

**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



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

**Natural Resources Conservation Service**

**CHOOSE A RATE SPECIFICATION:**

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

Criteria Revision Update 5/26/2020  
Species Information Update 5/26/2020

**CHOOSE YOUR GRASSES**

← Input quantity →

Common Name <i>*Select Plants</i>	Scientific Name <i>Growth Form</i>	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
		Equivalent rate below								
1 <b>Bluestem, Big</b>	<b><i>Andropogon gerardii</i></b>	0.50		5	\$7	3.0	11.7	7.0%	\$4	Perennial Warm Season Grass
	Bunch		1.49							
2 <b>Bluestem, Little</b>	<b><i>Schizachyrium scoparium</i></b>	0.40		5	\$12	5.9	6.0	11.0%	\$5	Perennial Warm Season Grass
	Bunch		2.34							
3 <b>Dropseed, Prairie</b>	<b><i>Sporobolus heterolepis</i></b>	0.035		9	\$180	27.5	1.3	4.5%	\$6	Perennial Warm Season Grass
	Bunch		0.96							
4 <b>Indiangrass</b>	<b><i>Sorghastrum nutans</i></b>	0.50		4	\$6	3.9	9.0	9.2%	\$3	Perennial Warm Season Grass
	Bunch		1.95							
5 <b>Switchgrass</b>	<b><i>Panicum virgatum</i></b>	0.25		4	\$8	9.2	4.0	10.8%	\$2	Perennial Warm Season Grass
	Rhizomatous		2.30							
6 <b>Wildrye, Canada</b>	<b><i>Elymus canadensis</i></b>	0.40		4	\$2	2.6	13.3	5.0%	\$0.80	Perennial Cool Season Grass
	Bunch		1.06							
7									\$0.00	
8									\$0.00	
9									\$0.00	
10									\$0.00	
11									\$0.00	
12									\$0.00	
13									\$0.00	
14									\$0.00	
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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)	COST (\$/AC)	\$20	
GRAMINOID TOTAL		6	2.09	10.10	5.2							

**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 Aster, Heath <small>Input bloom period -&gt;</small>	<i>Symphotrichum ericoides</i>	0.0050	0.37	3	\$1,600	73.5	0.5	1.7%	\$8	Perennial Forb	X	
2 Beardtongue, Foxglove <small>Input bloom period -&gt;</small>	<i>Penstemon digitalis</i>	0.020	0.96	4	\$150	47.8	0.7	4.5%	\$3	Perennial Forb		
3 Bergamot, Wild <small>Input bloom period -&gt;</small>	<i>Monarda fistulosa</i>	0.040	1.10	4	\$150	27.5	1.3	5.2%	\$6	Perennial Forb	X	
4 Coneflower, Pinnate Prairie (Gray-head) <small>Input bloom period -&gt;</small>	<i>Ratibida pinnata</i>	0.050	0.72	4	\$60	14.3	2.4	3.4%	\$3	Perennial Forb		
5 Culver's Root <small>Input bloom period -&gt;</small>	<i>Veronicastrum virginicum</i>	0.0040	1.10	6	\$1,200	275.5	0.1	5.2%	\$5	Perennial Forb	X	
6 Bundleflower, Illinois <small>Input bloom period -&gt;</small>	<i>Desmanthus illinoensis</i>	0.10	0.14	4	\$45	1.4	25.1	0.7%	\$5	Perennial Forb		
7 Milkvetch, Canadian <small>Input bloom period -&gt;</small>	<i>Astragalus canadensis</i>	0.20	1.15	7	\$120	5.7	6.1	5.4%	\$24	Perennial Forb, Legume		
8 Milkweed, Butterfly <small>Input bloom period -&gt;</small>	<i>Asclepias tuberosa</i>	0.031	0.049	5	\$300	1.6	22.2	0.2%	\$9	Perennial Forb	X	
9 Mountainmint, Virginia (Common) <small>Input bloom period -&gt;</small>	<i>Pycnanthemum virginianum</i>	0.0050	0.40	5	\$450	80.8	0.4	1.9%	\$2	Perennial Forb	X	
10 Mountainmint, Narrowleaf <small>Input bloom period -&gt;</small>	<i>Pycnanthemum tenuifolium</i>	0.0050	0.69	4	\$450	138.8	0.3	3.3%	\$2	Perennial Forb	X	
11 Prairie Clover, Purple <small>Input bloom period -&gt;</small>	<i>Dalea purpurea</i>	0.22	1.37	8	\$45	6.2	5.6	6.4%	\$10	Perennial Forb, Legume	X	
12 Susan, Black-eyed <small>Input bloom period -&gt;</small>	<i>Rudbeckia hirta</i>	0.063	2.17	2	\$45	34.4	1.0	10.2%	\$3	Biennial Forb	X	
13 Susan, Browneyed <small>Input bloom period -&gt;</small>	<i>Rudbeckia triloba</i>	0.065	0.84	3	\$90	12.9	2.7	3.9%	\$6	Biennial Forb	X	
14 Coneflower, Sweet <small>Input bloom period -&gt;</small>	<i>Rudbeckia subtomentosa</i>	0.010	0.16	5	\$150	15.8	2.2	0.7%	\$2	Perennial Forb	X	
15									\$0.00			
16									\$0.00			
17									\$0.00			
18									\$0.00			
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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)	\$87			
FORBS/LEGUMES TOTAL		14	0.82	11.21	4.6								

CHOOSE YOUR VINE OR Sub-Shrub PLANT SPECIES												
Common Name	Scientific Name <small>Flowering Period</small>	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	% of Mix	Estimated Cost (\$/ac)	Functional Group	Monarch Preferred	
		Equivalent rate below					lbs / ac					
1									\$0.00			
	Input bloom period ->											
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)	\$0		
VINE & WOODY PLANT TOTAL		0	0.00	0.00	0.0							

	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>	2.90	21.3	4.8	20	21.2		\$108

**Whenever possible, plantings, especially those within 1-mile of remnants, should be seeded with local source identified, ecotype seed.**

Criteria Revision Update 5/26/2020 Species Information Update 5/26/2020

643 Restoration of Rare or Declining Natural Communities Requirements			
Full Rate Requirements			
Requirement	Criteria	Mix	Criteria Met
<b>Grass and Forb Mix Requirements for All Purposes</b>			
Number of Forbs and Sub-shrubs, Minimum	10	14	Meets Criteria
Number of Graminoids, Minimum	5	6	Meets Criteria
Number of Legumes, Minimum (upland mixes only)	2	2	Meets Criteria
Total Number of Species, Minimum	15	20	Meets Criteria
Graminoid Seeds/ft <sup>2</sup> , Minimum	10	10.10	Meets Criteria
Forb & Sub-shrub Seeds/ft <sup>2</sup> , Minimum	10	11.21	Meets Criteria
Legume Seeds/ft <sup>2</sup> , Minimum (upland mixes only)	2	2.52	Meets Criteria
Total Seeds/ft <sup>2</sup> , Minimum	20	21.31	Meets Criteria
<b>Forb Only Full Interseeding Requirements</b>			
Forb & Sub-shrub Seeds/ft <sup>2</sup> , Minimum	15.0	11.2	Does Not Meet Criteria
Legume Seeds/ft <sup>2</sup> , Minimum (upland mixes only)	1.0	2.5	Meets Criteria
<b>Additional Criteria for Pollinator and Monarch Purposes</b>			
Spring Blooming Forbs & Shrubs, Minimum	3	0	Does Not Meet Criteria
Summer Blooming Forbs & Shrubs, Minimum	3	0	Does Not Meet Criteria
Fall Blooming Forbs & Shrubs, Minimum	3	0	Does Not Meet Criteria
<b>Additional Requirement for Monarch Plantings</b>			
Milkweed % PLS seeds/ft <sup>2</sup> , Minimum	1.5%	0.23%	Does Not Meet Criteria
Monarch preferred Forbs % PLS seeds/ft <sup>2</sup> , Minimum	60%	73.63%	Meets Criteria

643 Restoration of Rare or Declining Natural Communities			
Interseeding 1/2 Rate Requirements			
Requirement	Criteria	Mix	Criteria Met
<b>Grass and Forb Mix Requirements for All Purposes</b>			
Number of Forbs and Sub-shrubs, Minimum	10	14	Meets Criteria
Number of Graminoids, Minimum	5	6	Meets Criteria
Number of Legumes, Minimum (upland mixes only)	2	2	Meets Criteria
Total Number of Species, Minimum	15	20	Meets Criteria
Graminoid Seeds/ft <sup>2</sup> , Minimum	5	10.10	Meets Criteria
Forb & Sub-shrub Seeds/ft <sup>2</sup> , Minimum	5	11.21	Meets Criteria
Legume Seeds/ft <sup>2</sup> , Minimum (upland mixes only)	1	2.52	Meets Criteria
Total Seeds/ft <sup>2</sup> , Minimum	10	21.31	Meets Criteria
<b>Forb Only Half Rate Interseeding</b>			
Forb & Sub-shrub Seeds/ft <sup>2</sup> , Minimum	7.5	11.2	Meets Criteria
Legume Seeds/ft <sup>2</sup> , Minimum (upland mixes only)	0.5	2.5	Meets Criteria
<b>Additional Half Rate Criteria for Pollinator and Monarch Purposes</b>			
Spring Blooming Forbs & Shrubs, Minimum	3	0	Does Not Meet Criteria
Summer Blooming Forbs & Shrubs, Minimum	3	0	Does Not Meet Criteria
Fall Blooming Forbs & Shrubs, Minimum	3	0	Does Not Meet Criteria
<b>Additional Requirement for Monarch Plantings</b>			
Milkweed % PLS seeds/ft <sup>2</sup> , Minimum	1.5%	0.23%	Does Not Meet Criteria
Monarch preferred Forbs % PLS seeds/ft <sup>2</sup> , Minimum	60%	73.63%	Meets Criteria

643 Restoration of Rare or Declining Natural Communities Recommendations			
Recommendations			
Recommendation	Mix	Recommendation Met	
<b>Recommendations For All Purposes</b>			
Floristic Quality Index (FQI), minimum	20	21.2	Meets Recommendation
Coefficient of Conservatism (CC), minimum	3.0	4.8	Meets Recommendation
% Early successional species (CC < 3), Maximum	15-33%	16%	Meets Recommendation
% Mid successional species (CC 4-6), Maximum	45-65%	68%	Does Not Meet Recommendation
% Late successional species (CC ≥ 7), Minimum	15-33%	16%	Meets Recommendation
Simpson's Evenness, Minimum	70%	71%	Meets Recommendation
<b>Functional Plant Group Representation:</b>	<b>Species</b>	<b>% of Mix</b>	
Cactus	0	0%	
Fern	0	0%	
Forb, Annual	0	0%	
Forb, Biennial	2	14%	
Forb, Hemiparasite, Annual	0	0%	
Forb, Hemiparasite, Perennial	0	0%	
Forb, Legume, Annual	0	0%	
Forb, Legume, Perennial	2	12%	
Forb, Parasitic, Annual	0	0%	
Forb, Perennial	10	27%	
Grass, Cool Season, Annual	0	0%	
Grass, Cool Season, Perennial	1	5%	
Grass, Warm Season, Annual	0	0%	
Grass, Warm Season, Perennial	5	42%	
Rush, Cool Season, Perennial	0	0%	
Sedge, Cool Season, Annual	0	0%	
Sedge, Cool Season, Perennial	0	0%	
Shrub	0	0%	
Sub-shrub	0	0%	
Sub-Shrub, Legume	0	0%	
Tree	0	0%	
Vine, Herbaceous, Legume, Annual	0	0%	
Vine, Herbaceous, Annual	0	0%	
Vine, Herbaceous, Legume, Perennial	0	0%	
Vine, Herbaceous, Perennial	0	0%	
Vine, Woody	0	0%	

Number of Functional Plant Groups	$\geq 7$	5	Does Not Meet Recommendation
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