i>Carex</i> spp.	True Sedges	Herbaceous Layer	SEDGE, COOL SEASON			
<i>Elymus canadensis</i>	Canada wild rye	Herbaceous Layer	P-GRASS, COOL SEASON	5	83200	
<i>Eryngium yuccifolium</i>	Rattlesnake master	Herbaceous Layer	P-FORB	8	120000	
<i>Helianthus grosseserratus</i>	Saw-tooth sunflower	Herbaceous Layer	P-FORB	4	240000	
<i>Hypericum mutilum</i>	Dwarf St. John's wort	Herbaceous Layer	P-FORB	7		
<i>Juncus interior</i>	Inland rush	Herbaceous Layer	P-SEDGE, COOL SEASON	2	44800000	
<i>Liatris pycnostachya</i>	Prairie blazing star	Herbaceous Layer	P-FORB	6	176000	
<i>Lysimachia quadriflora</i>	Narrow-leaved loosestrife	Herbaceous Layer	P-FORB	7	1440000	
<i>Oenothera pilosella</i>	Prairie sundrops	Herbaceous Layer	P-FORB	7	4256000	
<i>Packera paupercula</i>	Prairie ragwort	Herbaceous Layer	P-FORB	5		
<i>Panicum virgatum</i>	Switchgrass	Herbaceous Layer	P-GRASS, WARM SEASON	5	224000	
<i>Pascopyrum smithii</i>	Western wheatgrass	Herbaceous Layer	P-GRASS, COOL SEASON	2	115008	
<i>Penstemon digitalis</i>	Foxglove penstemon	Herbaceous Layer	P-FORB	4	2080000	
<i>Physostegia virginiana</i>	False dragonhead	Herbaceous Layer	P-FORB	6	176000	
<i>Potentilla simplex</i>	Common cinquefoil	Herbaceous Layer	P-FORB	3		
<i>Pycnanthemum virginianum</i>	Common mountain mint	Herbaceous Layer	P-FORB	4	3520000	
<i>Ratibida columnifera</i>	Long-headed coneflower	Herbaceous Layer	P-FORB	4	320000	
<i>Ratibida pinnata</i>	Gray-headed coneflower	Herbaceous Layer	P-FORB	4	672000	
<i>Schizachyrium scoparium</i>	Little bluestem	Herbaceous Layer	P-GRASS, WARM SEASON	5	240000	
<i>Sorghastrum nutans</i>	Indian grass	Herbaceous Layer	P-GRASS, WARM SEASON	4	192000	
<i>Spartina pectinata</i>	Slough grass, cord grass	Herbaceous Layer, Dominant	P-GRASS, WARM SEASON	4	105600	
<i>Thalictrum dasycarpum</i>	Purple meadow-rue	Herbaceous Layer	P-FORB	4	176000	
<i>Tripsacum dactyloides</i>	Gama grass	Herbaceous Layer	P-GRASS, WARM SEASON	3	5920	
<i>Veronicastrum virginicum</i>	Culver's root	Herbaceous Layer	P-FORB	5	12800000	

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CENTRAL WET-MESIC TALLGRASS PRAIRIE						
SCIENTIFIC NAME	COMMON NAME	STRATA	FUNCTIONAL GROUP	IA CofC	SEEDS PER LB	STATE STATUS
<i>Zizia aurea</i>	Golden Alexander's	Herbaceous Layer	P-FORB	6	176000	

#### Iowa NRCS Plant Community Description

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3/12/2009

## CENTRAL WET-MESIC TALLGRASS PRAIRIE

Scientific Name	Common Name	Seeds per lb	Seeds per ft <sup>2</sup>	% of Mix	Cost per lb	Cost per ft <sup>2</sup>	Lbs per acre	CC	Functional Group
Agalinis tenuifolia	Slenderleaf false foxglove	12,800,000	0.98	2.5%		\$0.0000	0.00	4	A-FORB, HEMIPARASITE
Andropogon gerardii	Big bluestem	160,000	1.75	4.4%		\$0.0000	0.48	4	P-GRASS, WARM SEASON
Bidens cernua	Nodding bur marigold	336,000	0.98	2.5%		\$0.0000	0.13	2	A-FORB
Calamagrostis canadensis	Bluejoint	4,480,000	2.00	5.0%		\$0.0000	0.02	5	P-GRASS, COOL SEASON
Carex bebbii	Bebb's oval sedge	544,000	2.00	5.0%		\$0.0000	0.16	8	P-SEDGE, COOL SEASON
Carex bicknellii	Bicknell's sedge	272,000	1.00	2.5%		\$0.0000	0.16	10	P-SEDGE, COOL SEASON
Carex vulpinoidea	Brown fox sedge	1,600,000	1.75	4.4%		\$0.0000	0.05	3	P-SEDGE, COOL SEASON
Chamaecrista fasciculata	Partridge pea	43,200	0.98	2.5%		\$0.0000	0.99	1	A-FORB, LEGUME
Chelone glabra	White turtlehead	1,472,000	0.98	2.5%		\$0.0000	0.03	8	P-FORB
Echinacea pallida	Pale coneflower	83,200	0.50	1.3%		\$0.0000	0.26	7	P-FORB
Elymus canadensis	Canada wild rye	83,200	2.00	5.0%		\$0.0000	1.05	5	P-GRASS, COOL SEASON
Eryngium yuccifolium	Rattlesnake master	120,000	0.75	1.9%		\$0.0000	0.27	10	P-FORB
Eupatorium maculatum	Spotted Joe-pye-weed	1,520,000	0.98	2.5%		\$0.0000	0.03	5	P-FORB
Galium boreale	Northern bedstraw	1,120,000	0.70	1.8%		\$0.0000	0.03	7	P-FORB
Helenium autumnale	Sneezeweed	2,080,000	0.91	2.3%		\$0.0000	0.02	4	P-FORB
Helianthus grosseserratus	Saw-tooth sunflower	240,000	0.20	0.5%		\$0.0000	0.04	4	P-FORB
Hypericum ascyron	Giant St. John's wort	3,040,000	0.98	2.5%		\$0.0000	0.01	6	P-FORB
Hypoxis hirsuta	Yellow stargrass	1,280,000	0.15	0.4%		\$0.0000	0.01	7	P-FORB
Juncus interior	Inland rush	44,800,000	2.00	5.0%		\$0.0000	0.00	2	P-SEDGE, COOL SEASON
Liatris pycnostachya	Prairie blazing star	176,000	0.40	1.0%		\$0.0000	0.10	6	P-FORB
Lobelia cardinalis	Cardinal flower	6,400,000	0.98	2.5%		\$0.0000	0.01	5	P-FORB
Lysimachia quadriflora	Narrow-leaved loosestrife	1,440,000	0.50	1.3%		\$0.0000	0.02	7	P-FORB
Oenothera pilosella	Prairie sundrops	4,256,000	0.15	0.4%		\$0.0000	0.00	7	P-FORB
Oligoneuron riddellii	Riddell's goldenrod	1,488,000	1.00	2.5%		\$0.0000	0.03	8	P-FORB
Panicum virgatum	Switchgrass	224,000	1.50	3.8%		\$0.0000	0.29	5	P-GRASS, WARM SEASON
Pascopyrum smithii	Western wheatgrass	115,008	1.50	3.8%		\$0.0000	0.57	2	P-GRASS, COOL SEASON
Pedicularis lanceolata	Swamp lousewort	704,000	0.98	2.5%		\$0.0000	0.06	7	P-FORB, HEMIPARASITE
Penstemon digitalis	Foxglove penstemon	2,080,000	0.98	2.5%		\$0.0000	0.02	4	P-FORB
Phlox maculata	Wild sweet William	176,000	0.15	0.4%		\$0.0000	0.04	7	P-FORB
Physostegia virginiana	False dragonhead	176,000	0.30	0.8%		\$0.0000	0.07	6	P-FORB
Pycnanthemum virginianum	Common mountain mint	3,520,000	0.86	2.2%		\$0.0000	0.01	4	P-FORB
Ratibida pinnata	Gray-headed coneflower	672,000	0.86	2.2%		\$0.0000	0.06	4	P-FORB
Rosa palustris	Swamp rose	25,600	0.05	0.1%		\$0.0000	0.09	7	SUB-SHRUB
Schizachyrium scoparium	Little bluestem	240,000	1.50	3.8%		\$0.0000	0.27	5	P-GRASS, WARM SEASON
Senecio congestus	Marsh fleabane	160,000	0.25	0.6%		\$0.0000	0.07	10	A-FORB
Sorghastrum nutans	Indian grass	192,000	2.00	5.0%		\$0.0000	0.45	4	P-GRASS, WARM SEASON
Spartina pectinata	Slough grass, cord grass	105,600	0.80	2.0%		\$0.0000	0.33	4	P-GRASS, WARM SEASON
Symphyotrichum novae-angliae	New England aster	1,056,000	0.98	2.5%		\$0.0000	0.04	3	P-FORB
Thalictrum dasycarpum	Purple meadow-rue	176,000	0.50	1.3%		\$0.0000	0.12	4	P-FORB
Tradescantia ohienis	Common spiderwort	128,000	0.30	0.8%		\$0.0000	0.10	4	P-FORB
Tripsacum dactyloides	Gama grass	5,920	0.20	0.5%		\$0.0000	1.47	3	P-GRASS, WARM SEASON
Veronicastrum virginicum	Culver's root	12,800,000	0.97	2.4%		\$0.0000	0.00	5	P-FORB
Zizia aurea	Golden Alexander's	176,000	0.70	1.8%		\$0.0000	0.17	6	P-FORB
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\* PLS seeding rate must be converted to a bulk seeding rate

CENTRAL WET-MESIC TALLGRASS PRAIRIE

If cell is in red criteria not met. If cell is in orange recommendation not met.	
Percent of Mix	Exceeded the 20% of mix maximum for seeds/ft2
Number of Graminoid Species	Minimum of 10 graminoid species not met
Number of Forbs & Sub-shrubs	Minimum of 20 forb and sub-shrub species not met
Total Number of Species	Minimum of 30 species not met
PLS Seeds/ft2	Minimum of 40 seeds/ft <sup>2</sup> not met
Graminoid Seed/ft <sup>2</sup>	Minimum 20 seeds/ft <sup>2</sup> of graminoids not met
Forb & Sub-shrub Seed/ft <sup>2</sup>	Minimum 20 seeds/ft <sup>2</sup> of forbs and sub-shrubs not met
Floristic Quality Index (FQI)	Floristic quality index is below the required 20.0 minimum.
Mix Conservatism (CC)	Coefficient of Conservatism is below the required 3.0 minimum.
Simpson's Evenness	Evenness (balance) of the mix is below the recommended 70%
Conservatism Guilds:	
Early Successional	Does not fall within the recommended range of 15-33%
Mid-Successional	Does not fall within the recommended range of 45-65%
Late Successional	Does not fall within the recommended range of 15-33%

  

Evenness Calculation	
Sum of Squares	0.03
Simpson's Evenness:	0.73

  

Conservatism Guilds	Species	Seed/ft <sup>2</sup> % mix
EARLY SUCCESSIONAL (0-3)	7	21.0%
MID SUCCESSIONAL (4-7)	30	64.1%
LATE SUCCESSIONAL (8-10)	6	15.0%
	43	100.0%

  

Functional Group	Seed/ft <sup>2</sup> % mix	Species
A-FORB	8.0%	4
A-GRASS, COOL SEASON	0.0%	0
A-GRASS, WARM SEASON	0.0%	0
A-SEDGE, COOL SEASON	0.0%	0
A-SEDGE, WARM SEASON	0.0%	0
B-FORB	0.0%	0
FERN	0.0%	0
HEMIPARASITE	4.9%	2
H-VINE	0.0%	0
LEGUME	2.5%	1
PARASITIC	0.0%	0
P-FORB	41.9%	25
P-GRASS, COOL SEASON	13.8%	3
P-GRASS, WARM SEASON	19.4%	6
P-SEDGE, COOL SEASON	16.9%	4
P-SEDGE, WARM SEASON	0.0%	0
SHRUB	0.0%	0
SUB-SHRUB	0.1%	1
TREE	0.0%	0
W-VINE	0.0%	0
Number of Functional Groups	8	

# Seeding Plan

Page 1 of 2

Name \_\_\_\_\_  
 Prepared by \_\_\_\_\_

Date \_\_\_\_\_  
 Tract No. \_\_\_\_\_  
 Field No. \_\_\_\_\_  
 Contract No. \_\_\_\_\_

Type of Seeding: **Central Wet-Mesic Tallgrass Prairie**

Acres

## Seeding Mix Summary

Graminoids	Scientific Name	Common Name	Seeds/Ft2	PLS Lbs / Total PLS	
				Acre	lb
1	<b>Andropogon gerardii</b>	<b>Big bluestem</b>	1.75	0.476	0.000
2	Calamagrostis canadensis	Bluejoint	2.00	0.019	0.000
3	Carex bebbii	Bebb's oval sedge	2.00	0.160	0.000
4	Carex bicknelli	Bicknell's sedge	1.00	0.160	0.000
5	Carex vulpinoide	Brown fox sedge	1.75	0.048	0.000
6	Elymus canadensis	Canada wild rye	2.00	1.047	0.000
7	Juncus interior	Inland rush	2.00	0.002	0.000
8	Panicum virgatum	Switchgrass	1.50	0.292	0.000
9	Pascopyrum smithii	Western wheatgrass	1.50	0.568	0.000
10	Schizachyrium scoparium	Little bluestem	1.50	0.272	0.000
11	Sorghastrum nutans	Indian grass	2.00	0.454	0.000
12	<b>Spartina pectinata</b>	<b>Slough grass, cord grass</b>	0.80	0.330	0.000
13	Tripsacum dactyloides	Gama grass	0.20	1.472	0.000
14					0.000
15					0.000
16					0.000
17					0.000
18					0.000
19					0.000
20					0.000
21					0.000
<b>SUBTOTAL GRAMINOIDS</b>			<b>20.00</b>	<b>5.30</b>	<b>0.000</b>

Forbs/Legumes	Scientific Name	Common Name	Seeds/Ft2	PLS Lbs / Total PLS	
				Acre	lb
1	Agalinis tenuifolia	Slenderleaf false foxglove	0.98	0.003	0.000
2	Bidens cernua	Nodding bur marigold	0.98	0.127	0.000
3	Chamaecrista fasciculata	Partridge pea	0.98	0.988	0.000
4	Chelone glabra	White turtlehead	0.98	0.029	0.000
5	Echinacea pallida	Pale coneflower	0.50	0.262	0.000
6	Eryngium yuccifolium	Rattlesnake master	0.75	0.272	0.000
7	Eupatorium maculatum	Spotted Joe-pye-weed	0.98	0.028	0.000
8	Galium boreale	Northern bedstraw	0.70	0.027	0.000
9	Helenium autumnale	Sneezeweed	0.91	0.019	0.000
10	Helianthus grosseserratus	Saw-tooth sunflower	0.20	0.036	0.000
11	Hypericum ascyron	Giant St. John's wort	0.98	0.014	0.000
12	Hypoxis hirsuta	Yellow stargrass	0.15	0.005	0.000
13	Liatris pycnostachya	Prairie blazing star	0.40	0.099	0.000
14	Lobelia cardinalis	Cardinal flower	0.98	0.007	0.000
15	Lysimachia quadriflora	Narrow-leaved loosestrife	0.50	0.015	0.000
16	Oenothera pilosella	Prairie sundrops	0.15	0.002	0.000
17	Oligoneuron riddellii	Riddell's goldenrod	1.00	0.029	0.000
18	Pedicularis lanceolata	Swamp lousewort	0.98	0.061	0.000
19	Penstemon digitalis	Foxglove penstemon	0.98	0.021	0.000
20	Phlox maculata	Wild sweet William	0.15	0.037	0.000
21	Physostegia virginiana	False dragonhead	0.30	0.074	0.000
22	Pycnanthemum virginianum	Common mountain mint	0.86	0.011	0.000
23	Ratibida pinnata	Gray-headed coneflower	0.86	0.056	0.000
24	Rosa palustris	Swamp rose	0.05	0.085	0.000
25	Senecio congestus	Marsh fleabane	0.25	0.068	0.000
26	Symphotrichum novae-angliae	New England aster	0.98	0.040	0.000
27	Thalictrum dasycarpum	Purple meadow-rue	0.50	0.124	0.000
28	Tradescantia ohimensis	Common spiderwort	0.30	0.102	0.000
29	Veronicastrum virginicum	Culver's root	0.97	0.003	0.000
30	Zizia aurea	Golden Alexander's	0.70	0.173	0.000
<b>SUBTOTAL FORBS</b>			<b>20.00</b>	<b>2.82</b>	<b>0.000</b>

<b>TOTAL</b>	<b>40.00</b>	<b>8.118</b>	<b>0.000</b>
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SEEDING MIX FLORISITIC QUALITY VALUES

Average Coefficient of Conservatism	5.3
Floristic Quality Index	34.9

Fertilizer & Lime	General Soil Test	Total Needed lbs
Lime (ECCE) (Actual Lime)	2000	0
Nitrogen	30	0
Phosphate (P205)	30	0
Potash (K20)	40	0

Additional Seeding Criteria: [Do not apply fertilizer. Frost seeding dates Feb. 1st - March 15th.](#)  
[Spring seeding dates are between April 15th to July 1st.](#) [Dormant Seeding dates are between November 15th to freeze up.](#)

Seeding was completed by \_\_\_\_\_ according to the above requirements.  
(Date)

\_\_\_\_\_  
(Producer's Signature)

\_\_\_\_\_  
(Date)

Field Office \_\_\_\_\_

Certified by \_\_\_\_\_  
(NRCS Representative)

When seeding is completed, return seeding plan to the Natural Resources Conservation Services.  
For state cost-share projects, attach receipts for seed, fertilizer, lime and mulch.  
For Federal cost-share, return receipts to Farm Service Agency.