



swamp milkweed *Asclepias incarnata*, L.

Alternate Common Names

rose milkweed, silkweed, water nerve root, white Indian hemp, swamp silkweed

Functional Group

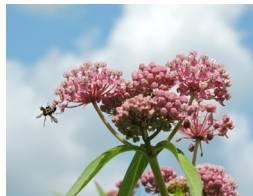
forbs (wildflowers)

Family

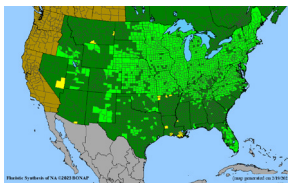
dogbane family (Apocynaceae), formerly assigned to the milkweed family (Asclepiadaceae)

Description

- » **Life cycle/growth form:** Perennial, weakly rhizomatous, forming small clones of several stems; root systems are more fibrous than other commonly cultivated milkweeds such as butterfly milkweed (e.g., *A. tuberosa*).
- » **Height:** 2-5 ft
- » **Leaves and stem:** Leaves 3-6 in long, usually narrowly lanceolate with smooth, untoothed edges and sessile on the stem or short-stalked, opposite arrangement; stems mostly hairless, usually unbranched (occasionally branched above).
- » **Flower:** Numerous, various shades of rose-pink with a pronounced fragrance similar to bubblegum, in domed clusters 2-3 in across; individual flowers five-parted, radially symmetrical, with a crown of five tubular hoods surrounding a central column, petals and sepals curved downward (typical milkweed flowers).
- » **Fruit/seed head:** Pods (follicles) are 2-4 in long, smooth/waxy, and teardrop-shaped; follicles open along one side at maturity, revealing many shiny brown seeds each of which bears a flattened wing and a plume of soft, white floss.



Habitat and Range



Moist to wet, neutral to slightly acidic soil in partial to full sun. Wild populations are found in open floodplains, lakeshores, ditches, and wet prairies. Obligate wetland status (OBL) in Midwest, facultative (FACW) in Great

Plains. Benefits from irrigation in production systems.

Conservation Status

Global- G5, secure; Arizona, Mississippi, Montana, and Nevada- S1, critically imperiled; Arkansas, Idaho, and Louisiana- S2,

imperiled; Wyoming- S2/S3 imperiled to vulnerable; Georgia- S3, vulnerable (NatureServe)

General Comments

Swamp milkweed is a valuable addition to pollinator habitat plantings on wetter soils and a showy, mannerly milkweed for home landscaping. This species is an important host for caterpillars of the monarch butterfly which feed upon its leaves. The fragrant flowers attract and provide nectar for numerous pollinators including various species of butterflies, bees, wasps, and flies. The strong, silky stem fibers are used as nesting material by songbirds and have traditionally been used for spinning and weaving by Native peoples, giving rise to some of the alternate common names such as silkweed and white Indian hemp. Establishment from plugs is rapid, and seed can be harvested the first fall, but production stands are short-lived (2-3 years).

Establishment for Seed Production (Appendix A)

Direct seeding:

We do not have experience with direct seeding this species for seed production.

Greenhouse:

- » **Seed pre-treatment:** To break dormancy, use 30-60 days cold stratification (check frequently for early germination) or a 24-hour soak in 250 ppm gibberellic acid (GA-3).
- » **Sowing:** Seed directly into plugs (2-3 seeds per cell) or on germination flat and lightly cover with potting mix, or germinate between sheets of moistened paper toweling and move to individual plugs as radicles (seed roots) emerge from seeds; start seeds 8-10 weeks before the average frost-free date.
- » **Transplanting:** Move plug flats outdoors 1-2 weeks before transplanting to allow seedlings to adjust to ambient conditions; plant with 1 ft spacing in plastic mulch with drip irrigation.

Stand Management

- » **Weeds:** Field preparation through repeated tillage and application of plastic mulch reduces weed issues; hand harvesting of pods as they mature results in very pure seed.
- » **Pests:** Non-native oleander aphids (*Aphis nerii*) can form dense infestations, reducing plant vigor and causing abortion of flowers or pods or, in extreme cases, death of the plant. Scout for these golden yellow aphids when plants are in bud, as it is easier to control small aphid infestations. Aphid predators (e.g., ladybug larvae, hoverfly larvae, and lacewing larvae) and aphid mummy wasps help reduce damage. Use the least toxic treatment possible (e.g., horticultural oils or insecticidal soaps) to avoid harming aphid enemies and pollinators, as aphids often occur at the time plants are in flower. Native seed-feeding milkweed bug species (*Oncopeltus fasciatus* and *Lygaeus kalmii*) pierce pods and feed on seeds. Manually remove clusters of red-orange milkweed bug nymphs from pods. A small proportion of pods is ruined by larvae of native milkweed stem weevils (*Rhysomatus lineaticollis* or *R. annectans*). These appear as grubs or pupae inside the cluster of seeds. Affected pods have a small entry hole on the side and often mature prematurely. Earlier in the growing season, red milkweed

- longhorn beetles (*Tetraopes spp.*) feed on the tips of milkweed leaves. Their larvae feed within milkweed roots and rhizomes and may weaken plants over time. Monarch butterflies (*Danaus plexippus*) are attracted to lay eggs on swamp milkweed. In smaller-scale production systems, caterpillars can be hand-picked from production rows and transferred to nearby wild milkweeds before applying treatments for problem insects.
- » **Diseases:** Milkweeds are susceptible to a variety of fungal, bacterial, and viral diseases. Cultural methods such as reducing stand size or density, intercropping, and crop rotations may reduce disease spread and severity.
 - » **Soil Moisture:** Plant in naturally wet soils and/or supply irrigation, especially in dry weather.
 - » **Note:** Refer to *Milkweeds: A Conservation Practitioner's Guide*, published by the Xerces Society, for more detailed information on milkweed insects and diseases and their control.

Seed Production (Appendix B)

- » **First harvest:** Fall of planting year, when started from transplanted plugs.
- » **Yield:** 200-300 pounds/acre, with largest harvest in the first year (based on 4 plots)
- » **Stand life:** Two years from transplanting. Plants are reported to be longer lived in natural populations.
- » **Flowering date:** July in northern Iowa
- » **Seed maturity/Harvest date:** early September - mid-October in northern Iowa
- » **Harvest date range at TPC (2009-2020):** Aug 31 - Oct 17
- » **Recommended harvest method:** Harvest by hand as pods (follicles) mature; collect pods that are changing color from green to yellowish and split when subjected to gentle pressure on the suture (seam), revealing dark brown seeds.

*data based on 4 plots



Seed Cleaning Process (Appendix C)

Dry pods in cloth bags for two weeks with fan-forced air. Pass pods through a debearder or stationary combine to release seeds and detach fluff. Follow up by fan winnowing (outside on a relatively calm day) to remove most of the fluff. Air-screen the remaining material. Indent cylinder removes broken bits of pods and stems from seed.

Seed Characteristics (Appendix D)



- » **Seeds per ounce:** 4,800 (IA NRCS)
- » **1000 seed weight:** 3.65 g (Seed Information Database)
- » **Description:** Dark brown, oval, surrounded by flattened 'wing' and tuft of soft hairs.
- » **Seed storage:** cool/dry (orthodox)

» Typical seed test:

PLS: 89% (n = 11)
 Purity: 98% (n = 11)
 Germination: 7% (n = 7)
 Dormancy: 58% (n = 7)
 (averages obtained from n tests of purchased seed lots)

Released Germplasm

- » **Source Identified material:** Natural Selections/Iowa Ecotype Zones 1, 2, IA
- » **Cultivated varieties:** 'Ice Ballet,' 'Cinderella,' and 'Milkmaid'

References

- Borders, B. and E. Lee-Mäder. 2014. *Milkweeds: A Conservation Practitioner's Guide*. 143 pp. Portland, OR. The Xerces Society for Invertebrate Conservation. https://www.xerces.org/sites/default/files/2018-05/17-031_02_XercesSoc_Milkweeds-Conservation-Guide_web.pdf
- Chayka, K. (2010). *Asclepias incarnata* (swamp milkweed). Minnesota Wildflowers. <https://www.minnesotawildflowers.info/flower/swamp-milkweed>
- Cochrane, T. S., Elliot, K., & Lipke, C. S. (2014). Swamp Milkweed. In *Prairie Plants of the University of Wisconsin, Madison Arboretum* (3rd ed., p. 55). University of Wisconsin-Madison Arboretum.
- Hilty, J. (2020). *Swamp Milkweed - Asclepias incarnata*. Illinois Wildflowers. https://www.illinoiswildflowers.info/wetland/plants/sw_milkweed.htm
- Kartesz, J.T., The Biota of North America Program (BONAP). 2023. North American Plant Atlas. (<http://bonap.net/napa>). Chapel Hill, N.C. [maps generated from Kartesz, J.T. 2023. Floristic Synthesis of North America, Version 1.0. Biota of North America Program (BONAP). (in press)]
- Kirk, S. and Belt, S. (2011). *Plant fact sheet for swamp milkweed (Asclepias incarnata)*. USDA-Natural Resources Conservation Service, Norman A. Berg National Plant Materials Center. Beltsville, MD 20705. https://plants.usda.gov/DocumentLibrary/factsheet/pdf/fs_asin.pdf
- NatureServe. 2024. NatureServe Network Biodiversity Location Data accessed through NatureServe Explorer [web application]. NatureServe, Arlington, Virginia. Available <https://explorer.natureserve.org/>. (Accessed: February 28, 2024).
- Runkel, S. T., & Roosa, D. M. (2009). Swamp milkweed. In *Wildflowers of the Tallgrass Prairie: The Upper Midwest* (Second, p. 179). University of Iowa Press.
- Schultz, Jan; Beyer, Patty; Williams, Julie. (2001). *Propagation protocol for production of Container (plug) Asclepias incarnata L.* plants USDA FS - Hiawatha National Forest Marquette, Michigan. In: Native Plant Network. US Department of Agriculture, Forest Service, National Center for Reforestation, Nurseries, and Genetic Resources. <https://NativePlantNetwork.org> (accessed 2024/01/09).
- Society for Ecological Restoration and Royal Botanic Gardens Kew. (2024). *Asclepias incarnata L. SWAMP MILKWEED*. Seed Information Database. <https://ser-sid.org/species/62bf4e-ed33-4c71-a18f-f78f9018fda7>
- University of Wisconsin. (2024). *Common milkweed insects*. Wisconsin Horticulture, Division of Extension. <https://hort.extension.wisc.edu/articles/common-milkweed-insects/>

Species Updated: 3/5/2024