

327 - 420 CONSERVATION COVER - MONARCH HABITAT

Seed Mix Design

DATE 5/9/2024

LANDOWNER

MN PF Monarch Mix

N/A

TRACT/FIELD

PLANNER

Pheasants Forever

N/A 0

Acres to Seed 1.00

Seed tag type Tag shows purity only as % of mix (purity, germ)

Set Seed Tag Type to Seed Mix Design						Background Information						
GRASS SPECIES	Ref #	Input Desired PLS	N/A	N/A	PLANNED % OF GRASS COMPONENT BY SEEDS/SQ. FOOT	Planned PLS/ Acre in lbs.	TOTAL SEEDS/ SQ. FOOT	% OF GRASS MIX BY		SEEDS/lb.	SEEDS/ SQ. FOOT At 1 lb/ac Rate	POUNDS PLS
					Planned			Can't Exceed	Planned %			
Big bluestem	1	0.45			0 to 25	0.45	1.82	19.7	OK	176000	4.0	0.45
Blue grama	3	0.1			0 to 20	0.10	1.72	18.7	OK	750000	17.2	0.10
Indiangrass	7				0 to 25	0.00	0.00	0.0	OK	193000	4.4	0.00
Little bluestem	6	0.4			0 to 30	0.40	2.63	28.5	OK	286000	6.6	0.40
Prairie cordgrass	8				0 to 5	0.00	0.00	0.0	OK	183000	4.2	0.00
Prairie dropseed	10				0 to 10	0.00	0.00	0.0	OK	224000	5.1	0.00
Prairie sandreed	4				0 to 30	0.00	0.00	0.0	OK	275000	6.3	0.00
Rough dropseed	9	0.05			0 to 10	0.05	0.55	6.0	OK	480000	11.0	0.05
Side oats grama	2	0.5			0 to 30	0.50	2.07	22.4	OK	180000	4.1	0.50
If no species entered this row	199				0	0.00	0.00	0.0	OK	0	0.0	0.00
If no species entered this row	199				0	0.00	0.00	0.0	OK	0	0.0	0.00
If no species entered this row	199				0	0.00	0.00	0.0	OK	0	0.0	0.00
If no species entered this row	199				0	0.00	0.00	0.0	OK	0	0.0	0.00
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If no species entered this row	199				0	0.00	0.00	0.0	OK	0	0.0	0.00
If no species entered this row	199				0	0.00	0.00	0.0	OK	0	0.0	0.00
Canada bluejoint	13				0 to 5	0.00	0.00	0.0	OK	4480000	102.8	0.00
Canada wild rye	14				0 to 10	0.00	0.00	0.0	OK	115000	2.6	0.00
Green needlegrass	21				0 to 10	0.00	0.00	0.0	OK	180000	4.1	0.00
Junegrass	20				0 to 5	0.00	0.00	0.0	OK	2315000	53.1	0.00
Kalms brome	12				0 to 10	0.00	0.00	0.0	OK	128000	2.9	0.00
Porcupine grass	19				0 to 10	0.00	0.00	0.0	OK	57000	1.3	0.00
Slender wheatgrass	15				0 to 10	0.00	0.00	0.0	OK	155000	3.6	0.00
Virginia wild rye	16	0.2			0 to 10	0.20	0.44	4.8	OK	96000	2.2	0.00
Western wheatgrass	22				0 to 10	0.00	0.00	0.0	OK	112000	2.6	0.00
Fringed brome	11				0 to 10	0.00	0.00	0.0	OK	160000	3.7	0.00
American mannagrass	17				0 to 10	0.00	0.00	0.0	OK	1280000	29.4	0.00
Fowl mannagrass	18				0 to 10	0.00	0.00	0.0	OK	2561328	58.8	0.00
Bicknell's sedge	23				0 to 10	0.00	0.00	0.0	OK	560000	12.9	0.00
Common fox sedge	27				0 to 10	0.00	0.00	0.0	OK	1598652	36.7	0.00
Pointed broom sedge	25				0 to 10	0.00	0.00	0.0	OK	1346000	30.9	0.00
0						TOTAL - Pounds PLS Drilled	1.70	9.22	100.0			

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

Background Information											
FORB SPECIES	REF #	Input Desired PLS	N/A	N/A	Planned PLS/ Acre in ounces.	TOTAL SEEDS/ SQ. FOOT	% OF FORB MIX BY SEEDS/FT 2/		SEEDS/oz	SEEDS/ SQ. FOOT At 1 oz/ac Rate	Bloom Period
											Early = April-June Mid = June-August Late = August-Oct.
DRY TO MESIC											
Butterfly weed	42				0.00	0.00	0.0	OK	4300	0.10	Mid
Compass plant	67				0.00	0.00	0.0	OK	660	0.02	Mid
Culver's root	103	0.16			0.16	2.94	11.3	OK	800000	18.37	Mid
Dotted blazing star	30				0.00	0.00	0.0	OK	7000	0.16	Mid
Foxglove Beardtongue	62	0.48			0.48	1.43	5.5	OK	130000	2.98	Early
Ground plum	28				0.00	0.00	0.0	OK	5200	0.12	Early
	74									0.64	
Hoary vervain		0.56			0.56	0.36	1.4	OK	28000		Mid
Lance-leaved coreopsis	48				0.00	0.00	0.0	OK	20000	0.46	Early
Leadplant	37	0.24		Legume	0.24	0.09	0.3	OK	16000	0.37	Mid
Ontario blazing star	29				0.00	0.00	0.0	OK	14000	0.32	Late
	53									0.16	
Purple Coneflower - Narrow					0.00	0.00	0.0	OK	7000		Mid
Purple Coneflower - Eastern	113				0.00	0.00	0.0	OK	7000	0.16	Mid
Rough blazing star	58				0.00	0.00	0.0	OK	16000	0.37	Late
Showy goldenrod	69				0.00	0.00	0.0	OK	95000	2.18	Late
Large-flowered penstemon (Sh)	32	0.32			0.32	0.10	0.4	OK	14000	0.32	Early
Sky blue aster	71				0.00	0.00	0.0	OK	80000	1.84	Late
Smooth aster	70	0.48			0.48	0.61	2.3	OK	55000	1.26	Late
Spotted beebalm	60				0.00	0.00	0.0	OK	70000	1.61	Mid
Stiff sunflower	55				0.00	0.00	0.0	OK	4000	0.09	Late
Stiff stickseed	49				0.00	0.00	0.0	OK	10000	0.23	Mid
Whorled milkweed	43				0.00	0.00	0.0	OK	11000	0.25	Mid
Wild lupine	31			Legume	0.00	0.00	0.0	OK	1100	0.03	Early
White wild indigo	45			Legume	0.00	0.00	0.0	OK	1700	0.04	Early

Common oxeye	86	0.24			0.24	0.03	0.1	OK	6300	0.14	Mid
Giant sunflower	84				0.00	0.00	0.0	OK	10000	0.23	Late
Great blue lobelia	91	0.45			0.45	5.17	19.9	OK	500000	11.48	Late
Ironweed	102				0.00	0.00	0.0	OK	24000	0.55	Late
Meadow blazing star	89				0.00	0.00	0.0	OK	11000	0.25	Late
Rattlesnake master	81				0.00	0.00	0.0	OK	7500	0.17	Mid
Sawtooth sunflower	85				0.00	0.00	0.0	OK	10000	0.23	Late
Tall blazing star	90	0.08			0.08	0.02	0.1	OK	11000	0.25	Late
Longbract spiderwort	72				0.00	0.00	0.0	OK	10000	0.23	Early
Wild bergamot	94	3.04			3.04	4.89	18.8	OK	70000	1.61	Mid
WET											
Boneset	105	0.4			0.40	1.47	5.7	OK	160000	3.67	Late
Cup plant	110				0.00	0.00	0.0	OK	1400	0.03	Mid
Joe pye weed	106	0.8			0.80	1.74	6.7	OK	95000	2.18	Mid
New England aster	99				0.00	0.00	0.0	OK	66000	1.52	Late
Swamp milkweed	78				0.00	0.00	0.0	OK	4800	0.11	Mid
DRY to WET MESIC											
Black-eyed susan	120	2.37			2.37	5.01	19.3	OK	92000	2.11	Mid
Common milkweed	112	5.76			5.76	0.53	2.0	OK	4000	0.09	Mid
Prairie spiderwort	73	0.08			0.08	0.01	0.1	OK	8000	0.18	Early
Grass-leaved goldenrod	82				0.00	0.00	0.0	OK	350000	8.03	Mid
Maximilian sunflower	116	0.48			0.48	0.14	0.6	OK	13000	0.30	Late
Heart-leaved alexander	76				0.00	0.00	0.0	OK	12000	0.28	Early
Stiff goldenrod	118	0.8			0.80	0.75	2.9	OK	41000	0.94	Late
White prairie clover	50	1.6		Legume	1.60	0.70	2.7	OK	19000	0.44	Mid
ADDITIONAL APPROVED SPECIES 7/											
Swamp milkweed	78				0.00	0.00	0.0	OK	4800	0.11	Mid
If no species entered this row	199				0.00	0.00	0.0	OK	0	0.00	0
If no species entered this row	199				0.00	0.00	0.0	OK	0	0.00	0
If no species entered this row	199				0.00	0.00	0.0	OK	0	0.00	0
If no species entered this row	199				0.00	0.00	0.0	OK	0	0.00	0
If no species entered this row	199				0.00	0.00	0.0	OK	0	0.00	0
Whorled milkweed	43				0.00	0.00	0.0	OK	11000	0.25	Mid
0 TOTAL - OUNCES PLS Drilled					18.34	25.99	100.0				

Total Species by Bloom Period	
Early Total	3.00
Mid Total	9.00
Late Total	6.00

TOTAL SEEDS/FT 6/

OK 2/ Individual species not to exceed 20% of forb component by seeds/ft

Percent Grass
 PERCENT FORBS 3/
 PERCENT MILKWEED 5/

OK 3/ 50- 75% forbs
 OK 4/ LH - Larval Host, H - High Value Nectar, VH - Very High Value Nectar
 OK 5/ Milkweeds shall comprise a minimum 1.5% of the total mixture
 6/ Minimum 35-40 seeds/ft2

% FORBS THAT ARE MONARCH PREFERRED 8/

OK 7/ Must Have 3 species from each bloom period
 OK 8/ A minimum 60% of the forbs must be monarch preferred (column M).
 OK 9/ 25- 50% Grasses

em, Indiangrass and Switch combined are < 10% of mix

Optional Trees and Shrubs	Bloom Period
American Plum	Prunus a April - May
Black Willow	Salix nig April - May
Button Bush	Cephalar June - August
Common Chokecherry	Prunus v April - June
Common Ninebark	Physoca May - July
False Indigo*	Amorpha June - August
Fragrant False Indigo*	Amorpha June - August
New Jersey Tea	Ceanothi June - August
Pussy Willow	Salix disc April - May
Red Osier Dogwood	Cornus s May - August
Saskatoon Serviceberry	Amelan April - May
Silky Dogwood	Cornus a May - July
Wild Rose	Rosea s June -August