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Plant Milkweeds for Monarch Butterflies

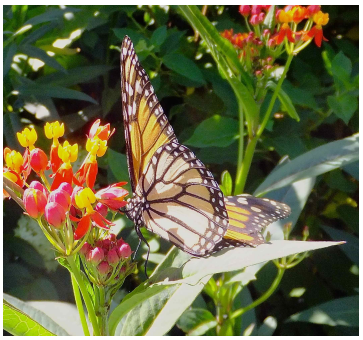
Monarch butterfly numbers are plummeting. According to monarchwatch.org, the three lowest overwintering populations on record have been recorded in the last 10 years.
The reasons for this are complicated. For one thing, intensive herbicide use has eradicated milkweed, the butterfly's food source, in many agricultural fields. Development and herbicide use along roadsides have further reduced habitat. In addition, some of the monarchs' overwintering sites in Mexico have been degraded or deforested. Yet another problem is caused by a protozoan parasite of the monarch butterfly that can reach damaging numbers, but only under certain conditions. (See box below)

What to do? Plant milkweeds! Over 100 species are native to the United States, only a fraction of which are available to gardeners. All milkweed species support monarch butterflies in multiple ways: 1) the adults lay their eggs on milkweed leaves; 2) when larvae hatch they feed on the leaves (and sequester the plants' toxins in their bodies, which makes them unpalatable to predators); and 3) milkweed nectar nourishes the adult butterflies. To learn which varieties are best for your region, visit Monarch Watch.

Milkweeds to plant from seed:

Common milkweed, *Asclepias syriaca*, spreads by rhizomes (underground runners) as well as seed, and grows to about 3 feet tall. Its mauve flowers are showy and fragrant, and develop into prominent seedpods—useful in dried arrangements—that split open to release seeds attached to silky tufts. Plant in a sunny naturalized area where it has room to spread. It tolerates poor, dry soil. The native range includes eastern and central United States and Canada, except Florida.

Butterfly weed, *Asclepias tuberosa*, makes an excellent garden plant in full sun. Long-blooming orange to yellow-orange flowers grow to about 2 feet, and the spindle-shaped seedpods can be used in dried arrangements. Butterfly weed tolerates poor, dry soil. Its native range includes eastern Canada and most of the United States, except Nevada and the northwest.



Tropical milkweed, *Asclepias curassavica*, is a zone 9 tender perennial native to South America, grown as an annual in most of the US. Showy orange and yellow flowers bloom much of the summer on 3-foot tall plants, followed by attractive seedpods. **Important:** In mild winter southern regions, such as southern Texas and the Gulf Coast, tropical milkweed plants do not die back, providing winter breeding opportunities for monarchs and the risk of their becoming infected with a protozoan parasite. Gardeners *in these regions* should avoid planting tropical milkweed. (See the box below)

Swamp milkweed, *Asclepias incarnata*, is native to swamps and wet meadows, but does well in ordinary garden soil also. It grows to about 4 feet tall, and has small pink flowers, followed by attractive pods. Plant it in full sun. Its native range includes much of the country, excluding the western coastal region.

Satterfield D, Maerz J, Altizer S (2015) Loss of migratory behaviour increases infection risk for a butterfly host. *Proc R Soc B* 282:20141734.
http://rspb.royalsocietypublishing.org/content/282/1801/20141734

Asclepias curassavica and the OE Parasite

Ophryocystis elektroscirrha (OE), a protozoan parasite hosted by the monarch, is not a new phenomenon; it most likely co-evolved with the monarch. Infected butterflies do not die immediately, but are weakened by the parasite, and usually do not survive long enough to reach their overwintering sites. Throughout their co-existence, the butterfly and the parasite kept each other in check. Each year would bring a fresh, healthy population of butterflies, the large majority of individuals carrying the parasite having been culled during the long migratory flight.

The problem occurs when the butterflies do not migrate, but instead breed through the winter—which they can do *only if* they have a winter supply of milkweed leaves. A recent study states that by planting *Asclepias curassavica* in southern coastal areas, **"… humans are providing a consistent resource that allows monarchs to forego long-distance migration**, breed year-round and suffer high parasite transmission." (Satterfield and others, 2015) This isn't a problem with native milkweeds because the leaves are only desirable during the earlier parts of their growth cycle.

Bottom line: Yes, plant milkweed, and lots of it. The monarchs need it to survive and thrive. But if you live in a southern region where tropical milkweed (*Asclepias curassavica*) does not die in winter, do not plant this species. Plant a native species, such as common milkweed (*A. syriaca*) instead.

Other native milkweeds. ***Note: Seeds of these species are currently hard to find:***

Central states
Tall Green Milkweed, *Asclepias hirtella*
Central Prairie milkweed *Asclepias sullivantii*
Spider milkweed, *Asclepias viridis*

Western states
California milkweed, *Asclepias californica*

South Central
Antelope Horns, *Asclepias asperula*
Desert milkweed, *Asclepias subulata*
Heartleaf milkweed, *Asclepias cordifolia*
Narrow-leaf milkweed, *Asclepias fascicularis*
Showy Pink milkweed, *Asclepias speciosa*

Northeast, North Central, Southeast states
Purple milkweed, *Asclepias purpurascens*
Clasping milkweed, *Aclepias amplexicaulis*
Poke milkweed, *Asclepias exaltata*
Comet milkweed *Asclepias viridiflora*

Southern states
Whorled milkweed, *Asclepias verticillata*
Fewflower milkweed, *Asclepias lanceola*