

**327 CONSERVATION COVER - NATIVE GRASS/FORBS
Seeding Design**

DATE 1/6/2023

LANDOWNER MN PF 327 Dry-Mesic Jan2023

TRACT/FIELD

**COPY TO
SEEDING PLAN**

CLEAR CALCULATOR

PLANNER Pheasants Forever

ACRES SEEDED 1.00

Background Information

GRASS SPECIES		PLANNED % OF GRASS COMPONENT BY SEEDS/SQ. FOOT	POUNDS PLS/AC.	TOTAL SEEDS/ SQ. FOOT	% OF GRASS MIX BY SEEDS/FT 1/			SEEDS/ SQ. FOOT At 1 lb. Rate	COC Selected	COC Reference 6/	Pounds PLS	
						Can't Exceed	Planned %					
		Planned										
WARM SEASON 7/												
Big Bluestem	Andropogon gerardii	0 to 30	0.50	2.02	7.0	OK		176000	4.0	4	4	0.50
Blue Grama	Bouteloua gracilis	0 to 20	0.25	4.30	14.9	OK		750000	17.2	8	8	0.25
Indiangrass	Sorghastrum nutans	0 to 30	1.00	4.43	15.3	OK		193000	4.4	4	4	1.00
Little Bluestem	Schizachyrium scoparium	0 to 30	1.20	7.88	27.3	OK		286000	6.6	5	5	1.20
Prairie Cordgrass	Spartina pectinata	0 to 5	0.00	0.00	0.0	OK		183000	4.2		4	0.00
Prairie Dropseed	Sporopolum heterolepis	0 to 10	0.00	0.00	0.0	OK		224000	5.1		9	0.00
Prairie Sandreed	Calamovilfa longifolia	0 to 30	0.00	0.00	0.0	OK		275000	6.3		7	0.00
Rough Dropseed	Sporobolus compositus	0 to 10	0.25	2.75	9.5	OK		480000	11.0	9	9	0.25
Sideoats Grama	Bouteloua curtipendula	0 to 30	1.10	4.55	15.7	OK		180000	4.1	6	6	1.10
Switchgrass	Panicum virgatum	0 to 10	0.33	2.95	10.2	OK		390000	9.0	5	5	0.33
		0 to 10	0.00	0.00	0.0	OK		0.0				0.00
		0 to 10	0.00	0.00	0.0	OK		0.0				0.00
		0 to 10	0.00	0.00	0.0	OK		0.0				0.00
		0 to 10	0.00	0.00	0.0	OK		0.0				0.00
		0 to 10	0.00	0.00	0.0	OK		0.0				0.00
		0 to 10	0.00	0.00	0.0	OK		0.0				0.00
COOL SEASON 2/ 7/												
Canada Bluejoint	Calamagrostis canadensis	0 to 5	0.00	0.00	0.0	OK		4480000	102.8		5	0.00
Canada Wildrye	Elymus canadensis	0 to 10	0.00	0.00	0.0	OK		115000	2.6		5	0.00
Green Needlegrass	Stipa viridula	0 to 10	0.00	0.00	0.0	OK		180000	4.1		5	0.00
June grass	Koeleria macrantha	0 to 5	0.00	0.00	0.0	OK		2315000	53.1		7	0.00
Kalms Brome	Bromus kalmii	0 to 10	0.00	0.00	0.0	OK		128000	2.9		5	0.00
Porcupine grass	Hesperostipa spartea	0 to 10	0.00	0.00	0.0	OK		57000	1.3		6	0.00
Slender Wheatgrass	Agropyron caninum	0 to 10	0.00	0.00	0.0	OK		155000	3.6		5	0.00
Virginia Wildrye	Elymus virginicus	0 to 10	0.00	0.00	0.0	OK		96000	2.2		3	0.00
Western Wheatgrass	Agropyron smithii	0 to 10	0.00	0.00	0.0	OK		112000	2.6		2	0.00
		0 to 10	0.00	0.00	0.0	OK		0.0				0.00
		0 to 10	0.00	0.00	0.0	OK		0.0				0.00
		0 to 10	0.00	0.00	0.0	OK		0.0				0.00
		0 to 10	0.00	0.00	0.0	OK		0.0				0.00
		0 to 10	0.00	0.00	0.0	OK		0.0				0.00
		0 to 10	0.00	0.00	0.0	OK		0.0				0.00
		0 to 10	0.00	0.00	0.0	OK		0.0				0.00
		0 to 10	0.00	0.00	0.0	OK		0.0				0.00
TOTAL Pounds PLS			4.63	28.89	100.0				AVE COC GRASS	5.9		

1/ ACTUAL SEEDS PER SQUARE FOOT SHALL BE WITHIN THE RANGE SPECIFIED IN PLANNED CONDITION

2/ NO MORE THAN 20% OF THE MIXTURE SHALL BE COMPRISED OF COOL SEASON GRASSES BASED ON SEEDS PER SQUARE FOOT.

Background Information

FORB SPECIES			OUNCES PLS/AC.	TOTAL SEEDS/ SQ. FOOT	% OF FORB MIX BY SEEDS/FT 3/		% of mix by WEIGHT	SEEDS/oz	SEEDS/ SQ. FOOT At 1 oz/ac Rate	COC Selected	COC Reference	Pollinator Monarch Preferred Blue	Ounces PLS
DRY													
Bush Clover	Lespedeza capitata		0.00	0.00	0.0	OK	0.0	8000	0.18		3	Late	0.00
Culvers Root	Veronicastrum virginicum		0.04	0.73	11.6	OK	0.6	800000	18.37	5	5	Mid	0.04
Dotted Blazingstar	Liatris punctata		0.00	0.00	0.0	OK	0.0	7000	0.16		8	Mid	0.00
Purple Coneflower, Narrow Leaved	Echinacea pallida var. angustifolia		0.00	0.00	0.0	OK	0.0	7000	0.16		8	Mid	0.00
Prairie Cinquefoil	Potentilla arguta		0.24	1.27	19.9	OK	3.7	230000	5.28	8	8	Late	0.24
Showy Penstemon	Penstemon grandifloris		0.00	0.00	0.0	OK	0.0	14000	0.32		5	Early	0.00
Stiff Sunflower	Helianthus paucifloris		0.00	0.00	0.0	OK	0.0	4000	0.09		5	Mid	0.00
Silky Aster	Symphotrichum sericeum		0.00	0.00	0.0	OK	0.0	26000	0.60		10	Late	0.00
DRY to MESIC													
Butterfly Weed	Asclepias tuberosa		0.00	0.00	0.0	OK	0.0	4300	0.10		6	Mid	0.00
Canada Milkvetch	Astragalus canadensis	Legume	0.50	0.20	3.1	OK	7.7	17000	0.39	4	4	Mid	0.50
Compass Plant	Silphium laciniatum		0.00	0.00	0.0	OK	0.0	660	0.02		7	Mid	0.00
Evening Primrose	Oenothera biennis		0.32	0.66	10.4	OK	4.9	90000	2.07	4	4	Mid	0.32
Foxglove Beardtongue	Penstemon digitalis		0.15	0.45	7.0	OK	2.3	130000	2.98	4	4	Early	0.15
Heart-leaved Alexander	Zizia aptera		0.00	0.00	0.0	OK	0.0	12000	0.28		8	Early	0.00
Heath Aster	Symphotrichum ericoides		0.00	0.00	0.0	OK	0.0	200000	4.59		3	Late	0.00
Hoary Vervain	Verbena stricta		0.37	0.24	3.7	OK	5.7	28000	0.64	1	1	Mid	0.37
Lance-leaved Coreopsis	Coreopsis lanceolata		0.00	0.00	0.0	OK	0.0	20000	0.46		1	Early	0.00
Leadplant	Amorpha canescens	Legume	0.00	0.00	0.0	OK	0.0	16000	0.37		5	Mid	0.00
Long-headed Coneflower	Ratibida columnifera		0.00	0.00	0.0	OK	0.0	42000	0.96		5	Mid	0.00
Ontario Blazingstar	Liatris cylindracea		0.00	0.00	0.0	OK	0.0	14000	0.32		8	Late	0.00
Prairie Smoke	Geum triflorum		0.00	0.00	0.0	OK	0.0	27000	0.62		8	Early	0.00
Rough Blazingstar	Liatris aspera		0.00	0.00	0.0	OK	0.0	16000	0.37		8	Late	0.00
Showy Goldenrod	Solidago speciosa		0.10	0.22	3.4	OK	1.5	95000	2.18	7	7	Late	0.10
Smooth Aster	Symphotrichum laeva		0.23	0.29	4.6	OK	3.5	55000	1.26	7	7	Late	0.23
Spotted Beebalm	Monarda punctata		0.00	0.00	0.0	OK	0.0	70000	1.61		6	Mid	0.00
Stiff Tickseed	Coreopsis palmata		0.00	0.00	0.0	OK	0.0	10000	0.23		7	Mid	0.00
Thimbleweed	Anemone cylindrica		0.00	0.00	0.0	OK	0.0	26000	0.60		7	Mid	0.00
Whorled Milkweed	Asclepias verticillata		0.00	0.00	0.0	OK	0.0	11000	0.25		4	Mid-Late	0.00
Wild Blue Phlox	Phlox divaricata		0.00	0.00	0.0	OK	0.0	12500	0.29		7	Early	0.00
Wild Columbine	Aquilegia canadensis		0.00	0.00	0.0	OK	0.0	3800	0.09		6	Early	0.00
MESIC to WET													
Blanketflower	Gaillardia aristata		0.00	0.00	0.0	OK	0.0	9813	0.23		2	Mid	0.00
Canada Tick Trefoil	Desmodium canadense	Legume	0.00	0.00	0.0	OK	0.0	5500	0.13		6	Mid	0.00
Common Ox-eye	Heliopsis helianthoides		0.00	0.00	0.0	OK	0.0	6300	0.14		4	Mid	0.00
Giant Sunflower	Helianthus giganteus		0.00	0.00	0.0	OK	0.0	10000	0.23		5	Late	0.00
Golden Alexanders	Zizia aurea		0.00	0.00	0.0	OK	0.0	11000	0.25		6	Early	0.00
Great Blue Lobelia	Lobelia siphilitica		0.00	0.00	0.0	OK	0.0	500000	11.48		3	Late	0.00
Ironweed	Veronia fasticulata		0.00	0.00	0.0	OK	0.0	24000	0.55		3	Late	0.00
Meadow Blazingstar	Liatris ligulistylis		0.00	0.00	0.0	OK	0.0	11000	0.25		8	Late	0.00
Mountain Mint	Pycnanthemum virginianum		0.00	0.00	0.0	OK	0.0	220000	5.05		8	Mid	0.00
Partridge Pea	Cassia fasticulata	Legume	0.00	0.00	0.0	OK	0.0	2700	0.06		4	Mid	0.00
Rattlesnake Master	Eryngium yuccifolium		0.00	0.00	0.0	OK	0.0	7500	0.17		8	Mid	0.00
Sawtooth Sunflower	Helianthus grosseserratus		0.00	0.00	0.0	OK	0.0	10000	0.23		8	Late	0.00
Tall Blazingstar	Liatris pycnostachya		0.00	0.00	0.0	OK	0.0	11000	0.25		6	Mid	0.00
Virginia Bluebells	Mertensia virginica		0.00	0.00	0.0	OK	0.0	9700	0.22		6	Early	0.00
Wild Bergamot	Monarda fistulosa		0.00	0.00	0.0	OK	0.0	70000	1.61		2	Mid	0.00
Yellow Coneflower	Ratibida pinnata		0.00	0.00	0.0	OK	0.0	30000	0.69		4	Mid	0.00
WET													
Blue Vervain	Verbena hastata		0.00	0.00	0.0	OK	0.0	93000	2.13		3	Mid	0.00
Boneset	Eupatorium perfoliatum		0.00	0.00	0.0	OK	0.0	160000	3.67		6	Late	0.00
Cup Plant	Silphium perfoliatum		0.00	0.00	0.0	OK	0.0	1400	0.03		1	Mid	0.00

Joe-pye Weed	Eutrochium maculatum		0.00	0.00	0.0	OK	0.0	95000	2.18		5	Mid	0.00
New England Aster	Symphotrichum novae-angliae		0.00	0.00	0.0	OK	0.0	66000	1.52		3	Late	0.00
Panicled Aster	Symphotrichum lanceolatum		0.00	0.00	0.0	OK	0.0	156000	3.58		4	Late	0.00
Sneezeweed	Helenium autumnale		0.00	0.00	0.0	OK	0.0	130000	2.98		4	Late	0.00
Swamp Milkweed	Asclepias incarnata		0.00	0.00	0.0	OK	0.0	4800	0.11		4	Mid	0.00
DRY to WET													
Anise Hyssop	Agastache foeniculum		0.08	0.17	2.6	OK	1.2	91000	2.09	4	4	Mid	0.08
Black-eyed Susan	Rudbeckia hirta		0.75	1.58	24.9	OK	11.6	92000	2.11	2	2	Late	0.75
Common Milkweed	Asclepias syriaca		0.00	0.00	0.0	OK	0.0	4000	0.09		1	Mid	0.00
Grassleaved Goldenrod	Euthamia graminifolia		0.00	0.00	0.0	OK	0.0	350000	8.03		4	Mid	0.00
Illinois Bundleflower	Desmanthus illinoensis		3.00	0.29	4.5	OK	46.3	4200	0.10	4	4	Mid	3.00
Purple Prairie Clover	Petalostemum purpureum	Legume	0.50	0.21	3.2	OK	7.7	18000	0.41	8	8	Mid	0.50
Maximilian Sunflower	Helianthus maximiliani		0.20	0.06	0.9	OK	3.1	13000	0.30	4	4	Late	0.20
Stiff Goldenrod	Solidago rigida		0.00	0.00	0.0	OK	0.0	41000	0.94		4	Late	0.00
White Prairie Clover	Petalostemum candidum	Legume	0.00	0.00	0.0	OK	0.0	19000	0.44		10	Mid	0.00
Yarrow	Achillea millefolium		0.00	0.00	0.0	OK	0.0	180000	4.13		1	Mid	0.00
Yellow Giant Hyssop	Agastache nepetoides		0.00	0.00	0.0	OK	0.0	91000	2.09		4	Late	0.00
ADDITIONAL APPROVED FORBS 7/													
			0.00	0.00	0.0	OK	0.0	9100	0.21				0.00
			0.00	0.00	0.0	OK	0.0	9100	0.21				0.00
			0.00	0.00	0.0	OK	0.0	9100	0.21				0.00
			0.00	0.00	0.0	OK	0.0	9100	0.21				0.00
			0.00	0.00	0.0	OK	0.0	9100	0.21				0.00
			0.00	0.00	0.0	OK	0.0	9100	0.21				0.00
TOTAL OUNCES PLS			6.48	6.36	100.0		100.0		AVE COC FORB	4.8			

TOTAL SEEDS/FT ^{4/}
 PERCENT GRASS ^{5/}
 PERCENT FLOWER
 AVE. COC - MIX
 SPECIES RICHNESS

35.2
81.96
18.04
5.2
20

- OK**
- ^{3/} Individual species not to exceed 50% of the forb component by seeds/ft
^{4/} Minimum 35-40 seeds/square foot
^{5/} Maximum 90% grasses
^{6/} Assignment of Coefficients

0 to 3 : Plants with a high range of ecological tolerances/found in a variety of plant communities
4 to 6 : Plants with an intermediate range of ecological tolerances/ associated with a specific plant community
7 to 8 : Plants with a poor range of ecological tolerances/associated with advanced successional stage
9 to 10 : Plants with a high degree of fidelity to a narrow range of pristine habitats
^{7/} Consult with the appropriate NRCS Area Resource Conservationist or Biologist for prior approval of additional species.