

**Customize Options to Suit Site Conditions**

▼ ← Pick an Ecoregion

Xeric (dry)  Mesic (medium)  Hydric (wet)

Prairie  Savanna  Wetland  Woodland

Long Term Program  Short Term Program

Monarch Preferred Species  
 Forage and Biomass (512) Planting

**CHOOSE A RATE SPECIFICATION:**

lbs/acre PLS (check a mix)  Seeds/ft2 PLS (design a mix)

To override default cost, enter your cost in the applicable cell.



**United States Department of Agriculture**

**Natural Resources Conservation Service**

*Criteria Revision Update 5/26/2020*  
*Species Information Update 8/26/2021*

**CHOOSE YOUR GRASSES**

↩ Input quantity ↪

Common Name	Scientific Name	Lbs / acre PLS	Seeds / ft2 PLS	Coefficient of Conservatism	Estimated Cost (\$/lb)	# Seeds / ft <sup>2</sup> @ 1 lb. / ac	Pure Stand PLS Rate lbs / ac	% of Mix	Estimated Cost (\$/ac)	Functional Group
*Select Plants	Growth Form	Equivalent rate below								
1 Grama, Sideoats	<i>Bouteloua curtipendula</i>	0.56		7	\$9	4.4	8.0	6.1%	\$5	Perennial Warm Season Grass
	Rhizomatous		2.44							
2 Bluestem, Little	<i>Schizachyrium scoparium</i>	0.90		5	\$12	5.9	6.0	13.2%	\$11	Perennial Warm Season Grass
	Bunch		5.27							
3 Dropseed, Sand	<i>Sporobolus cryptandrus</i>	0.020		4	\$15	114.8	0.3	5.7%	\$0.30	Perennial Warm Season Grass
	Bunch		2.30							
4									\$0.00	
5									\$0.00	
6									\$0.00	
7									\$0.00	
8									\$0.00	
9									\$0.00	
10									\$0.00	
11									\$0.00	
12									\$0.00	
13									\$0.00	
14									\$0.00	
15									\$0.00	
16									\$0.00	
17									\$0.00	
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21									\$0.00	
22									\$0.00	
23									\$0.00	
24									\$0.00	
25									\$0.00	

25									\$0.00	
27									\$0.00	
28									\$0.00	
29									\$0.00	
30									\$0.00	
		Species Richness	lbs / acre PLS	seeds / ft <sup>2</sup> PLS	Average CC	ESTIMATED GRAMINOID COST (\$/AC)			OST (\$/AC)	\$16
GRAMINOID TOTAL		3	1.48	10.01	5.3					

**CHOOSE YOUR FORBS/LEGUMES** ↩ Input quantity ↪

	Common Name <small>*Select Plants</small>	Scientific Name <small>*Select Bloom Period below Scientific Name</small>	Lbs / acre PLS	Seeds / ft <sup>2</sup> PLS	Coefficient of Conservatism	Estimated Cost (\$/lb)	# Seeds / ft <sup>2</sup> @ 1 lb. / ac	Pure Stand PLS Rate lbs / ac	% of Mix	Estimated Cost (\$/ac)	Functional Group	Monarch Preferred
			Equivalent rate below									
1	Milkweed, Common <small>Input bloom period -&gt;</small>	<i>Asclepias syriaca</i> <small>Mid</small>	0.031	0.046	0	\$120	1.5	23.8	0.1%	\$4	Perennial Forb	X
2	Milkweed, Butterfly <small>Input bloom period -&gt;</small>	<i>Asclepias tuberosa</i> <small>Mid</small>	0.020	0.032	5	\$300	1.6	22.2	0.1%	\$6	Perennial Forb	X
3	Milkvetch, Canadian <small>Input bloom period -&gt;</small>	<i>Astragalus canadensis</i> <small>Mid</small>	0.15	0.86	7	\$120	5.7	6.1	2.1%	\$18	Perennial Forb, Legume	
4	Wild Indigo, Blue <small>Input bloom period -&gt;</small>	<i>Baptisia australis</i> <small>Early</small>	0.010	0.0055	0	\$150	0.6	63.5	0.0%	\$2	Perennial Forb, Legume	
5	Doll's Daisy, White <small>Input bloom period -&gt;</small>	<i>Boltonia asteroides</i> <small>Mid</small>	0.020	1.18	5	\$166	58.8	0.6	2.9%	\$3	Perennial Forb	X
6	Partridge Pea <small>Input bloom period -&gt;</small>	<i>Chamaecrista fasciculata</i> <small>Late</small>	0.26	0.30	1	\$25	1.1	30.7	0.7%	\$7	Annual Forb, Legume	
7	Zizia, Golden (Alexander's) <small>Input bloom period -&gt;</small>	<i>Zizia aurea</i>	0.070	0.31	6	\$120	4.4	7.9	0.8%	\$8	Perennial Forb	
8	Coreopsis, Lanceleaf tickseed <small>Input bloom period -&gt;</small>	<i>Coreopsis lanceolata</i> <small>Mid</small>	0.30	2.20	5	\$1,280	7.3	4.8	5.5%	\$384	Perennial Forb	X
9	Prairie Clover, White <small>Input bloom period -&gt;</small>	<i>Dalea candida</i> <small>Mid</small>	0.10	0.70	9	\$90	7.0	5.0	1.7%	\$9	Perennial Forb, Legume	X
10	Prairie Clover, Purple <small>Input bloom period -&gt;</small>	<i>Dalea purpurea</i> <small>Mid</small>	0.20	1.25	8	\$45	6.2	5.6	3.1%	\$9	Perennial Forb, Legume	X
11	Bundleflower, Illinois <small>Input bloom period -&gt;</small>	<i>Desmanthus illinoensis</i> <small>Mid</small>	0.50	0.70	4	\$45	1.4	25.1	1.7%	\$23	Perennial Forb, Legume	
12	Coneflower, Eastern Purple <small>Input bloom period -&gt;</small>	<i>Echinacea purpurea</i> <small>Mid</small>	0.25	0.61	6	\$45	2.4	14.4	1.5%	\$11	Perennial Forb	X
13	Oxeye, Smooth (False Sunflower) <small>Input bloom period -&gt;</small>	<i>Heliopsis helianthoides</i> <small>Late</small>	0.10	0.24	4	\$60	2.4	14.7	0.6%	\$6	Perennial Forb	X
14	Alumroot <small>Input bloom period -&gt;</small>	<i>Heuchera richardsonii</i> <small>Early</small>	0.0020	0.51	8	\$900	252.5	0.1	1.3%	\$2	Perennial Forb	
15	Blazing Star, Dense <small>Input bloom period -&gt;</small>	<i>Liatris spicata</i> <small>Mid</small>	0.020	0.081	7	\$150	4.0	8.7	0.2%	\$3	Perennial Forb	X
16	Bergamot, Wild <small>Input bloom period -&gt;</small>	<i>Monarda fistulosa</i> <small>Mid</small>	0.10	2.75	4	\$150	27.5	1.3	6.9%	\$15	Perennial Forb	X
17	Goldenrod, Stiff <small>Input bloom period -&gt;</small>	<i>Oligoneuron rigidum</i> <small>Late</small>	0.020	0.30	4	\$225	15.1	2.3	0.8%	\$5	Perennial Forb	X
18	Beardtongue, Foxglove <small>Input bloom period -&gt;</small>	<i>Penstemon digitalis</i> <small>Early</small>	0.030	1.43	4	\$150	47.8	0.7	3.6%	\$5	Perennial Forb	
19	Cinquefoil, Tall <small>Input bloom period -&gt;</small>	<i>Potentilla arguta</i> <small>Mid</small>	0.020	1.69	10	\$120	84.5	0.4	4.2%	\$2	Perennial Forb	
20	Mountainmint, Narrowleaf <small>Input bloom period -&gt;</small>	<i>Pycnanthemum tenuifolium</i> <small>Late</small>	0.015	2.08	4	\$450	138.8	0.3	5.2%	\$7	Perennial Forb	X
21	Mountainmint, Virginia (Common) <small>Input bloom period -&gt;</small>	<i>Pycnanthemum virginianum</i> <small>Late</small>	0.0060	0.48	5	\$450	80.8	0.4	1.2%	\$3	Perennial Forb	X
22	Coneflower, Pinnate Prairie (Gray-head) <small>Input bloom period -&gt;</small>	<i>Ratibida pinnata</i> <small>Mid</small>	0.10	1.43	4	\$60	14.3	2.4	3.6%	\$6	Perennial Forb	

23	Susan, Black-eyed	<i>Rudbeckia hirta</i>	0.13		2	\$45	34.4	1.0	11.2%	\$6	Biennial Forb	X	
	Input bloom period ->	Mid		4.48									
24	Susan, Browneyed	<i>Rudbeckia triloba</i>	0.15		3	\$90	12.9	2.7	4.8%	\$14	Biennial Forb	X	
	Input bloom period ->	Late		1.93									
25	Goldenrod, Gray (Field)	<i>Solidago nemoralis</i>	0.010		3	\$600	110.2	0.3	2.8%	\$6	Perennial Forb	X	
	Input bloom period ->	Late		1.10									
26	Aster, Smooth Blue	<i>Symphotrichum laeve</i>	0.010		8	\$300	18.4	1.9	0.5%	\$3	Perennial Forb	X	
	Input bloom period ->	Late		0.18									
27	Aster, Calico	<i>Symphotrichum lateriflorum</i>	0.010		2	\$600	91.8	0.4	2.3%	\$6	Perennial Forb	X	
	Input bloom period ->	Late		0.92									
28	Spiderwort, Bluejacket (Ohio)	<i>Tradescantia ohiensis</i>	0.0060		3	\$300	2.9	11.9	0.0%	\$2	Perennial Forb		
	Input bloom period ->	Early		0.018									
29	Verbena, Hoary	<i>Verbena stricta</i>	0.10		2	\$75	12.3	2.9	3.1%	\$8	Perennial Forb	X	
	Input bloom period ->	Mid		1.23									
30	Culver's Root	<i>Veronicastrum virginicum</i>	0.0020		6	\$1,200	275.5	0.1	1.4%	\$2	Perennial Forb	X	
	Input bloom period ->	Mid		0.55									
31	Aster, New England	<i>Symphotrichum novae-angliae</i>	0.010		4	\$300	24	1	0.6%	\$3	Perennial Forb	X	
	Input bloom period ->			0.24									
32										\$0.00			
	Input bloom period ->												
33										\$0.00			
	Input bloom period ->												
34										\$0.00			
	Input bloom period ->												
35										\$0.00			
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36										\$0.00			
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37										\$0.00			
	Input bloom period ->												
38										\$0.00			
	Input bloom period ->												
39										\$0.00			
	Input bloom period ->												
40										\$0.00			
	Input bloom period ->												
			Species Richness	lbs / acre PLS	seeds / ft <sup>2</sup> PLS	Average CC	ESTIMATED FORB COST (\$/AC)			COST (\$/AC)	\$585		
FORBS/LEGUMES TOTAL			31	2.75	29.83	4.6							

CHOOSE YOUR VINE OR Sub-Shrub PLANT SPECIES													
	Common Name	Scientific Name Flowering Period	Lbs / acre PLS	Seeds / ft <sup>2</sup> PLS	Coefficient of Conservatism	Estimated Cost (\$/lb)	# Seeds / ft <sup>2</sup> @ 1 oz. / ac	Pure Stand PLS Rate lbs / ac	% of Mix	Estimated Cost (\$/ac)	Functional Group	Monarch Preferred	
													Equivalent rate below
1	Leadplant	<i>Amorpha canescens</i>	0.030		8	\$225.00	6	6	0.0%	\$7	Sub-Shrub, Legume	X	
	Input bloom period ->	Mid		0.19									
2										\$0.00			
	Input bloom period ->												
3										\$0.00			
	Input bloom period ->												
4										\$0.00			
	Input bloom period ->												
5										\$0.00			
	Input bloom period ->												
			Species Richness	Lbs / acre PLS	seeds / ft <sup>2</sup> PLS	Average CC	ESTIMATED VINE & WOODY COST (\$/AC)			COST (\$/AC)	\$7		
VINE & WOODY PLANT TOTAL			1	0.03	0.19	8.0							

	lbs / acre PLS	seeds / ft <sup>2</sup> PLS	Average CC	Species Richness	Floristic Quality Index		ESTIMATED GRAND TOTAL COST (\$/AC)
<b>GRAND TOTAL</b>	4.26	40.0	4.8	35	28.2		\$608

Illinois NRCS 420 Wildlife Habitat Planting: Pollinator and Monarch Full Seeding Requirements			
Requirement	Criteria	Mix	Criteria Met
<b>All mixes</b>			
Spring Blooming Forbs & Shrubs, Minimum	3	3	Meets Criteria
Summer Blooming Forbs & Shrubs, Minimum	3	13	Meets Criteria
Fall Blooming Forbs & Shrubs, Minimum	3	6	Meets Criteria
Tall Grass Species in the Mix (Big Bluestem, Indiangrass, or Switchgrass)	Absent	Absent	Meets Criteria
<b>Requirements for sites on &lt; 5% slope</b>			
Grass Seeds/ft <sup>2</sup> , Maximum	5	10.0	Does Not Meet Criteria
Forb & Sub-shrub Seeds/ft <sup>2</sup> , Minimum	15	30.0	Meets Criteria
Total Seeds/ft <sup>2</sup> , Minimum	20	40.0	Meets Criteria
<b>Requirements for sites on &gt;=5% slope</b>			
Grass Seeds/ft <sup>2</sup> , Minimum	10	10.0	Meets Criteria
Forb & Sub-shrub Seeds/ft <sup>2</sup> , Minimum	30	30.0	Meets Criteria
Total Seeds/ft <sup>2</sup> , Minimum	40	40.0	Meets Criteria
<b>Additional Requirement for Monarch Plantings</b>			
Milkweed % PLS seeds/ft <sup>2</sup> , Minimum	1.5%	0.2%	Does Not Meet Criteria
Monarch preferred Forbs % PLS seeds/ft <sup>2</sup> , Minimum	60.0%	75.9%	Meets Criteria

Illinois NRCS 420 Wildlife Habitat Planting: Pollinator and Monarch Interseeding 1/2 Rate			
Requirement	Criteria	Mix	Criteria Met
<b>All mixes</b>			
Spring Blooming Forbs & Shrubs, Minimum	3	3.0	Meets Criteria
Summer Blooming Forbs & Shrubs, Minimum	3	14.0	Meets Criteria
Fall Blooming Forbs & Shrubs, Minimum	3	10.0	Meets Criteria
Tall Grass Species in the Mix (Big Bluestem, Indiangrass, or Switchgrass)	Absent	Absent	Meets Criteria
<b>Grass and Forb Interseeding on &lt; 5% slope</b>			
Grass Seeds/ft <sup>2</sup> , Maximum	2.5	10.0	Does Not Meet Criteria
Forb & Sub-shrub Seeds/ft <sup>2</sup> , Minimum	7.5	30.0	Meets Criteria
Total Seeds/ft <sup>2</sup> , Minimum	10.0	40.0	Meets Criteria
<b>Grass and Forb Interseeding on &gt;= 5% slope</b>			
Grass Seeds/ft <sup>2</sup> , Minimum	5	10.0	Meets Criteria
Forb & Sub-shrub Seeds/ft <sup>2</sup> , Minimum	15.0	30.0	Meets Criteria
Total Seeds/ft <sup>2</sup> , Minimum	20.0	40.0	Meets Criteria
<b>Additional Requirement for Monarch Plantings</b>			
Milkweed % PLS seeds/ft <sup>2</sup> , Minimum	1.5%	0.2%	Does Not Meet Criteria
Monarch preferred Forbs % PLS seeds/ft <sup>2</sup> , Min	60.0%	75.9%	Meets Criteria
<b>Forb Only Interseeding on &lt; 5% slope</b>			
Forb & Sub-shrub Seeds/ft <sup>2</sup> , Minimum	7.5	30.0	Meets Criteria
<b>Forb Only Interseeding on &gt;= 5% slope</b>			
Forb & Sub-shrub Seeds/ft <sup>2</sup> , Minimum	15.0	30.0	Meets Criteria