

Buying and Growing Milkweed Plants
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1. Select a Nursery That Doesn't Use Neonicotinoid Insecticides.

These systemic insecticides are deadly for monarch caterpillars (Figure 1A&B), and are considered to be one of the principal causes for the population decline of western monarchs. Neonicotinoids are often used by large scale plant propagation nurseries, and so local retail nurseries may not even be aware that they were applied. These chemicals are very persistent in soils and plant tissues and can cause serious injury in very low concentrations. Sublethal effects, such as disorientation, have been shown to affect honeybees and would be debilitating to migrating insects like monarch butterflies.



2. Make native milkweeds your first choice.

Non-native milkweeds, especially tropical milkweed (*Asclepias currasavica*), are widely sold in nurseries but we recommend using native milkweed species whenever possible. Check websites at the bottom of the page to find out which milkweed species are local to your area. In addition to species of milkweed, try to find nursery plants that were grown from local seed sources. For example, showy milkweed (*A. speciosa*) can be found throughout the western states, so it is important to buy plants from a seed source that is adapted to your local soils and climate. Some native milkweeds are more common because they are easier to propagate but consider species phenology (when plant emerge and bloom) to make sure that plants will be up and growing when monarchs migrate through your location. This is especially important in coastal California and the Central Valley where monarchs are leaving overwintering sites earlier due to global warming and need to find early growing milkweeds to lay eggs on.

Figure 1 – Neonicotinoid insecticides (left) are systemic, meaning they move throughout the plant. Monarch caterpillars are poisoned when they eat the leaves (right), and adult butterflies when they feed on nectar from the flowers.

Sources of information on which milkweed species are local to your area:

CalFlora (<https://www.calflora.org/cgi-bin/specieslist.cgi?where-genus=Asclepias>),
USDA NRCS Plants Database (<https://plants.sc.egov.usda.gov/java/>)
Monarch Milkweed Mapper (<https://www.monarchmilkweedmapper.org/app/>)

3. How to select a quality milkweed plant. During the growing season, select plants with healthy leaves and no obvious disease problems. The size of the shoot should not be too large for the root system. “Top heavy” plants often suffer transplant shock because they lose water

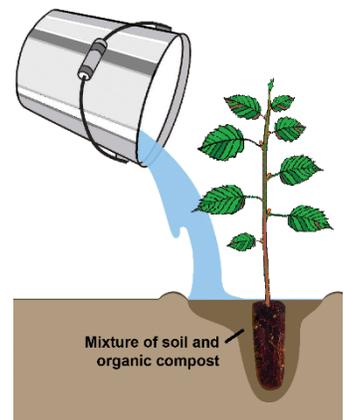
through transpiration faster than it can be absorbed through a root system that is too small. For dormant plants, the key to quality is the root system. Milkweed store energy in their root system as they lose their leaves so look for a well-developed root system with a thick tap root and a web of fine roots to quickly take up water after planting (Figure 2). Another consideration is whether the milkweed species produces rhizomes or not because rhizomatous species can spread and overtake other plants in garden settings.

Figure 2 – High-quality nursery plants like this narrowleaf milkweed should have a healthy, well-developed root system.



4. Planting and cultivating milkweed plants. All milkweeds are perennial which means that they grow from year to year, and don't need to be replanted. Don't leave the plants in their original container for too long as they may quickly become rootbound. Milkweeds grow well in containers that are large enough to support their growing root systems. You can also plant milkweeds directly in your garden, as long as they are in a sunny location and the soil is well drained. If the plants are root-bound, score the outside of the root plug to promote outward root growth. Position the plants so that the roots are completely covered with a mixture of soil and compost. Water around each plant to help settle the soil and prevent air pockets (Figure 3). Irrigate occasionally during the first growing season to help the plants to become established.

Figure 3 – Don't plant milkweeds too deep and use a mix of soil & compost to fill the hole. Water immediately to settle the soil around the roots.



Experience has shown that female monarchs prefer new succulent foliage for egg laying, so prune your milkweeds after the first season to stimulate new growth. This is particularly effective in late summer or early fall when older leaves grow thicker cuticles. If you have tropical milkweed, clip it back several times and especially in the fall so that spores of the OE disease do not build-up on plant foliage.

5. Managing milkweed pests. Keep the foliage of milkweeds dry to prevent foliar molds. Yellow-orange Oleander aphids (Figure 4) are almost unavoidable when growing milkweeds in garden environments, especially late in the season. Inspect plants regularly and wash the aphids off with water – insecticidal soaps will kill aphids but should be used carefully to prevent injuring any monarch eggs or caterpillars.

Figure 4 – Oleander aphids are major pests of milkweed plants, but won't kill the plants or adversely affect monarch caterpillars.



The Xerces Society website is a great source of information on growing milkweeds:
<https://www.xerces.org/publications/guidelines/milkweeds-conservation-practitioners-guide>