

Monarch Seed Mix

High Diversity



The Iowa State University Monarch Research Team developed this seed mix to benefit (1) monarch butterflies; (2) the rusty patched bumble bee; and (3) a wide variety of other native and non-native pollinators. The plant species were selected to perform in well-drained and moderately well-drained soils. The seed mix contains 37 species of nectar- and pollen-producing forbs (wildflowers). The diversity of forbs will provide floral resources throughout the entire growing season. The mix also contains four milkweed species as milkweed is the only host plant for monarch caterpillars. Grass species included are mostly short to medium height in order to reduce competition with forbs.

All 50 species in the mix are native to Iowa and available from commercial seed vendors. Purchasers are encouraged to collect seed bids from multiple dealers as prices and availability of specific species are often variable. This seed mix was developed for research purposes, and Iowa State reserves the right to alter this mix as needed depending on research results.

This seed mix meets requirements for a wide range of farm bill conservation programs in Iowa. The seed mix is eligible for use in CP42: CRP (Conservation Reserve Program) Pollinator Habitat; CP25: CRP Rare and Declining Habitat; EQIP (Environmental Quality Incentives Program) Monarch Habitat and many other CRP and conservation practices based on the clients objectives. This mix complies with Iowa Natural Resource Conservation Service (NRCS) Practice Standards 327 and 643. The common names used are from the Iowa NRCS Native Seeding Calculator.

Iowa State University Common Name	Bloom Month								Soil				
	APR	MAY	JUN	JUL	AUG	SEP	OCT	WET	WET- MESIC	MESIC	DRY- MESIC	DRY	
Grasses/Sedges													
Prairie Junegrass		M	J	J									
Bicknell's Sedge			J	J									
Shortbeak Sedge			J	J									
Troublesome Sedge			J	J									
Bluejoint			J	J	A								
Big Bluestem			J	J	A	S							
Prairie Cordgrass				J	A	S							
Canada Wildrye				J	A	S	0						
Little Bluestem				J	A	S	0						
Sideoats Grama					A	S							
Indiangrass					A	S							
Prairie Dropseed					A	S	0						
Composite Dropseed					A	S	0						
Forbs	Colors represent bloom color												
Canadian Lousewort	A	M											
Golden Alexander's	A	M	J										
Common Spiderwort		M	J	J									
White Wild Indigo			J	J									
Foxglove Penstemon			J	J									
Pale Coneflower			J	J									
Leadplant			J	J	A								
Canadian Milkvetch			J	J	A								
Swamp Milkweed			J	J	A								
Common Milkweed			J	J	A								
Butterfly Milkweed			J	J	A								
Prairie Coreopsis			J	J	A								
Culver's Root			J	J	A								
White Prairie Clover			J	J	A	S							
Ox-Eye			J	J	A	S							
Prairie Cinquefoil			J	J	A	S							
Common Mountain Mint			J	J	A	S							
Hoary Vervain			J	J	A	S							
Black-Eyed Susan			J	J	A	S	0						
Showy Ticktrefoil				J	A								
Partridge Pea				J	A	S							
Purple Prairie Clover				J	A	S							
Whorled Milkweed				J	A	S							
Gray-Headed Coneflower				J	A	S							
Wild Bergamot				J	A	S							
Blue Vervain				J	A	S							
Ironweed				J	A	S							
Prairie Blazing Star				J	A	S							
Tall Blazing Star				J	A	S	0						
Great Lobelia				J	A	S	0						
Tall Thoroughwort					A	S	0						
Saw-Tooth Sunflower					A	S	0						
Stiff Goldenrod					A	S	0						
Showy Goldenrod					A	S	0						
White Heath Aster					A	S	0						
Skyblue Aster					A	S	0						
New England Aster					A	S	0						



Grasses	Scientific Name	PLS: seeds/ft ² *	PLS: lbs/acre*
Cool Season Grasses			
Bluejoint	<i>Calamagrostis canadensis</i>	0.75	0.007
Canada Wildrye	<i>Elymus canadensis</i>	0.25	0.131
Prairie Junegrass	<i>Koeleria macrantha</i>	1.50	0.020
Sedges			
Bicknell's Sedge	<i>Carex bicknellii</i>	0.20	0.032
Shortbeak Sedge	<i>Carex brevior</i>	0.30	0.028
Troublesome Sedge	<i>Carex molesta</i>	0.25	0.027
Warm Season Grasses			
Big Bluestem	<i>Andropogon gerardii</i>	0.05	0.014
Sideoats Grama	<i>Bouteloua curtipendula</i>	1.15	0.522
Little Bluestem	<i>Schizachyrium scoparium</i>	3.50	0.635
Indiangrass	<i>Sorghastrum nutans</i>	0.05	0.011
Prairie Cordgrass	<i>Spartina pectinata</i>	0.05	0.021
Composite Dropseed	<i>Sporobolus compositus</i>	1.75	0.159
Prairie Dropseed	<i>Sporobolus heterolepis</i>	0.20	0.034
		10.00	1.641

* Pure Live Seed (PLS) indicates the amount of seed that is capable of developing into seedlings.

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Photo by Alec Euken, animal ecology, Iowa State University.

Forbs	Scientific Name	PLS: seeds/ft ² *	PLS: lbs/acre*
Legumes			
Leadplant	<i>Amorpha canescens</i>	0.70	0.119
Canadian Milkvetch	<i>Astragalus canadensis</i>	1.00	0.160
White Wild Indigo	<i>Baptisia alba</i>	0.01	0.016
Partridge Pea	<i>Chamaecrista fasciculata</i>	0.25	0.252
White Prairie Clover	<i>Dalea candida</i>	1.00	0.143
Purple Prairie Clover	<i>Dalea purpurea</i>	2.50	0.378
Showy Ticktrefoil	<i>Desmodium canadense</i>	0.10	0.050
Non-Legumes			
Swamp Milkweed	<i>Asclepias incarnata</i>	0.24	0.136
Common Milkweed	<i>Asclepias syriaca</i>	0.23	0.146
Butterfly Milkweed	<i>Asclepias tuberosa</i>	0.08	0.051
Whorled Milkweed	<i>Asclepias verticillata</i>	0.05	0.012
Prairie Coreopsis	<i>Coreopsis palmata</i>	0.01	0.003
Pale Coneflower	<i>Echinacea pallida</i>	0.10	0.052
Tall Thoroughwort	<i>Eupatorium altissimum</i>	0.58	0.032
Saw-Tooth Sunflower	<i>Helianthus grosseserratus</i>	0.10	0.018
Ox-Eye Sunflower	<i>Heliopsis helianthoides</i>	0.50	0.216
Tall Blazing Star	<i>Liatris aspera</i>	0.15	0.026
Prairie Blazing Star	<i>Liatris pycnostachya</i>	0.35	0.087
Great Lobelia	<i>Lobelia siphilitica</i>	2.50	0.014
Wild Bergamot	<i>Monarda fistulosa</i>	2.00	0.078
Stiff Goldenrod	<i>Oligoneuron rigidum</i>	1.00	0.066
Canadian Lousewort	<i>Pedicularis canadensis</i>	0.20	0.017
Foxglove Penstemon	<i>Penstemon digitalis</i>	2.00	0.042
Prairie Cinquefoil	<i>Potentilla arguta</i>	2.00	0.024
Common Mountain Mint	<i>Pycnanthemum virginianum</i>	1.00	0.012
Grey-Headed Coneflower	<i>Ratibida pinnata</i>	1.00	0.091
Black Eyed Susan	<i>Rudbeckia hirta</i>	1.75	0.052
Showy Goldenrod	<i>Solidago speciosa</i>	1.25	0.036
White Heath Aster	<i>Symphyotrichum ericoides</i>	0.25	0.003
New England Aster	<i>Symphyotrichum novae-angliae</i>	1.00	0.041
Skyblue Aster	<i>Symphyotrichum oolentangiense</i>	1.00	0.034
Common Spiderwort	<i>Tradescantia ohioensis</i>	0.10	0.034
Blue Vervain	<i>Verbena hastata</i>	1.50	0.044
Hoary Vervain	<i>Verbena stricta</i>	0.50	0.049
Ironweed	<i>Vernonia fasciculata</i>	0.50	0.057
Culver's Root	<i>Veronicastrum virginicum</i>	2.00	0.007
Golden Alexander's	<i>Zizia aurea</i>	0.50	0.124
	TOTAL (grass)	10.00	1.641
	TOTAL (forb)	30.00	2.722
	GRAND TOTAL	40.00	4.361

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