

Landscaping to Attract Butterflies and Moths

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Butterflies and moths are some of our most beautiful insects. Their striking colors, patterns, and behavior add to the aesthetics of our landscapes. They allow for closer and easier observation than many other species of wildlife. With a few exceptions, moths are active primarily at night while butterflies are active during the day. Butterflies and moths are important pollinators, with some species only pollinating a single plant species. Additionally, butterflies and moths are an essential part of the diets of many songbirds, bats, reptiles, and amphibians, which depend on insects in order to survive. The best way to conserve butterflies and moths is to provide habitat for them, which includes sources of nectar for adults, and food plants for larvae.

Food Plants

Butterflies and moths are dependent on two types of food, host plants for larvae and nectaring plants for adults. Nectar plants should be planted in large groups according to color. Butterflies recognize the blooms more quickly this way. Also, it is wise to select nectar plants that bloom at different times, so that a continuous food source is provided throughout the growing season, increasing feeding activity and your observing opportunity. When planting nectar plants, provide plants of different height. Not only will your flower garden look more organized, it will give both you and the butterflies a wider visual picture of the colorful blossoms.

Most larvae do not feed on the same plants as adults; therefore, provide plants that are attractive to females for oviposition (egg laying). Some larval host plants include vegetable and herb crops such as tomato, cabbage, dill, or fennel. Consider sacrificing some of these from your garden

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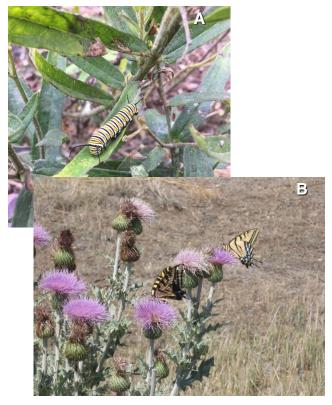


Figure 1. (A) Monarch caterpillar on milkweed (Asclepias spp.). (Photo by Emily Geest, Oklahoma State University) (B) Tiger swallowtails (Papilio glaucus) nectaring on wavy leaved thistle (Cirsium undulatum). (Photo by Dwayne Elmore, Oklahoma State University)

as necessary food sources for caterpillars, and when possible, plant more than one of each plant. Some weedy plants like clover, which is both a nectar and larval food plant, may already occur in your yard already assuming you do not use excessive herbicide to control for weeds. When seeded to an area that is not mowed, clover will become a beautiful flowering addition to your garden. Many colorful species are now available at your garden center.



Figure 2. Painted lady (*Vanessa cardui***) basking on mulch.** (Photo by Emily Geest, Oklahoma State University)

Location

To have a successful butterfly garden, plantings should be established in a sunny location to benefit both plants and butterflies. Most blooming plants need lots of sun exposure to maintain nectar output. Also, butterflies need an open, sheltered area for basking in the sun. Egg development is also enhanced by warmer temperatures provided by sunlit areas.

Shelter

Shelter is another essential ingredient for a butterfly garden. Butterflies and taller plants need protection from strong gusts of wind. Cooling winds lower the body temperature of butterflies and limit blooming time of flowering plants. Shelter can be provided by wind breaks in the form of deciduous plants, conifers, or even heat-absorbing rock fences. Vining plants such as passionvine, blackberries or Dutchman's pipe can be grown on fences or trellises to provide both shelter and a nectar source. Regardless of the type of shelter used, it should be located on the north and west sides of your garden to block prevailing winds. To shelter insects from cold temperatures, leave leaf litter through the winter.

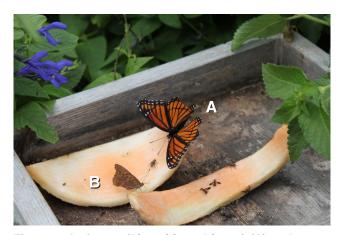


Figure 3. A viceroy (*Limenitis archippus*) (A) and tawny emperor (*Asterocampa clyton*) (B) on cantaloupe. (Photo by David Hillock, Oklahoma State University)

Attractants

Elements other than plants can be used to attract butterflies and moths to your yard. Try using attractants such as mud puddles, wet sand, fruit, or sap. There are also tried-andtrue moth "brews" that can be made from simple ingredients and painted on tree trunks to allow you to get a closer look at the often unseen night-flying moths. This technique is called sugaring. Most recipes simply consist of mashed, fermented fruit, yeast and alcohol. Mashed bananas and a small amount of stale beer alone work extremely well. When trying to observe or photograph moths at night, keep in mind that they are usually inactive on full moon evenings yet prefer hot, humid nights before a storm. Also, moths seem to have an affinity for white flowers and those emitting their fragrances at night. Intensely bright lights will drive them away, whereas a simple flashlight equipped with a red or yellow filter, or even a paper towel, will not disturb them very much. Some moths remain relatively active through November. When trying to attract insects to your yard, the use of broad-spectrum insecticides is not recommended. Integrated pest management (IPM) strategies can be used to reduce the need for insecticides to manage key garden pests. For more information, refer to OSU Extension Publication E-1023: Conserving Beneficial Arthropods in Residential Landscapes.

Sugaring recipe:

- Brown sugar
- · Overripe fruit (bananas work well)
- Beer (preferably stale)
- Molasses

No need to measure, just mix together. Allow to sit for one day to two days before applying to tree trunks.

Choosing Plants

When landscaping to attract butterflies and moths, keep in mind these principles for formulating your garden plan. Be sure to mix perennials and annuals. Annuals bloom for one season only and may have delayed blooming if grown from seed. Perennials, however, already have established roots and tend to bloom within a predictable time frame. Some perennials may be annuals if they cannot survive the winter temperatures in your area. Winter mulching may provide the extra protection they need from the cold.

When possible, include at least three plants that bloom during early, middle, and late season. Use mostly native plants, which are beautiful, well adapted to the region in which they grow, and can help provide habitat for many regional pollinators and other beneficial insects. Native seeds perform better if planted during the fall-winter.

It may be more economical to plant seeds than established plants if working with larger areas. However, some plants such as milkweeds are difficult to establish from seed and are better purchased as an established plant. When buying plants, be careful that the plants have not been treated with neonicotinoids, a class of insecticides known to be harmful to pollinators. Research the seller, examine plant labels, or speak with nursery managers to determine if plants have been treated with neonicotinoids. Local nurseries will have more information about the plants they sell than large chains.



Figure 4. A typical butterfly garden with a diversity of plants that bloom at different times throughout the year. (Photo by Emily Geest, Oklahoma State University)

Successful butterfly gardens have:

- A mixture of perennials (both herbaceous and woody) and annuals
- A mixture of nectar plants and larval host plants
- Lots of sun
- Shelter from wind
- Some bare ground for basking and mud puddling
- Limited use of insecticides and herbicides (avoid neonicotinoid-treated plants entirely)

Other pollinators

If you want to expand your butterfly/moth garden to benefit other pollinators such as our native wild bees, consider leaving hollow-stemmed plants (e.g., sunflower) standing through the winter, as bees often overwinter in these. Leaving some bare ground can benefit ground-nesting bees and wasps.

Oklahoma Native Plant Suppliers

Bustani Plant Farm

1313 East 44th Avenue Stillwater, OK 74074 bustaniplantfarm.com/

Johnston Seed Co. 319 West Chestnut Enid, OK 73701

johnstonseed.com/

Prairie Wind Nursery

Norman, OK prairiewindnursery.square.site/

Sunshine Farm and Nursery

Route 1, Box 4030 Clinton, OK 73601 facebook.com/sunshinenurseryok/

Wild Things Nursery

Seminole, OK wildthingsnursery.com/

National Native Plant Suppliers

Boothe Hill Wildflowers

921 Boothe Hill Chapel Hill, NC 27514

Larner Seeds

P.O. Box 407 Bolinas, CA 94924 https://larnerseeds.com/

Moon Mountain Wildflowers

P.O. Box 725 Carpinteria, California 93014-0725

Niche Gardens

1111 Dawson Rd. Chapel Hill, NC 27516

Ontario Seed Co. (OSC)

77 Wellington St S, Kitchener, ON N2G 2E9, Canada www.oscseeds.com/

Park Seed Co.

P.O. Box 46 Greenwood, SC 29647 parkseed.com/

Prairie Moon Nursery

32115 Prairie Lane Winona, MN 55987 prairiemoon.com/

Prairie Nursery

P.O. Box 306-R Westfield, WI 53964 prairienursery.com/

W. Atlee Burpee Co.

300 Park Ave. Warminster, PA 18974 burpee.com/

High Country Gardens

(Many plants suitable for Western Oklahoma) highcountrygardens.com/

Izel Plants

(a marketplace for plants native to the contiguous U.S.; not a nursery) izelplants.com/

Tables Symbol Key

Plant type: TRE = tree, SHR = shrub, VIN = vine, AN = annual, BI = biennial, PR = perennial

Blooming season: SP = spring, SU = summer, AU = autumn, W = winter

Sun: F = full, S = shade, P = partial, A= all exposures **Moisture:** D = dry, W = wet, M = moist, WD= well-drained **Soil:** B = broad range, C = clay, L = loamy, S = sandy

Color: BL = blue, L = lilac, PI = pink, W = white, BR = brown, PU = purple, Y = yellow, G = green, O = orange, R = red, M = many colors

Highlighted text: The monarch butterfly (*Danaus plexippus*) is a species of widespread conservation concern. Plants that are of particular importance to monarchs are highlighted with yellow below.

Note: Some of these native plants are not easily found in a nursery, however most of them can be found as seed online. Plants listed are meant simply as a starting point; consult with a green industry professional from a local garden center or nursery for additional plants that may serve niche purposes described earlier.

Trees, Shrubs and Vines for Nectaring

	Blooming Sun Mainture Sail Color					
Name	season	Sun	Moisture	Soil	Color	
Adam's needle yucca						
(Yucca filamentosa)	SU	F, P	M, D	В	W	
Azaleas (Rhododendron spp. and hybrids)	SP	P, S	M, W	S, L	M	
Blackberry (Rubus trivialis)	SP	F, P	M, W	S, L	W	
Boxelder (Acer negundo)	SP	F, P	M, D	В	G	
Buckeye (Aesculus spp.)	SP	P, S	W, M	В	Υ	
Butterflybush (Buddleia spp.)	SU	F	M, D	В	BL, PI, PU, R	
Buttonbush (Cephalanthus occidentalis)	SP, SU	F, P	W, M	В	В	
Cherry (Prunus serotina)	SP, SU	F	M, W	S, L	W	
Coralberry (Symphoricarpos orbiculatus)	SÚ	P, S	M, D	В	G	
Crapemyrtle (Lagerstroemia spp.)	SU	F	M, D	В	M	
Dutchman's pipe (Aristolochia macrophylla)	SP	F, P	M	L	Y/G	
Eastern redbud (Cercis canadensis)	W, SP	F, P	M, D	L	R	
Dogwood (Cornus spp.)	SP, SU	F	M, W, D	S, L	R	
Glossy abelia (Abelia x grandiflora)	SÚ	F, P	M, D	В	W, PI	
Hard hack (Spiraea tomentosa)	SP	F	M, D	В	W	
Hawthorn (Crataegus spp.)	SP, SU	F, P	M	В	W	
Jasmine, winter (Jasminum nudiflorum)	W, SP	F	M, D	В	Υ	
Lilac (Syringa spp.)	SP	F	M	L	M	
Moundlily yucca, Spanish dagger (Yucca gloriosa)	SU	F, P	M, D	В	W	
Narrowleaf meadowsweet (Spiraea alba)	SP	F	W, M	L	W	
New Jersey tea (Ceanothus americanus)	SU	F	D	S, L	W	
Oak (Quercus spp.)	SU	F	M, D	Ĺ	G	
Paw paw (Asimina triloba)	SP	Р	M, W	L	PU	
Plums (<i>Prunus</i> spp.)	SP, SU	F	M, D	S, L	W	
Red mulberry (Morus rubra)	SP	F	M	B	PU	
River birch (Betula nigra)	SP	F, P	М	S, L	G	
Spicebush (Lindera benzoin)	SP	F, P	M	S, L	Υ	
Sumac, shining, winged sumac (Rhus spp.)	SP	F, P	M, D	S, L	R	
Summersweet (Clethra alnifolia)	SP	F, P	W, M	S, L	W	
Sweet mockorange (Philadelphus coronarius)	SP	F, P	M	В	W	
Viburnum (<i>Viburnum</i> spp.)	SP, SU	F, P	M, WD	L	W	
Weigela (Weigela florida)	SP	F, P	M	L	PI	
Willow (Salix spp.)	SP	F, P	W, M	В	W, G	
Witch hazel, common (Hamamelis virginiana)	AU	F, P	M, W	S, L	Y	
Witch hazel, Ozark (Hamamelis vernalis)	W, SP	F, P	W	S, L	Ϋ́	

Biennial/Perennial Plants for Nectaring

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Name	season	Sun	Moisture	Soil	Color	
American columbine						
Aquilegia canadensis)	SP	P, F	M	L	M	
Anise or Anise-Hyssop, Hummingbird mint		,				
Agastache spp.)	SU	F	M, D	S, L	M	
Asters (Symphyotrichum novae-angliae, S. novi-belgii)	SU	F, P	M, D	L	M	
Vild bergamot, Beebalm (Monarda fistulosa)	SU	F, P	M	L	PU	
Black-eyed Susan (Rudbeckia hirta var. pulcherrima	SU, A	F, P	M	В	Υ	
Blanketflower (Gaillardia x grandiflora)	SU, AU	F	M, D	S, L	R	
Blue mistflower (Conoclinium coelestinum)	SU, AU	F, P	W, D	L	L	
Boneset (Eupatorium perfoliatum)	SU, AU	F	W, D	S, L	PI	
Bush clover (Lespedeza capitata)	SU	F	D	S, L	PI	
Butterflyweed (Asclepias tuberosa)	SU, AU	F	M, D	S, L	O, Y, R	
Chrysanthemum (Dendranthema x grandiflora)	AU	F, P	M	S, L	M	
Common evening primrose (Oenothera speciosa)	SU	F	W, M	В	W	
Coreopsis (Coreopsis auriculata)	SU, AU	F	M, D	S, L	Υ	
affodil (<i>Narcissus</i> spp.)	SP	F, P	M	S, L	Υ	
Dogbane, intermediate (Apocynum medium)	SU	F, P	M, D	L	W	
Dogbane, hemp (<i>Apocynum cannabinum</i>)	SU	F	M, D	L	W	
ireweed (Epilobium angustifolium)	SU, AU	P, F	M, D	S, L	R	
leabane (<i>Erigeron</i> spp.)	SP, SU	F	M	L	В	
Sage (Salvia spp.)	SU	F, P	M, D	В	BL	
Sayfeather, dotted (<i>Liatris punctata</i>)	SU, AU	F, P	M, D	S, L	PU	
Sayfeather, Kansas (<i>Liatris pycnostachya</i>)	SU, AU	F, P	D	L	L	
ayfeather, tall (<i>Liatris scariosa</i> , <i>L. spicata</i>)	SU, AU	F	M	S, L	PU	
Golden crown beard (Verbesina helianthoides)	SU	F	WD	В	Υ	
Goldenrods (Solidago spp.)	SU, AU	F	D, M	В	Υ	
Grape hyacinth (<i>Muscari</i> spp.)	SP	F, P	M, D	В	BL	
Horsemint (Monarda citriodora)	SU	F, P	M	L	PU	
lyssop (Hyssopus officinalis)	SP, SU	F	D	В	BL	
ris (Iris spp.)	SP, SU	F, P	M, D	L	M	
eadplant (Amorpha canescens)	SU	F	M, D	L	PU	
upine, wild (<i>Lupinus perennis</i>)	SP, SU	Α	M, D	L	W	
Madonna lily (Lillium candidum)						
Maltese cross (Silene chalcedonica)		_		_		
Maximillian sunflower (Helianthus maximiliani)	SU	F	M, D	В	Y	
filkweed, broadleaf (Asclepias latifolia)	SP, SU	F, P	M, D	В	G	
filkweed, green (Asclepias viridis)	SP, SU	F	M	В	W	
Ailkweed, showy (Asclepias speciosa)	SP, SU	F, P	M	В	R	
/lilkweed, swamp (Asclepias incarnata)	SU	F, P	M, W	В	W	
lettle-leaved bellflower (Campanula trachelium)	SU	F, P	W, D	L	BL	
Obedient plant (<i>Physostegia virginiana</i>)	AU	F, P	M, D	В	L	
Oriental poppy (Papaver orientale)	SU	F	M, W	S, L	M	
Oxeye sunflower (Heliopsis helianthoides)	SU, AU	F	M	В	Y	
Ozark sundrop (Oenothera macrocarpa)	SP	F	D	L	Y	
early everlasting, cudweed (Anaphalis margaritacea)	SU, AU	F	M, D	L	W	
eony, garden (<i>Paeonia</i> spp.)	SP	F, P	M, D	L	М	
rairie blazing star (<i>Liatris pycnostachya</i>)	SU, AU	F, P	M	L	L	
rairie thistle (Cirsium undulatum)	SU, AU	F F	M, D	В	L	
urple coneflower (Echinacea purpurea)	SU		M, D	В	PU	
urple prairie clover (Dalea purpurea)	SU	F	WD	В	PI, PU	
Rosemary (Salvia rosmarinus)	SP, SU	F	M	L	BL	
edum showy stonecrop (<i>Hylotelephium spectabile</i>)						
thasta daisy (Leucanthemum x superbum)	CILAL		MD	1.0	V	
Showy sunflower (Helianthus multiflorus)	SU, AU	F	M, D	L, S	Y	
Soloman's seal (<i>Polygonatum biflorum</i>)	SP	S	M, W	L	W	
Sweet violet (Viola odorata)	SP	S	M	В	PU BLW BLLE	
hyme (Thymus spp.)	SP	S, P	M	L	PI, W, PU, F	

Biennial/Perennial Plants for Nectaring (cont'd)

Name	Blooming season	Sun	Moisture	Soil	Color
Tickseed sunflower (Bidens aristosa)	SP, SU	F	M, W	S, L	Υ
Torch lily (Kniphofia uvaria)	SU	F	W, D	S, L	0
Turk's cap (Malvaviscus arboreus)	SU, AU	F, P	D		R, PI, W
Turtlehead (Chelone glabra)	SU	F	W, M	L	PI
Vetches (Vicia spp.)	SU	F	M, D	В	PU
Wax mallow (Malvaviscus spp.)	SU, AU	F, P	WD	В	R
Western sunflower (Helianthus occidentalis)	SU-AU	F	M, D	S, L	Υ
Scarlet bergamot (Monarda didyma)	SU	F, P	M	L	R
Yarrow (Achillea millefolium)	SU	F	M, D	L	W

Annual Plants for Nectaring

Name	Blooming season	Sun	Moisture	Soil	Color
Asters (Aster and Symphyotrichum spp.)	SU	F	M, D	S, L	М
Begonia (<i>Begonia</i> spp.)	SU	F, P	M	L	R, PI, W
Borage (Borago officinalis)	SU	F, P	M, D	S, L	BL
Canterbury bells (Campanula medium)	SU	F, P	M	S, L	BL
Cosmos (Cosmos bipinnatus)	SU	F	D	Α	Υ
Cowpen daisy (Verbesina encelioides)	SU-AU	F			Υ
Dill (Anethum graveolens)	L, SP	F	M, D	Α	GR
Flowering tobacco (Nicotiana alata)	SU-AU	F, P	M	L	W, P
Four o'clock (Mirabilis jalapa)	SU-Au	F, P	M	Α	M
Geranium (<i>Pelargonium</i> x <i>hortorum</i>)	SP-SU	F, P	M, W	L	R, PI, W
Heliotrope (Heliotropium arborescens)	SP-SU	F, P	M	S, L	L
Lantana (Lantana camara)	SU	F	M	L	M
Leavenworth eryngo (Eryngium leavenworthii)	AU	F	D	S	PU
Marigold (Tagetes spp.)	SU-AU	F	M, D	L	Y, O, W
Mexican sunflower (Tithonia rotundifolia)	SU	F	M, D	L	0
Nasturtium (<i>Tropaeolum majus</i>)	SU-AU	F, P	M, D	S, L	M
Parsley (Petroselinum crispum)	SP	F, P	M	L	G
Pentas (Pentas lanceolata)	SP-AU	F, P	M	L	M
Petunia (<i>Petunia</i> x <i>hybrida</i>)	SP-AU	F, P	M	L	M
Phlox (Phlox spp.)	SP, SU	F	M	L	M
Pot marigold (Calendula officinalis)	SP	F, P	M, D	L	0
Scarlet sage, salvia (Salvia splendens)	SU	F, P	M, D	L	R, PU, PI, W
Scarlet star glory (Quamoclit coccinea)	SU, AU	F	M, D	L	R
Spider flower (Cleome hasslerana)	SU-AU	F, P	M, D	L	M
Sunflower, dwarf (Helianthus annuus)	SU, AU	F	M, D	В	Υ
Touch-me-not, pale (Impatiens balsamina)	SU, AU	S, P	W, M	S, L	PI, Y
Touch-me-not, spotted					
(Impatiens capensis)	SU	S	W, M	L	PI, Y
Verbena (Verbena hybrida)	SU-AU	F	M	S, L	M
Winter savory (Satureja montana)	S-AU	F, P	M, D	S, L	W
Zinnia (Zinnia spp.)	SU-AU	F, P	M	L	M

Trees, Shrubs and Vines for Larvae

Name	Blooming season	Sun	Moisture	Soil	Color
Birch (Betula spp.)	SP	F, P	M, W	L	Y, G
Blueberry (Vaccinium virgatum)	SU	F, P	M	L	PI
Cottonwood (Populus deltoides)	SP	F	D	В	W
Elm, winged (<i>Ulmus alata</i>)	SP, AU	F	D	Α	G
Hackberry (Celtis spp.)	SP	F	M, W	L	G
Hawthorn (Crataegus spp.)	SP, SU	F, P	M	В	W
Hop tree (Ptelea trifoliata)	SU	F, P	WD	В	G, W
Mountain laurel (Kalmia latifolia)	SP	Р	M	S	W
Leadplant (Amorpha spp.)	SU	F	D	В	PU
Locust, black (Robina pseudoacacia)	SP	F, P	D	В	W
Passionvine (Passiflora incarnata)	SU	F, P	M, D	S, L	L
Pipevine (Aristolochia macrophylla)	SU	Р	M	В	PU
Red maple (Acer rubrum)	SP	F, P	WD	В	R
Shagbark hickory (Carya ovata)	SP	F, P	WD	L	G, Y
Snowberry (Symphoricarpos albus)	SU	F, P	WD	В	PI
Soapberry (Sapindus saponaria var. drummondii)	SP, SU	F, P	M	В	W
Tulip tree (Liriodendron tulipifera)	SU	F, P	W, M	L	R, G
Virginia creeper (Parthenocissus quinquefolia)	SU	F, P	WD	В	G, W
Walnut (Juglans nigra)	SP, SU	F	M, WD	L	G

Annual Plants for Larvae

	Blooming				
Name	season	Sun	Moisture	Soil	Color
Balsam, white (<i>Pseudognaphalium obtusifolium</i>)	SU	F	D	S, L	W
Cabbage and Kale, ornamental (Brassica oleracea)	SP, AU	F	WD	L	G
Dill (Anethum graveolens)	SU	F	WD	S	Υ
Everlasting, cudweed (Gnaphalium purpureum)	SU, AU	F	D	S, L	PU
Parsley (Petroselinum crispum)	SU	F, P	WD	L	G,Y
Smartweed (Polygonum spp.)	SU, AU	F	M	C, L	PI
Sneezeweed (Helenium spp.)	SU, AU	F	D	В	Υ
Tomato (Solanum lycopersicum)	SP	F	M	L	R

Biennial/Perennial Plants for Larvae

Name	Blooming season	Sun	Moisture Soil	Color
Big bluestem (Andropogon gerardii)	AU	F	W, D	L PU, R
Blue grama (Bouteloua gracilis)	SU	F	D, M	BY
Butterflyweed (Asclepias tuberosa)	SU, AU	F	M, D	S, L O, Y, R
Cinquefoil (Potentilla neumanniana)	SP, SU	F, P	WD	S, L Y
Fennel (Foeniculum vulgare)	SU	F	M	ВҮ
Sedge (Carex spp.)	SU	F, P	M	BG
Indian paintbrush (Castilleja coccinea)	SP, SU	F	WD	BO, R
Indiangrass (Sorghastrum nutans)	AU	F	M,D	BY
Clematis (Clematis spp.)	SU	F, P	M	BPU, B
Knotweed (Polygonum spp.)	SU, AU	F	M, W	C, L PI
Little bluestem (Schizachyrium scoparium)	AU	F	WD	BPU
Milkweed, broadleaf (Asclepias latifolia)	SP, SU	F, P	M, D	BG
Milkweed, green (Asclepias viridis)	SP, SU	F	M	BW
Milkweed, showy (Asclepias speciosa)	SP, SU	F, P	M	BR
Milkweed, swamp (Asclepias incarnata)	SU	F, P	M, W	BW
Partridge pea, showy (Cassia fasciculata)	SU, AU	F	D	BY
Purple prairie clover (Dalea purpurea)	SU	F	WD	BPU, R
Senna (Senna marilandica)	SU	F	M	SY
Sorrel, rosy canaigre (Rumex hymenosepalus)	SP	F	D	BR
Sweet potato (Ipomoea batatas)	AU	F	WD	BPI
Tick trefoil (Desmodium illinoense)	SU	F	M	BW
Turkey tangle frogfruit (Phyla nodiflora)	SU, AU	F, P	D, M	BW

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