



Home, Yard, and Garden Pest Newsletter

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Insects on milkweed in the home landscape

Throughout the summer I receive messages from landscape professionals and gardeners asking about insects on milkweed. Often people want to learn whether the insect they’ve encountered is a pest and sometimes they ask whether that insect may be a threat to monarch caterpillars they wish to encourage in the landscape. There are a plethora of different insect species that live on milkweed ranging from tiny aphids to large butterflies and voracious mantids. Here are some of the most common insect species on milkweed throughout the summer:

Herbivores

Monarch butterflies and caterpillars

Monarch butterflies and caterpillars (*Danaus plexippus*) are among the most recognizable insect species in Illinois. Monarch caterpillars feed exclusively on the foliage of milkweed plants. Adult butterflies feed on nectar from a variety of flowering plants including prairie plants, ornamental plants and plants that are often considered weeds. Monarch butterflies provide pollinating services. Pollen sticks to their bodies and is transferred from plant to plant when they visit flowers to feed.

Monarchs sequester the milkweed’s natural plant defensive compounds in their bodies. These compounds make monarchs distasteful to many predators, providing a good natural defense.

Aphids

Aphids are tiny pear-shaped insects that suck the fluids from plants. Oleander aphid (*Aphis nerii*) is a common aphid on milkweed. These insects produce sugary droppings called honeydew which can coat leaves and support sooty mold. Dense populations can impact plant vigor but aphid populations are commonly parasitized and usually do not require control.

Aphids are sometimes tended by ants which can be problematic. Ants tending aphid colonies collect the sugary honeydew produced by the aphids and protect them from predators, preventing natural control of aphid populations. If the plant is stressed or if you are seeing dieback, it may be beneficial to treat aphids with an insecticidal soap or horticultural oil. However, these treatments may also harm young monarch caterpillars. The aphids will not harm monarchs but heavy aphid populations can stress the plants which can stress feeding caterpillars.



Milkweed bugs

Milkweed bugs (*Oncopeltus sp.*) are very common and active this time of year. Both adults and nymphs are orange to red and black. They use a straw-like mouthpart to feed on seeds within milkweed pods but they often wander to other parts of the plant and visit nearby plants. They will not harm monarchs and, because they feed on a different part of the plant, do not directly compete with them. They should not cause significant problems for the grower unless they intend to harvest milkweed seeds.



Milkweed tussock moth caterpillars

Milkweed tussock moth caterpillars (*Euchaetes egle*) are covered in tufts of orange, black and white hair. The tufts are in a tent-like arrangement along the length of the caterpillar's back and stick out away from the body at the head and rear ends. It is more common to see these insects toward the end of summer when they reach this colorful life stage. This insect feeds on milkweed foliage and will not harm monarchs.



Swamp milkweed leaf beetles

Swamp milkweed leaf beetle (*Labidomera clivicolis*) adults have orange wing covers with variable black patches. They are similar to lady beetles in body shape but they are larger. Larvae have robust fleshy abdomens that are gray to orange with a line of small black spots along each side. Swamp milkweed leaf beetles feed on foliage of the milkweed plants as larvae and adults. They will not harm monarchs.



Milkweed longhorn beetles

Milkweed longhorn beetles (*Tetraopes sp.*) have black antennae, red bodies and red wing covers with black spots. One of the major identification characteristics for longhorned beetles is that their antennae are longer than the length of their bodies. The adults feed on milkweed foliage and buds, lay eggs on milkweed stems and the larvae feed within milkweed roots. Milkweed longhorn beetle adults have bright coloration and are usually slow moving so they can be easily spotted, identified and observed. Milkweed longhorn beetles will not harm monarchs.



Insectivores

Lady beetles

Lady beetles (family Coccinellidae) are another easily recognized insect, they have red wing covers with black spots and black and white head and pronotum. Their larvae have long bodies with spike-like projections. They have three pairs of jointed legs near their head and are black and orange. Both the larvae and adults are insect predators, commonly found on milkweed. Lady beetles feed on tiny insects that live on milkweed, especially aphids. They do not harm monarchs.



Soldier beetles

Adult soldier beetles (family Cantheridae) are omnivores, feeding on pollen and nectar from flowers and small insects like aphids. Soldier beetle larvae also feed on small insects in the soil. Adult beetles are orange with a black spot on each wing cover. This species is considered beneficial because they pollinate flowers and feed on small insects so control is not recommended.



Ambush Bugs

Ambush bugs (subfamily Phymatinae) are named for their predatory behavior. They sit still on milkweed and other plants, often on the flower, and wait for small prey insects to approach. When a prey insect is within reach, they grasp the insect with their raptorial forearms and begin to feed. They can feed on a variety of insect which can make them beneficial predators.



These insects are well camouflaged, with brown and yellow to green bodies. They can be distinguished from similarly shaped insects, like stink bugs or assassin bugs, by the shape of their forelegs which look similar to those of a praying mantis or *Tyrannosaurus rex*. While adult monarchs are too large and distasteful for this insect to capture, ambush bugs have the potential to consume young caterpillars.

Spined soldier bugs

Spined soldier bugs (*Podisus maculiventris*) are predatory stink bugs. Adults are brown with a spine on each side of their pronotum (shoulder area). The young nymphs are often orange and black or green and black. These predators actively hunt and feed on prey insects. Their diet can include a range of insects which makes them beneficial predators in the landscape. However, their diet could include monarch caterpillars larger than themselves.



Praying mantids

Praying mantids (order Mantodea) are easily recognized by their long bodies and raptorial forelegs. There are two species of mantids in Illinois, the native Carolina mantis (*Stagmomantis carolina*) and the introduced Chinese mantis (*Tenodera sinensis*). The Chinese mantis is much larger than the Carolina mantis and has a yellow spot between its forelegs. Adult mantids are large enough to attack and consume an adult monarch butterfly but are unlikely

to consume more than one because they learn that the monarchs are distasteful. They are also capable of consuming monarch caterpillars. They are unlikely to consume the caterpillars repeatedly because they are also distasteful. However, in laboratory studies some Chinese mantids learned to avoid milkweed material inside caterpillars by not consuming the caterpillar's gut while feeding. If you or your clients are concerned about mantids feeding on monarchs, I recommend relocating mantids to an area without milkweed. Mantids can be beneficial predators in other parts of the garden or landscape. Pesticide applications on milkweed could be harmful to any insects that enter the area, including monarchs.



Sarah Hughson

Article Image Credits:

Monarch (*Danaus plexippus*) adult on purple cone flower, Sarah Hughson, University of Illinois at Urbana-Champaign

Oleander aphid (*Aphis nerii*) and monarch caterpillar (*Danaus plexippus*) on milkweed, Sarah Hughson, University of Illinois at Urbana-Champaign

Milkweed bug on milkweed, Sarah Hughson, University of Illinois at Urbana-Champaign

Milkweed tussock moth (*Euchaetes egle*), Ansel Oommen, Bugwood.org

Swamp milkweed leaf beetle, Sarah Hughson, University of Illinois at Urbana-Champaign

Milkweed longhorn beetle on milkweed, Sarah Hughson, University of Illinois at Urbana-Champaign

Convergent lady beetle (*Hippodamia convergens*), Jerrod Hein, Kansas State University, Bugwood.org

Goldenrod soldier beetle (*Chauliognathus pensylvanicus*), David Cappaert, Bugwood.org

Ambush bugs (*Phymata* sp.), David Cappaert, Bugwood.org

Spined soldier bug (*Podisus maculiventris*), John Ruberson, Kansas State University, Bugwood.org

Carolina mantis (*Stagmomantis carolina*), Sarah Hughson, University of Illinois at Urbana-Champaign

Fall Is Good Time for Broadleaf Weed Control in Turf

With the long hot days of summer coming to a close, we can look forward to cooler days in the fall. If broadleaf weeds populations are unacceptably high in turf areas you own or manage, it's time to plan your attack. Fall is the ideal time to control broadleaf weeds in turfgrass as winter annual weeds and cool season perennial weeds will soon be preparing for the long, cold months ahead.

September really is an excellent time for overseeding and establishment as its temperatures are more conducive to good turf growth. With cool season lawns starting to green up again, core aeration can be used to alleviate compaction. Those areas in the lawn that are primarily broadleaf plantain and knotweed may be prime target candidates for core aeration. With cooler temperatures, comes germination of cool-season annual weeds such as chickweed and henbit. Take a scouting trip to see what is growing where.

Proper turfgrass management is the first step in minimizing weed invasions. When selecting an appropriate turfgrass, consider use, site, and budget. Then follow with appropriate mowing, watering, fertilizing, and cultivating; all can lead to a dense, healthy turf. Weeds have difficulty establishing themselves in healthy, competitive turf. Therefore, weed populations will decrease.

In areas where broadleaf weeds are particularly a problem, mow frequently to prevent seed-head production; and after properly identifying the problem weed species, initiate controls. For assistance with identification, consult with your local University of Illinois Extension office or the booklet, "Identifying Weeds in Midwestern Turf and Landscapes" available at: <https://pubsplus.illinois.edu/products/identifying-weeds-in-midwestern-turf-and-landscapes>. Learning the weed's life cycle and preferred growing conditions can greatly assist with control efforts. Perhaps growing conditions can be altered to be less favorable. Mechanical removal of weeds by hand-pulling or hoeing can eliminate small numbers of weeds easily. Be sure to remove as much of the root system as possible to reduce regrowth of

perennials. Persistence may be needed but will be rewarded.



Broadleaf plantain in turf. Michelle Wiesbrook, University of Illinois.

Proper cultural practices can greatly reduce weed populations. However, if weed problems persist, herbicides can be used. Postemergence herbicides can provide effective control now that many broadleaf weeds are actively growing again. Individual herbicides or combinations of herbicides are available. Be sure to read, understand, and follow the label directions for proper use of these chemicals. If mishandled or misapplied, these herbicides may damage or kill many desirable ornamental or edible plants in the landscape or nearby garden. Check the label for specific guidance on where the product can or cannot be applied and for rain-free period (rain-fast) information. Follow these general recommendations when using postemergence broadleaf products.

1. Apply these herbicides when environmental conditions are appropriate for control.
 - a. Watch wind speeds to avoid drift. Often, early mornings are less windy than later in the day. A gentle, blowing breeze of 3 to 10 mph is recommended. Be sure the wind is blowing away from sensitive areas.

- b. Apply these herbicides when air temperatures are between 55 degrees and 85 degrees F.
 - c. Adequate soil moisture is important to maintain growth and translocation of herbicides throughout the entire weed.
 - d. Do not apply when precipitation is expected within 24 hours.
2. Don't mow for a few days before or after application, thereby allowing maximum leaf surface for interception and absorption of the herbicides.
 3. When possible, to reduce unnecessary pesticide use, make spot applications rather than treating large areas.
 4. Apply these herbicides to new turfgrass seedlings only after they have been mowed three or four times unless label directions read otherwise. Wait at least 30 days after application before seeding into areas treated with postemergence broadleaf herbicides.
 5. Many broadleaf weeds such as dandelion and ground ivy are busy preparing for winter by moving excess carbohydrates to the roots. This can aid translocation of a postemergent herbicide. The cooler temperatures of autumn allow for use of ester formulations because there is less risk of vapor drift. Amine formulations should be used instead when air temperatures are warmer. Finally, cool season turfgrasses are actively growing in autumn and more quickly fill in bare areas left by dying weeds.

In research conducted over several years at the University of Illinois Landscape Horticulture Research Center, several herbicides provided effective postemergence control of common broadleaf weeds such as white clover, dandelions, and plantains. These herbicides are 2,4-D + MCPP + dicamba; triclopyr + clopyralid; and 2,4-D + triclopyr. For additional information regarding other chemical weed controls or other weeds, see the guide, *Turfgrass Weed Control for Professionals* available from Purdue Extension. University of Illinois contributes to this publication with expertise and research information. If you still have a copy, the 2014 *Commercial Landscape and Turfgrass Pest Management Handbook* still contains relevant information.

Information about common postemergence herbicides follows. Trade names are given as examples only and should not be considered endorsements of any kind. This list is not all inclusive. Often combination products are offered to better control a variety of species.

2,4-D; MCPP (mecoprop); MCPA; and 2,4-DP (dichlorprop): These herbicides are in the phenoxy acid family. In this group, 2,4-D is the oldest and most widely used. It is effective on taprooted weeds such as dandelion and broadleaf plantain; but, by itself, 2,4-D does not control white clover, chickweed, purslane, ground ivy, or violets very well. Ester forms of 2,4-D are recommended for wild garlic and onion control. MCPA is very similar to 2,4-D but does not control the broad spectrum of weeds that 2,4-D controls. If chickweed or white clover is a problem, MCPP is a recommended control. Dichlorprop is combined with other broadleaf herbicides; control of henbit, knotweed, and spurge is usually improved when it is combined with 2,4-D.

dicamba (Banvel, Vanquish): Dicamba, a benzoic acid, works similarly to the phenoxy acid group and is effective against knotweed, purslane, and spurge but does not control buckhorn or broadleaf plantains well. Dicamba is relatively mobile in the soil. Carefully read and follow label directions as tree roots may pick up dicamba and sensitive species may be injured.

triclopyr (Turflon Ester Ultra, Triclopyr 4): Less broad-spectrum than the commonly used combination of 2,4-D + MCPP + dicamba, triclopyr is very active against ground ivy and oxalis.

fluroxypyr (Tailspin, Vista XRT): Similar in activity to triclopyr. Can be effective on ground ivy, dandelion, and white clover.

clopyralid (Lontrel): For use on non-residential turf, clopyralid is very active against white clover and thistle.

quinclorac (Drive XLR8): An unusual product, as quinclorac is active against white clover, veronica, dandelion, and crabgrass.

chlorsulfuron (Telar XP): Labeled for use on unimproved industrial turf, this formulation is not to be used on lawns. It controls a broad spectrum of weeds.

carfentrazone-ethyl (Quicksilver T&O, Power Zone): with 2,4-D + MCPP + dicamba in Speed Zone; with MCPA + MCPP + dicamba in Power Zone; labeled a “reduced risk” herbicide by EPA; disrupts chlorophyll synthesis; increases speed of activity compared to traditional postemergence broadleaf herbicides.

pyraflufen (Octane): Controls chickweed, dandelion, and white clover. It can be used in newly seeded areas that are not under stress.

topramezone (Pylex): This product has a bleaching effect on susceptible species such as carpetweed, chickweed, and clover.

penoxsulam (LockUp, Sapphire): This low use product can be used to control many broadleaf weeds including white clover.

Many postemergence combination products are manufactured to increase the spectrum of weed control. Included in this group are

2,4-D + MCPP + dicamba (Triad Select, Trimec, Triplet, others)

2,4-D + MCPP + 2,4-DP (Triamine)

MCPA + MCPP + dicamba (Trimec Encore, Tri-Power)



Violets in turf. Michelle Wiesbrook, University of Illinois.

Several preemergence herbicides can be applied to control broadleaf weeds in turf. As mentioned previously, chickweed and henbit will be germinating soon. Keep in mind that these herbicides must be applied prior to germination to be effective. Existing weeds can be controlled using the methods previously discussed. General recommendations can be made when using these products in turf.

1. Conduct any cultivation practices based on label directions; when in doubt, core-aerify or de-thatch before herbicide application.
2. Water following application according to the herbicide label direction.
3. To lengthen the period of weed control, make a second application of the herbicide at a later date. Follow the specific label directions for rates and timing.
4. Consult individual preemergence herbicide labels for the specific waiting period between herbicide application and overseeding or reestablishment. Avoid applying a preemergence herbicide immediately before installing sod.

Various preemergence herbicides are available for controlling broadleaf weeds. A few commonly used examples include:

dithiopyr (Dimension): According to the label, this herbicide controls chickweed, henbit, purslane, spurge, and yellow woodsorrel when applied before weed emergence.

isoxaben (Gallery): According to the label, this herbicide controls many weeds, including dandelion (see label for recommendations). It has no postemergence activity, so control existing weeds with post emergence spray. Prostrate knotweed germinates very early in the spring and late fall (November even December) applications can be effective.

pendimethalin (Pendulum): According to the label, this herbicide controls chickweed, henbit, knotweed, prostrate spurge, purslane, and yellow woodsorrel when applied before weed emergence.

prodiamine (Barricade): According to the label, this herbicide controls common chickweed, henbit, knotweed, prostrate spurge, purslane, and yellow woodsorrel when applied before weed emergence.

Michelle Wiesbrook, adapted from a previous article by the same author and Tom Voigt

Mushrooms Growing in Turf

A recent pattern of moist weather in central Illinois created an ideal environment for mushrooms in many landscapes. Mushrooms can form wherever sufficient moisture and organic matter are present. When found growing in turf, mushrooms tend to stand out and be unsightly to some. The fungi responsible for producing the mushrooms live off the organic matter in the soil, such as decaying tree roots or buried construction debris. The fungi are generally not harmful to lawns, and the mushrooms will eventually disappear on their own. However, they can be picked, raked, or mowed off to speed up the process.



Fairy ring with mushrooms growing in turf. Travis Cleveland, University of Illinois.

Mushrooms can form in distinct circles, semicircles, or arcs in turf with diameters ranging from a few inches to 50 feet or more in diameter. These circles are often referred to as “fairy rings,” which comes from old folklore that theorized the rings to be areas where elves, pixies, or fairies danced and played. Fairy rings can reappear from year to year as the fungi expand radially below ground. The fungi free nitrogen as they break down organic matter, essentially fertilizing the turf. This can result in distinctive circles or arcs of lush dark green growth. If you are concerned about the dark green circles, fertilizing may help mask the symptoms by promoting lush green growth of the turf surrounding the ring. The fairy ring will essentially blend in with the fertilized turf.



Lush, dark green, early spring turf growth associated with fairy ring fungi. Travis Cleveland, University of Illinois

Some fairy rings are associated with areas of brown, dead or dormant grass. The dead or dormant grass is likely caused by the dense subsurface layer of fungal growth that creates a hydrophobic soil condition and impedes water movement into the turf. Some other theories suggest that subsurface fungal growth depletes nutrients essential for plant growth, and may even produce toxic levels of ammonia or hydrogen cyanide that kill the grass. Areas of killed turf are difficult to re-establish and are often invaded by weeds. Fungicide applications have provided mixed results in suppressing fairy ring development. The fungicides need to be applied with a soil surfactant at a time when the fungus is actively growing. Symptoms can be “masked” by deep watering. Core aeration and the use of wetting agents will help the water move deeper into the soil.



Photo 3. Fairy Ring with dead/dormant turf. James Schuster, University of Illinois.

Travis Cleveland

University of Illinois Extension Horticulture Resources - Fall 2022

Looking for more horticulture and gardening information? The Illinois Extension has two resources with fall content that may interest you.

Gardeners Corner

Gardeners Corner is a quarterly newsletter produced by a team of Illinois Extension horticulture experts. Each issue highlights seasonal recommendations and how-tos that will make your houseplants, landscape, or garden shine in any season. The Fall 2022 edition of the newsletter includes the following topics:

- Grassy weeds becoming more common in lawns
- Keep garden, plants hydrated going into fall
- Extend the season with fall flowers for your beds, borders, and containers
- Stretch out the growing season with fall planted salad greens
- Prepare your trees for severe weather
- Give summer-blooming bulbs a second chance, store them overwinter
- Find gourds absorbing? Try growing a loofah sponge
- To get in touch with nature, create a sensory garden

These and past Gardeners Corner topics are available at go.illinois.edu/gardenerscorner. You can also get direct access to this newsletter by joining the Gardeners Corner email list

Four Seasons Gardening webinars

University of Illinois Extension's Four Seasons Gardening series focuses on home gardening, environmental stewardship, and backyard food production. Join these one-hour sessions to build your gardening know-how! Each webinar is free. Registration is required at the website listed. If a reasonable accommodation is needed to participate, contact Gemini Bhalsod at gbhalsod@illinois.edu. Early requests are strongly encouraged to allow sufficient time for meeting access needs. Fall Four Seasons Gardening webinar topics include:

- **Dahlias: Digging, Dividing, and Diseases** will be held Sep. 27 at 1:30 p.m.. Register at go.illinois.edu/4SeasonsDahlias. Dahlias can be a dazzling cut flower for your flower bed or garden. Gain Dahlia growing tips for summer care while learning to identify pest and diseases that can damage blooms. Fall brings new techniques for digging and dividing the tubers as a way of propagating for next season's flowers.
- **Using Fresh Produce** will be held Oct. 18 at 1:30 p.m. Register at go.illinois.edu/4SeasonsProduce. You have grown fresh produce all summer long, now what do you do with the excess produce like onions, cucumbers, tomatoes and more? Explore simple ways of storing produce for longer shelf life and sharing resources for get easy recipes like refrigerator pickles to make your produce go further.
- **Deep Bark Secrets of Tree Selection** will be held Nov. 1 at 1:30 p.m. Register at go.illinois.edu/4SeasonsTrees. Are you looking to plant more trees in your yard? Confused about what species might be best? Have something in mind and want to ensure its success? Branch out to find methods for selecting the right tree for your site. Make informed decisions when selecting your next tree!

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