



The Bee & Butterfly Habitat Fund

Wisconsin Monarch Mixture

Fall 2022

Species	Scientific Name	PLS lbs per acre	Seeds per sq ft	% of Mixture	Bloom Period	Pollinator Value
Big Bluestem, Pawnee	<i>Andropogon gerardii</i>	0.400	1.32	3.76%	--	--
Canada Wildrye	<i>Elymus canadensis</i>	0.600	1.57	4.46%	--	--
Little Bluestem, VNS	<i>Schizachyrium scoparium</i>	0.400	2.21	6.28%	--	--
Plains Oval Sedge	<i>Carex brevior</i>	0.040	0.60	1.69%	--	--
Prairie Junegrass	<i>Koeleria pyramidata</i>	0.030	1.59	4.53%	--	--
Sideoats Grama, Butte	<i>Bouteloua curtipendula</i>	0.400	1.46	4.15%	--	--
Western Wheatgrass, Barton	<i>Elymus smithii</i>	0.250	0.65	1.86%	--	--
Anise Hyssop	<i>Agastache foeniculum</i>	0.035	1.16	3.29%	3	5
Aromatic Aster	<i>Aster oblongifolius</i>	0.007	0.83	2.35%	3	5
Ashy Sunflower	<i>Helianthus mollis</i>	0.030	0.14	0.39%	3	5
Blackeyed Susan	<i>Rudbeckia hirta</i>	0.040	1.45	4.11%	2	1
Blanketflower, (pulchella)	<i>Gaillardia pulchella</i>	0.250	1.07	3.04%	1	4
Blue Vervain	<i>Verbena hastata</i>	0.030	1.04	2.94%	2	5
Blue-eyed Grass, Native Source	<i>Sisyrinchium campestre</i>	0.005	0.08	0.23%	1	5
Butterfly Milkweed	<i>Asclepias tuberosa</i>	0.040	0.06	0.18%	2	5
Canada Milkvetch	<i>Astragalus canadensis</i>	0.120	0.75	2.12%	2	4
Canada Tick-trefoil	<i>Desmodium canadense</i>	0.070	0.14	0.40%	2	5
Common Evening Primrose	<i>Oenothera biennis</i>	0.030	0.95	2.69%	2	4
Common Milkweed	<i>Asclepias syriaca</i>	0.050	0.09	0.27%	2	5
Cup Plant	<i>Silphium perfoliatum</i>	0.020	0.03	0.08%	2	5
Deer Vetch	<i>Lotus unifoliolatus</i>	0.030	0.05	0.14%	3	4
Entire-leaved Rosinweed, Native Source	<i>Silphium integrifolium</i>	0.030	0.02	0.07%	2	5
False Boneset	<i>Brickellia eupatorioides</i>	0.015	0.18	0.51%	3	3
False or Oxeeye Sunflower	<i>Heliopsis helianthoides</i>	0.180	0.43	1.22%	2	5
Foxglove Beardstongue	<i>Penstemon digitalis</i>	0.035	0.32	0.91%	1	5
Golden Alexander	<i>Zizia aurea</i>	0.100	0.40	1.15%	1	5
Gray Goldenrod	<i>Solidago nemoralis</i>	0.007	0.16	0.46%	3	4
Grayhead Coneflower	<i>Ratibida pinnata</i>	0.050	0.49	1.39%	2	4
Hoary Vervain	<i>Verbena stricta</i>	0.045	0.61	1.72%	2	5
Illinois Bundleflower	<i>Desmanthus illinoensis</i>	0.300	0.59	1.66%	2	5
Ironweed	<i>Vernonia fasciculata</i>	0.040	0.35	1.00%	2	5
Lanceleaf Coreopsis	<i>Coreopsis lanceolata</i>	0.200	1.01	2.88%	2	4
Late or Giant Goldenrod, Native Source	<i>Solidago gigantea</i>	0.006	1.04	2.96%	3	5
Maximilian Sunflower	<i>Helianthus maximiliani</i>	0.110	0.50	1.41%	3	5
New England Aster	<i>Symphotrichum novae-angliae</i>	0.015	0.36	1.03%	3	5
Pale Purple Coneflower	<i>Echinacea pallida</i>	0.120	0.29	0.83%	2	5
Plains Sunflower	<i>Helianthus petiolaris</i>	0.040	0.10	0.30%	3	5
Prairie Cinquefoil	<i>Drymocallis arguta</i>	0.009	0.91	2.58%	2	3
Purple Coneflower	<i>Echinacea purpurea</i>	0.250	0.66	1.88%	2	5
Purple Prairieclover	<i>Dalea purpurea</i>	0.150	1.09	3.10%	2	5
Rough Gayfeather	<i>Liatris aspera</i>	0.020	0.13	0.36%	3	5
Rough Purple Gerardia, Native Source	<i>Agalinis aspera</i>	0.006	0.29	0.83%	2	4
Sawtooth Sunflower	<i>Helianthus grosseserratus</i>	0.018	0.26	0.74%	3	5
Shell-leaf Penstemon	<i>Penstemon grandiflorus</i>	0.025	0.12	0.35%	1	5
Showy Goldenrod	<i>Solidago speciosa</i>	0.010	0.98	2.79%	3	5
Showy Partridgepea	<i>Chamaecrista fasciculata</i>	0.500	0.75	2.12%	2	5
Skyblue Aster	<i>Symphotrichum oolentangiense</i>	0.015	0.44	1.25%	3	5
Smooth Blue Aster	<i>Aster laevis</i>	0.020	0.47	1.32%	3	5
Stiff Goldenrod	<i>Solidago rigida</i>	0.040	0.62	1.76%	3	5
Stiff Sunflower	<i>Helianthus pauciflorus</i>	0.020	0.34	0.96%	2	4
Sullivant's Milkweed	<i>Asclepias sullivantii</i>	0.010	0.02	0.05%	2	5
Swamp Milkweed	<i>Asclepias incarnata</i>	0.020	0.07	0.20%	2	5
Tall Boneset	<i>Eupatorium altissimum</i>	0.013	0.24	0.68%	3	4
Upright Coneflower	<i>Ratibida columnifera</i>	0.060	1.02	2.88%	2	2
Western Yarrow	<i>Achillea millefolium</i>	0.015	0.98	2.79%	1	2
White Prairieclover	<i>Dalea candidum</i>	0.080	0.56	1.59%	2	5
Wild Bergamot	<i>Monarda fistulosa</i>	0.040	1.17	3.32%	2	5
Rice Hulls - Filler for low planting rate mixtures		3.000	0.00	0.00%	--	--
	Grasses Total:	2.120	9.410	26.72%		
	Wildflower/Forb/Legume Total:	3.371	25.808	73.28%		
	Filler Total:	3.000	0.000	0.00%		
	Total Mixture:	8.491	35.218	100.00%		

Species	Scientific Name	PLS lbs per acre	Seeds per sq ft	% of Mixture	Bloom Period	Pollinator Value
Bloom Period		Wildflowers Used in Mixture		% PLS Seeding Rate of Mix		
1 = April to May		6		8.47%		
2 = June to July		27		43.08%		
3 = August to October		17		21.74%		
Total :		50				

4.52	Pollinator Value (0-5)
<i>The Pollinator value score is determined based on a combination of factors described below. A score greater than 4.0 indicates the mixture is designed for great pollinator value.</i>	

The Pollinator Value Score is determined based on a combination of factors that include:

- The pollen and/or nectar value of the plant species.
- The ability of the plant species to establish and persist in pollinator seeding mixtures.
- Bee Integrated Program research results of pollinator pollen analysis.
- Unique pollinator biological life histories of the plant species.
- The total bloom period length of the plant species.
- The occurrence in early bloom periods (Bloom Period 1) that are hard to challenging to provide resources for.
- The commercial availability of the species for use in seeding mixtures.
- Value of the plant species pollen and nectar to commercial beekeepers.
- USGS Pollinator Library tool: <https://www.npwrc.usgs.gov/pollinator/home>
- The Ecoregional Revegetation Application tool: <http://www.nativevegetation.org/era/>
- Botanical and beekeeping reference materials that list the pollinator value of species.
- Field observations of floral resource use by pollinator species.