

Commercial Horticulture

September 11, 2026

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**Integrated Pest Management
for Commercial Horticulture**
extension.umd.edu/ipm

If you work for a commercial horticultural business in the area, you can report insect, disease, weed or cultural plant problems (**include location and insect stage**) found in the landscape or nursery to sklick@umd.edu

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Harlequin Bugs

By: Laura Nixon

Walking through our research plots at CMREC (Clarksville, MD) this week, we noticed an increase in harlequin bugs (*Murgantia histrionica*) feeding on a variety of plants, including ornamental kale, sunflowers, and starflower (Borage). This species is highly polyphagous and will feed on a large number of herbaceous and woody plants. Harlequin bugs have piercing, sucking mouthparts which they insert into leaf tissue to feed. This causes white spotting on foliage which will darken over time, and heavy feeding can lead to wilting. As we head into fall, harlequin bugs will overwinter in ground debris. At this time of year, we recommend clearing up any crop debris to minimize harlequin bug adults in your crops next spring.



Harlequin adults feeding on a sunflower stem.

Photo: Suzanne Klick, UME

Swamp Milkweed Hosting an Array of Insects

By: Laura Nixon

We often plant milkweed to support monarch caterpillars, but milkweed also commonly hosts the oleander aphid. These aphids are orange/yellow colored with black legs. Although these aphid populations can get very high, we don't recommend spraying anything for control, as this can disrupt the monarchs. When feeding on milkweed, insects (both the caterpillars and the aphids) sequester toxic compounds produced by the plant (called cardenolides). This makes these insects distasteful and sometimes toxic to predators; however, some predators such as lacewing larvae and Asian lady beetle can withstand and feed on the oleander aphid. In these photos we were sent by Elaine Menegon (Good's Tree and Lawn Care) this week, you can see a lacewing larva, many oleander aphids, and a monarch caterpillar all present on the same swamp milkweed plant. There are reports showing that lacewing larvae on milkweed can bring down oleander aphid populations within a couple of days.



This lacewing larva is most likely hunting the oleander aphids along the milkweed stem.

Photo: Eric O'Neal, Good's Tree and Lawn Care



A monarch caterpillar living alongside oleander aphids on swamp milkweed.

Photo: Eric O'Neal, Good's Tree and Lawn Care

[2026 Cut Flower Program](#)

September 29, 2026

**Location: CMREC, Ellicott City, MD (lectures),
and Tanglewood Flower Farm, Ashton, MD (tour)**

You May Start Seeing Brown Marmorated Stink Bug Everywhere

By: Laura Nixon

At this time of year, as we head into the fall, you may notice more brown marmorated stink bugs (BMSB) (*Halyomorpha halys*). In late September to early October, this species begins to disperse to overwintering sites, making them more visible to us. BMSB overwinter as adults in tight spaces such as in home attics and vents, under tree bark, and outdoor buildings (they love a pile of undisturbed tarps). The numbers of BMSB are way down from where they were a decade ago, due to increased management practices and abundant natural enemies, but you may still find large numbers aggregating on your house and buildings. Unless you are growing fruit or vegetable crops, no action is needed for BMSB.



Brown marmorated stink bugs enter buildings through gaps in windows and doors.

Photo: Suzanne Klick, UME

Parasitized Tobacco Hornworm

By: Laura Nixon

Manoella Vianna (Stadler Nurseries) found this unlucky hornworm (*Manduca sexta*) in their tomato garden this week. This tobacco hornworm has been parasitized by a braconid wasp. These wasps lay their eggs in caterpillars earlier in the summer, where the larvae hatch and feed; at this time of year the wasp is pupating which causes these white cocoons to push out of the caterpillar's soft body. Paula Shrewsbury wrote a great article on the various wasps which parasitize caterpillars in this way in the [September 1, 2023 IPM Report](#).



Braconid wasp cocoons on a tobacco hornworm caterpillar.

Photo: Monella Vianna, Stadler Nurseries

Thread-waisted Wasps

By: Suzanne Klick

The thread-waisted wasps, *Ammophila pictipennis*, continue to be active in our research plots. This week, several of us were able to watch as one female cached a caterpillar in the nest. She was methodical and particular about the pieces of dirt and pebbles she used to fill in her hole. When away from her nest, she covers the hole, but leaves decoy holes nearby uncovered. This wasp species primarily provisions the nest with Noctuidae species, especially cutworms and armyworms.



The female thread-waisted wasp carries her prey to her nest to feed a developing wasp larvae after it hatches.

Photos: Suzanne Klick, UME



The female wasp adds the last bit of soil/pebbles to cover the opening to the nest.

Photo: Suzanne Klick, UME

Common Wood Decay Fungi on Woody Landscape Trees

By: David L. Clement

This is the time of the year that many of our common wood decay fungi will be visible as they produce their reproductive structures on the trunks and basal tree roots. Most of the year these fungi will be invisible inside the tree causing damage. Observations of trees have shown that as many as 53% of urban trees may have some wood decay, but only about 3% will have visible fungal signs. Trees without obvious wood decay symptoms are often diagnosed with fungal infection after close inspection of storm damage. Tree health is not a reliable indicator of wood decay since trees with healthy leaf crowns can have extensive wood decay internally. Therefore, any presence of wood decay fungi points to some level of decay and should be evaluated accordingly.

Some of the most common fungi that we see include *Armillaria* spp., *Ganoderma* spp., *Pseudoinonotus dryadeus*, *Kretzschmaria deusta*, *Laetiporus sulphureus*, *Xylaria polymorpha*, *Hericium erinceus*, *Alleurodiscus wakefieldiae*, *Schizophyllum commune*, *Daedalea quercina*, *Grifolia frondosa*, and *Bonarzwia berkeleyi*. Common names of the fruiting structures include mushrooms, brackets and conks. Reproductive structures can

be produced annually such as *Ganoderma sessile* or remain as perennial structures with new growth yearly such as *Ganoderma applanatum*. These fungi release their spores from gills, such as *Armillaria*, simple pores such as *Ganoderma*, maze-like pores such as *Daedalea*, teeth such as *Hericium* or smooth surfaces such as *Aleurodiscus*. The different types of wood decay can be described as white rot, i.e. *Armillaria*, brown rot i.e. *Laetiporus*, and soft rot caused i.e. *Kretzschmaria*.



Ganoderma fungi at the base of a persimmon tree.
Photo: David Clement, UME

Management: There are no sprays or chemical treatments for wood decay. To diagnose wood decay, look for evidence of fungal fruiting structures, cavities, carpenter ants, bark cracks or missing bark, oozing or weeping from the bark and visual evidence of decay. Certified arborists who have been trained in wood decay diagnosis can make tree health assessments and recommendations for removal.

Box Tree Moth Adult Flight

By: Laura Nixon

This week, we found damaged boxwoods at Ferry Hill historic site in Sharpsburg, MD. There were no active caterpillars, but adults on the side of the building. This week, we have not seen any active caterpillars or pupae at any of our sampling sites in Washington County. This means that adult moths are the only active life stage and could be dispersing to new sites to lay eggs. If you are located close to an existing box tree moth population, it is important to inspect your boxwoods over the coming weeks for newly hatching and feeding caterpillars.



Boxwood plants with feeding damage from box tree moth caterpillars; the brown patches are also covered in webbing and frass.
Photo: Laura Nixon, UME



Adult box tree moth on the side of the Ferry Hill historic building.
Photo: Laura Nixon, UME

Beneficial of the Week

By: Paula Shrewsbury

A native praying mantid - Carolina mantid

Earlier this week I was on my back patio and had the pleasure of observing an adult Carolina mantid, *Stagmomantis carolina*, hanging out on a door screen. Mantids (Family Mantidae) are in the order Mantodea, which contains over 2,400 species of 15 families. Phylogenetically, praying mantids are closely related to cockroaches and termites. It is hard to think that mantids and cockroaches are related! In Maryland there are 3 species of praying mantids that are common. They are the Carolina mantid (*S. carolina*), a native species of mantid that ranges from NJ south to FL and west to AZ; the Chinese mantid (*Tenodera aridifolia sinensis*) which was imported into PA in the 1800's; and the European mantid (*Mantis religiosa*), another exotic mantid that was first detected in NY in 1899 and is now widespread east of the Mississippi and north to Canada.

Adult female Carolina mantids are about 2–2.5" long and have non-functional wings (cannot fly) that cover $\frac{3}{4}$ of their body (see image). Adult males are slightly small and have functional wings that cover their entire abdomen. Besides their origin, these mantids differ in their coloration and the shape of and location they lay their ootheca (egg cases). Although the color of Carolina mantids tend to be more brownish, compared to the brighter green colors of the Chinese and European mantids, it is still quite beautiful. The more natural colors of the Carolina mantid allows them to effectively camouflage with their environment, likely reducing the ability of predators to find them. With fall approaching, all three mantids will be busy ovipositing their ootheca, as they overwinter as eggs in the ootheca structure. The Carolina mantid commonly, but not always, deposit her styrofoam-like ootheca on the trunks and branches of trees, where they camouflage quite well. Ootheca of the Carolina mantid is brown, elongate (~1-1.5" long), and appear to have stripes or ridges running widthwise. The shape of the ootheca varies somewhat depending on where it is laid (see images).

Mantids are generalist predators and eat many types of prey items. Young or small mantids eat small flies, crickets, other small insects, and sometimes each other. Large mantids capture and eat other large insects that are pests of ornamentals, but they sometimes eat beneficial insects including pollinators such as bees, butterflies, flies, beetles and, yes, there are some accounts of them capturing and eating hummingbirds, in addition to lizards and frogs. Although mantids can be voracious predators and they contribute to biological control, they are not particularly known for being high impact biological control agents against pest insects. This is due to their diverse diet that includes non-pest insects. However, a landscape that has mantids in it is usually considered to be a "healthy" ecosystem.



An adult of the native Carolina praying mantid that was found this week.

Photo: Paula Shrewsbury, UMD

Common praying mantid points of confusion:

Mantid vs *Mantis* – Most praying mantids belong to the family Mantidae (often shortened to mantid), while *Mantis* is a genus of some species of mantids. Therefore, all Mantises are mantids, but not all Mantids are Mantises.

Praying vs *preying* – The appropriate term is “praying” mantid and based on the stance of mantids – they appear to be praying. Since praying mantids are voracious predators, many want to call them preying mantids as they feed on prey, but this is incorrect.



An ootheca (egg case; ~ 1–1.5” long) of the native Carolina praying mantid on the trunk of an ornamental cherry tree found in the fall. This is an unhatched ootheca, but note there are several “holes” in the ootheca indicating that parasitoids of mantids have emerged from the ootheca.

Photo: Paula Shrewsbury, UMD



An ootheca of a Carolina praying mantid attached to a twig where it will spend the winter.

Photo: Mike Raupp, UMD

Weed of the Week

By: Nathan Glenn

Weed of the Week: Common Cocklebur (*Xanthium strumarium*)

As summer progresses, some annual weeds become increasingly difficult to overlook. Common cocklebur (*Xanthium strumarium*) is one of them. This summer annual is particularly noticeable because of its large, coarse leaves and rapid growth. It is commonly found in disturbed areas, field edges, roadsides, gardens, and

other areas where bare or disturbed soil provides an opportunity for establishment.

Common cocklebur is also well known for its distinctive burs. These spiny fruits can become attached to clothing, animal fur, and equipment and can be especially troublesome when plants are allowed to mature and produce seed.

Identification

Common cocklebur is a large, coarse-textured summer annual that can grow several feet tall. Young plants can be easily overlooked, but mature plants become increasingly conspicuous as the season progresses.

Growth habit: Upright, branching, and generally 2–5 feet tall, although plants may become larger under favorable conditions

Stems:

- ☐ Erect and branching
- ☐ Green to reddish or purplish, particularly later in the season
- ☐ Often have a somewhat rough or hairy appearance

Leaves:

- ☐ Alternate and broadly triangular to heart-shaped
- ☐ Often 2–6 inches wide
- ☐ Coarsely toothed along the margins
- ☐ Usually have three prominent veins arising from the base of the leaf
- ☐ Upper surfaces are generally rough and somewhat hairy
- ☐ Long leaf stalks

Flowers:

- ☐ Small and inconspicuous
- ☐ Greenish in color
- ☐ Produced in clusters near the ends of branches and in the leaf axils
- ☐ Male and female flowers occur separately on the same plant

Fruit:

- ☐ The most distinctive feature of the plant
- ☐ Oval to egg-shaped burs covered with hooked spines



Photo 1: Common cocklebur as a mature plant.

Photo: Weed ID, Virginia Tech Univ



Photo 2: Common cocklebur as a seedling.

Photo: Weed ID, Virginia Tech Univ



Photo 3: The stem of the common cocklebur.

Photo: Weed ID, Virginia Tech Univ



Photo 4: The bur structure of the common cocklebur.

Photo: Weed ID, Virginia Tech Univ

- ☐ Burs often have two hooked projections at the tip
- ☐ Each bur typically contains two seeds, although only one may germinate immediately

One of the easiest ways to recognize mature common cocklebur is by its burs. The hooked spines readily attach to clothing, animal fur, and other materials, allowing the plant's seeds to be transported well beyond the location where the plant originally grew.

Fun Fact: The common cocklebur's hooked burs are an excellent example of seed dispersal by animals. The burs attach to fur and clothing and are carried to new locations. The same basic idea of hook-and-attachment seed dispersal has inspired the development of products such as Velcro.

Habitat & Timing

- ☐ Common in disturbed areas, roadsides, field edges, gardens, and other areas with exposed soil
- ☐ Often found in moist or seasonally wet soils
- ☐ Can occur in agricultural fields, pastures, and along waterways
- ☐ Germinates primarily in spring
- ☐ Grows rapidly during the summer
- ☐ Flowers and produces burs from summer into fall
- ☐ Plants become increasingly large and difficult to manage as the season progresses

Common cocklebur is particularly successful where soil has been disturbed and desirable vegetation is not providing complete competition. It can also take advantage of areas where irrigation, cultivation, construction, or other activities continually create opportunities for new seedlings.

Cultural Control

The best way to manage common cocklebur is to prevent plants from producing mature burs and seed. Maintaining dense, healthy vegetation is one of the most effective ways to reduce opportunities for cocklebur establishment. In landscape beds, maintain an appropriate layer of mulch to reduce exposed soil and discourage weed germination. In turf, maintaining a dense stand of desirable grass through proper mowing, fertilization, irrigation, and other management practices will make it more difficult for annual weeds to establish.

Hand-pulling or hoeing can be effective for small infestations, particularly when plants are young. Remove plants before they produce mature burs. Be careful when handling mature plants, as the burs can readily attach to clothing and equipment.

Cultivation can provide control in appropriate settings, but repeated disturbance can also create additional opportunities for cocklebur and other annual weeds to germinate. Where cultivation is used, timing operations to control young plants before they produce seed is important.

Management Tip: Don't wait for the burs. Common cocklebur is much easier to manage when plants are small and actively growing. Once mature plants have produced hundreds of burs, simply removing the aboveground portion of the plant may not prevent future problems because mature seeds can remain viable in the soil.

Chemical Control

Pre-emergent control:

Pre-emergent herbicides can help prevent common cocklebur from becoming established in landscape beds, nurseries, and other appropriate sites. Products containing several active ingredients may provide control, depending on the application site, formulation, and product label.

Pre-emergent applications are most effective when applied before seeds germinate and should be incorporated or watered into the soil according to the product label. Maintaining an appropriate mulch layer can also complement pre-emergent herbicide applications in landscape beds.

Post-emergent control:

Young common cocklebur plants can be controlled with several post-emergent herbicides, but the appropriate product depends heavily on the site being treated and its desirable species.

In non-crop areas or landscape settings where vegetation is not desirable, products containing **glyphosate or other labeled non-selective herbicides** can provide effective control. Applications should be carefully directed to avoid contact with desirable vegetation.

Young plants are generally easier to control than large, mature plants. Once cocklebur plants become large and well established, control may be more difficult and additional applications may be necessary.

As always, check the product label for the specific turfgrass species, crop or landscape site, application timing, and use restrictions before applying any herbicide.

Pest Predictive Calendar “Predictions”

By: Nancy Harding and Paula Shrewsbury

In the Maryland area, the accumulated growing degree days (DD) this week range from about **2989 DD** (Clarksville) to **4018 DD** (Nat'l Arboretum/Reagan Nat'l). The [Pest Predictive Calendar](#) tells us when susceptible stages of pest insects are active based on their DD. Therefore, this week you should be monitoring for the following pests. The estimated start degree days of the targeted life stage are in parentheses.

White prunicola scale – egg hatch / crawler (3rd gen) (**3238 DD**)

Banded ash clearwing borer – adult emergence (**3357 DD**)

Tuliptree scale – egg hatch / crawler (**3472 DD**)

Spotted lanternfly – egg laying (**Sept.**)

See the [Pest Predictive Calendar](#) for more information on DD and plant phenological indicators (PPI) to help you better monitor and manage these pests.

Degree Days (as of September 9, 2026)

Annapolis Naval Academy (KNAK)	3622
Baltimore, MD (KBWI)	3575
Belcamp (FS836)	3510
Clarksville (001MD)	2989
College Park (KCGS)	3692
Dulles Airport (KIAD)	3606
Ft. Belvoir, VA (KDA)	3744
Frederick (KFDK)	3270
Gaithersburg (KGAI)	3443
Greater Cumberland Reg (KCBE)	3214
Martinsburg, WV (KMRB)	3311
Millersville (MD026)	3581
Natl Arboretum/Reagan Natl (KDCA)	4018
Perry Hall (C0608)	3349
Salisbury/Ocean City (KSBY)	3571
St. Mary's City (Patuxent NRB KNHK)	3766
Westminster (KDMW)	3583

Important Note: We are using the [Online Phenology and Degree-Day Models](#) site. Use the following information to calculate GDD for your site: Select your location from the map Model Category: All models Select Degree-day calculator Thresholds in: Fahrenheit °F Lower: 50 Upper: 95 Calculation type: simple average/growing dds Start: Jan 1

Conferences

[2026 Urban Tree Summit](#)

September 23, 2026

Location: Silver Spring Civic Center, Silver Spring, MD

[2026 Cut Flower Program](#)

September 29, 2026

Location: CMREC, Ellicott City, MD (lectures), and Tanglewood Flower Farm, Ashton, MD (tour)

UME IPM Pest Walk at Salisbury University

October 14, 2026 (11 a.m. to 3:30 p.m.)

Location: Salisbury University's Glenda Chatha Clarke Arboretum, Salisbury, MD

[FALCAN Truck & Trailer Safety Seminar](#)

October 14, 2026

Location: Urbana Fire Hall, Urbana, MD

Registration opens in July.

Maryland Turfgrass Conference

December 15, 2026

Location: Turf Valley Resort, Ellicott City, MD

December Integrated Pest Management Conference

Date and location will be posted when confirmed.

2027 Advanced Landscape IPM PHC Short Course

This is a recertification short course for arborists, landscapers, IPM consultants, horticulturalists, professional gardeners, and others responsible for urban plant management. The course lectures will be held over four days at the University of Maryland, College Park, MD. In addition, there will be a hands-on lab following lecture (available to a limited number of course attendees). Coordinators: Drs. Paula Shrewsbury and Mike Raupp, Dept. of Entomology, University of Maryland

Lecture dates: Monday, January 4 - Thursday, January 7, 2027 from 8:00 am – 3:00 pm

Lab dates: Monday, January 4 - Thursday, January 7, 2027 from 3:30 pm – 5:30 pm (space limited)

Course information: <https://landscapeipmphc.weebly.com/>

Registration: <https://www.eventbrite.com/e/2027-advanced-landscape-ipm-phc-short-course-tickets-1992372702386?aff=oddtcreator>

Questions contact: Amy Yaich, 301-405-3911, umdentomology@umd.edu

Maryland Arborists' Association Conference

January 12, 2027 (snow date in January 13, 2027)

Location: Howard Community College, Columbia, MD

FALCAN Pest Management Conference

January 22, 2027 (snow date is March 12, 2027)

Location: Frederick Community College, Frederick, MD

LCA Pest Management Conference

January 28, 2027

Location: Turf Valley Resort, Ellicott City, MD

2027 Manor View Farm & Perennial Farm Education Seminar

February 2, 2027. Valley Mansion, Cockeysville MD

Laura Nixon is speaking at this event.

Chesapeake Green Horticultural Conference

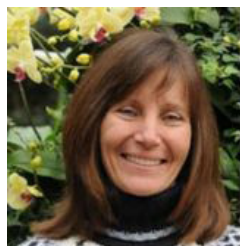
February 11 and 12, 2027

Location: Maritime Institute and Conference Center, Linthicum Heights, MD

Commercial Ornamental IPM Information

<http://extension.umd.edu/ipm>

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