

BUTTERFLY MILKWEED

Asclepias tuberosa L.

Plant Symbol = ASTU

Alternative Names

Common Names: butterfly weed, pleurisy root, orange milkweed, Rolfs' milkweed and Sandhills butterfly weed (for *ssp. rolfsii*)

Scientific Name: *Asclepias tuberosa* L.

Infraspecific Names: *Asclepias tuberosa* subsp. *interior* Woodson, *Asclepias tuberosa* subsp. *rolfsii* (Britton ex Vail) Woodson, *Asclepias tuberosa* subsp. *tuberosa* Woodson

Description

General: Butterfly milkweed is an herbaceous perennial wildflower species native to much of North America from Southeastern Canada to Northern Mexico, (not native in the Northwest U.S. from North Dakota to California) (Plants of the World Online [POWO], 2026). It grows most frequently in dry open woodlands, dry or moist prairies, clearings, fields, pastures and roadsides, especially in sandy soil. It has one- to three-foot tall, single or often multiple upright stems clustered from thick root crowns (Weakley et al., 2012). Milkweeds are named for the milky white sap that most species exude when injured; however, butterfly milkweed is the only species of *Asclepias* with completely clear sap (Flora of North America [FNA], 2026).

Flowers/Fruit: Butterfly milkweed produces bright yellow to bright orange or orange-red single terminal flower clusters (umbels) or multiple clusters along the branches in the summer (Weakley et al., 2012). The approximately 3/8" flowers have five downward pointing petals forming the corolla and five hoods forming the corona. The abundant nectar produced in the floral hoods attracts a large variety of pollinators (Borders and Lee-Mader, 2014). When insects approach the flower to drink nectar, their body parts often slip into the stigmatic slit, where the waxy sacs of pollen (pollinia) stick to them (Eldredge, 2015). Butterfly milkweed is largely self-incompatible, with about 2% of self-pollinations resulting in seed production (Wyatt & Broyles, 1994). In the fall, the plant produces slender green seed pods (follicles) that taper on both ends and are about three to six inches long. Seed pods split along a single seam as they turn brown and dry, releasing dark brown flat seeds with tufts of long silky hairs (also known as coma, floss, pappus, or silk) that allow the seeds to be carried by the wind. Each plant produces about 209 seeds (Wilbur, 1976), about 64 per follicle (Wilbur 1976) that mature in the fall (Kephart, 1987).

Leaves/Stems/Roots: Butterfly milkweed plants grow to 3ft tall with many two- to four-inch long linear, lanceolate to oblanceolate shaped leaves with a short petiole; leaves are arranged alternate up the stem (Weakley et al., 2012). Stems grow from a single deeply rooted crown with no shallow roots. Subspecies *rolfsii* has rippled leaf margins with a leaf base that flares out to the sides. Subspecies *tuberosa* has leaves that are flat, not rippled, and the leaf tip is rounded or pointed. Subspecies *interior* also has flat leaves, sometimes with an elongated pointed tip (FNA, 2026). Some specimens are difficult to assign to a subspecies (FNA, 2026).

Distribution: Butterfly milkweed occurs throughout the Eastern and Central U.S., excluding western states from North Dakota to California; it also occurs in Southern Canada and Northern Mexico. (POWO, 2026). Subspecies *rolfsii* occurs in dry sandy habitats of Florida and southern Georgia (FNA, 2026). Subspecies *interior* is widespread, mostly west of the Appalachian Mountains, while subspecies *tuberosa* occurs mostly east of the Appalachians (FNA, 2026). For current distribution, please consult the Plant Profile page for this species on the PLANTS Web site.



Asclepias tuberosa ssp. *tuberosa*. Photo by Pinelands Nursery

Habitat: Butterfly milkweed grows in a variety of habitats including dry open woodlands, dry or moist prairies, clearings, fields, meadows and pastures, rocky canyons, ridges, and streambanks. It can be found in disturbed habitats including roadsides, along railroads, and powerline corridors (Southwestern Environmental Information Network [SEINet], 2026). It has been observed growing in a wide range of elevations from sea level to 8,500 ft (SEINet, 2026).

Adaptation

Butterfly milkweed prefers neutral to slightly acidic soil and can grow in a range of soil types from sand to clay, although it grows most frequently in sandy loams and silt loams (Neigel et al., 2022). Although butterfly milkweed grows best in full sun, it can tolerate part shade. In 60% shade, it produces less aboveground and belowground biomass, though the total plant height is not affected (Coverdale & Agrawal, 2021). Butterfly milkweed grows significantly less when deprived of the arbuscular mycorrhizal fungi that usually associate with its roots (Malik & Bever, 2021). It adapts well to landscape plantings with well-drained soils.

Uses

Conservation: Butterfly milkweed is a native, perennial wildflower useful for pollinator plantings. It is a good component of a wildlife seed mixture when seeded with native grasses and wildflowers, and it is included as part of seed mixes in USDA-Natural Resources Conservation Service (NRCS) wildflower planting guidance in 32 states (NRCS, 2026)

Wildlife: Fishbein and Venable (1996) observed 790 species of insects from 25 families visiting butterfly milkweed, including 40 species of butterflies. Butterfly milkweed relies on a wide variety of pollinators, especially bees (order Hymenoptera) for pollination (Fishbein and Venable, 1996). In Florida, queen butterfly (*Danaus glippus*) favors butterfly milkweed for laying eggs in the spring when monarch butterflies (*Danaus plexippus*) are focused on sandhill milkweed (*A. humistrata*), but will use both plant species freely after the monarchs have left (Brower, 1961). Other common insects that feed on milkweed include the milkweed tussock moth (*Euchaetes egle*), red milkweed beetle (*Tetraopes tetraphthalmus*), milkweed leaf beetle (*Labidomera clivicollis*) and milkweed bugs (*Lygaeus kalmia* and *Oncopeltus fasciatus*) (Johnson, 2021). Some birds use the seed floss as nesting material (Borders & Lee-Mäder, 2014).

Landscaping: Butterfly milkweed is deer resistant (Xerces Society for Invertebrate Conservation, 2023), and cultivars used in landscape plantings are as suitable as wild-type milkweeds in supporting butterflies and native bees (Baker et al., 2020).

Ethnobotany

The Navajo use butterfly milkweed as arthritis medicine (Wyman and Harris, 1941). Indian people in Nainamalai, Namakkal District, Tamil Nadu, India, use the roots to relieve fevers, asthma, and mucus buildup in their respiratory system (Ganesan & Xu, 2017). For similar reasons, it used to treat colds, flu and pneumonia in Mexico (Fernández Brewer et al. 2008). People in the Hausa–Fulani tribes in Sokoto, Northwest Nigeria use it, along with many other plants, to treat diabetes (Shinkafi et al., (2015). Ho-Chunk American Indian tribe in Wisconsin apply the chewed root to stop wounds from bleeding (Taylor et al., 2009). The Iroquois used an infusion of the roots externally to strengthen the body and heal babies' navels; they also used the stem to make a cord for extracting teeth (Herrick, 1995). The Chippewa have also used the plant as an emetic and anthelmintic (de-worming agent) (Densmore, 1928).

Status

Threatened or Endangered: Butterfly milkweed is ranked as globally secure, though it is in severe decline in parts of the large range (NatureServe, 2026).

Wetland Indicator: Butterfly milkweed's wetland status is UPL (Upland) meaning it almost always occurs in non-wetlands (US Army Corps of Engineers, 2020).

Weedy or Invasive: Butterfly milkweed is not considered invasive in North America (University of Georgia, 2018).

Please consult the PLANTS Web site (<http://plants.usda.gov/>) and your state's Department of Natural Resources for this plant's current status (e.g., threatened or endangered species, state noxious status, and wetland indicator values).

Planting Guidelines

Butterfly milkweed has approximately 100,000 seeds per pound (Society for Ecological Restoration, 2023). Seed is best sown just below the surface (Borders & Lee-Mäder, 2014), up to a depth of ¼ inch deep for heavy clay soils and up to a depth of ¾ inch for light sandy soils. In a meadow planting study in Minnesota, Wisconsin and Iowa, Lukens et al. (2020) found that butterfly milkweed densities did not respond predictably to increases in seeding rate. They also found that butterfly milkweed rarely established spontaneously in meadows where they weren't planted, so a low, but non-zero seeding rate might be the best approach for planting in meadows. Fall seeding exposes seeds to the cold, moist conditions needed to stimulate germination in the spring. Spring seeding may result in less weed competition since germination can occur shortly after controlling weeds and sowing. April planting resulted in the best establishment of butterfly milkweed in a study in Nebraska (Salac et al., 1982). If spring seeding, seeds should be artificially stratified to improve germination (Finch et al., 2019).

Seedlings perform best in well drained sites, when planted 18-24 inches apart, with the top/surface of the plug remaining ¼ - ½ inch above the soil line (NRCS, 2015). Shade significantly decreases growth and seed production of butterfly milkweed (Tevlin et al., 2023).

For field planting, the seed bed should be prepared to reduce weed cover and weed seeds. Borders & Lee-Mäder (2014) recommend plating rates of 2-10 live seeds per linear foot, with rows 8in – 2 feet apart, and including inter-row plantings of grasses, forbs, or legumes, to reduce weed pressure.

Management

For roadside populations, as with any meadow habitat, infrequent mowing is important. Hopwood (2013) recommends reducing weed pressure with targeted herbicides, not broadcast spraying or pellet dispersal, to limit the impact of herbicides on pollinators. In a long-term experiment in Kansas prairies, butterfly milkweed had relatively high coverage when burned and grazed, though burning alone had no effect (Ricono et al., 2018),

Pests and Potential Problems

Some milkweed-specialist herbivores can reach high enough densities to weaken plants and seed production (Borders & Lee-Mäder, 2014). Large milkweed bugs occasionally eat the seeds of butterfly milkweed, though they prefer common milkweed (Chaplin & Chaplin, 1981).

Rhizoctonia sp. and *Pythium intermedium* also lead to rotting of butterfly milkweed roots, especially in greenhouses (Tsrer et al., 1997).

Environmental Concerns

Livestock: The toxin content of butterfly milkweed is very low but may have toxic effects in livestock in large enough doses. Sheep fed 1.5% body weight of butterfly milkweed showed few clinical effects, including increased white blood cell counts, decreased hemoglobin levels, and increased heart rates, but they survived the experiment (Ogden, 1989). Chickens fed butterfly milkweed experienced weight loss, depression, diarrhea, weakness, and drowsiness, and they also survived (Ogden, 1989?). All species of milkweed taste acrid, and livestock avoid them when there are other forages available (Harvey et al., 1945).

Control

Please contact your local agricultural extension specialist or county weed specialist to learn what works best in your area.

Seeds and Plant Production

Butterfly milkweed may require more than one year to flower and produce seed (Borders & Lee-Mäder, 2014). Harvest pods when they just begin to split or can be induced to split with gentle pressure to reveal mature brown seeds. It is best to immediately strip the seed from the floss before the floss has expanded, as it becomes messy and more difficult to separate from the seed. Collecting pods at this stage can be challenging and requires frequent trips to the field, since seed is dispersed within a day or so of the pod beginning to split (Borders & Lee-Mäder, 2014). To avoid losing seed, pods can be covered in paper or mesh bags. Readily available organza bags with a draw string work well as they hold on well, have good ventilation and pods can easily be viewed. For plants grown in Florida, the seeds harvested in July and August germinated more

consistently than seeds harvested in September (Tevlin et al. 2023). After harvesting allow the seeds to dry for one to two weeks in paper or mesh bags.

Several weevil larvae prey on developing seeds, so look for signs of damage including small entry holes in the pod. Seed pods may often have little to no viable mature seeds due to weevil damage or infertile unfilled seeds. Unfilled seeds will be flat like paper and not have a swollen filled center. Borders & Lee-Mäder (2014) outline numerous methods for cleaning large quantities of seed but found that using shop vacuums with a cartridge filter is a preferred method to process practically any quantity. The gentle and contained action of a shop vac is less messy and gentler on the seed than other equipment such as brush machines, de-bearders, and hammer mills.

Cold stratification may not be necessary for plants grown in the southeastern portions of the range (Tevlin et al. 2023). For plants from areas with a cold winter, artificially cold-stratify seeds to improve germination by placing seeds in plastic bags filled with moist perlite, vermiculite, sand or other sterile media. Refrigerate at approximately 40-41 °F, for four to six weeks (Borders & Lee-Mäder, 2014).

For planting in a greenhouse, Borders & Lee-Mäder (2014) recommend using the deepest containers available to accommodate the root growth, to minimize root disturbance during transplanting. Seedlings may be ready to transplant in 2-5 months, and transplants are most successful when the holes are dug in advance, and the soil is packed around the seedling, and when it has at least 1 inch of water per week during the establishment year (Borders & Lee-Mäder, 2014).

Plants can also be propagated vegetatively (Lewis et al. 2020); vegetative propagation is most successful when cuttings are taken off about 6 weeks after breaking dormancy from mature plants (2 yrs old or more). The cuttings, approximately 2 in long, should be taken from the leafy tips of shoots, and should be placed with one node below the soil line and 2 nodes above the soil line (Lewis et al 2020).

Cultivars

These plant materials are readily available from commercial sources such as native plant nurseries and seed suppliers: ‘Hellow Yellow’ is a yellow cultivar, ‘Gay Butterflies’ has a mix of colors, and ‘Red Butterflies’ has bright red flowers.

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