MONARCH JOINT VENTURE

Partnering across the U.S. to conserve the monarch migration

www.monarchjointventure.org

The Monarch Joint Venture is a partnership of federal and state agencies, non-governmental organizations, and academic programs that are working together to protect the monarch migration across the lower 48 United States.

MISSION

Recognizing that North American monarch (*Danaus plexippus*) conservation is a responsibility of Mexico, Canada and the U.S., as identified in the North American Monarch Conservation Plan, this Joint Venture will coordinate efforts throughout the U.S. to conserve and protect monarch populations and their migratory phenomena by developing and implementing science-based habitat conservation and restoration measures in collaboration with multiple stakeholders.

Our mission will be achieved by coordinating and facilitating partnerships and communications in the U.S. and North America to deliver a combination of habitat conservation, education, and research and monitoring.

VISION

The vision of this Joint Venture is abundant monarch populations to sustain the monarch migratory phenomena into perpetuity, and more broadly to promote monarchs as a flagship species whose conservation will sustain habitats for pollinators and other plants and animals.

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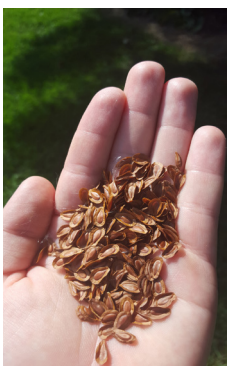
Why Grow and Sell Native Milkweed?

Why is milkweed so important?

Milkweed plants (family *Asclepiadaceae*) are the only food source for monarch butterfly caterpillars. However, milkweed has severely declined in North America due to drastic changes in land use or management, like agriculture and development. Milkweed losses and other stressors are associated with declines in migratory monarch butterflies over the past 20 years [1, 6, 7]. To compensate for the loss of milkweed, gardeners across North America are helping monarchs by planting native species of milkweeds, and by keeping milkweeds safe from pesticides.

Why is it important to sell native milkweed species?



Native milkweed species are in tune with monarchs' annual migration cycle. Each spring, native milkweeds emerge from dormancy as the monarchs leave their overwintering sites (either in Mexico, for monarchs in eastern North America, or in California, for monarchs in western North America). Monarchs migrate to breeding grounds across the U.S. and into southern Canada, where females lay eggs on milkweed throughout the spring and summer. In late summer, shorter days and cooler nights signal to developing monarchs that they should delay reproduction and prepare for migration to their overwintering grounds. These same environmental cues cause native milkweeds to turn yellow and die back for the year. However, exotic tropical milkweeds such as *A. curassavica* can grow year-round in mild climates and increase monarchs' risk for becoming infected with the debilitating parasite, OE (*Ophyrocystis elektroscirrha*). [4, 5]. Given the risks associated with year-round milkweed, we recommend that nurseries and gardeners replace tropical milkweed with native milkweed species and native nectar plants.

Milkweed is in demand!

Recent surveys show that customers are interested in purchasing and willing to pay for monarch-friendly plants [1]. There has been exponential growth in interest surrounding monarch conservation over the past few years, and the diversity of stakeholder interests continues to grow as well. The rapid expansion of partnerships, like the Monarch Joint Venture, provides assurance that demand for monarch-friendly plants will continue into the future and that there are community support mechanisms in place to propel local interest and support for pollinator plantings. The challenge is to turn this demand into actual plant and seed sales. There is clear potential to increase profits through the sale of native plants. In one instance, a nursery that promoted a line of native, pollinator friendly plants increased their revenue by over 30%.

What about monarch nectar plants?

Monarchs eat milkweed as caterpillars. Monarchs drink nectar from flowers as adult butterflies. Adult butterflies depend on diverse nectar sources for food throughout the growing season, and especially during the spring and fall migration. Nectar is also food for other beneficial pollinators!

Tips for increasing customer interest in milkweed

- Label, Label, Label! Clearly label your native plants and display them together.
- Label milkweed as the primary monarch caterpillar food plant, and include a caterpillar photo.
- Offer deals on milkweeds bundled with native nectar plants.
- Emphasize that native milkweed is a perennial and will return for several years.
- Supply information for customers on establishing monarch or pollinator gardens using native milkweed.

Tips for dealing with milkweed pests

Insecticides are known to reduce monarch caterpillar growth and survival and to affect their flight and navigation [2, 3]. It is crucial to avoid using pesticides, especially systemic insecticides, on milkweed plants and to consider alternatives.

- Aphids and milkweed bugs may appear unattractive, but if plants are otherwise growing, plants can tolerate moderate infestations.
- The presence of insects indicates that plants are butterfly-safe (free of pesticides). Use signs to inform customers of this indicator.
- Avoid systemic insecticides such as neonicotinoids. Consider using insecticidal soap that is not long-lasting and can be rinsed off as an alternative.
- Maintain genetic diversity in milkweed populations, which will decrease the plants' vulnerability to the same pests or diseases.

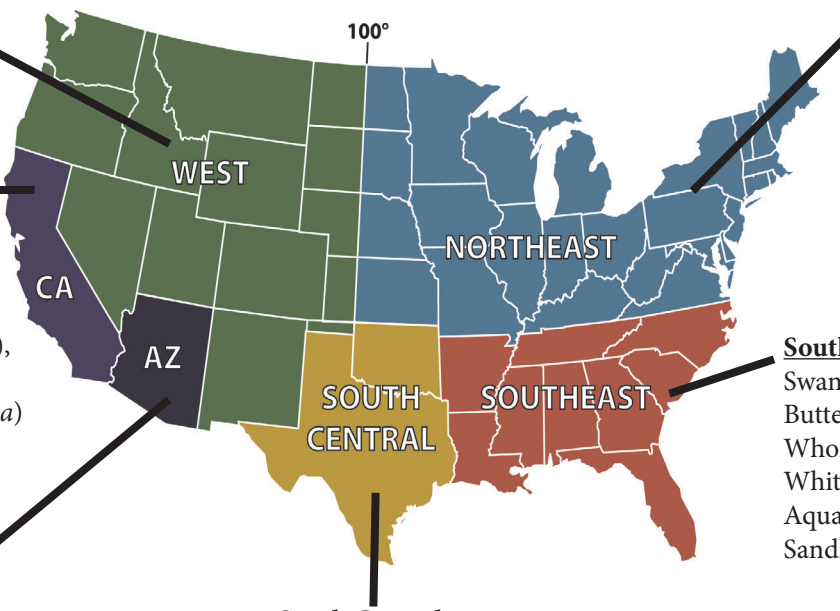
Helpful Links and Resources

- Native monarch nectar plants: http://xerces.org/monarch-nectar-plants/
- Xerces Society's Pollinator Protection Pledge: http://xerces.org/pollinatorprotectionpledge/
- Million Pollinator Garden Challenge project: http://millionpollinatorgardens.org/
- Milkweeds: A Conservation Practitioner's Guide: http://xerces.org/milkweeds-a-conservation-practitioners-guide/
- Managing Milkweed Crop Pests: http://xerces.org/wp-content/uploads/2016/10/Managing-MIlkweed-Crop-Pests_March2017_secured.pdf

Which milkweeds are native to your region?

West:
Narrow Leaf Milkweed (*A. fascicularis*)
Showy Milkweed (*A. speciosa*)

California:
Narrow Leaf Milkweed (*A. fascicularis*), Showy Milkweed (*A. speciosa*), Desert Milkweed (*A. erosa*), (*A. californica*), Heart-leaf Milkweed (*A. cordifolia*), Woolly Milkweed (*A. vestita*), Woolly Pod Milkweed (*A. eriocarpa*)



Northeast:
Common Milkweed (*A. syriaca*), Swamp Milkweed, (*A. incarnata*), Butterfly Weed (*A. tuberosa*), Whorled Milkweed (*A. verticillata*), Poke Milkweed (*A. exaltata*)

Southeast:
Swamp Milkweed (*A. incarnata*), Butterfly Weed (*A. tuberosa*), Whorled Milkweed (*A. verticillata*), White Milkweed (*A. variegata*), Aquatic Milkweed (*A. perennis*), Sandhill Milkweed (*A. humistrata*)

Southwest (AZ, NM):
Showy Milkweed (*A. speciosa*), Antelopehorn Milkweed (*A. asperula*), Arizona Milkweed (*A. angustifolia*), Desert Milkweed (*A. erosa*), Pineneedle Milkweed (*A. linaria*) Horsetail Milkweed (*A. subverticillata*), Rush Milkweed (*A. subulata*)

South Central:
Green Milkweed (*A. viridis*), Antelope Milkweed (*A. asperula*), Zizotes Milkweed (*A. oenotheroides*)

Note: Not every milkweed species native to each region is listed. The species highlighted are known to be used by monarchs and are easier to establish.

MONARCH JOINT VENTURE
PROJECT MONARCH HEALTH
XERCES SOCIETY for Invertebrate Conservation

References

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