

MONARCH NECTAR PLANTS

Southern Plains



Left to right: Monarch on butterfly milkweed, spider milkweed, and blacksamson echinacea.

The Southern Plains encompass the grasslands states of Oklahoma, Kansas, and Arkansas, as well as most of Texas and eastern Colorado. Shifting elevations and rainfall patterns from the dry foothills of the Rockies to the wet, flat expanses of eastern Texas produce an incredibly rich diversity of flowering plants, which in turn support an array of pollinators. In the spring, monarch butterflies take advantage of the vast open prairies and these floral resources to breed; in the fall, the same prairies provide fuel to migrating monarchs heading back south for the winter.

Each spring, monarchs leave overwintering sites in coastal California and the mountains of central Mexico and fan out across North America to breed and lay eggs on milkweed, the monarch's host plant. Several generations are produced over the course of the spring and summer. In late summer and early fall, adults from the northern U.S. and southern Canada migrate back to the overwintering sites, where they generally remain in reproductive diapause until the spring, when the cycle begins again.

Monarchs at overwintering sites in Mexico and California have declined dramatically since monitoring began in the late 1990s. Across their range in North America, monarchs are threatened by a variety of factors. Loss of milkweed from extensive herbicide use has been a major contributing factor, and habitat loss and degradation from other causes, natural disease and predation, climate change, and widespread insecticide use are probably also contributing to monarch declines. Because of the monarch's migratory life

cycle, it is important to protect and restore habitat across their entire range. Adult monarchs depend on diverse nectar sources for food during all stages of the year, from spring and summer breeding to fall migration and overwintering. Caterpillars are completely dependent on their milkweed host plants. Inadequate milkweed or nectar plant food sources at any point may impact the number of monarchs that successfully arrive at overwintering sites in the fall.

Providing milkweeds and other nectar-rich flowers that bloom where and when monarchs need them is one of the most significant actions you can take to support monarch butterfly populations. This guide features Southern Plains native plants that have documented monarch visitation, bloom during the times of year when monarchs are present, are commercially available, and are known to be hardy. These species are well-suited for wildflower gardens, urban greenspaces, and farm field borders. Beyond supporting monarchs, many of these plants attract other nectar- and/or pollen-seeking butterflies, bees, moths, and hummingbirds, and some are host plants for other butterfly and moth caterpillars. For a list of native plants that host butterflies and moths specific to your zip code see www.nwf.org/nativeplantfinder.

The species in this guide are adaptable to growing conditions found across the Southern Plains. Please consult regional floras, the Biota of North America's North American Plant Atlas (<http://bonap.net/napa>), or the USDA's PLANTS database (<http://plants.usda.gov>) for details on species' distributions in your area.



Bloom	Common Name	Scientific Name	Flower Color	Max. Height
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	Forbs			(Feet)
Spring to Summer	1 Betonyleaf thoroughwort	<i>Conoclinium betonicifolium</i>	Blue	3
	2 Blacksamson echinacea	<i>Echinacea angustifolia</i>	Pink/purple	2
Spring to Fall	3 Butterfly milkweed	<i>Asclepias tuberosa</i>	Orange/yellow	2
	4 Dakota mock vervain	<i>Glandularia bipinnatifida</i>	Purple	1
	5 Spider milkweed	<i>Asclepias viridis</i>	White/yellow/green/purple	2
	6 Whorled milkweed	<i>Asclepias verticillata</i>	White	3
Summer	7 Bearded beggarticks	<i>Bidens aristosa</i>	Yellow	4
	8 Pale purple coneflower	<i>Echinacea pallida</i>	Purple	3
Summer to Fall	9 Baldwin's ironweed	<i>Vernonia baldwinii</i>	Pink/purple	5
	10 Blue mistflower	<i>Conoclinium coelestinum</i>	Blue/purple	3
	11 Button eryngo	<i>Eryngium yuccifolium</i>	White	6
	12 Compassplant	<i>Silphium laciniatum</i>	Yellow	12
	13 Cusp blazing star	<i>Liatris punctata var. mucronata</i>	Pink/purple	3
	14 Downy ragged goldenrod	<i>Solidago petiolaris</i>	Yellow	3
	15 Golden crownbeard	<i>Verbesina encelioides</i>	Yellow	3
	16 Gray goldenrod	<i>Solidago nemoralis</i>	Yellow	2
	17 Lateflowering thoroughwort	<i>Eupatorium serotinum</i>	White	5
	18 Maximilian Sunflower	<i>Helianthus maximiliani</i>	Yellow/brown	10
	19 Pitcher sage	<i>Salvia azurea</i>	Blue	5
	20 Sneezeweed	<i>Helenium amarum</i>	Yellow	5
	21 Stiff Goldenrod	<i>Oligoneuron rigidum</i>	Yellow	4
	22 White crownbeard	<i>Verbesina virginica</i>	White	6

Shrubs and Trees

Spring to Summer	23 West Indian shrubverbena	<i>Lantana urticoides</i>	Red/orange/yellow	3
Summer to Fall	24 Common buttonbush	<i>Cephalanthus occidentalis</i>	White	12





Water Needs	Notes
Low, Medium, or High	All species perennials, unless otherwise noted. Monarchs are present March through May and again July through October in the Southern Plains.
M	Distribution is limited to Texas. Very attractive butterfly plant.
L	One of the more drought tolerant Echinaceas. Tolerates alkaline soils and well-drained clays.
L	Monarch caterpillar host plant and nectar source for many bees.
L/M	Long bloomer, with consistent blooms from summer through fall.
L	Monarch caterpillar host plant.
L	Monarch caterpillar host plant.
H	Annual plant. Prefers wet soils.
L	Adaptable and tolerant to drought and poor soils.
L	Grows under a variety of conditions; spreads via rhizomes.
M	Thin regularly to control spread by runners.
M	Can be aggressive self-seeder.
L	Drought tolerant. Looks similar to sunflower and attracts numerous pollinators.
L	Liatris species in general are very attractive to monarchs.
L/M	Very late-blooming plant, sometimes into November.
L	Annual plant. Tolerates disturbed soils.
M	Tolerates poor and dry soils. Shorter than most other goldenrod species.
M	Nectar attracts bees, butterflies, and other insects. Seeds eaten by birds.
L	Very showy plant. Can be aggressive in the garden if not controlled.
L	Tough plant with long-blooming flowers. Does well in dry soils.
L	Long-blooming annual.
L	May be aggressive in small gardens.
L/M	Biennial plant. Does best when allowed to naturalize.

L	Distribution is limited to Texas.
M	Fragrant, showy flowers that attract butterflies.



Planting for Success

Monarch nectar plants often do best in open, sunny sites. You can attract more monarchs to your area by planting flowers in single species clumps and choosing a variety of plants that have overlapping and sequential bloom periods. Monarchs are present March through May and again from July through October in the Southern Plains. Providing nectar plants that bloom from early spring through fall will be important for breeding and migrating monarchs in the region.

Why Plant Native?

Although monarchs use a variety of nectar plant species, including exotic invasives such as lilac chaste tree and chinaberry, we recommend planting native species. Native plants are often more beneficial to ecosystems, are adapted to local soils and climates, and help promote biological diversity. They can also be easier to maintain in the landscape, once established.

Tropical milkweed is a non-native plant that is widely available in nurseries. This milkweed can persist year-round in mild climates, allowing monarchs to breed throughout the winter rather than going into diapause. Tropical milkweed may foster higher loads of a monarch parasite called *Oe* (*Ophryocystis elektroscirrha*), which negatively impacts monarch health. Because of these implications, we recommend planting native species of milkweeds in areas where they historically occurred. You can read more about *Oe* in a fact sheet by the Monarch Joint Venture: http://monarchjointventure.org/images/uploads/documents/Oe_fact_sheet.pdf.

Protect Monarchs from Pesticides

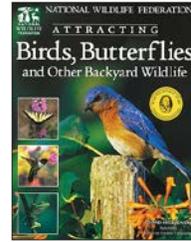
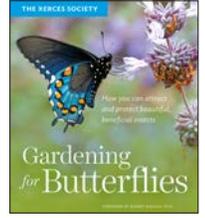
Both insecticides and herbicides can be harmful to monarchs. Herbicides can reduce floral resources and host plants. Although dependent on timing, rate, and method of application, most insecticides have the potential to poison or kill monarchs and other pollinators. Systemic insecticides, including neonicotinoids, have received significant attention for their potential role in pollinator declines (imidacloprid, dinotefuran, clothianidin, and thiamethoxam are examples of systemic insecticides now found in various farm and garden products). Because plants absorb systemic insecticides as they grow, the chemicals become distributed throughout all plant tissues, including the leaves and nectar. New research has demonstrated that some neonicotinoids are toxic to monarch caterpillars that are poisoned as they feed on leaf tissue of treated plants. You can help protect monarchs by avoiding the use of these and other insecticides. Before purchasing plants from nurseries and garden centers, be sure to ask whether they have been treated with systemic insecticides. To read more about threats to pollinators from pesticides, please visit: www.xerces.org/pesticides.

Additional Resources

Publications & Resources

Gardening for Butterflies

The Xerces Society's newest book introduces you to a variety of butterflies who need our help, and provides suggestions for native plants to attract them, habitat designs to help them thrive, and garden practices to accommodate all stages of their life. Available through www.xerces.org/books.



Attracting Birds, Butterflies, and Other Backyard Wildlife

This award-winning book by the National Wildlife Federation's naturalist David Mizejewski is full of information on gardening for birds, pollinators and other wildlife, including illustrated how-to projects, recommended plant lists, and gorgeous color photos. You'll learn everything you need to know to create a Certified Wildlife Habitat. Available through <http://bit.ly/1Xhxfgu>.

Conservation Status and Ecology of the Monarch Butterfly in the U.S. Report www.xerces.org/us-monarch-consv-report

Pollinator Plants of the central U.S.: Native Milkweeds <http://bit.ly/1z7CX4U>

Milkweed Seed Finder www.xerces.org/milkweed-seed-finder

Websites

The Xerces Society www.xerces.org/monarchs

Monarch Joint Venture www.monarchjointventure.org/resources

Natural Resources Conservation Service www.nrcs.usda.gov/monarchs

National Wildlife Federation www.nwf.org/butterflies

Citizen Science Efforts in the Southern Plains

Journey North www.learner.org/jnorth/monarch

Monarch Larva Monitoring Project www.mlmp.org

Project Monarch Health www.monarchparasites.org

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